2015 Dietary Guidelines Advisory Committee:

Systematic Reviews of the Individual Diet and Physical Activity Behavior Change Subcommittee

USDA's Nutrition Evidence Library supported the 2015 Dietary Guidelines Advisory Committee as it conducted systematic reviews on diet and health. This document includes archives from www.NEL.gov of the complete evidence portfolios for all NEL systematic reviews conducted by the Individual Diet and Physical Activity Behavior Change Subcommittee. The *Scientific Report of the 2015 Dietary Guidelines Advisory Committee* summarizes these systematic review findings and provides interpretations and implications related to these reviews.

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CHAPTER 1. INDIVIDUAL DIET AND PHYSICAL ACTIVITY BEHAVIOR CHANGE SUBCOMMITTEE OVERVIEW

OVERVIEW

Individual behavior change lies at the inner core of the social-ecological model that forms the basis of the 2015 Dietary Guidelines Advisory Committee's conceptual model (see ***Scientific Report of the 2015 Dietary Guidelines Advisory Committee: Part B. Chapter 2: 2015 DGAC Themes and Recommendations: Integrating the Evidence***). For this reason, it is crucial to identify the behavioral strategies that individuals living in the United States can follow to improve their dietary and healthy lifestyle behaviors, as well as the key contextual factors that facilitate the ability of individuals to consume healthy diets.

Recognizing the importance of these dietary and lifestyle behaviors to the health and well-being of the US population, the Committee reviewed recent evidence to address questions on the relationship between eating out, family shared meals, sedentary behavior, and diet and weight outcomes. The 2015 Dietary Guidelines Advisory Committee also focused on identifying evidence that could provide individuals with tools to improve their dietary choices and body weight status. Specifically, the Committee reviewed recent evidence on the impact of diet and weight self-monitoring, and on the use of food and menu labels on dietary intake and weight outcomes. The Committee also focused on the association between diet, body weight, and chronic disease outcomes and two contextual factors that are highly relevant in the United States—household food insecurity and acculturation.

For more information, see ***Scientific Report of the 2015 Dietary Guidelines Advisory Committee: Part D. Chapter 3: Individual Diet and Physical Activity Behavior Change***. Information in the report was vetted by the full committee and presented at public meetings; however, more detailed supporting information on each specific systematic review is available on the NEL website. Below are links to the questions this Subcommittee answered using a NEL systematic review approach.
For 2015 Dietary Guidelines Advisory Subcommittee work structure and member organization, see ***Scientific Report of the 2015 Dietary Guidelines Advisory Committee Appendix E-9.***

For 2015 Dietary Guidelines Advisory Committee and support staff membership and acknowledgments lists, see: ***Membership*** and ***Appendix E-10: Dietary Guidelines Advisory Committee Report Acknowledgments.***

NEL SYSTEMATIC REVIEW QUESTIONS

Eating Out

1. What is the relationship between eating out and/or take away meals and body weight in children and adults?

Family Shared Meals

1. What is the relationship between frequency and regularity of family shared meals and measures of dietary intake in U.S. population groups?
2. What is the relationship between frequency and regularity of family shared meals and measures of body weight and obesity in U.S. population groups?

Sedentary Behavior, Including Screen Time

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1. What is the relationship between sedentary behavior and measures of dietary intake and body weight in adults?

Self-Monitoring

1. What is the relationship between use of diet and body weight self-monitoring strategies and body weight outcomes in adults and youth?

Food and Menu Labeling

1. What is the relationship between knowledge and use of food and menu labels and measures of dietary intake in U.S. population groups?

Household Food Insecurity (HFI)

1. What is the relationship between household food insecurity (HFI) and measures of dietary intake and body weight?

Acculturation

1. What is the relationship between acculturation and measures of dietary intake?
2. What is the relationship between acculturation and body weight?
3. What is the relationship between acculturation and risk of cardiovascular disease (CVD)?
4. What is the relationship between acculturation and risk of type 2 diabetes?

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CHAPTER 2. EATING OUT

WHAT IS THE RELATIONSHIP BETWEEN EATING OUT AND/OR TAKE AWAY MEALS AND BODY WEIGHT IN CHILDREN AND ADULTS?

TECHNICAL ABSTRACT

Background

The majority of Americans consume meals outside of the home one or more times per week. The 2010 DGAC concluded that "strong and consistent evidence indicates that children and adults who eat fast food are at increased risk of weight gain, overweight and obesity." With this relationship as a foundation, this review provided an update and expanded the "eating out" topic. Specifically, the fast-food category was broadened to capture other types of eating out venues (e.g., quick serve, casual, formal restaurants, and grocery store takeout). Terminology used to define the exposure was modified from "eating out" to the broader term "eating out and take-away meals" to reflect the inclusion of meals eaten out at a broader array of restaurant venues, as well as takeout or ready-to-eat foods or meals purchased and consumed either away from or in the home. The population of interest remained healthy individuals ages two years and older.

Conclusion statement

Among adults, moderate evidence from prospective cohort studies in populations ages 40 years or younger at baseline indicates higher frequency of fast-food consumption is associated with higher body weight, body mass index (BMI) and risk for obesity.

2015 DGAC Grade: **Moderate**

Among children, limited evidence from prospective cohort studies in populations ages eight to 16 years at baseline suggests that higher frequency of fast-food consumption is associated with increased adiposity; BMI Z-score; or risk of obesity during childhood, adolescence and during the transition from adolescence into adulthood.

2015 DGAC Grade: **Limited**

Insufficient evidence is available to assess the relationship between frequency of other types of restaurant and takeout meals and body weight outcomes in children and adults.

2015 DGAC Grade: **Not assignable**

Methods

Literature searches were conducted using PubMed, Embase, Cochrane, Scopus, Web of Science, and CINAHL databases to identify studies published in English in peer-reviewed journals from January 2010 to present. Included studies met the following inclusion and exclusion criteria established *a priori* to the review: randomized controlled trials (RCT), prospective cohort studies, crossover trials, non-randomized controlled trials; human subjects aged two years and older who were healthy or at elevated chronic disease risk; studies conducted in high or very highly developed countries (Human Development Index, 2013); frequency of eating out or take-away food meals on weight outcomes including obesity, overweight, body mass index (BMI), waist circumference, body weight, percent body fat change; child growth indices (weight-for-age, length/stature-for-age, weight for stature, BMI-for-age, BMI Z-score).

The search results were combined with the results of a similar search used for the 2010

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DGAC. The 2010 DGAC search included studies from January 2000 to January 2010 that met the following inclusion and exclusion criteria established *a priori* to the review: systematic reviews and meta-analysis, RCTs or clinical controlled studies, large non-randomized observational studies, cohort, case-control studies; human subjects aged two years and older who were healthy or at elevated chronic disease risk.

Data from each included article were extracted and risk of bias was assessed. The evidence was qualitatively synthesized, a conclusion statement was developed and the strength of the evidence (grade) was assessed using pre-established criteria including evaluation of the quality and risk of bias, quantity, consistency, magnitude of effect and generalizability of available evidence.

Findings

- In children, seven prospective cohort studies examined the relationship between frequency of fast-food meals (six studies), or consumption of other types of meals and anthropometric outcomes and overall found mixed results:
    - Six studies examined fast-food meals: Three studies indicated increased fast-food intake, particularly more than twice per week, was associated with increased risk of obesity, BMI/BMI Z-score or body fat; two found no association; and one found no association in boys and a negative association in girls
    - Two studies looked at a variety of non-fast-food meals away from home, using varying definitions of food establishments and meal types, and reported mixed findings for a relationship with weight-related outcomes.
- In adolescents transitioning to adulthood, one study found high baseline frequency of fast-food intake was associated with increased BMI Z-scores at five-year follow-up
- In adults, evidence consistently demonstrated a relationship between increased frequency of fast-food meal consumption and weight outcomes:
    - Five prospective cohort studies (three cohorts) reported that increased intake of meals from fast-food locations, or intake exceeding once per week, was associated with higher weight gain, BMI and risk for obesity
- Evidence related to the association between frequency of meals from other types of restaurants and intake of all takeout meals and weight is limited, but indicates traditional restaurant meal frequency may not be associated with weight outcomes:
    - Two studies examined total meals away from home or meal types eaten away from home, which came from both fast-food and restaurant locations, and reported frequency was associated with increased weight outcomes for most meal types
    - Two studies from the same cohort found no relationship between frequency of meals from restaurants (non-fast-food establishments), and weight-related outcomes.
- Data are sparse regarding meal composition and in studies in young children or older adults. Hispanic/Latino and Asian populations are poorly represented in this body of literature.

Limitations

- Methods used to define and measure the exposure varied between studies and did not capture the full range of eating out or takeout opportunities
- Representation of Hispanic/Latino and Asian populations, young children and older adults was poor
- Several studies in children used reported height and weight for outcome assessment, and BMI Z-scores were not consistently used

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- There was little or no information on the composition of meals and the relationship between meal composition and outcomes
- Few studies controlled for total energy intake

FULL REVIEW

Conclusion statement

Among adults, moderate evidence from prospective cohort studies in populations 40 years of age or younger at baseline indicates higher frequency of fast-food consumption is associated with higher weight, BMI and risk for obesity.

Among children, limited evidence from prospective cohort studies in populations eight to 16 years of age at baseline suggests that higher frequency of fast-food consumption is associated with increased adiposity; BMI Z-score; or risk of obesity during childhood, adolescence and during the transition from adolescence into adulthood.

Insufficient evidence is available to assess the relationship between frequency of other types of restaurant and takeout meals and body weight outcomes in adults and children.

Grade

Moderate: Adults and fast-food consumption
Limited: Children and fast-food consumption
Not assignable: Non-fast-food consumption in adults and children

Key findings

- In children, seven prospective cohort studies examined the relationship between frequency of fast-food meals (six studies), or consumption of other types of meals and anthropometric outcomes and overall found mixed results:
    - Six studies examined fast-food meals: Three studies indicated increased fast-food intake, particularly more than twice per week, was associated with increased risk of obesity, BMI/BMI Z-score or body fat; two found no association; and one found no association in boys and a negative association in girls
    - Two studies looked at a variety of non-fast-food meals away from home, using varying definitions of food establishments and meal types and reported mixed findings for a relationship with weight-related outcomes.
- In adolescents transitioning to adulthood, one study found high baseline frequency of fast-food intake was associated with increased BMI Z-scores at five-year follow-up
- In adults, evidence consistently demonstrated a relationship between increased frequency of fast-food meal consumption and weight outcomes:
    - Five prospective cohort studies (three cohorts) reported that increased intake of meals from fast-food locations, or intake exceeding once per week, was associated with higher weight gain, BMI and risk for obesity.
- Evidence related to the association between frequency of meals from other types of restaurants and intake of all takeout meals and weight is limited, but indicates traditional restaurant meal frequency may not be associated with weight outcomes:
    - Two studies examined total meals away from home or meal types eaten away from home, which came from both fast-food and restaurant locations, and reported frequency was associated with increased weight outcomes for most meal types
    - Two studies from the same cohort found no relationship between frequency of meals from restaurants (non-fast-food establishments), and weight-related

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outcomes.

- Data are sparse regarding meal composition, studies in young children or older adults. Hispanic/Latino and Asian populations are poorly represented in this body of literature.

Evidence summary

Description of the evidence

Background

This evidence review is an update of the following two 2010 Dietary Guidelines Advisory Committee (DGAC) systematic reviews targeting eating out and adiposity or body weight:

What is the relationship between eating out and adiposity in children?

What is the relationship between eating out and body weight in adults?

The 2015 DGAC updated these reviews, ensuring a broad range of eating-out venues (e.g., quick serve, casual, formal restaurants and grocery take-out) were captured. Terminology used to define the exposure was modified from “eating out” to a broader term “eating out and take-away meals” to reflect the inclusion of both meals eaten out at a broad array of restaurant venues and take-out or ready-to-eat meals purchased and consumed either away from or in the home. The population of interest remained healthy Americans two years and older. The 2015 DGAC combined the two systematic review questions into one and reviewed the available literature across the life course.

This systematic review includes 16 prospective studies (14 cohorts) that examined the relationship between eating out and take-away meals and measures of body weight and adiposity in adults and children. Eleven studies were conducted in the United States (Boggs, 2013; Duffey, 2009; Duffey, 2007; French, 2000; Haines, 2007; Laska, 2012; Li, 2009; Niemeier, 2006; Pereira, 2005; Taveras, 2005; Thompson, 2004) and one each in Canada (Bisset, 2007), the United Kingdom (Fraser, 2012), Australia (MacFarlane, 2009) and Spain (Bes-Rastrollo, 2010). Most of the included articles had relatively low risk of bias ratings (scores ranged from one to seven points out of 24).

Away-from-home meals were defined differently between studies. Nine studies exclusively measured fast food consumption (Bisset, 2007; Fraser, 2012; French, 2000; Haines, 2007; Laska, 2012; Li, 2009; MacFarlane, 2009; Niemeier, 2006; Pereira, 2005), three examined fast food and restaurant meals separately (Duffey, 2007; Duffey, 2009; Thompson, 2004), one assessed total meals consumed away from home (Bes-Rastrollo, 2010), one defined meals by the primary type of food served at food establishments (Boggs, 2013) and one looked at only fried foods eaten away from home (Taveras, 2005),. A variety of tools including structured interviews and surveys, food frequency questionnaires (FFQ) and 24-hour food records were used to assess eating out or take-away meals, and methods used to construct exposure variables differed across studies.

Overview of studies in children

Seven prospective cohort studies examined the relationship between consumption of foods eaten away from home and body weight in children (Bisset, 2007; Fraser, 2012; Haines, 2007; Laska, 2012; MacFarlane, 2009; Taveras, 2005; Thompson, 2004). Four studies were conducted in the United States (Laska, 2012; Haines, 2007; Taveras, 2005; Thompson, 2004) and one each in Canada (Bisset, 2007), United Kingdom (UK) (Fraser, 2012) and Australia (MacFarlane, 2009. Study duration ranged from two to six years. NEL Bias Assessment Tool (BAT) scores ranged from four of 24 to seven of 24. Common limitations included lack of adjustment for total calorie intake and physical activity (Bisset, 2007; Fraser, 2012; Haines and MacFarlane, 2009; Taveras, 2005; Thompson, 2004), self-reported measures of height

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and weight (Bisset, 2007; Haines, 2007; Taveras, 2005) and two studies measured dietary intake at baseline only (Fraser, 2012; MacFarlane, 2009).

Study size ranged from 101 to 14,355 participants, with three studies enrolling less than 1,000 participants, three enrolling between 1,000 and 5,000 and one enrolling more than 10,000. One study included only girls (Thompson, 2004) and the remaining studies included both boys and girls. Participants were primarily nine years to 16 years of age, but one small study included a group of younger children five years to six years of age (MacFarlane, 2009). The four United States studies reported race and ethnicity. One large study (N=14,355) included 94% non-Hispanic white participants (Taveras, 2005). Another study included white (48%), black (19%), Hispanic/Latino (5.8%) and Asian (20%) participants (Haines, 2007). Two other studies included predominately white participants (84% and 74%, respectively) (Laska, 2012; Thompson, 2004).

Exposures

Fast-food consumption was assessed in six studies asking participants and parents to report child fast-food eating frequency (Bisset, 2007; Fraser, 2012; Haines, 2007; Laska, 2012; MacFarlane, 2009; Thompson, 2004). This was predominately measured using a single item in a questionnaire. Characteristics of fast-food locations were sometimes defined specifically as in Laska, 2012 "…restaurant where food is ordered at a counter or at a drive-through window (there is no waiter/waitress)" or Thompson, 2004 "Quick service food from a national quick-service food outlet or from local submarine sandwich shops, ice cream parlors, and street vendors," but more commonly no definition was reportedly given to participants, though examples were often used.

Three child studies measured non-fast-food meals away from home. Taveras, 2005 assessed intake of fried food away from home with a single questionnaire item and examples of fried foods. Thompson, 2004 measured restaurant and coffee shop meals in addition to fast food ("quick service"). Coffee shops were defined as coffee shops or doughnut shops, and restaurants were "…pizza parlor, a self-service restaurant, or wait-staff restaurant."

Outcomes

Two studies assessed changes in BMI, using measured height and weight (Fraser, 2012; Laska, 2012;), one study assessed changes in BMI using self-reported height and weight (Taveres, 2005), two studies used BMI Z-scores from measured height and weight (MacFarlane, 2009; Thompson, 2004) and four studies assessed incidence of overweight and obesity from self-reported (Bisset, 2007; Haines, 2007) or measured (Fraser, 2012; MacFarlane, 2009) height and weight. Additionally, two studies assessed percent body fat using either dual-emission x-ray absorptiometry (DEXA) (Fraser, 2012) or a digital bioelectrical impedance scale (Laska, 2012).

Transition from adolescence to adulthood

One study conducted in the United States examined the relationship between fast-food consumption during adolescence and BMI status in early adulthood (Niemeier, 2006)**.** Nationally representative data from Wave II (1996) and Wave III (2001 to 2002) of the National Longitudinal Study of Adolescent Health was used. The final sample of 9,919 subjects (age 16 years at Wave II, age 21 years at Wave III; Wave II BMI=22.9±12kg/m^2, Wave III BMI=26.1±13kg/m^2) were predominately white (66%) [black (15%), Hispanic/Latino (4%), Asian (2%) and Native Americans (1%)]. Frequency of fast-food consumption (number of days over the last week) was measured at both waves using a questionnaire asking "In the last seven days, on how many days did you eat at a fast-food type place—McDonald's, Kentucky Fried Chicken, Pizza Hut, Taco Bell, etc?". Height and weight were measured at both Waves and used to calculate BMI and BMI Z-scores. NEL BAT score was six of 24 due

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to not controlling for energy intake, the use of self-reported height and weight measures and lack of measurements at intermediate time points.

Overview of studies in adults

Seven prospective studies (five cohorts) examined the relationship between frequency of meals eaten outside the home and body weight in adults (Bes-Rastrollo, 2010; Boggs, 2013; Duffey, 2007; Duffey, 2009; French, 2000; Li, 2009; Pereira, 2005). Three of these studies included data from the Coronary Artery Risk Development in Young Adults (CARDIA) study (Duffey, 2007; Duffey, 2009; Pereira, 2005). One study was conducted in Spain (Bes-Rastrollo, 2010) and the remaining were conducted in the United States. Studies ranged in sample size from 891 to 19,479, with five enrolling less than 5,000 participants, and the remaining enrolling greater than 9,000. Two studies included only women (Boggs, 2013; French, 2000). In six studies, the majority of subjects were younger than 40 years of age; one study targeted adults from 50 years to 70 years of age (Li, 2009). One study included only black participants (Boggs, 2013), approximately 50% of the CARDIA cohort were black and 50% were white; the remaining studies that reported race enrolled predominately white participants (French, 2000; Li, 2009). Study durations ranged from one year to 14 years. NEL BAT scores range from one of 24 to four of 24. Common limitations included use of self-reported anthropometric data.

Exposures

Five studies assessed frequency of fast-food intake using varying definitions of this variable (Duffey, 2007; Duffey, 2009; French, 2000; Li, 2009; Pereira, 2005). In the CARDIA studies (Duffey, 2007; Duffey, 2009; Pereira, 2005), participants were asked “How many times in a week or month do you eat breakfast, lunch or dinner in a place such as McDonald's, Burger King, Wendy's, Arby's, Pizza Hut or Kentucky Fried Chicken?”. A single questionnaire item was used in the French, 2000 and Li, 2009 articles and fast food was not reportedly defined for participants.

Two studies examined frequency of restaurant meal consumption (Duffey, 2007; Duffey, 2009) using the following question: “How many times in a week or month do you eat breakfast, lunch or dinner at a restaurant or cafeteria?”.

One study categorized away-from-home meals by the type of food consumed away from hom, such as of hamburgers, fried chicken, fried fish, pizza, Chinese food or Mexican food (Boggs, 2013). These meals could have been purchased at restaurants or fast-food establishments.

One study assessed all meals eaten away from home with a single questionnaire item, and without making a distinction between food locations (Bes-Rastrollo, 2010).

Outcomes

Five studies assessed weight gain using measured (Duffey, 2009; French, 2000; Li, 2009; Pereira, 2005) or self-reported (Bes-Rastrollo, 2010) height and weight. Two studies assessed BMI using measured (Duffey, 2007) or self-reported (Bes-Rastrollo, 2010) height and weight. Two studies assessed incidence of obesity based on self-reported data (Bes-Rastrollo, 2010; Boggs, 2013). One study assessed waist circumference (Duffey, 2009).

Evidence synthesis

Children

Seven articles examined the relationship between frequency of eating meals away from home and weight outcomes in children. Characteristics and results of these studies are reported in **Table 1**. These studies primarily enrolled boys and girls above age nine years with only US studies reporting racial/ethnic groups and populations were primarily non-Hispanic white. This

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body of evidence predominately examines frequency of fast-food intake as the primary exposure but one study assess frequency of meals from restaurants or coffee shops and another assessed consumption of fast foods away from home.

Six articles examined the relationship between frequency of fast-food meals and weight outcomes and found mixed results. Three studies indicated increased fast-food intake, particularly when consumed more than twice per week, was associated with increased risk of obesity, BMI, BMI Z-score or body fat (Bisset, 2007; Fraser, 2012; Thompson, 2004), two found no associations (Laska, 2012; MacFarlane, 2009) and one found greater fast-food intake was associated with decreased risk of overweight in girls (Haines, 2007), but no association in boys. This body of evidence is small but suggests more research is needed to understand the interaction between gender and frequency of eating fast-food meals on body weight outcomes.

Two studies assessed other types of meals away from home (i.e., non-fast-food meals) and weight outcomes. Thompson, 2004 found frequency of meals from restaurants or coffee shops was not associated with BMI Z-score in a relatively small sample of girls. Taveras, 2005 showed frequency of consumption of fried foods away from home, from any food location, was associated with weight gain. Taveras, 2005 also showed that boys who decreased their fried food consumption during follow-up had weight loss, while girls who did the same had weight gain, indicating the influence of reverse causality and possible gender differences.

There are several limitations that should be considered when interpreting results. Generalizability is relatively good for this body of evidence, although Hispanic/Latino participants are not well-represented and only one relatively small study included children under the age of nine years. Three of these studies used self-reported and parent-reported height and weight to assess outcomes and only three reported BMI Z-scores. Studies used different means of defining food locations and standardization is needed. There was no data on the composition of meals consumed and studies did not control for overall energy intake.

This body of evidence is small and results are inconsistent; however, a majority of studies found an association between increased fast-food intake and weight outcomes. Findings seemed to indicate possible gender differences, which may be related to reverse causality, though more research is needed. There is little evidence to make conclusions about non-fast-food meals away from home. More data is needed for younger and Hispanic/Latino and Asian participants, as well as information on composition of meals and standardization of methodologies across studies.

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Question: What is the relationship between eating out and take-away meals and body weight in children and adults?

Table 1. Summary table for studies examining the relationship between meals eaten away from home and weight outcomes in children and during the transition from childhood to adulthood

Author, Year Study Design, Duration Data Source, Location Risk of Bias*	Sample Size Age % Female Race/Ethnicity Weight Status	Measure of Eating Out/Take Away Meals Weight Measures	Results
Children			
Bisset, 2007 **Quebec Heart Health Demonstration Project, Canada** **Prospective Cohort (PC), 5y** **7/24**	N=1,188 4th grade 47% female NR 12.4% overweight; 7.3% obese	**Weekly fast food consumption was measured with a self-administered food frequency questionnaire (FFQ) assessing intake of:** 1) French fries or poutine (consists of French fries, sauce, and cheese curds) 2) Hamburgers 3) Hot dogs 4) Fried chicken Responses were coded 0, 1.5 and 3 times/week and summed to create a weekly intake index. Data collected at baseline in grade four, grade six, grade seven and grade nine Self-reported 9th grade height and weight used to calculate body mass index (BMI)	**Obesity** Obese students in grade nine reported a higher consumption of fast food at baseline in grade four [0.77 (0.33); P<0.05].
Fraser, 2012 **Avon Longitudinal Study of Parents and Children (ALSPAC),** **UK** **PC, 2y** **Risk of Bias: 4/24**	N=4,022 for fast food consumption 13y 51.2% female Not Reported (NR) Obese at 13y (13.1%), obese at 15 y (12.0%)	Frequency of eating in **fast food** restaurant assessed with FFQ question: "How often does s/he eat in a fast food restaurant?"; 5 response options then coded into binary variable: Eat fast food, yes/no. Measured height and weight at baseline to calculate; body fat percentage measured by Dual-energy X-ray absorptiometry (DEXA)	**Fast-food consumption at baseline (age 13) and anthropometric outcomes at 2y follow-up (age 15):** *BMI z-score:* β=0.0822 (SE=0.028); P<0.05 *Body fat percentage at 15y:* β=2.063 (SE=0.3713); P<0.05 *Obesity:* OR=1.23 (95% CI = 1.02-1.49)
Haines, 2007	N=2,516	**Fast food** restaurant intake was collected at baseline	**Overweight total sample (included**

Question: What is the relationship between eating out and take-away meals and body weight in children and adults?

Table 1. Summary table for studies examining the relationship between meals eaten away from home and weight outcomes in children and during the transition from childhood to adulthood

Author, Year Study Design, Duration Data Source, Location Risk of Bias*	Sample Size Age % Female Race/Ethnicity Weight Status	Measure of Eating Out/Take Away Meals Weight Measures	Results
Project Eating Among Teens (EAT) I and II, USA **PC, 5y** **7/24**	Younger cohort (33% of sample) mean age of 12.8±0.8y; older cohort (66% of sample) mean age of 15.8±0.8y 55% female 48.3% white, 18.9% African American, 5.8% Hispanic, 19.6% Asian, 3.6% Native American and 3.8% mixed race or other **Time 1:** (25.7%) girls and (26.4%) boys met the age-adjusted criteria for overweight, by **Time 2:** 12.0% of the girls and 9.9% of the boys became overweight.	and year five using a FFQ, which included a question "In the past week, how often did you eat something from a fast food restaurant?" Self-reported height and weight at baseline and 5y follow-up.	**those overweight and not overweight at baseline):** *Girls:* (OR=0.88, 95% CI: 0.79, 0.98; P<0.05). *Boys:* NS **Incidence of overweight (excluded prevalent overweight at baseline):** NS in girls and boys
Laska, 2012 **Identifying Determinants of Eating and Activity (IDEA) and the Etiology of Childhood Obesity (ECHO) cohorts, USA** **PC, 2 y** **4/24**	N=693 14.6 y (SD=1.83) 51% female White (87%) Mean BMI (22, SD=5); Mean percent body fat (21.3, SD=9.18)	Frequency of **fast food** purchases assessed with survey question: "In the past month... how many times did you buy food at a restaurant where food is ordered at a counter or at a drive-through window (there is no waiter/waitresses)?" Numerous examples of fast food facility types provided. Measured height and weight during clinic visit, percent body fat assessed with digital bioelectrical impedance scale	**Fast-food intake and longitudinal anthropometric outcomes at 2-yr follow-up:** **BMI** *Males:* NS *Females:* NS **Percent body fat** *Males:* NS *Females:* NS

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MacFarlane, 2009 **Health, Eating and Play Study (HEAPS),** **Australia** **PC, 3y** **4/24**	N=293 5-12 y (Younger children (5-6 y); Older children (10-12 y)) 50.5% female NR Baseline obesity rate (19.8%)	Parent report of child baseline frequency of eating **takeaway or fast foods** away from home Measured height and weight at baseline and follow up	**Child intake of take-away/fast-food meals and anthropometric outcomes at follow up** (ref: < once/week) **BMI z-score** *Younger children (6y):* NS *Older children (11y):* NS **Prevalence overweight** *Younger children (6y):* NS *Older children (11y):* NS
Taveras, 2005 **Growing Up Today Study, USA** **PC, 3y** **4/24**	N=14,355 9-14y 54% female 93.7% were non-Hispanic white **Mean BMI:** *Girls: 9-12y:* 18.4kg/m^2; *13-14y:* 20.2kg/m^2 *Boys: 9-12y:* 19.2kg/m^2; *13-14y:* 19.3kg/m^2	Data were collected by an annual mailed self-administered questionnaire in 1996, 1997, 1998 and 1999. Intake **of fried foods away from home** (FFA) was determined using a question: "How often do you eat FFA (e.g., French fries, chicken nuggets)?" Children self-reported height and weight each year and BMI was computed	**BMI** BMI was found to be greater across increasing categories of FFA in boys (P<0.02), and the full sample (P<0.002), but not girls. Boys who decreased their consumption of FFA from "four to seven a week" to "never or less than once a week" decreased their BMI [-0.31 (-0.62 to 0.00)]; however, girls who decreased their consumption of FFA from "four to seven times a week" to "never or less than once a week" gained weight [0.27 (-0.02 to 0.56)].
Thompson, 2004	N=101 girls	**Assessed number of occasions per week ate of**	**Change in BMI Z-score**

Question: What is the relationship between eating out and take-away meals and body weight in children and adults?

Table 1. Summary table for studies examining the relationship between meals eaten away from home and weight outcomes in children and during the transition from childhood to adulthood

Author, Year Study Design, Duration Data Source, Location Risk of Bias*	Sample Size Age % Female Race/Ethnicity Weight Status	Measure of Eating Out/Take Away Meals Weight Measures	Results
MIT longitudinal growth and development study (convenient sample), USA **PC, 6y** **4/24**	**Median age:** 9y 100% 74% white, 26% other **Median:** BMI 16.4kg/m^2	**food away from home in 3 categories:** 1) Quick-service food from a national quick-service food outlet or from local submarine (sandwich) shops, ice cream parlors and street vendors, 2) Coffee-shop food from a coffee shop or doughnut shop, and 3) Restaurant food from a pizza parlor, a self-service restaurant, or a wait-staff restaurant Subjects provided seven-day food records at baseline and follow-up Measured height and weight used to derive BMI Z-scores	**Weekly frequency of consuming food purchased away from home/week at baseline:** Quick-service food was positively associated with change in BMI Z-score (F=6.49, P<0.01) *Coffee shops:* NS *Restaurants:* NS Participants who ate quick-service food twice a week or more at baseline had the greatest mean change in BMI Z-score at follow-up, and this change was significantly different from that seen in girls who ate quick-service food once a week or not at all (P<0.05).
Transition from Adolescence to Adult			
Niemeier, 2006 **National Longitudinal Study of Adolescent Health, Wave II (1996) and Wave III (2001 to 2002) (Add Health), USA** **PC, 5y**	N=9,919 16 years at Wave II; 21 years at Wave III Sex NR 66.1% white; 15% African American; 11.9% Hispanic; 4.1% Asian; 2.1% Native American;	Fast food consumption measured at both waves by single item asking "In the last seven days, on how many days did you eat at a **fast food type place**- McDonalds, Kentucky Fried Chicken, Pizza Hut, Taco Bell, etc.?" Measured height and weight at both Waves used to calculate BMI and BMI Z-scores	**BMI Z-scores:** Increased fast food consumption at Wave II predicted significantly higher BMI Z-scores at Wave III (β=0.02 (SE=0.01), P<0.05). Change in fast food consumption between Wave II and III did not significantly predict BMI Z-score at Wave III.

Question: What is the relationship between eating out and take-away meals and body weight in children and adults?

Table 1. Summary table for studies examining the relationship between meals eaten away from home and weight outcomes in children and during the transition from childhood to adulthood

Author, Year Study Design, Duration Data Source, Location Risk of Bias*	Sample Size Age % Female Race/Ethnicity Weight Status	Measure of Eating Out/Take Away Meals Weight Measures	Results
6/24	0.9% other Wave II BMI=23kg/m^2		

Transition from adolescence to adulthood

One study examined the relationship between the frequency of fast-food meal consumption and weight outcomes while following participants from late adolescents to early adulthood in a sample with similar racial/ethnic distribution as the general United States population. Niemeier, 2006 found high baseline fast-food intake was associated with increased BMI Z-scores at follow-up. Primary limitations of this study include lack of adjustment for total energy intake and no data on the composition of meals. This finding is consistent with a majority of the child and adult studies on fast-food intake in this review.

Adults

Seven articles assessed relationships between the frequencies of eating meals away from home and weight related outcomes in adults. Included studies predominantly enrolled relatively young adults (younger than 40 years old) with white and black participants being well-represented. Characteristics and results of these studies are reported in **Table 2**. This body of evidence has some limitations that are discussed, and provides a clearer picture for the relationship between fast-food intake and weight compared to other meal locations.

Five articles examined fast-food intake and weight outcomes (Duffey, 2007; Duffey, 2009; French, 2000; Li, 2009; Pereira, 2005). These studies unanimously agreed that increased intake of meals from fast-food locations and intake exceeding once per week was associated with higher weight gain, BMI and risk for obesity compared to those who consume fast food less frequently.

Two studies examined the relationship between frequency of meals from restaurants and weight outcomes, separately from fast-food meals (Duffey, 2007; Duffey, 2009). Both studies, of the same cohort, determined frequency of restaurant meal intake was not associated with change in body weight, BMI or waist circumference.

Two studies assessed meals away from home, without a distinction between fast food and restaurant, and weight outcomes (Bes-Rastrollo, 2010; Boggs, 2013). Bes-Rastrollo, 2010 found intake of greater than twice per week for total meals away from home was associated with increased risk of high weight gain, obesity and BMI in a Spanish cohort. Boggs, 2013 examined foods and meal types eaten away from home, and did not distinguish between fast-food or traditional restaurant meals. They found intake of greater than once per week of hamburgers, pizza, Chinese food or fried chicken was associated with greater risk of obesity, while intake from Mexican food and fried fish was not. Boggs, 2013 additionally controlled for sugar-sweetened beverage intake and found only frequency of hamburger meals remained significant. This finding illustrates the important role of understanding the composition of meals plays in determining a relationship with health outcomes.

This body of evidence had several limitations that should be considered when interpreting results. Although samples are relatively racially diverse overall, Hispanic/Latino and Asian populations are poorly represented. Also, only one relatively small study with a short duration (one year) examined adults over the age of 40 years. There is very little to no information provided on the composition of the meals eaten away from home, and total energy intake was not controlled for in the analysis for most of these studies. Additionally, standardized definitions of food locations are needed.

Although the body of evidence is small and generalizability may be limited, the findings consistently demonstrated a relationship between increased frequency of fast-food meal consumption and weight outcomes, and no similar association for frequency of restaurant meal consumption. More data is needed on meal composition to help explain these findings, and better representation of Hispanic/Latino and older adults is needed to better assess possible difference in risk between racial/ethnic groups.

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Question: What is the relationship between eating out and take-away meals and body weight in children and adults?

Table 2. Summary table for studies examining the relationship between meals eaten away from home and weight outcomes in adults

Author, Year Study Design, Duration Data Source, Location Risk of Bias*	Sample Size Age % Female Race/Ethnicity Mean BMI	Measure of Eating Out/Take Away Meals Weight Measures	Results
Bes-Rastrollo, 2010 **Prospective Cohort (PC), 4.4y** **Seguimiento Universidad de Navarra (University of Navarra Follow-up; SUN) Cohort, Spain** **4/24**	**Final N:** 9,182 37y (SD=11.4) 58.7% female Not reported (NR) **Mean BMI:** 23.3kg/m^2	Self-reported frequency of **meals away from home**. Assessment: item in questionnaire: "With which frequency do you have meals away from home" Self-reported height and weight (highly correlated (r=0.99), with a mean relative error in self-reported weight of 1.45%)	**Gaining > 2kg/year Odds ratios** (ref: never or rarely eats out): *Eat out >2 times/week:* OR=1.39 (95% CI=1.13-1.63); P for trend=0.001 *Eat out 1 time/week:* NS **Incident overweight/obesity Hazard ratios** (ref: never or rarely eats out): *Eat out >2 times/week:* HR=1.33 (95% CI=1.13-1.57); P for trend <0.001 **Body Mass Index (BMI**) *Eating out >2 times/week had higher adjusted gain in BMI:* Mean 0.07 (95% CI=0.04-0.10), P-trend <0.001
Boggs, 2013 **PC, 14y** **Black Women's Cohort Study, 1995, USA** **2/24**	N=19,479 21-39y 100% female 100% African American **BMI range:** 18.5-29.9kg/m^2	Self-reported restaurant food intake; participants asked how often they had eaten **6 specific foods (burgers, fried chicken, fried fish, pizza, Chinese food, Mexican food) from a restaurant or fast-food establishment in the past year**. Self-report height and weight (baseline and every 2y); validation study indicated high correlation with measured height/weight (r=0.93 and r=0.97, respectively)	**Risk of obesity and frequency of restaurant food intake**: *Hamburgers, >1/week* (ref: <5/year): HR=1.27 (95%CI=1.14-1.41); P for trend=<0.001 *Fried chicken, >1/week* (ref:<5 times/year): HR=1.08 (95%CI =0.96-1.21); P for trend=0.02 *Pizza, >1/week* (ref: <5 times/year): HR=1.08 (95%CI =0.92-1.27); P for

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			trend=0.04 *Chinese food, >1/week* (ref: <5 times/year): HR=1.20 (95%CI=1.05-1.37); P for trend=0.05 *Mexican food, >1/week* (ref: <5 times/year): NS *Fried fish, >1/week* (ref: <5 times/year): NS **After adjustment for sugar sweetened soda intake, only the HR for consumption of burgers from restaurants remained significant:** HR1.26 (95%CI = 1.14-1.40), P-trend <0.001
Duffey, 2009 **PC; 13y** **Coronary Artery Risk Development in Young Adults (CARDIA) study, USA** **1/24**	N=1,633 for weight N=1,637 for Waist circumference (WC) **Time varying exposure:** N=3,987 for weight N=3,982 for WC 32.0y (SD=3.6) 54.5% female 51.6 % Black, 48.4% White **Mean BMI:** 26.8kg/m^2	Self-reported frequency of **restaurant and fast food consumption**; data from mean of 7y and 10y exam and 20y exam; interviewer-administered questionnaire: How many times in a week or month do you eat breakfast, lunch or dinner in a place such as McDonald's, Burger King, Wendy's, Arby's, Pizza Hut, or Kentucky Fried Chicken? How many times in a week or month do you eat breakfast, lunch, or dinner at a restaurant or cafeteria? Measured height and weight and waist	**Weight and waist circumference (WC):** Increase of 1 time/week consumption of fast food associated with weight gain, but not an increase in WC at 13y follow-up: *Body weight:* β=0.15, P<0.001 *WC:* NS **Increase of 1 time/ week consumption of restaurant food at 13y follow-up:** *Body weight:* NS

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Author, Year Study Design, Duration Data Source, Location Risk of Bias*	Sample Size Age % Female Race/Ethnicity Mean BMI	Measure of Eating Out/Take Away Meals Weight Measures	Results
		circumference	*WC:* NS
Duffey, 2007 **PC; 3y** **Coronary Artery Risk Development in Young Adults (CARDIA) study,** **USA** **4/24**	N=3,394 **Mean age:** 25y NR 47% African American **Mean BMI:** 27kg/m^2	See above	**BMI** A one unit increase in fast food consumption (1 time/week) at year 7 was associated with an increase in year 10 BMI (β=0.16; 95% CI: 0.06, 0.25; P 0.001; **Restaurant intake:** NS
Pereira, 2005 **PC, 15y** **Coronary Artery Risk Development in Young Adults (CARDIA) study, USA** **2/24**	N=3,031 **Mean age:** 25y 52% female 52% white, 48% black **Mean BMI:** 25kg/m^2	See above	**Weight change by race** **Baseline fast food intake (three times per week differences between participants) and body weight at follow-up:** *Blacks:* β=2.22 (SE=0.72), P=0.0014 *Whites:* β=1.56 (SE=0.55), P=0.0064 **Change in fast food intake (three times per week change) during follow-up:** *Blacks:* NS *Whites:* β=1.84 (SE=0.44), P=<0.0001 Compared to participants with infrequent fast food intake (<1

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			time/week) those with frequent (>2 times/week) consumption of fast food gained an extra 4.5kg at follow-up (P=0.0054)
French, 2000 **PC, 3y** **Pound of Prevention Study, USA** **2/24**	N=891 **Mean:** 35 years 100% female 86% White **Mean BMI:** 27kg/m^2	Self-reported frequency of **fast food restaurant** use was estimated with the question, "About how many meals per week do you eat from fast food restaurants?" Measured height and weight	**Weight change** An increase of one fast food meal/week over the 3 y study period was associated with a weight gain of 0.72 kg (1.6 lb) above the average weight gain over the three year period (P<0.01)
Li, 2009 **PC, 1y** **Portland Neighborhood Environment and Health Study, USA** **2/24**	N=1,145 ~62y 43% female 92% white **Mean BMI:** 29kg/m^2	Self-reported weekly visits to **"local" fast-food** restaurants via survey at Baseline and 1y Measured height and weight	**Weight and waist circumference** **Increased visits to fast food restaurants:** *Weight:* β=0.65 (SE=0.32), P<0.05 *Waist Circumference*: β=1.06 (SE=0.41), P<0.05 **Increased fast food restaurant visits for participants living in high fast food dense neighborhoods**: *Weight:* β=1.40 (SE=0.61), P<0.05; *Waist circumference:* β=2.06 (SE=0.41), P<0.05

Assessment of the body of evidence

Studies in adults

- *Quality and Quantity:* This evidence review includes seven studies from five cohorts, with sample sizes ranging from 891 to 19,479, that examine the relationship between eating out and take-away meals and body weight status in adults. Risk of bias ratings ranged from one of 24 to four to 24. Study designs varied among publications, with few prospective studies. In general, limitations included variation in the method for defining and measuring "eating out," methods may not have captured all eating out occasions and few studies controlled for energy intake.
- *Consistency:* There was a consistent relationship found across studies between the frequency of fast-food consumption and weight gain
- *Impact*: All studies included in the review focused on the impact of eating away from home and weight status
- *Generalizability*: The consistency of findings among studies suggests the association between fast-food consumption and weight is generalizable to adults in the United States.

Studies in children

- *Quality and Quantity:* Seven studies from separate cohorts examined the relationship between meals eaten away from home and weight in children. Sample sizes ranged from 101 to 14,355. Risk of bias ratings ranged from four of 24 to seven of 7/24, consistent with low to moderate risk of bias. Study designs varied among publications, with few prospective studies. In general, limitations included the use of self-reported height and weight and inconsistent use of BMI Z-score.
- *Consistency:* While the majority of results found a positive association between eating out at fast-food venues and indices of body weight, other results showed no relationship between variables (null findings) and infrequent findings of a negative association between eating out and weight
- *Impact*: While most studies focused on the impact of eating away from home and weight status, a few included "eating out" or "eating fast food" among multiple potential personal, behavioral and environmental risk and protective factors for weight status
- *Generalizability*: The inconsistency of findings among studies with children suggests the association between fast foods and weight may not be generalizable throughout America, but research is limited or lacking among some segments of the population.

Overall limitations

- Methods used to define and measure the exposure varied between studies and did not capture the full range of eating out or take-out opportunities
- Representation of Hispanic/Latino and Asian populations, young children and older adults was poor
- Several child studies used reported height and weight for outcome assessment and BMI Z-scores were not consistently used
- No information on the composition of meals and its relationship with outcomes
- Few studies controlled for total energy intake.

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Research recommendations

In order to better assess the relationship between eating out and take-away meals and body weight and obesity, additional research is needed to:

- Standardize terminology used to define and describe various types of eating venues
- Further define the types and quantities of food consumed and their composition at various types of venues
- Determine the impact of the various subtypes of commonly frequented venues for meals consumed outside of the home on diet, body weight status and indices of health
- Examine differences in the relationships for males and females of different age groups (especially children eight years and younger and adults 40 years and older) in regards to eating away from the home and weight gain and obesity risk
- Enroll diverse groups of study participants to explore racial/ethnic, SES, cultural and geographic differences in weight and health status risks
- Utilize research designs that examine the longitudinal impact of obtaining or consuming meals away from home, including frequency and contents of the meals, on changes in body composition, adiposity, weight gain and obesity profile from childhood to adulthood.

Search plan and results

Inclusion criteria

- Prospective cohort studies, randomized controlled trials (RCTs), crossover trials, non-randomized controlled trials
- Peer-reviewed articles published in English
- Human subjects
- Older than two years of age
- International population from high or very highly developed countries as defined by the 2012 Human Development Index [1]
- Healthy and those with elevated chronic disease risk (grouped by health status)
- At least 30 subjects per study arm
- Dependent variables:
    - Obesity
    - Overweight
    - Body mass index (BMI)
    - Waist circumference
    - Body weight
    - Percent body fat change
    - Child growth indices (weight-for-age, length/stature-for-age, weight for stature, BMI-for-age, BMI Z-score).
- Independent variable:
    - Frequency of eating out or take-away food meals
    - Types of food outlets when eating out or food taken home (e.g., quick serve, casual dining, fine dining).

[1] United Nations Development Programme. Human Development Report 2013, The Rise of the South: Human Progress in a Diverse World 2013. Available from: http://hdr.undp.org/sites/default/files/reports/14/hdr2013_en_complete.pdf.

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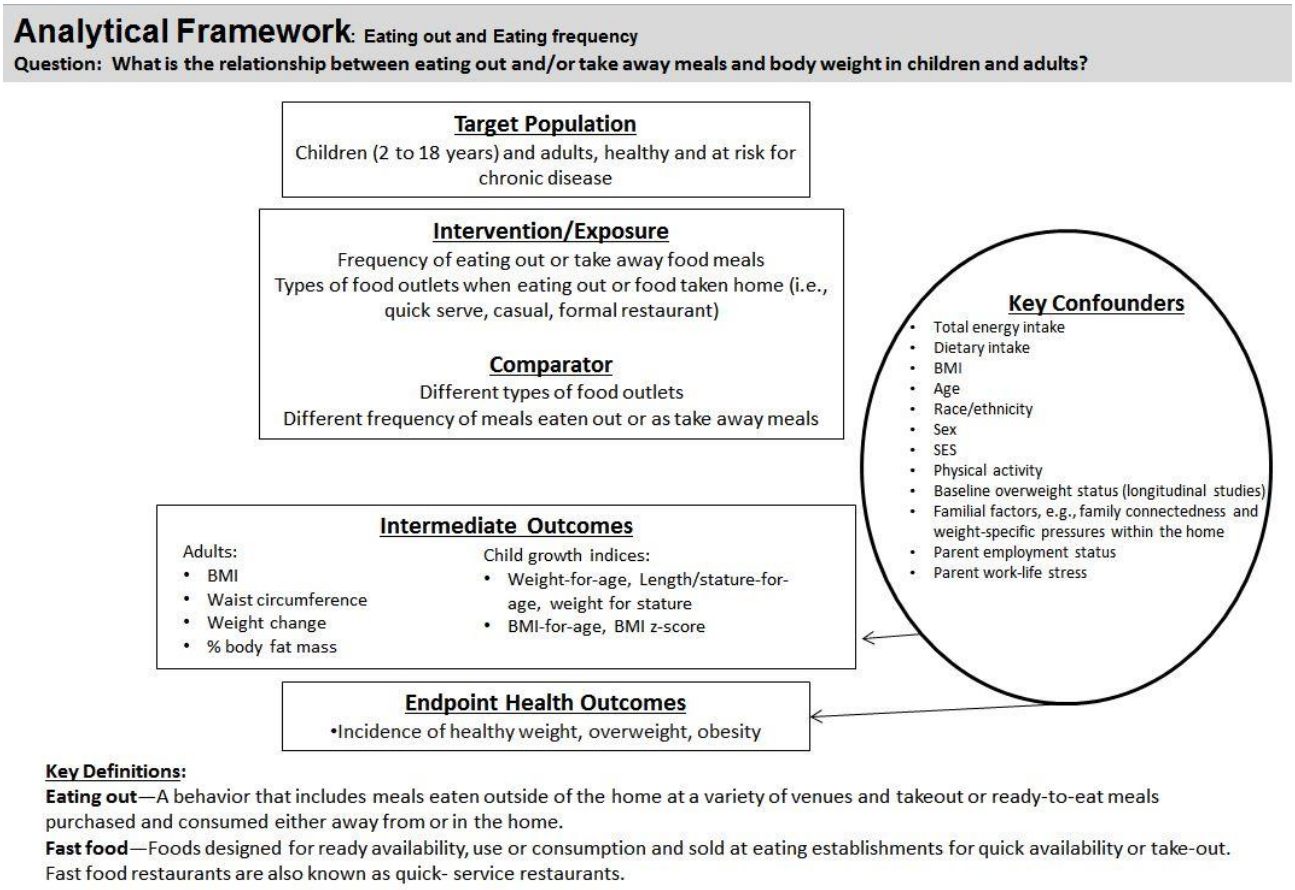
Exclusion criteria

- Narrative reviews, systematic reviews, meta analyses, before-and-after studies, case-control studies and cross-sectional studies
- Exclude studies conducted with hospitalized patients or malnourished subjects, or studies that exclusively enroll subjects with a particular disease. [Note: Studies that exclusively enroll subjects with obesity will not be excluded.]
- Studies with a dropout rate higher than 20% and a differential dropout rate of more than 5% between groups within the first six months.

Analytic framework



Search terms and electronic databases used

- ***Pubmed***
  - *Date(s) Searched:* ***July 22, 2014 to July 23, 2014***
  - *Search terms: "eating out"[tiab] OR eating outdoor*[tiab] OR eating outlet*[tiab] OR fast food*[ti] OR fast-food*[ti] OR restaurant*[tiab] OR restaurants[mh] OR retail food*[tiab] OR street food*[tiab] OR "casual dining"[tiab] OR "fine dining"[tiab] OR food court*[tiab] OR food vendor*[tiab] OR food outlet*[tiab] OR quick serv*[tiab] OR cafeteria*[tiab] OR lunch room*[tiab] OR lunchroom*[tiab] OR (("eating"[MeSH Terms] OR eating[tiab] OR dining[tiab] OR food[tiab] OR food habits[mh] OR foods[tiab] OR grocery store*[tiab] OR supermarket*[tiab] OR super market*[tiab]OR convenience store*[tiab])*

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AND ((away[tiab] AND home[tiab]) OR "take out"[ti] OR "take-out"[ti] OR "carry out" [tiab] OR "carry-out"[tiab] OR "take-away"[tiab] OR "take away"[ti] OR "out of home"[ti] OR "out-of-home"[ti] OR takeaway[ti] OR "away from home"[tiab])

AND

("body size"[tiab] OR body size[mh] OR obesity[tiab] OR obese[tiab] OR overweight[mh] OR obesity[mh] OR overweight [tiab] OR overnutrition[tiab] OR adipos[tiab] OR adiposity[mh] OR body composition[mh] OR body fat distribution[mh] OR "body fat"[tiab] OR "body weight"[tiab] OR body weight[mh:noexp] OR weight gain[mh] OR weight loss[mh] OR "body-weight related"[tiab] OR "weight gain"[tiab] OR weight-gain[tiab] OR weight loss[tiab] OR weight-loss[tiab] OR Body Weights and Measures[mh] OR weight[ti] OR "Anthropometry"[Mesh:noexp] OR body mass index[mh] OR "body mass index"[tiab] OR BMI[tiab] OR "weight status"[tiab] OR adipose tissue [mh] OR "healthy weight"[tiab] OR waist circumference[mh] OR "body mass"[ti] OR "body fat mass"[tiab] OR body weight changes[mh] OR "waist circumference"[tiab] OR ideal body weight[mh] OR waist-hip ratio[mh] OR child development[mh] OR growth[ti] OR growth[mh:noexp])*

NOT

((Eating OR food) AND ((away[All Fields] AND home) OR restaurant OR fast food*) AND ("Body Fat Distribution"[Mesh] OR "body weight"[mh] OR "Body Mass Index"[mh] OR "Overweight"[mh] OR "Obesity"[mh] OR "Waist-Hip Ratio"[Mesh])) (only for 2000-2010)*

AND

("Study Characteristics" [Publication Type] OR "clinical trial"[ptyp] OR "Epidemiologic Studies"[Mesh] OR "Support of Research"[ptyp] OR cohort[tiab] OR observational[tiab] OR observational study[ptyp] OR retrospective[tiab] OR longitudinal[tiab])) NOT (editorial[ptyp] OR comment[ptyp] OR news[ptyp] OR letter[ptyp] OR review[ptyp] OR systematic[sb])

- ***Cochrane***
  - *Date(s) Searched:* ***July 22, 2014 to July 23, 2014***
  - *Search terms: "eating out" or dining or "eating outdoors" or "food outlet*" or "fast food" or fast-food or restaurant* or "take out" or "take away" or "carry out" or "carry-out" or "retail food*" or "street food*" or "out of home" or "out-of-home" or takeaway or "casual dining" or "fine dining" or "food court*" or "food outlet*" or "eating out" or "convenience food*" or "take-out":ti, ab, kw and obesity or obese or overweight or "body fat" or bmi or "body mass index" or weight or adipos* or waist:ti*
- ***EMBASE***
  - *Date(s) Searched:* ***July 22, 2014 to July 23, 2014***

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- *Search terms: 'feeding behavior'/exp OR eating:ab, ti OR dining:ab, ti OR food:ab, ti OR 'eating'/exp OR 'food'/exp OR supermarket:ab, ti OR supermarkets:ab, ti OR 'grocery store':ab, ti OR 'grocery stores':ab, ti OR 'convenience store':ab, ti OR 'convenience stores':ab, ti AND ((away NEXT/2 home):ab, ti OR 'take-away':ab, ti OR 'take away':ab, ti OR 'out of home':ab, ti OR 'out-of-home':ab, ti OR takeaway:ab, ti OR 'take-out':ab, ti OR 'take out':ab, ti OR 'carry out':ab, ti OR 'carry-out':ab, ti) OR 'fast food'/de OR restaurant*:ab, ti OR (fast NEXT/1 food*):ab, ti OR 'eating out':ab, ti OR (eating NEXT/1 out*):ab, ti OR 'retail food':ab, ti OR (retail NEXT/1 food*):ab, ti OR (street NEXT/1 food*):ab, ti OR 'out of home':ab, ti OR 'out-of-home':ab, ti OR 'casual dining':ab, ti OR 'fine dining':ab, ti OR (food NEXT/1 court*):ab, ti OR (food NEXT/1 vendor*):ab, ti OR (food NEXT/1 outlet*):ab, ti OR cafeteria*:ab, ti OR 'lunch room':ab, ti*

  AND

  'body size'/de OR 'obesity'/exp OR overweight:ab, ti OR obese:ab, ti OR obesity:ab, ti OR 'weight gain':ab, ti OR adiposity:ab, ti OR adipose:ab, ti OR 'body weight'/exp OR 'weight gain'/de OR 'weight reduction':ab, ti OR 'weight loss':ab, ti OR 'body composition'/exp OR 'body fat':ab, ti OR 'anthropometry'/de OR 'body mass'/de OR bmi:ab, ti OR 'body mass index':ab, ti OR weight:ab, ti OR 'waist circumference'/de OR 'waist circumference':ab, ti OR 'waist hip ratio'/de OR 'body fat'/de OR 'adipose tissue'/exp

  NOT

  'feeding behavior'/exp OR eating:ab, ti AND ((away NEXT/2 home):ab, ti OR restaurant:ab, ti OR (fast NEXT/1 food*):ab, ti) AND ('body fat'/de OR 'body fat distribution'/de OR 'body weight'/exp OR 'body mass'/de OR 'overweight':ab, ti OR 'obesity'/exp OR 'waist hip ratio'/de) AND ([article]/lim OR [article in press]/lim) AND [humans]/lim AND [english]/lim AND [2000-2009]/py*

  AND

  'cohort analysis'/de OR cohort:ab, ti OR longitudinal:ab, ti OR prospective:ab, ti OR 'comparative study'/de OR 'randomized controlled trial'/exp OR 'crossover procedure'/exp OR [controlled clinical trial]/lim OR [randomized controlled trial]/lim OR 'placebo'/de OR 'clinical trial'/exp OR 'clinical trial (topic)'/exp OR 'controlled study'/exp OR 'controlled study':ab OR random:ab, ti OR trial*:ab, ti OR ((singl* OR doubl* OR trebl* OR tripl*) NEAR/3 (blind* OR mask*)):ab, ti*

Date range: January 2000 to July 2014

Summary of articles identified to review

- Total hits from all electronic database searches: 1213
- Total articles identified to review from electronic databases: 325
- Articles identified via handsearch or other means: 0
- Number of Primary Articles Identified: 8

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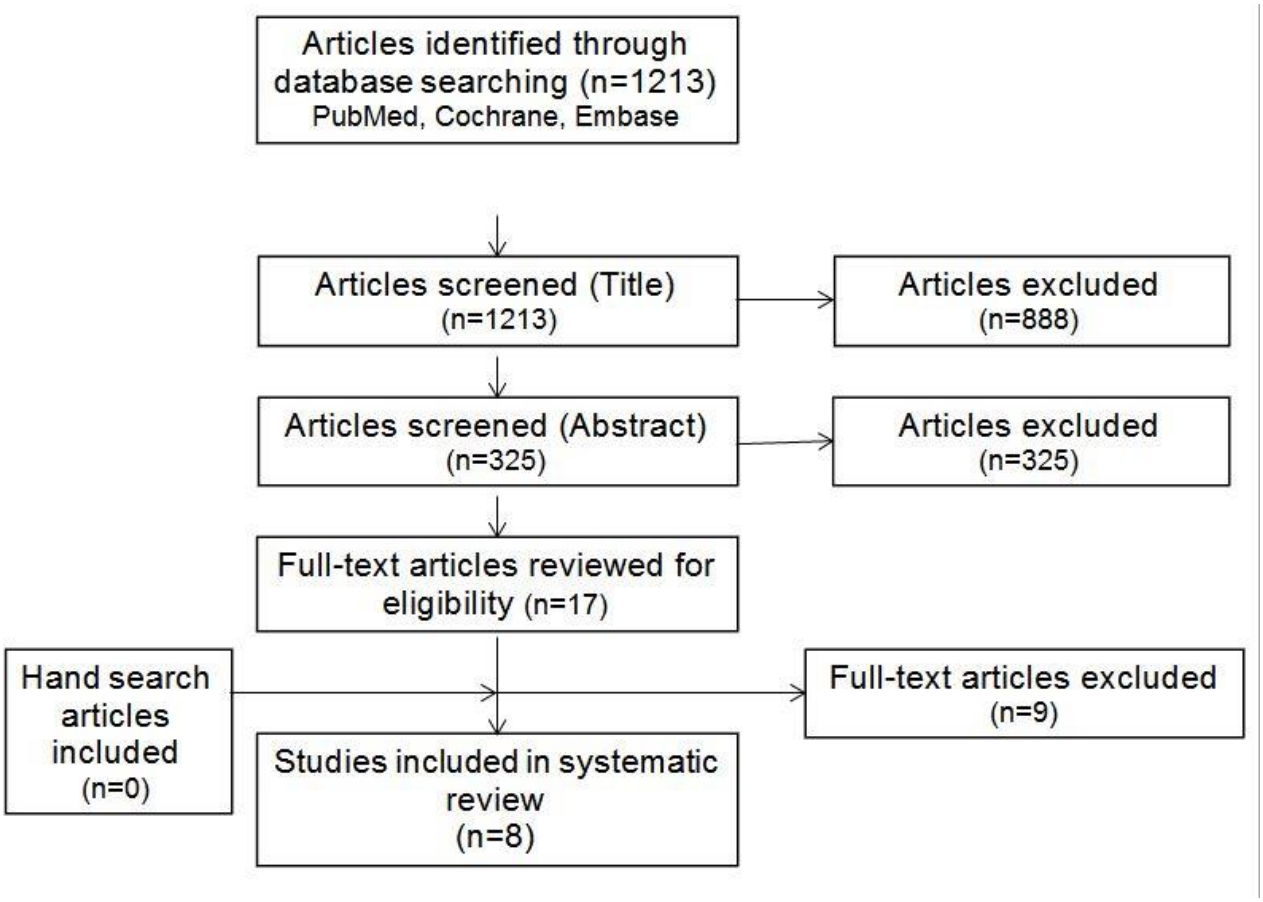
- Number of Review Articles Identified: 0
- Total Number of Articles Identified: 8
- Number of Articles Reviewed but Excluded: 317



Included articles (References)

Includes eight primary articles from 2010 DGAC and eight included articles from 2015 DGAC update:

1. Bes-Rastrollo M, Basterra-Gortari FJ, Sanchez-Villegas A, Marti A, Martinez JA, Martinez-Gonzalez MA. A prospective study of eating away-from-home meals and weight gain in a Mediterranean population: the SUN (Seguimiento Universidad de Navarra) cohort. *Public Health Nutr.* 2010;13(9):1356-63. PubMed PMID: 19954575. http://www.ncbi.nlm.nih.gov/pubmed/19954575 (2015 DGAC)
2. Bisset S, Gauvin L, Potvin L, Paradis G. Association of body mass index and dietary restraint with changes in eating behaviour throughout late childhood and early adolescence: A five-year study. *Public Health Nutr.* 2007 Aug;10(8):780-789. PMID: 17381909. http://www.ncbi.nlm.nih.gov/pubmed/17381909 (2010 DGAC)
3. Boggs DA, Rosenberg L, Coogan PF, Makambi KH, Adams-Campbell LL, Palmer JR. Restaurant foods, sugar-sweetened soft drinks, and obesity risk among young African American women. *Ethn Dis.* 2013;23(4):445-51. PubMed PMID: 24392607. http://www.ncbi.nlm.nih.gov/pubmed/24392607(2015 DGAC)
4. Duffey KJ, Gordon-Larsen P, Jacobs DR Jr, Williams OD, Popkin BM. Differential associations of fast food and restaurant food consumption with three-year change in body mass index: The Coronary Artery Risk Development in Young Adults Study. *Am J Clin Nutr.*

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2007 Jan;85(1):201-208. PMID: 17209197. http://www.ncbi.nlm.nih.gov/pubmed/17209197 (2010 DGAC)

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6. Fraser LK, Clarke GP, Cade JE, Edwards KL. Fast food and obesity: a spatial analysis in a large United Kingdom population of children aged 13-15. *Am J Prev Med.* 2012;42(5):e77-85. PubMed PMID: 22516506. http://www.ncbi.nlm.nih.gov/pubmed/22516506 (2015 DGAC)
7. French SA et al. Fast food restaurant use among women in the Pound of Prevention study: Dietary, behavioral and demographic correlates. *Int J Obes Relat Metab Disord.* 2000 Oct;24(10):1, 353-1, 359. PMID: 11093299. http://www.ncbi.nlm.nih.gov/pubmed/11093299 (2010 DGAC)
8. Haines J, Neumark-Sztainer D, Wall M, Story M. Personal, behavioral and environmental risk and protective factors for adolescent overweight. *Obesity (Silver Spring).* 2007 Nov;15(11): 2, 748-2, 760. PMID: 18070766. http://www.ncbi.nlm.nih.gov/pubmed/18070766 (2010 DGAC)
9. Laska MN, Murray DM, Lytle LA, Harnack LJ. Longitudinal associations between key dietary behaviors and weight gain over time: transitions through the adolescent years. *Obesity (Silver Spring).* 2012;20(1):118-25. PubMed PMID: 21701567. http://www.ncbi.nlm.nih.gov/pubmed/21701567 (2015 DGAC)
10. Li F, Harmer P, Cardinal BJ, Bosworth M, Johnson-Shelton D, Moore JM, Acock A, Vongjaturapat N. Built environment and one-year change in weight and waist circumference in middle-aged and older adults: Portland Neighborhood Environment and Health Study. *Am J Epidemiol.* 2009 Feb 15;169(4):401-408. PMID: 19153214. http://www.ncbi.nlm.nih.gov/pubmed/19153214 (2010 DGAC)
11. MacFarlane A, Cleland V, Crawford D, Campbell K, Timperio A. Longitudinal examination of the family food environment and weight status among children. *Int J Pediatr Obes.* 2009;4(4):343-52. PubMed PMID: 19922051. http://www.ncbi.nlm.nih.gov/pubmed/19922051 (2015 DGAC)
12. Niemeier HM, Raynor HA, Lloyd-Richardson EE, Rogers ML, Wing RR. Fast food consumption and breakfast skipping: Predictors of weight gain from adolescence to adulthood in a nationally representative sample. *J Adolesc Health.* 2006 Dec;39(6):842-849. PMID: 17116514. http://www.ncbi.nlm.nih.gov/pubmed/17116514 (2015 DGAC)
13. Pereira MA, Kartashov AI, Ebbeling CB, Van Horn L, Slattery ML, Jacobs DR Jr, Ludwig DS. Fast-food habits, weight gain and insulin resistance (the CARDIA study): 15-year prospective analysis. *Lancet.* 2005 Jan 1-7;365 (9453):36-42. PMID: 15639678. http://www.ncbi.nlm.nih.gov/pubmed/15639678(2015 DGAC)
14. Taveras EM, Berkey CS, Rifas-Shiman SL, Ludwig DS, Rockett HR, Field AE, Colditz GA, Gillman MW. Association of consumption of fried food away from home with body mass index and diet quality in older children and adolescents. *Pediatrics.* 2005 Oct;116(4):e518-24. PMID: 16199680. http://www.ncbi.nlm.nih.gov/pubmed/16199680 (2010 DGAC)
15. Thompson OM, Ballew C, Resnicow K, Must A, Bandini LG, Cyr H, Dietz WH. Food purchased away from home as a predictor of change in BMI z-score among girls. *Int J Obes Relat Metab Disord.* 2004 Feb; 28(2):282-289. PMID: 14647177. http://www.ncbi.nlm.nih.gov/pubmed/14647177 (2010 DGAC)
16. Tin SP, Ho SY, Mak KH, Wan KL, Lam TH. Location of breakfast consumption predicts body mass index change in young Hong Kong children. *Int J Obes (Lond).* 2012;36(7):925-30. PubMed PMID: 22234278. http://www.ncbi.nlm.nih.gov/pubmed/2223427 (2010 DGAC)

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Excluded articles

See Appendix A for a full list of excluded articles with reason.

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CHAPTER 3. FAMILY SHARED MEALS – DIETARY INTAKE

WHAT IS THE RELATIONSHIP BETWEEN FREQUENCY/REGULARITY OF FAMILY MEALS AND MEASURES OF DIETARY INTAKE IN U.S. POPULATION GROUPS?

TECHNICAL ABSTRACT

Background

Cross-sectional studies have suggested that when families share meals, they achieve better diet quality and improved nutrient intake, and to some extent are better able to maintain appropriate body weight. Family mealtime may act as a protective factor for many nutritional health-related problems. For example, they provide an opportunity for parents to model good eating behaviors and create a positive atmosphere by providing time for social interaction and thus a sense of social support for all members. This review focused on high-quality epidemiological studies to determine if there is an association between family shared meals and dietary intake.

Conclusion statement

Insufficient evidence is available that examines the association between frequency of family meals and measures of dietary intake to draw a conclusion.

2015 DGAC Grade: **Not assignable**

Methods

Literature searches were conducted using PubMed, Embase and Cochrane databases to identify studies published in English in peer-reviewed journals from January 2004 to July 2014. Studies that met the following criteria were included in the review: randomized controlled trials (RCTs), prospective cohort studies; human subjects aged two years and older who were healthy or at elevated chronic disease risk; studies conducted in the United States. The intervention or exposure was frequency or regularity of family and shared meals. The outcome was measures of weight including incidence of obesity or overweight, body mass index (BMI), waist circumference, body weight, body composition and growth indices.

Data from each included article were extracted and risk of bias was assessed by two abstractors. The evidence was qualitatively synthesized, a conclusion statement was developed and the strength of the evidence (grade) was assessed using pre-established criteria that included evaluation of the quality and risk of bias, quantity, consistency, magnitude of effect and generalizability of available evidence.

Findings

- Two publications from one prospective cohort assessed the relationship between frequency of family meals and dietary intake in children transitioning from early to middle adolescents and into young adulthood
- Studies found increased consumption of family meals was associated with improved dietary intake, specifically an increase in fruits and vegetables and calcium-rich or milk-based foods

Limitations

Only one cohort was studied to examine the impact of family meals on diet quality

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FULL REVIEW

Conclusion statement

Insufficient evidence on the association between frequency of family meals and measures of dietary intake is available to draw a conclusion.

Grade

Not assignable

Key findings

- Two publications from one prospective cohort assessed the relationship between frequency of family meals and dietary intake in children transitioning from early to middle adolescents and into young adulthood
- Studies found increased consumption of family meals was associated with improved dietary intake, specifically an increase in fruits and vegetables and calcium-rich or milk-based foods.

Evidence summary

This evidence review includes two prospective cohort articles from the Project EAT: Eating and Activity in Teens and Young Adults cohort, which examined the longitudinal association between family meal patterns and dietary intake in a sample of adolescents during the transition from early (middle school) to middle (high school) adolescence (Burgess-Champoux, 2009) and into early adulthood (Larson, 2012). Baseline assessments were conducted in the classroom setting, five-year follow-up was conducted by mail and 10-year follow-up was collected online. NEL Bias Assessment Tool (BAT) scores were zero of 26, indicating strong internal validity. Characteristics and findings are reported in **Table 1**.

The population-based study was initiated in 31 public urban and suburban junior and senior high schools in Minneapolis/St.Paul, Minnesota from 1998 to 1999. The five-year study recruited 674 middle school boys and girls approximately 13 years of age (Burgess-Champoux, 2009) and the 10-year study recruited 1,738 high school boys and girls approximately 15 years of age and 314 custodial parents (Larson, 2012). Participants were 55% female.

The articles measured the weekly frequency of eating meals with family or at 10 years, eating meals with family or other household members. A validated, semi-quantitative food frequency questionnaire (FFQ) was used to measure intake of 151 foods consumed in the past year. Dietary intake of total energy and the following foods and macronutrients was assessed: Fruit (excluding juice), vegetables (excluding potatoes), milk products, whole grains and sugar-sweetened beverages, total fat (percentage of total energy), saturated fat (percentage of total energy) and alcohol (percentage of total energy).

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Question: What is the relationship between frequency/regularity of family meals and measures of dietary intake in U.S. population groups?

Table 1. Summary of studies examining the relationship between family-shared meals and dietary intake

Author, Year Study Design Risk of bias*	Final N; Attrition Sex, Age (mean), Study Duration	Independent Variable Dependent Variable Results	Summary of Findings
Burgess-Champoux 2009 **Prospective Cohort (PC) Study** **0/26**	674, 58% 55% female, 12.8y 5y	**Number of days all or most of family ate together at time 1; family meal frequency was not assessed at time 2** *Intake of:* Fruits, vegetables, dark green and orange vegetables, whole grains, calcium-rich foods, soft drinks, energy, energy from fat, energy from saturated fat, certain micronutrients **Regular family meals (≥5 family meals per week) and 5y dietary intake** *Females:* Positively associated with mean daily intakes of vegetables (P=0.04), calcium-rich food (P=0.05), dietary fiber (P=0.005); NS association with energy, fruits, dark green and orange vegetables, and whole grains, and soft drinks. *Males:* Positive association with mean daily intakes of fruits (P=0.02), vegetables (P=0.01), dark green and orange vegetables (P=0.04), calcium-rich food (P=0.005), whole grains (P=0.05), and dietary fiber (P=0.01); NS association with soft drinks, and energy Analysis further controlled for energy intake found no associations with food intake in males or females.	Regular family meals during the transition from early to middle adolescence improved diet quality, specifically, intake of vegetables, calcium-rich food, and dietary fiber in males and females, and in males, an increased intake of fruits, dark green and orange vegetables, and whole grains.

Question: What is the relationship between frequency/regularity of family meals and measures of dietary intake in U.S. population groups?

Table 1. Summary of studies examining the relationship between family-shared meals and dietary intake

Author, Year Study Design Risk of bias*	Final N; Attrition Sex, Age (mean), Study Duration	Independent Variable Dependent Variable Results	Summary of Findings
		Statistically significant associations were not found for energy intake for either gender across categories of regular family meals. Regular family meals had a positive association with sodium intake for females (P-trend=0.009), but not males (P-trend=0.09). **Statistically significant associations between regular family meals and mean daily intakes at Time 2 of the following nutrients remained for both genders:** Magnesium (P-trend<0.001), potassium (P-trend<0.001), vitamin B_6 (P-trend <0.01), and dietary fiber (P-trend<0.05).	
Larson 2012 **PC; Project Eating and Activity in Teens and Young Adults (EAT)-III** **0/26**	2,052, 52% 55% female, 15y 10y	**Frequency of Shared Meals and Dietary Intake Model 1 (P-value for linear trend):** **Young Adults** *Females:* Positively associated with intake of fruit (P=0.03), vegetables (P=0.0006), milk products (P=0.008), and calories (P=0.01); NS findings for whole grains, sugar-sweetened beverages, calories from fat, calories from saturated fat, calories from alcohol *Males:* Positively associated with intake of fruit (P=0.004), and whole grains (P=0.04); NS findings for vegetables, milk products, sugar-sweetened beverages, calories, calories from fat, calories from saturated fat, calories from alcohol	Having more frequent shared meals in young adulthood was associated with greater intake of fruit among males and females, and with higher intakes of vegetables, and milk products among females.

Question: What is the relationship between frequency/regularity of family meals and measures of dietary intake in U.S. population groups?

Table 1. Summary of studies examining the relationship between family-shared meals and dietary intake

Author, Year Study Design Risk of bias*	Final N; Attrition Sex, Age (mean), Study Duration	Independent Variable Dependent Variable Results	Summary of Findings
		Model 2 (adjustment for total energy intake) *Females:* Positively associated with intake of sugar-sweetened beverages (P=0.03) only *Males:* Positively associated with intake of fruit (P=0.004), and whole grains (P=0.04) only **Parents** **Model 1 (P-value for linear trend):** *Females:* Positively associated with intake of fruit (P=0.01); calories from fat (P=0.05); NS findings for vegetables, milk products, whole grains, and sugar-sweetened beverages, calories, calories from saturated fat, and calories from alcohol *Males:* Frequency of shared meals was negatively associated with intake of sugar-sweetened beverages (P=0.01); NS findings for fruit, vegetables, milk products, whole grains, calories, calories from fat, calories from saturated fat, and calories from alcohol **Model 2 (adjustment for total energy intake):** *Females:* Positively associated with intake of fruit (P=0.01) only	

Question: What is the relationship between frequency/regularity of family meals and measures of dietary intake in U.S. population groups?

Table 1. Summary of studies examining the relationship between family-shared meals and dietary intake

Author, Year Study Design Risk of bias*	Final N; Attrition Sex, Age (mean), Study Duration	Independent Variable Dependent Variable Results	Summary of Findings
		Males: Positively associated with intake of vegetables (P=0.03), and sugar sweetened beverages (P=0.03) only	

* Based on NEL Bias Assessment Test; lower values represent less bias

Evidence Synthesis

Two articles examined the relationship between family-shared meals and dietary quality in adolescents (mean age 13 and 15 years) enrolled in the Project EAT: Eating and Activity in Teens and Young Adults cohort. One study initiated in middle school and conducted over a five-year period found that having family meals was associated with improved diet quality, specifically the intake of vegetables, calcium-rich food and dietary fiber in males and females; and in males, an increased intake of fruits, dark green and orange vegetables and whole grains (Burgess-Champoux 2009). The second study, initiated in high school students and conducted over 10 years, found that having more frequent shared meals was associated with greater intake of fruit among males and females; and with higher intakes of vegetables and milk products among females (Larson, 2012).

Qualitative Assessment of the Body of Evidence

- *Quality and Quantity:* Two studies were included in the review and both were from the Project EAT cohort. Outcomes were assessed over a five-year and 10-year period. Sample sizes were 674 and 2,052. NEL BAT indicated strong internal validity. Limitations include a lack of specificity for certain foods assessed with the FFQ used, lack of data on what is consumed outside of family meals and the use of self-reported data.
- *Consistency:* Both studies showed that consumption of family meals relates to improved dietary intake. Generally, the studies showed an increase in fruits and vegetables and calcium-rich or milk-based foods.
- *Impact:* Due to the small number of studies in this review, more evidence is needed to assess the impact of family meal frequency on diet quality.
- *Generalizability:* Both studies had a large sample of adolescents (mean age 13 and 15), but the results may not be generalizable to younger children or adult populations.

Limitations

Only one cohort was examined to find an association between family-shared meals and dietary intake, and data were self-reported.

References

1. Burgess-Champoux TL,Larson N,Neumark-Sztainer D,Hannan PJ,Story M. Are family meal patterns associated with overall diet quality during the transition from early to middle adolescence?. *J Nutr Educ Behav.* 2009;41(2):79-86. PMID:19304252. http://www.ncbi.nlm.nih.gov/pubmed/19304252
2. Larson N,Fulkerson J,Story M,Neumark-Sztainer D. Shared meals among young adults are associated with better diet quality and predicted by family meal patterns during adolescence. *Public Health Nutr.* 2013;16(5):883-93. PMID:22857517. http://www.ncbi.nlm.nih.gov/pubmed/22857517

Research recommendations

- Studies are needed in diverse populations that and looking at the explore the various age groups (as children transition into adulthood)
- Randomized controlled studies are needed to isolate the effect of interventions that increase the frequency of family meals from other health and parenting behaviors
- Studies should identify critical time windows for establishing family rituals that may influence dietary intake and eating habits.

Search plan and results

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Inclusion criteria

- Human subjects
- Studies conducted within the United States
- Human subject more than two years of age
- Subjects who were healthy or at elevated chronic disease risk
- Prospective cohort studies, randomized controlled trials (RCTs), crossover trials:
- Intervention studies with a dropout rate of 20% and a differential dropout rate of 15% between groups
- *Intervention studies:* At least 30 subjects per study arm.
- Dependent variables:
- Diet quality
- Foods/food groups
- Macronutrient intakes and proportions
- Obesity
- Overweight
- Body mass index (BMI)
- Waist circumference
- Body weight
- Percent body fat change
- Child growth indices:
- Weight-for-age
- Length/stature-for-age
- Weight for stature
- BMI-for-age
- BMI Z-score.
- *Independent variable:* Frequency and regularity of family/shared meals.
- In addition, articles were included if they were published in English in a peer-reviewed journal between January 1, 2004 and July 25, 2014. If an author is included on more than one primary research article that is similar in content, the paper with the most pertinent data and endpoints was included. If data and endpoints from both papers are appropriate, it was made clear that results are from the same intervention or cohort.

Exclusion criteria

- Animals and *in vitro* models
- Children less than two years of age
- Studies conducted in countries outside the United States
- Subjects who were hospitalized, diagnosed with disease and receiving medical treatment:
- Systematic review
- Meta-analysis
- Narrative review
- Qualitative studies
- Before-and-after studies
- Case-control studies
- Cross-sectional studies
- Non-randomized controlled trials

Analytic framework

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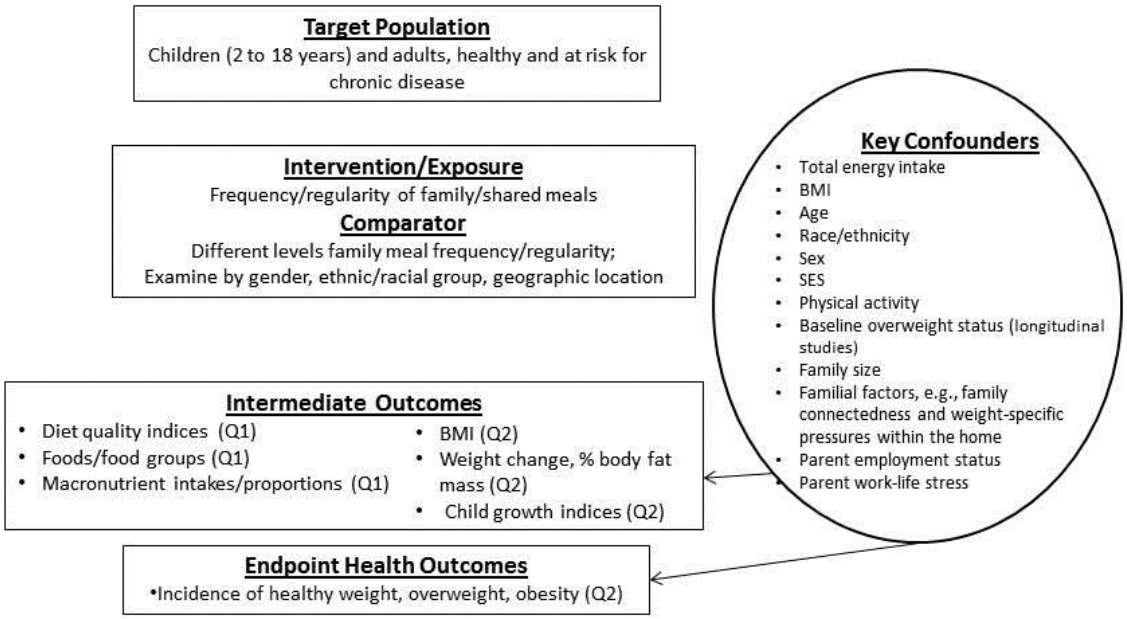
Analytical Framework: **Family/shared meal frequency/regularity**



Key Definitions: The definition of family shared meals in the literature varies, with some defining it as the number of a specific meal eaten together (e.g., dinner), or any meal, prepared at home or outside of home, that is shared among individuals living in the same household.

Search terms and electronic databases used

- ***Pubmed***
  - *Date(s) Searched:* ***July 2014***
  - *Search Terms: ((("body size"[tiab] OR body size[mh] OR growth[tiab] OR obesity[tiab] OR obese[tiab] OR obesity[mh] OR overweight[tiab] OR overnutrition[tiab] OR adiposity[tiab] OR adiposity[mh] OR "body weight"[tiab] OR body weight[mh] OR "body-weight related"[tiab] OR "weight gain"[tiab] OR weight gain[mh] OR "weight loss"[tiab] OR "weight-loss"[tiab] OR "weight-gain"[tiab] OR Body Weights and Measures[Majr] OR "Body Composition"[mh] OR "body fat"[tiab] OR adipos*[tiab] OR weight[ti] OR "Anthropometry"[Mesh:noexp] OR "body mass index"[tiab] OR BMI[tiab] OR "weight status"[tiab] OR adipose tissue[mh] OR "healthy weight"[tiab] OR waist circumference[mh] OR "body fat mass"[tiab] OR body weight changes[mh] OR "waist circumference"[tiab] OR ideal body weight[mh]) OR (Nutrition[tiab] OR nutritional[ti] OR diet[mh] OR diet[tiab] OR diets[tiab] OR dietary[tiab] OR food preferences[mh] OR feeding behavior[mh] OR nutrition surveys[mh] OR food*[tiab] OR "Food and Beverages"[mh] OR "caloric density"[tiab] OR "caloric intake"[tiab] OR caloric dens*[tiab] OR high calori*[tiab] OR*

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energy dens[tiab] OR fruit*[tiab] OR vegetable*[tiab] OR food analysis[mh] OR dietary intake*[tiab] OR food intake*[tiab] OR energy intake*[tiab] OR food habits[mh] OR dietary habit*[tiab] OR diet habit*[tiab] OR eating habit*[tiab] OR nutrient intake*[tiab] OR food choice*[tiab] OR portion size*[tiab] OR "diet quality"[tiab] OR dietary choice*[tiab] OR dietary change*[tiab] OR diet records[mh] OR food diar*[tiab] OR nutritional status[mh] OR child nutritional sciences[mh] OR dietary pattern*[tiab] OR diet pattern*[tiab] OR eating pattern*[tiab] OR food pattern*[tiab] OR eating habit*[tiab] OR dietary habit*[tiab] OR food habit*[tiab] OR dietary profile*[tiab] OR food profile*[tiab] OR diet profile*[tiab] OR eating profile*[tiab] OR dietary recommendation*[tiab] OR food intake pattern*[tiab] OR dietary intake pattern*[tiab] OR eating style*[tiab] OR (Macronutrient*[tiab] AND (Proportion*[tiab] OR composition[tiab] OR distribution*[tiab] OR percent*[tiab] OR diet composit*[tiab])) OR dietary score*[tiab] OR adequacy index*[tiab] OR kidmed[tiab] OR Food Score*[tiab] OR Diet Score*[tiab] OR MedDietScore[tiab] OR Dietary Pattern Score*[tiab] OR "healthy eating index"[tiab] OR ((index*[ti] OR score*[ti] OR indexes[ti] OR scoring[ti] OR indices[ti]) AND (dietary[ti] OR nutrient*[ti] OR eating[tiab] OR food[ti] OR food[mh] OR diet[ti] OR diet[mh]) AND (pattern*[tiab] OR habit*[tiab] OR profile*[tiab]))) AND (("Study Characteristics"[Publication Type] OR "clinical trial"[ptyp] OR "Epidemiologic Studies"[Mesh] OR "Support of Research"[ptyp]) NOT (editorial[ptyp] OR comment[ptyp] OR news[ptyp] OR letter[ptyp] OR review[ptyp] OR systematic[sb])) AND (((family[mh] OR family[tiab] OR families[tiab] OR familial[tiab] OR household*[tiab] OR home[tiab] OR homes[tiab] OR parent*[tiab]) AND (meal[tiab] OR meals[tiab] OR mealtime*[tiab] OR meals[mesh] OR breakfast*[tiab] OR lunch[tiab] OR lunches[tiab] OR dinner*[tiab] OR eating frequenc*[tiab] OR eating behavior*[ti] OR food habit*[tiab] OR eating behaviour*[ti] OR menu*[tiab] OR cooking[tiab] OR dining[tiab] OR skipping meal*[tiab] OR skipping breakfast*[tiab]))) AND (("2004/01/01"[PDat] : "2014/12/31"[PDat]) AND English[lang]))*

- ***Cochrane***
  - *Date(s) Searched: July 2014*
  - *Search Terms: '(famil* OR house* OR home*) AND (meals OR meal OR mealtime OR "eating freq*" OR breakfast OR lunch OR dinner OR "skip* breakfast*") in Title, Abstract, Keywords and diet* OR weight OR overweight OR obesity OR obese OR "weight-gain" OR "weight gain" OR "weight-loss" OR "weight loss" OR bmi OR "body mass index" OR dietary OR "food intake" OR macronutrient* OR eating OR cooking OR menu OR dining in Title, Abstract, Keywords , Publication Year from 2004 to 2014 in Trials'*

    Limiters: English, Human
- ***EMBASE***
  - *Date(s) Searched:* ***July 2014***

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- *Search Terms: ((famil* OR home* OR household* OR parent*) NEXT/3 (meal* OR dinner* OR lunch* OR breakfast* OR dining)):ab, ti AND ([article]/lim OR [article in press]/lim) AND [humans]/lim AND [english]/lim AND [embase]/lim NOT [medline]/lim AND [2004-2014]/py OR 'family'/exp OR famil*:ab, ti OR household*:ab, ti OR home:ab, ti OR homes:ab, ti OR 'family relation'/exp OR parent*:ab, ti OR 'nuclear family'/exp OR 'home environment'/exp OR 'family attitude'/exp OR 'family life'/exp AND ('meal'/de OR meals:ab, ti OR meal:ab, ti OR mealtime*:ab, ti OR breakfast*:ab, ti OR dinner*:ab, ti OR lunch*:ab, ti OR 'eating habit'/de OR 'feeding behavior'/exp) AND ([article]/lim OR [article in press]/lim) AND [humans]/lim AND [english]/lim AND [embase]/lim NOT [medline]/lim AND [2004-2014]/py*

  'cohort analysis'/de OR cohort:ab, ti OR 'cross-sectional study'/de OR 'cross-sectional':ab, ti OR longitudinal:ab, ti OR observational:ab, ti OR prospective:ab, ti OR 'comparative study'/de OR 'randomized controlled trial'/exp OR 'crossover procedure'/exp OR [controlled clinical trial]/lim OR [randomized controlled trial]/lim OR 'placebo'/de OR 'clinical trial'/exp OR 'clinical trial (topic)'/exp OR 'controlled study'/exp OR 'controlled study':ab OR random:ab, ti OR trial*:ab, ti OR ((singl* OR doubl* OR trebl* OR tripl*) NEAR/3 (blind* OR mask*)):ab, ti AND ([article]/lim OR [article in press]/lim) AND [humans]/lim AND [english]/lim AND [2004-2014]/py*

Date range: January 1, 2004 to July 25, 2014

Summary of articles identified to review

- Total hits from all electronic database searches: 2382
- Total articles identified to review from electronic databases: 606
- Articles identified via handsearch or other means: 0
- Number of Primary Articles Identified: 8
- Number of Review Articles Identified: 0
- Total Number of Articles Identified: 8
- Number of Articles Reviewed but Excluded: 598

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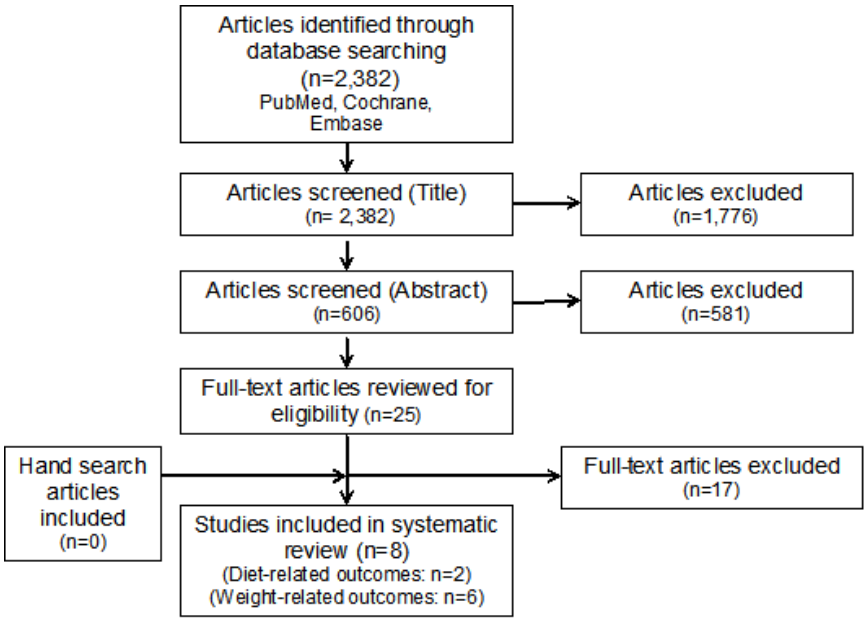

Included articles (References)

What is the relationship between frequency/regularity of family meals and measures of dietary intake in U.S. population? (2)

1. Burgess-Champoux TL, Larson N, Neumark-Sztainer D, Hannan PJ, Story M. Are family meal patterns associated with overall diet quality during the transition from early to middle adolescence?. *J Nutr Educ Behav.* 2009;41(2):79-86. PMID:19304252. http://www.ncbi.nlm.nih.gov/pubmed/19304252
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What is the relationship between frequency/regularity of family meals and measures of weight and obesity in U.S. population groups? (6)

1. Fulkerson JA, Neumark-Sztainer D, Hannan PJ, Story M. Family meal frequency and weight status among adolescents: cross-sectional and 5-year longitudinal associations. *Obesity (Silver Spring).* 2008;16(11):2529-34. PMID:18719674. http://www.ncbi.nlm.nih.gov/pubmed/18719674
2. Gable S, Chang Y, Krull JL. Television watching and frequency of family meals are predictive of overweight onset and persistence in a national sample of school-aged children. *J Am Diet Assoc.* 2007;107(1):53-61. PMID:17197271. http://www.ncbi.nlm.nih.gov/pubmed/17197271
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5. Sen B. Frequency of family dinner and adolescent body weight status: evidence from the national longitudinal survey of youth, 1997. *Obesity (Silver Spring).* 2006;14(12):2266-76. PMID:17189555. http://www.ncbi.nlm.nih.gov/pubmed/17189555
6. Taveras EM, Rifas-Shiman SL, Berkey CS, Rockett HR, Field AE, Frazier AL, Colditz GA, Gillman MW. Family dinner and adolescent overweight. *Obes Res.* 2005;13(5):900-6. PMID:15919844. http://www.ncbi.nlm.nih.gov/pubmed/15919844

Excluded articles

See Appendix B for a full list of excluded articles with reason.

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CHAPTER 4. FAMILY SHARED MEALS – BODY WEIGHT

WHAT IS THE RELATIONSHIP BETWEEN FREQUENCY AND REGULARITY OF FAMILY MEALS AND MEASURES OF BODY WEIGHT IN U.S. POPULATION GROUPS?

TECHNICAL ABSTRACT

Background

Cross-sectional studies have suggested that when families share meals, they achieve better diet quality and improved nutrient intake, and to some extent are better able to maintain appropriate body weight. Family mealtime may act as a protective factor for many nutritional health-related problems. For example, they provide an opportunity for parents to model good eating behaviors and create a positive atmosphere by providing time for social interaction and thus a sense of social support for all members. This review focused on high-quality epidemiological studies to determine if there is an association between family shared meals and weight outcomes.

Conclusion statement

Limited evidence from prospective studies shows inconsistent relationships between the number of family and shared meals and body weight in children.

2015 DGAC Grade: **Limited**

Methods

Literature searches were conducted using PubMed, Embase and Cochrane databases to identify studies published in English in peer-reviewed journals from January 2004 to July 2014. Studies that met the following criteria were included in the review: randomized controlled trials (RCTs), prospective cohort studies; human subjects aged two years and older who were healthy or at elevated chronic disease risk; and studies conducted in the United States. The intervention or exposure was frequency or regularity of family and shared meals. The outcome was measures of diet intake including diet quality, foods and food groups and macronutrient intakes or proportions.

Data from each included article were extracted and risk of bias was assessed. The evidence was qualitatively synthesized, a conclusion statement was developed and the strength of the evidence (grade) was assessed using pre-established criteria that included evaluation of the quality and risk of bias, quantity, consistency, magnitude of effect and generalizability of available evidence.

Findings

- Three out of four prospective cohort studies found no association between frequency of family meals on body mass index (BMI) or overweight status
    - Evidence from one prospective study (two articles) showed that an increase in frequency of family meals lowered the likelihood of becoming overweight or the persistence of overweight
        - One study found that among overweight children, eating more family breakfast and dinner meals was associated with lower likelihood of becoming overweight or remaining overweight over a four-year period
        - Another article reported children who typically ate more breakfasts with

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their families had a reduced rate of increase in BMI over five years. The number of dinners eaten with family was not associated with change in BMI.

- One RCT included an intervention that simultaneously focused on four household routines including family meals. While there was a reduction of weight there was no change in family meal frequency
- Studies did not use a standard definition for family meals. Two studies assessed only family dinners, two studies assessed breakfast and dinner meals and two studies assessed all meals. No study assessed the quality of meals consumed or source of meals.

Limitations

- Studies described weekly frequency of family meals, but no studies described the quality of these meals
- There is no indication of food origin or location of consumption. Meals could have been purchased from restaurants or take-away establishments and brought home and consumed, or conversely, families could have consumed meals together at restaurant or other venue outside of the home.
- The only RCT was not able to assess the effect of family meal frequency on weight outcomes because the intervention failed to increase family meal frequency as intended.

FULL REVIEW

Conclusion statement

Limited evidence from prospective studies shows inconsistent relationships between the number of family meals and body weight of children.

Grade

Limited

Key findings

- Three of four prospective cohort studies found no association between frequency of family meals and BMI or overweight status:
    - Evidence from one prospective study (two articles) showed an increase in frequency of family meals lowered the likelihood or becoming overweight or the persistence of overweight:
        - One study found that among overweight children, eating more family breakfast and dinner meals was associated with a lower likelihood of becoming overweight or remaining overweight over a four-year period
        - Another article reported children who typically ate more breakfasts with their families had a reduced rate of increase in BMI over five years. The number of dinners eaten with family was not associated with change in BMI.
- One RCT included an intervention that simultaneously focused on four household routines including family meals. While there was a reduction of weight there was no change in family meal frequency.
- Studies did not use a standard definition for family meals. Two studies assessed only family dinners, two studied assessed breakfast and dinner meals and two studies assessed all meals. No study assessed the quality of meals consumed or source of

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meals.

Evidence summary

Description of the Evidence

This evidence review includes six studies conducted in the United States: one randomized controlled trial (RCT) (Haines, 2013) and five prospective cohort (PC) studies from four cohorts (Fulkerson, 2008; Gable, 2007; Miller, 2011; Sen, 2006; Taveras, 2005), which examined the relationship between family-shared meals and measures of body weight. One RCT assessed the effectiveness of a six-month home-based intervention to improve household routines known to be associated with childhood obesity in 121 parent-child dyads. The intervention targeted: family meals, adequate sleep, limiting television (TV) time and removing the TV from the child's bedroom (Haines, 2013).

Four PC studies were conducted in nationally representative samples (Gable, 2007; Miller, 2011; Sen, 2006; Taveras, 2005) ranging in size from 5,014 to 14,431 subjects; one was conducted in a diverse sample of 2,516 children from Minnesota (Fulkerson, 2008). Two PC studies were conducted in the Early Childhood Longitudinal Study–Kindergarten Cohort (ECLS–K). From this cohort, one study investigated the association between body mass index (BMI) and number of breakfasts and dinners typically eaten with family over the period from kindergarten to fifth grade (Miller, 2011). The other assessed the association between frequency of family meals and onset of overweight and persistent overweight over the period from kindergarten to third grade (Gable, 2007). Two PC studies assessed the association between frequency of family dinners (FFD) and weight status in one year (Sen, 2006; Taveras, 2005). A final study assessed the five-year longitudinal association between the frequency of family meals and overweight status (Fulkerson, 2008). The NEL Bias Assessment Tool (BAT) was used to assess internal validity for RCT and PC studies. Scores ranged from zero to six for prospective cohort studies and the one RCT scored nine. Three PC studies used self-reported height and weight; two studies had high attrition with no sensitivity analysis.

All studies focused on children and adolescents, with mean ages ranging from four years to 15 years. Studies were ethnically and racially diverse and had a nearly equal split of boys and girls. All studies took place in the United States and numerous studies over-sampled African American and Hispanic/Latino subjects.

One RCT used a survey at baseline and follow-up that asked parents to report number of days at least some of the family ate meals together in past seven days (Haines, 2013). One prospective cohort study also used a survey completed in school that asked, "During the past seven days, how many times did all, or most of your family living in your house eat a meal together?". A mailed survey was used at follow-up from the Project EAT II (Fulkerson, 2008). One cohort study (two articles) assessed the number of breakfast and dinner meals family typically ate together per week (Gable, 2007; Miller, 2011). Two studies assessed the number of times respondents had dinner with their families in a typical week over the past year (Taveras, 2005; Sen, 2006).

Four of six studies used measured height and weight at baseline (Haines, 2013; Fulkerson, 2008; Gable, 2007; Miller, 2011) and one of these used self-reported height and weight at follow-up (Fulkerson, 2008). Two studies assessed change in BMI (Haines, 2013; Miller, 2011) and four studies assessed incidence of overweight and obesity (Fulkerson, 2008; Gable, 2007; Sen, 2006; and Taveras, 2005).

Evidence Synthesis

One RCT in families examined the relationship between family meals and weight outcomes.

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Haines, 2013 conducted a six-month intervention that focused on four household routines including family meals, adequate sleep, TV time and removing TVs from a child's bedroom in 121 families. At the end of six months there was no significant effect of the intervention on family meal frequency, so even though there was a reduction in child's BMI (but not BMI Z-score) in the intervention group, this could not be related to family meal frequency. For study details, refer to **Table 1**.

Gable, 2007 and Miller, 2011 used the same cohort for their PC studies examining frequency of family breakfast and dinner meals (frequency of family meals) and measured height and weight in children. Gable found that children who ate fewer family meals during kindergarten and first grade were more likely to be overweight for the first time at third-grade spring semester. Children who had fewer family meals from kindergarten through third grade were more likely to be persistently overweight during the same timeframe. Miller found no relationship between family dinners and initial BMI or change in BMI over five years. However, eating breakfast with the family was associated with a slower BMI growth rate from kindergarten to fifth grade.

In a five-year longitudinal study (Project EAT-II) in adolescents, there was no longitudinal impact of family meal frequency on overweight status in adolescent males or females (Fulkerson, 2008). Height and weight was measured at baseline in the school setting and self-reported on a follow-up mail survey. Likewise, over one year, Taveras, 2005 found no association between frequency of eating dinner with family and incidence of adolescents becoming overweight assessed using self-reported height and weight data.

A study by Sen, 2006 reported mixed results on the relationship between family meals and overweight status that differed by year, category of family meal frequency, race and ethnicity. Data from three years was analyzed and results were not consistent. For whites, data from 1998 showed a beneficial effect of having family meals every day of the week compared to no days. There was an association in 1999 between having three to four and five to six family meals per week with reduced risk of becoming overweight, but no effect when family meals were consumed seven days a week. In 2000, there were no significant associations between meal frequency and overweight status. For blacks and Hispanics (combined), results were mixed; most data did not show an association and the few significant associations were negative indicating that family meal frequency related to poorer weight outcomes. Sen, 2006 found lower odds of "ceasing to be overweight" with a family meal frequency of one to two days and five to six days per week in 1998. In 1999, no significant associations were found, and in 2000 the odds of remaining overweight was greater for family meal frequency of three to four times a week compared to none, and lower odds of "ceasing to be overweight" when family meals are consumed seven days per week compared to none.

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Question: What is the relationship between frequency and regularity of family meals and measures of body weight in U.S. population groups?

Table 1. Summary of studies examining the relationship between family-shared meals and body weight outcomes

Author, Year Study Design Risk of bias*	Final N; Attrition Sex, Age (mean), Study Duration	Independent Variable Outcomes Results	Summary of Findings
Haines 2013 **Randomized controlled trial (RCT); Healthy Habits, Happy Homes Intervention** **9/28**	111, 8% 48% female, 4.1y 6 mo	Number of days at least some of the family ate meals together in past 7 days Measured height and weight **Family meals over six months (times/week):** NS between groups	No significant (NS) intervention effect was found for family meal frequency and body mass index (BMI).
Fulkerson 2008 **Prospective Cohort (PC); Project Eating and Activity in Teens and Young Adults (EAT)-II** **1/26**	2,516, 47% 55% female, 15y 5y	Number of times all or most of the family living in the household ate a meal together Measured height and weight at baseline; self-reported at follow-up **Overweight status (Yes/No) and Family meals** (ref=3-7+ times per week) **(OR (95%CI)):** *Females:* Middle School: NS; High School: NS *Males:* Middle School: NS; High School: NS	Family meal frequency was not longitudinally associated with overweight status in males or females from two adolescent cohorts (mid-adolescence to young adulthood, and early adolescence to mid-adolescence).
Gable 2007 **PC; Early Childhood Longitudinal Study--Kindergarten Cohort (ECLS-K)**	8,000, 0% 52% female, 5.7y 4y	Combined number of times in a typical week at least some of the family eats breakfast and the evening meal together Measured height and weight **Overweight onset vs. never overweight:** OR=0.93 (95% CI: 0.90-0.97)	Children who ate fewer family meals during kindergarten and 1st grade were more likely to be overweight for the first time at 3rd-grade spring semester. Children who had fewer family meals from kindergarten through 3rd grade were more likely to be persistently

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Table 1. Summary of studies examining the relationship between family-shared meals and body weight outcomes

Author, Year Study Design Risk of bias*	Final N; Attrition Sex, Age (mean), Study Duration	Independent Variable Outcomes Results	Summary of Findings
2/26		**Persistent overweight vs. never overweight:** OR=0.92 (95% CI: 0.90-0.94)	overweight during the same timeframe.
Miller 2011 **PC; ECLS-K** **2/26**	11,400, 46% 50% female, 6.2y 5y	Number of breakfasts family typically ate together per week; Number of dinners family typically ate together per week Measured height and weight **Initial BMI:** *Number of breakfasts weekly:* NS *Number of dinners weekly*: NS **Change in BMI over time:** *Number of breakfasts weekly:* -0.0111, (P<0.001) *Number of dinners weekly:* NS	The number of breakfasts eaten with family was not associated with initial BMI, but children who typically ate more breakfasts with their families had a reduced rate of increase in BMI over time. The number of dinners eaten with family was not associated with initial BMI or change in BMI.
Sen 2006 **PC; National Longitudinal Survey of Youth 1997 (NLSY97)** **6/26**	5,014, 6% 48% female, 13.3y 1y	Frequency of family dinners (FFD) in a typical week in the past year Self-reported height and weight **Adolescents reporting FFD 5-6 in 1997 were less likely to be overweight:** OR 0.68, 95% CI: 0.49, 0.95); FFD 1-2, 3-4, or 7: NS. **Longitudinal analysis: OR (95%CI):**	Findings were not consistent in a dose-response manner for either whites or blacks and Hispanics. For whites, mixed results (beneficial and null associations) vary by year, and category of family meal frequency. In a black and Hispanic group, results were mixed (null and negative associations) between of family meal frequencies and years.

Question: What is the relationship between frequency and regularity of family meals and measures of body weight in U.S. population groups?

Table 1. Summary of studies examining the relationship between family-shared meals and body weight outcomes

Author, Year Study Design Risk of bias*	Final N; Attrition Sex, Age (mean), Study Duration	Independent Variable Outcomes Results	Summary of Findings
		For non-Hispanic whites: *1998:* FFD 7 greater likelihood of ceasing to be overweight 2.74 (1.32, 6.99) (i.e., more likely to move out of the overweight category); FFD 1-2, 3-4, 5-6 = NS *1999:* FFD 3-4 and FFD 5-6 were less likely to become overweight (0.34 (0.11, 0.98) and 0.20 (0.06, 0.59), respectively); FFD 1-2 or 7=NS *2000:* NS *For Blacks and Hispanics:* *1998:* FFD 1-2 and 5-6 lower odds of ceasing to be overweight (0.23 (0.07, 0.64) and 0.50 (0.23, 1.00, respectively); FFD 3-4, 7: NS *1999:* NS *2000:* FFD 3-4 greater odds of remaining overweight (2.24 (1.14, 4.37), FFD 7 lower odds of ceasing to be overweight (0.42 (0.17, 0.99); FFD 1-2 and 5-6: NS	
Taveras 2005 **PC; Growing Up Today Study** **2/26**	14,431, 13% 54% female, 9-14y 1y	Frequency of sitting down with other members of family to eat dinner or supper Self-reported height and weight **Longitudinal multivariate models:** OR between previous year frequency of eating family dinner and 1-year incidence of becoming overweight (Comparator: Children who ate family dinner never or some days): *Children who ate family dinner on most days:*	The frequency of eating family dinner was not associated with 1-year incidence of becoming overweight.

Question: What is the relationship between frequency and regularity of family meals and measures of body weight in U.S. population groups?

Table 1. Summary of studies examining the relationship between family-shared meals and body weight outcomes

Author, Year Study Design Risk of bias*	Final N; Attrition Sex, Age (mean), Study Duration	Independent Variable Outcomes Results	Summary of Findings
		0.95 (95% CI: 0.78, 1.16) *Every day:* 1.04 (95% CI: 0.85, 1.27)	

* Based on NEL Bias Assessment Test; lower values represent less bias

Qualitative Assessment of the Body of Evidence

- *Quality and Quantity:* Six studies, including one RCT and five prospective cohort studies, were reviewed that examined the relationship between family meal frequency and weight outcomes. Sample sizes ranged from 111 to 14,431. NEL BAT scores ranged from one to nine, with the most common limitations being the use of self-reported data; high dropout with no sensitivity analysis; or limitations in analysis, methods and blinding.
- *Consistency:* The results from these six studies were mixed: One study showed that frequency of family meals was associated with better body weight outcomes, three studies showed no association and two studies showed mixed associations. Miller, 2011 found a beneficial association with breakfast, but no association with dinner. Sen, 2006 found mixed results by year, reporting beneficial and null associations in whites varying by year and by family meal frequency. In a black and Hispanic group, results showed null and negative associations between family meal frequencies varying by year. Results were not in a logical, dose-response pattern.
- *Impact:* Given the mixed results seen in this body of evidence, the impact of family meal frequency and weight outcomes does not appear to be meaningful
- *Generalizability:* These studies were conducted in youths between the ages of four and 15 years. Four of the prospective cohort studies were from nationally representative samples with a good balance of males and females. These results may be generalizable to youth, but more research is needed in adults.

Limitations

Studies described weekly frequency of family meals, but no studies described the quality of these meals. There is no indication of food origin or location of consumption. Meals could have been purchased from restaurants or take-away establishments and brought home and consumed, or conversely, families could have consumed meals together at restaurants or other venues outside of the home. The only RCT was not able to assess the effect of family meal frequency on weight outcomes because the intervention failed to increase family meal frequency as intended.

References

1. Fulkerson JA,Neumark-Sztainer D,Hannan PJ,Story M. Family meal frequency and weight status among adolescents: cross-sectional and 5-year longitudinal associations. *Obesity (Silver Spring).* 2008;16(11):2529-34. PMID:18719674. http://www.ncbi.nlm.nih.gov/pubmed/18719674
2. Gable S,Chang Y,Krull JL. Television watching and frequency of family meals are predictive of overweight onset and persistence in a national sample of school-aged children. *J Am Diet Assoc.* 2007;107(1):53-61. PMID:17197271. http://www.ncbi.nlm.nih.gov/pubmed/17197271
3. Haines J,McDonald J,O'Brien A,Sherry B,Bottino CJ,Schmidt ME,Taveras EM. Healthy Habits, Happy Homes: randomized trial to improve household routines for obesity prevention among preschool-aged children. *JAMA Pediatr.* 2013;167(11):1072-9. PMID:24019074. http://www.ncbi.nlm.nih.gov/pubmed/24019074
4. Miller DP. Associations between the home and school environments and child body mass index. *Soc Sci Med.* 2011;72(5):677-84. PMID:21227558. http://www.ncbi.nlm.nih.gov/pubmed/21227558
5. Sen B. Frequency of family dinner and adolescent body weight status: evidence from the national longitudinal survey of youth, 1997. *Obesity (Silver Spring).* 2006;14(12):2266-76. PMID:17189555. http://www.ncbi.nlm.nih.gov/pubmed/17189555

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6. Taveras EM,Rifas-Shiman SL,Berkey CS,Rockett HR,Field AE,Frazier AL,Colditz GA,Gillman MW. Family dinner and adolescent overweight. *Obes Res.* 2005;13(5):900-6. PMID:15919844. http://www.ncbi.nlm.nih.gov/pubmed/15919844

Research recommendations

- Studies are needed in diverse populations, which will assess not only frequency of family meals but also quality of family meals
- Randomized controlled studies are needed to isolate the effect of interventions that increase the frequency of family meals from other health and parenting behaviors that may be associated with weight status
- Studies that identify critical time windows for establishing family rituals that may influence weight status.

Search plan and results

Inclusion criteria

- Human subjects
- Studies conducted within the United States
- Human subject more than two years of age
- Subjects who were healthy or at elevated chronic disease risk
- Prospective cohort studies, randomized controlled trials (RCTs), crossover trials:
- Intervention studies with a dropout rate of 20% and a differential dropout rate of 15% between groups
- *Intervention studies:* At least 30 subjects per study arm.
- Dependent variables:
- Diet quality
- Foods/food groups
- Macronutrient intakes and proportions
- Obesity
- Overweight
- Body mass index (BMI)
- Waist circumference
- Body weight
- Percent body fat change
- Child growth indices:
- Weight-for-age
- Length/stature-for-age
- Weight for stature
- BMI-for-age
- BMI Z-score.
- *Independent variable:* Frequency and regularity of family/shared meals.
- In addition, articles were included if they were published in English in a peer-reviewed journal between January 1, 2004 and July 25, 2014. If an author is included on more than one primary research article that is similar in content, the paper with the most pertinent data and endpoints was included. If data and endpoints from both papers are appropriate, it was made clear that results are from the same intervention or cohort

Exclusion criteria

- Animals and *in vitro* models
- Children less than two years of age

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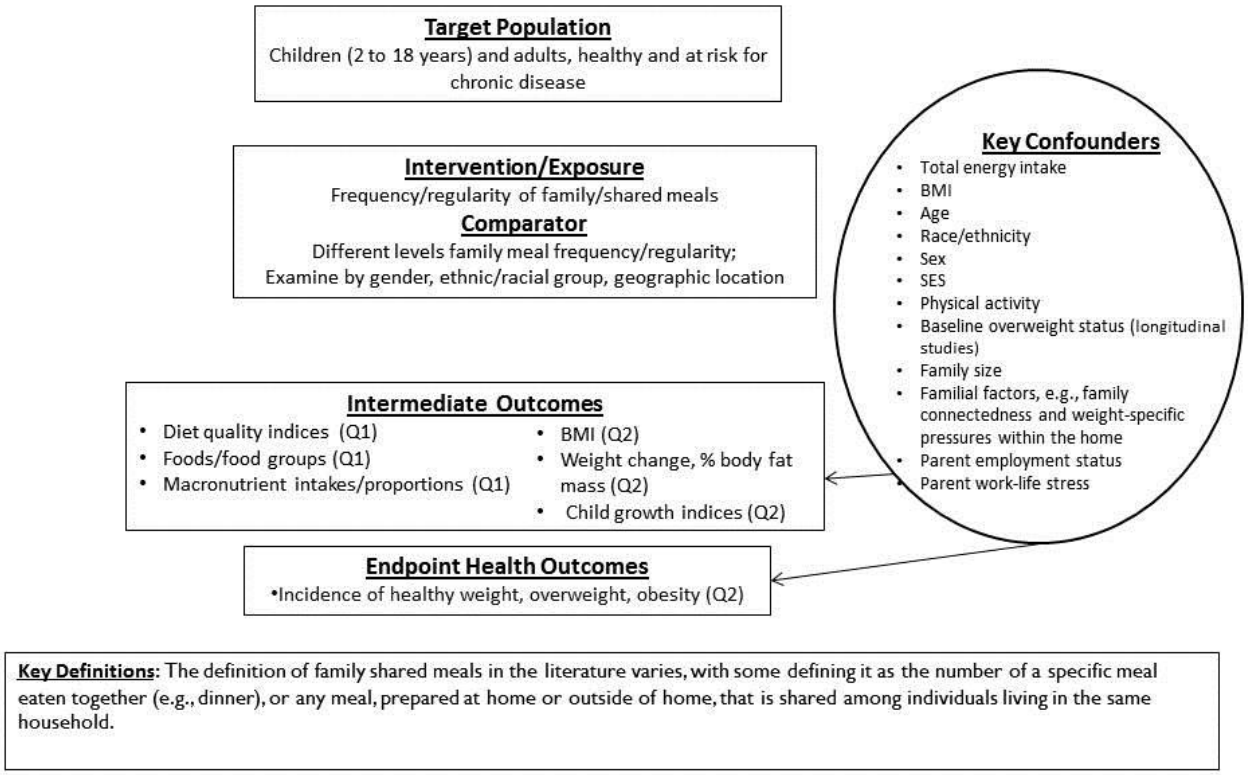
- Studies conducted in countries outside the United States
- Subjects who were hospitalized, diagnosed with disease and receiving medical treatment:
- Systematic review
- Meta-analysis
- Narrative review
- Qualitative studies
- Before-and-after studies
- Case-control studies
- Cross-sectional studies
- Non-randomized controlled trials

Analytic framework

Analytical Framework: **Family/shared meal frequency/regularity**



Key Definitions: The definition of family shared meals in the literature varies, with some defining it as the number of a specific meal eaten together (e.g., dinner), or any meal, prepared at home or outside of home, that is shared among individuals living in the same household.

Search terms and electronic databases used

- ***Pubmed***
  - *Date(s) Searched:* ***July 2014***
  - *Search Terms: ((("body size"[tiab] OR body size[mh] OR growth[tiab] OR obesity[tiab] OR obese[tiab] OR obesity[mh] OR overweight[tiab] OR overnutrition[tiab] OR adiposity[tiab] OR adiposity[mh] OR "body*

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weight"[tiab] OR body weight[mh] OR "body-weight related"[tiab] OR "weight gain"[tiab] OR weight gain[mh] OR "weight loss"[tiab] OR "weight-loss"[tiab] OR "weight-gain"[tiab] OR Body Weights and Measures[Majr] OR "Body Composition"[mh] OR "body fat"[tiab] OR adipos[tiab] OR weight[ti] OR "Anthropometry"[Mesh:noexp] OR "body mass index"[tiab] OR BMI[tiab] OR "weight status"[tiab] OR adipose tissue[mh] OR "healthy weight"[tiab] OR waist circumference[mh] OR "body fat mass"[tiab] OR body weight changes[mh] OR "waist circumference"[tiab] OR ideal body weight[mh]) OR (Nutrition[tiab] OR nutritional[ti] OR diet[mh] OR diet[tiab] OR diets[tiab] OR dietary[tiab] OR food preferences[mh] OR feeding behavior[mh] OR nutrition surveys[mh] OR food*[tiab] OR "Food and Beverages"[mh] OR "caloric density"[tiab] OR "caloric intake"[tiab] OR caloric dens*[tiab] OR high calori*[tiab] OR energy dens*[tiab] OR fruit*[tiab] OR vegetable*[tiab] OR food analysis[mh] OR dietary intake*[tiab] OR food intake*[tiab] OR energy intake*[tiab] OR food habits[mh] OR dietary habit*[tiab] OR diet habit*[tiab] OR eating habit*[tiab] OR nutrient intake*[tiab] OR food choice*[tiab] OR portion size*[tiab] OR "diet quality"[tiab] OR dietary choice*[tiab] OR dietary change*[tiab] OR diet records[mh] OR food diar*[tiab] OR nutritional status[mh] OR child nutritional sciences[mh] OR dietary pattern*[tiab] OR diet pattern*[tiab] OR eating pattern*[tiab] OR food pattern*[tiab] OR eating habit*[tiab] OR dietary habit*[tiab] OR food habit*[tiab] OR dietary profile*[tiab] OR food profile*[tiab] OR diet profile*[tiab] OR eating profile*[tiab] OR dietary recommendation*[tiab] OR food intake pattern*[tiab] OR dietary intake pattern*[tiab] OR eating style*[tiab] OR (Macronutrient*[tiab] AND (Proportion*[tiab] OR composition[tiab] OR distribution*[tiab] OR percent*[tiab] OR diet composit*[tiab])) OR dietary score*[tiab] OR adequacy index*[tiab] OR kidmed[tiab] OR Food Score*[tiab] OR Diet Score*[tiab] OR MedDietScore[tiab] OR Dietary Pattern Score*[tiab] OR "healthy eating index"[tiab] OR ((index*[ti] OR score*[ti] OR indexes[ti] OR scoring[ti] OR indices[ti]) AND (dietary[ti] OR nutrient*[ti] OR eating[tiab] OR food[ti] OR food[mh] OR diet[ti] OR diet[mh]) AND (pattern*[tiab] OR habit*[tiab] OR profile*[tiab]))) AND (("Study Characteristics"[Publication Type] OR "clinical trial"[ptyp] OR "Epidemiologic Studies"[Mesh] OR "Support of Research"[ptyp]) NOT (editorial[ptyp] OR comment[ptyp] OR news[ptyp] OR letter[ptyp] OR review[ptyp] OR systematic[sb])) AND (((family[mh] OR family[tiab] OR families[tiab] OR familial[tiab] OR household*[tiab] OR home[tiab] OR homes[tiab] OR parent*[tiab]) AND (meal[tiab] OR meals[tiab] OR mealtime*[tiab] OR meals[mesh] OR breakfast*[tiab] OR lunch[tiab] OR lunches[tiab] OR dinner*[tiab] OR eating frequenc*[tiab] OR eating behavior*[ti] OR food habit*[tiab] OR eating behaviour*[ti] OR menu*[tiab] OR cooking[tiab] OR dining[tiab] OR skipping meal*[tiab] OR skipping breakfast*[tiab]))) AND (("2004/01/01"[PDat] : "2014/12/31"[PDat]) AND English[lang]))*

- ***Cochrane***
    - *Date(s) Searched:* ***July 2014***

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- *Search Terms: '(famil* OR house* OR home*) AND (meals OR meal OR mealtime OR "eating freq*" OR breakfast OR lunch OR dinner OR "skip* breakfast*") in Title, Abstract, Keywords and diet* OR weight OR overweight OR obesity OR obese OR "weight-gain" OR "weight gain" OR "weight-loss" OR "weight loss" OR bmi OR "body mass index" OR dietary OR "food intake" OR macronutrient* OR eating OR cooking OR menu OR dining in Title, Abstract, Keywords , Publication Year from 2004 to 2014 in Trials'*

  Limiters: English, Human

- ***EMBASE***
  - *Date(s) Searched:* ***July 2014***
  - *Search Terms:*
    ((famil OR home* OR household* OR parent*) NEXT/3 (meal* OR dinner* OR lunch* OR breakfast* OR dining)):ab, ti AND ([article]/lim OR [article in press]/lim) AND [humans]/lim AND [english]/lim AND [embase]/lim NOT [medline]/lim AND [2004-2014]/py OR 'family'/exp OR famil*:ab, ti OR household*:ab, ti OR home:ab, ti OR homes:ab, ti OR 'family relation'/exp OR parent*:ab, ti OR 'nuclear family'/exp OR 'home environment'/exp OR 'family attitude'/exp OR 'family life'/exp AND ('meal'/de OR meals:ab, ti OR meal:ab, ti OR mealtime*:ab, ti OR breakfast*:ab, ti OR dinner*:ab, ti OR lunch*:ab, ti OR 'eating habit'/de OR 'feeding behavior'/exp) AND ([article]/lim OR [article in press]/lim) AND [humans]/lim AND [english]/lim AND [embase]/lim NOT [medline]/lim AND [2004-2014]/py*

    'cohort analysis'/de OR cohort:ab, ti OR 'cross-sectional study'/de OR 'cross-sectional':ab, ti OR longitudinal:ab, ti OR observational:ab, ti OR prospective:ab, ti OR 'comparative study'/de OR 'randomized controlled trial'/exp OR 'crossover procedure'/exp OR [controlled clinical trial]/lim OR [randomized controlled trial]/lim OR 'placebo'/de OR 'clinical trial'/exp OR 'clinical trial (topic)'/exp OR 'controlled study'/exp OR 'controlled study':ab OR random:ab, ti OR trial*:ab, ti OR ((singl* OR doubl* OR trebl* OR tripl*) NEAR/3 (blind* OR mask*)):ab, ti AND ([article]/lim OR [article in press]/lim) AND [humans]/lim AND [english]/lim AND [2004-2014]/py*

Date range: January 1, 2004 to July 25, 2014

Summary of articles identified to review

- Total hits from all electronic database searches: 2382
- Total articles identified to review from electronic databases: 606
- Articles identified via handsearch or other means: 0
- Number of Primary Articles Identified: 8
- Number of Review Articles Identified: 0
- Total Number of Articles Identified: 8
- Number of Articles Reviewed but Excluded: 598

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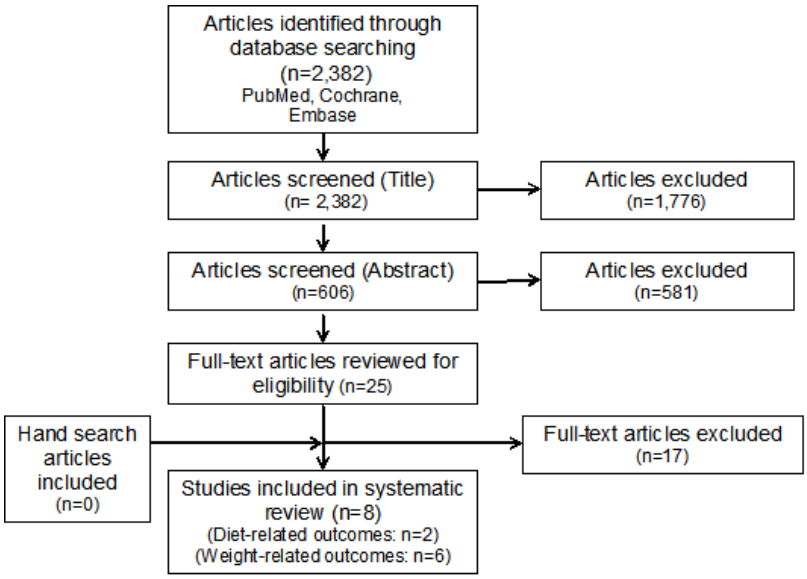

Included articles (References)

What is the relationship between frequency/regularity of family meals and measures of dietary intake in U.S. population? (2)

1. Burgess-Champoux TL, Larson N, Neumark-Sztainer D, Hannan PJ, Story M. Are family meal patterns associated with overall diet quality during the transition from early to middle adolescence?. *J Nutr Educ Behav.* 2009;41(2):79-86. PMID:19304252. http://www.ncbi.nlm.nih.gov/pubmed/19304252
2. Larson N, Fulkerson J, Story M, Neumark-Sztainer D. Shared meals among young adults are associated with better diet quality and predicted by family meal patterns during adolescence. *Public Health Nutr.* 2013;16(5):883-93. PMID:22857517. http://www.ncbi.nlm.nih.gov/pubmed/22857517

What is the relationship between frequency/regularity of family meals and measures of weight and obesity in U.S. population groups? (6)

1. Fulkerson JA, Neumark-Sztainer D, Hannan PJ, Story M. Family meal frequency and weight status among adolescents: cross-sectional and 5-year longitudinal associations. *Obesity (Silver Spring).* 2008;16(11):2529-34. PMID:18719674. http://www.ncbi.nlm.nih.gov/pubmed/18719674
2. Gable S, Chang Y, Krull JL. Television watching and frequency of family meals are predictive of overweight onset and persistence in a national sample of school-aged children. *J Am Diet Assoc.* 2007;107(1):53-61. PMID:17197271. http://www.ncbi.nlm.nih.gov/pubmed/17197271
3. Haines J, McDonald J, O'Brien A, Sherry B, Bottino CJ, Schmidt ME, Taveras EM. Healthy Habits, Happy Homes: randomized trial to improve household routines for obesity prevention among preschool-aged children. *JAMA Pediatr.* 2013;167(11):1072-9. PMID:24019074. http://www.ncbi.nlm.nih.gov/pubmed/24019074
4. Miller DP. Associations between the home and school environments and child body mass index. *Soc Sci Med.* 2011;72(5):677-84. PMID:21227558. http://www.ncbi.nlm.nih.gov/pubmed/21227558
5. Sen B. Frequency of family dinner and adolescent body weight status: evidence from the national longitudinal survey of youth, 1997. *Obesity (Silver Spring).* 2006;14(12):2266-76. PMID:17189555. http://www.ncbi.nlm.nih.gov/pubmed/17189555
6. Taveras EM, Rifas-Shiman SL, Berkey CS, Rockett HR, Field AE, Frazier AL, Colditz

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GA, Gillman MW. Family dinner and adolescent overweight. *Obes Res.* 2005;13(5):900-6. PMID:15919844. http://www.ncbi.nlm.nih.gov/pubmed/15919844

Excluded articles

See Appendix C for a full list of excluded articles with reason.

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CHAPTER 5. SEDENTARY BEHAVIOR, INCLUDING SCREEN TIME

WHAT IS THE RELATIONSHIP BETWEEN SEDENTARY BEHAVIORS (INCLUDING RECREATIONAL, OCCUPATIONAL AND SCREEN TIME) AND DIETARY INTAKE AND BODY WEIGHT IN ADULTS?

TECHNICAL ABSTRACT

Background

The goal of this systematic review was to determine whether sedentary behavior is associated with measures of dietary intake or body weight. Sedentary behavior, which refers to any waking activity predominantly done while in a sitting or reclining posture, is gaining considerable public health interest as a chronic disease risk factor and therefore a potential area for interventions to target, with reducing screen time often a focus. The US population has become increasingly sedentary,[1] with the daily hours of screen time exposure becoming a serious public health concern due to its potential negative influence on dietary and weight outcomes.

Conclusion statement

Moderate and consistent evidence from prospective studies exists that associates increased TV viewing in childhood and adolescence with higher body weight and increased incidence of overweight and obesity in adulthood.

2015 DGAC Grade: **Moderate**

Moderate evidence from prospective studies suggests no association between sedentary behavior in adulthood and change in body weight, body composition or incidence of overweight or obesity in adulthood.

2015 DGAC Grade: **Moderate**

Insufficient evidence exists to address the association between sedentary behavior and dietary intake in adults.

2015 DGAC Grade: **Not Assignable**

Methods

Literature searches were conducted using PubMed, Embase and Cochrane databases to identify studies that evaluated the association between sedentary behavior and dietary intake and body weight. Studies that met the following criteria were included in the review: randomized controlled studies (RCTs) or non-randomized controlled studies, prospective cohort studies; intervention studies with a dropout rate 20% or less and a differential dropout rate of 15% or less between groups; human subjects aged 19 years and older (except for longitudinal studies into adulthood); subjects who were healthy or at elevated chronic disease risk; populations from countries with a high or very high 2012 Human Development Index. Included studies were published in English in peer-reviewed journals from January 2004 to January 2014. The intervention or exposure was sedentary behaviors, including recreational and occupational, and screen time. The outcome was measures of dietary intake including diet quality, foods, food groups, macronutrient intakes or proportions and incidence of obesity, overweight and measures of body weight, body mass index (BMI) and body composition, including waist circumference. Acute feeding studies and studies conducted in pregnant and postpartum women were excluded.

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Data from each included article were extracted, and risk of bias was assessed. The evidence was qualitatively synthesized, a conclusion statement was developed and the strength of the evidence (grade) was assessed using pre-established criteria including evaluation of the quality and risk of bias, quantity, consistency, magnitude of effect and generalizability of available evidence.

Findings

- This evidence review included 23 studies from 18 prospective cohorts that examined the relationship between sedentary behavior and body weight status in adults
- Increasing levels of TV viewing during childhood and adolescence predicted higher BMI and increased incidence of overweight and obesity in adulthood
- The lack of association between adult sedentary behavior (TV viewing, commute time or composite measures of sedentary behavior) and body weight change or body weight status are mostly consistent, despite methodological differences in measurement of sedentary behavior
- Among two studies that assessed the relationship between sedentary behavior in adulthood and dietary intake, one study found an association between TV viewing and lower compliance with recommended dietary guidance. The other study found that more TV viewing was associated with greater intake of calories from fat, but not total calories or calories from sweets.
- Methodological approaches differed with regard to population and cohort size, types of sedentary behavior considered and time frames studied. Only one study directly measured sedentary behavior, and few studies adjusted analysis for energy intake.
- The majority of studies were conducted in Caucasian populations; therefore, diverse ethnic and racial groups were underrepresented.

References

1. Owen N, Healy GN, Matthews CE, Dunstan DW. Too much sitting: the population health science of sedentary behavior. *Exerc Sport Sci Rev.* 2010;38(3):105-13. PMID: 20577058. http://www.ncbi.nlm.nih.gov/pubmed/20577058 (less)

FULL REVIEW

Conclusion statement

Moderate and consistent evidence from prospective studies that followed cohorts of youth into adulthood supports that adults have a higher body weight and incidence of overweight and obesity when the amount of TV viewing is higher in childhood and adolescence.

Moderate evidence from prospective studies suggests no association between sedentary behavior in adulthood and change in body weight, body composition or incidence of overweight or obesity in adulthood.

Insufficient evidence exists to address the association between sedentary behavior and dietary intake in adults.

Grade

Moderate: TV viewing in childhood and adolescence and body weight

Moderate: Sedentary behavior and body weight

Not Assignable: Sedentary behavior and dietary intake

Key findings

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- Increasing levels of TV viewing during childhood and adolescence predicted higher BMI and increased incidence of overweight and obesity in adulthood
- The lack of association between adult sedentary behavior (TV viewing, commute time or composite measures of sedentary behavior) and body weight change or body weight status are mostly consistent, despite methodological differences in measurement of sedentary behavior
- Two studies assessed the relationship between sedentary behavior in adulthood and dietary intake and found higher TV viewing adversely affects diet quality. One study found an association between TV viewing and lower compliance with recommended dietary guidance. The other study found that more TV viewing was associated with greater intake of calories from fat, but not total calories or calories from sweets.
- Methodological approaches differed with regard to population and cohort size, types of sedentary behavior considered and time frames studied. Only one study directly measured sedentary behavior; few studies adjusted analysis for energy intake and other potential mediators such as dietary intake.
- The majority of studies were conducted in Caucasian populations; therefore, diverse ethnic and racial groups were underrepresented.

Evidence summary

Description of the Evidence

This systematic review includes 23 studies from 18 prospective cohorts that examine the relationship between sedentary behavior and body weight status in adults. Seventeen studies (12 cohorts) (Blanck, 2007; DeCocker, 2010; Ding, 2012; Ekelund, 2008; French, 2012; Meyer, 2008; Mortensen, 2006; Mozaffarian, 2011; Núñez-Córdoba, 2013; Pereira, 2013; Pulsford, 2013; Raynor, 2006; Saunders, 2013; Stamatakis, 2012; Sugiyama, 2013; Wijndaele, 2010; van Uffelen, 2010) measured sedentary behavior and weight status during adulthood. Six longitudinal studies (five cohorts) evaluated the relationship between self-reported television (TV) exposure in children and adult weight status (Boone, 2007; Hancox, 2004; Landhuis, 2008; Mamun, 2013; Parsons, 2008; Viner, 2005). Two studies assessed the prospective association between sedentary behavior and dietary intake and weight or weight loss maintenance (Meyer, 2008; Raynor, 2006). Risk of bias scores on the NEL Bias Assessment Tool (BAT) ranged from zero of 24 to eight of 24. In general, limitations included use of tools to measure sedentary behavior, which were not validated, and lack of control for the potential confounding effect of diet.

Duration of studies examining the relationship between sedentary behavior during adulthood and body weight ranged from one to 12 years. Two studies were one year in duration (French, 2012; Raynor, 2006), 14 were four to eight years in duration (Blanck, 2007; DeCocker, 2010; Ding, 2012; Ekelund, 2008; Meyer, 2008; Mortensen, 2006; Mozaffarian, 2011; Núñez-Córdoba, 2013; Pereira, 2013; Pulsford, 2013; Saunders, 2013; Stamatakis, 2012; Sugiyama, 2013; Wijndaele, 2010; van Uffelen, 2010) and one study was up to 10 years in duration (Mozaffarian, 2011). Six studies (five cohorts) assessed the relationship between childhood TV viewing and body weight in adults and were seven years to 33 years in duration; three studies were five years to 15 years long (Boone, 2007; Hancox, 2004; Mamun, 2013) and three studies were 27 years to 33 years in duration (Landhuis, 2008; Parsons, 2008; Viner, 2005).

Six studies were conducted in Australia; five in adults (De Cocker, 2010; Ding, 2012; Sugiyama, 2013; van Uffelen, 2010; Wijndaele, 2010) and one which started in childhood (Mamun, 2013) and followed subjects to adulthood. Six studies were conducted in the United Kingdom (UK), four adult cohorts (Ekelund, 2008; Pereira, 2013; Pulsford, 2013; Stamatakis, 2012) and two which began in childhood (Parsons, 2008; Viner, 2005). Seven studies were

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conducted in the United States (US), six in adults (Blanck, 2007; French, 2012; Meyer, 2008; Mortensen, 2005; Mozaffarian, 2011; Raynor, 2006), and one which started in adolescents (Boone, 2007). Two studies conducted in New Zealand (Hancox, 2004; Landhuis, 2008;) followed children starting at age five years. One adult cohort was included from Canada (Saunders, 2013) and one from Spain (Núñez-Córdoba, 2013).

Sample sizes ranged from 170 to 70,455, with one study having 70,455 subjects (Mozaffarian, 2011); three studies in adults with 10,000 to 20,000 participants (Blanck, 2007; Meyer, 2008; Pereira, 2013), five studies ranged from 5,000 to 10,000 participants (Starting in childhood: Viner, 2005; Adults: De Cocker, 2010; Stamatakis, 2012; Wijndaele, 2010; van Uffelen, 2010), seven studies ranged from 1,000 to 5,000 participants (Starting in childhood: Boone, 2007; Mamun, 2013; Parsons, 2008; Adults: Mortensen, 2005; Núñez-Córdoba, 2013; Pulsford, 2013; Raynor, 2006) and seven studies had less than 1,000 participants (Starting in childhood: Hancox, 2004; Landhuis, 2008; Adult: Ding, 2012; Ekelund, 2008; French, 2012; Saunders, 2013; Sugiyama, 2013).

Population

Mean age of participants in studies targeting adult sedentary behavior ranged from 23 years to 60 years. Fourteen studies focused on middle-aged adults 40 years to 60 years. Longitudinal studies followed participants from childhood (five years to 15.9 years) to adulthood (21 years to 45 years). Three studies (two cohorts) had an all-female sample (Blanck, 2007; DeCocker, 2010; van Uffelen, 2010) and the remainder of the studies included both men and women. Information related to socioeconomic status (SES) was reported in 13 studies. Indicators included educational achievement, income level and type of employment**.** Race was reported in nine studies (De Cocker, 2010; French, 2012; Hancox, 2004; Meyer, 2008; Mamun, 2013; Raynor, 2006; Saunders, 2013; van Uffelen, 2010; Viner, 2005) and was predominately white.

Exposures

Methodological approaches differed with regard to how the exposure was defined and measured. Only one study directly measured sedentary behavior using a heart monitor (Ekelund, 2008) and all other studies relied on self-reported data. Thirteen studies, including all six longitudinal studies that began in childhood, focused exclusively on TV viewing time, frequency of TV viewing or a combination (Starting in childhood: Hancox, 2004; Landhuis, 2008; Mamun, 2013; Parsons, 2008; Viner, 2005; Adults: Ding, 2012; French, 2012; Meyer, 2008; Mozaffarian, 2011; Raynor, 2006; Stamatakis, 2012; Wijndaele, 2010). Seven studies assessed total sedentary time or a composite measure of multiple sedentary behaviors (Blanck, 2007; De Cocker, 2010; Mortensen, 2005; Pereira, 2013; Pulsford, 2013; Saunders, 2013; van Uffelen, 2010). Two studies targeted sedentary behavior related to commuting, one assessed distance traveled (Núñez-Córdoba, 2013), and the other frequency of commuting (Sugiyama, 2013).

Outcomes

Dietary Intake

Two studies assessed the relationship between sedentary behavior in adulthood and dietary intake. One study assessed dietary intake at baseline and at six years follow-up using a validated, semi-quantitative, interviewer administered food frequency questionnaire (FFQ) containing 66 items (based on the original Willett 61-item FFQ) (Meyer, 2008). Average consumption for the previous year and estimated servings per day and daily intake of nutrients for adults were reported. Dietary outcomes were categorized into these food groups: fruit, vegetables, fruit and vegetables combined, salty snacks, sweets, sweetened drinks. Another study assessed eating habits and dietary intake in a national sample of adults

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registered in the National Weight Control Registry. The Block Food FFQ was used at baseline and at one-year follow-up (Raynor, 2006). Analysis included total energy and percentage of total energy from fat and sweets.

Weight

Studies investigating sedentary behavior during childhood and body weight in adulthood assessed body mass index (BMI) (Hancox, 2004; Landhuis, 2008; Parsons, 2008; Viner, 2005) and incidence of overweight and obesity (Landhuis, 2008; Mamun, 2013; Boone, 2007; Viner, 2005). All studies used measured height and weight during childhood, but two of these studies used self-reported weight in adulthood (Parsons, 2008; Viner, 2005). Studies assessing the relationship between adult sedentary behavior and body weight addressed the following outcomes: BMI (Ekelund, 2008; DeCocker, 2010; French, 2012; Meyer, 2008; Mortensen, 2006; Pereira, 2013; Saunders, 2013), weight change (DeCocker, 2010; Ding, 2012; Ekelund, 2008; Mozaffarian, 2011; Sugiyama, 2013; van Uffelen, 2010), maintenance of weight loss (Raynor, 2006), waist circumference (Ekelund, 2008; Saunders, 2013; Stamatakis, 2012; Wijndaele, 2010), body composition (Ekelund, 2008; Saunders, 2013) and incidence of overweight and obesity (Meyer, 2008; Mortensen, 2006; Núñez-Córdoba, 2013; Pulsford, 2013). Eight of 16 studies conducted in adults used measured height and weight.

Evidence Synthesis

Sedentary Behavior During Adulthood and Dietary Intake in Adults

Two studies assessed the relationship between sedentary behavior in adulthood and dietary intake and found higher TV viewing associated with lower compliance with recommended dietary guidance (**Table 1**). In a prospective analysis, Meyer, 2008 found that compared with low exposure, high exposure and medium exposure to television remained a predictor of dietary intake over six years of follow-up. Although six-year associations were attenuated compared to the baseline associations, a consistent relationship was still observed between higher television exposure and more unhealthy dietary outcomes as demonstrated by an intake below the median for fruit and vegetable servings and above the median for salty snack servings, sweet servings, sweetened drink servings, total calories, total fat, percent kcal from fat and percent of energy from saturated fat.

In a study of adults enrolled in the National Weight Control Registry who successfully maintained a minimum weight loss of 13.6kg for at least one year, Raynor, 2006 found an increase in TV viewing significantly correlated with increased percentage of energy intake from fat, but not with total energy, or percentage of calories from sweets.

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Table 1: Summary of Studies Examining the Relationship Between Sedentary Behavior During Adulthood and Dietary Intake;

Author, Year, Data Source, Country, Risk of Bias*	Sample Size, Age, Gender, Race/Ethnicity, Study Duration	Sedentary Behavior, Outcome Measures	Results
Meyer, 2008 Atherosclerosis Risk in Communities (ARIC) Study, United States *Risk of bias:* Four of 24	N=12,678 45 years to 64 years; 55.2% female White (73.3%), Black (26.6%) 6 years	*Sedentary behavior:* TV viewing frequency *Outcomes:* Fruit, vegetables, fruit and vegetables combined, salty snacks, sweets, sweetened drinks	*Six-year associations (high vs. low TV exposure):* *Above the median servings of:* Salty snacks, sweets and sweetened drink *Below the median servings of:* Fruit and vegetables Results attenuated compared to baseline (significant effect reported, but longitudinal statistics were not provided)
Raynor, 2006 National Weight Control Registry (NWCR), United States *Risk of bias:* Four of 24	N=1,422 47.9 years (SD=12.7); 77% female White (95%) One year	*Sedentary behaviors:* TV viewing *Outcomes:* Changes in total caloric intake, changes in percentage of calories from fat intake, changes in percentage of calories from sugar intake	*Increase in TV viewing (more than one category vs. no change or decrease in more than one category) and dietary intake:* *Increases in percentage of calories from fats:* R=0.09, P<0.01 *Total calories:* NS *Percentage of calories from sweets:* NS

*Risk of bias as determined using the Nutrition Evidence Library Bias Assessment Tool.

Sedentary Behavior During Adulthood and Body Weight in Adults

Seventeen studies (13 cohorts) measured sedentary behavior and weight status during adulthood, and in general found a null association (**Table 2**). One study directly measured sedentary behavior and the remaining studies relied on self-report. One large study in health professionals found an association between TV viewing and weight change (Mozaffarian, 2011).

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Question: What is the relationship between sedentary behaviors (including recreational, occupational and screen time) and dietary intake and body weight in adults?

Table 2: Summary of studies examining the relationship between sedentary behavior during adulthood and body weight in adults

Author, Year, Data Source, Country, Risk of Bias*	Sample Size, Age, Gender, Race/Ethnicity, Study Duration	Sedentary Behavior, Outcome Measures	Results
Direct Measure of Sedentary Behavior			
Ekelund, 2008 **Medical Research Council Ely Study, UK** **Risk of Bias: 2/24**	N=393 49.4y (SD=7.6y); 55.7% female NR 5.6y	**Sedentary Behavior:** Measured sedentary time using a heart rate monitor **Outcomes:** Measured BMI, body weight, waist circumference, fat mass	Baseline sedentary behavior was not related to change in body weight, BMI, fat mass, or waist circumference
Self-Reported TV Viewing			
Ding, 2012 **Original data collection, Australia** **Risk of Bias: 5/24**	N=969 44.5y (SD=12.3y); 63.7% female NR 4y	**Sedentary Behavior:** Frequency and quantity of TV viewing **Outcomes:** Self-reported height and weight	**Relationship between TV viewing and weight change, grouped by active transport category** **Inactive transport:** 0.65 kg (95% CI = 0.21 - 1.09) **Occasionally active transport:** NS **Regularly active transport:** NS
French, 2012 Secondary analysis from a group (household) randomized trial: Take Action, USA **Risk of Bias: 2/24**	N=144 adults 41.0y (SD=8.7y); 61.4% females White(79.7%) 1y	**Sedentary Behavior:** TV/video/DVD daily viewing time **Outcomes:** Measured height and weight	**Adult change in TV viewing quantity ("decreased" vs. "no change/increase") over 1 year and BMI at follow-up:** NS

Question: What is the relationship between sedentary behaviors (including recreational, occupational and screen time) and dietary intake and body weight in adults?

Table 2: Summary of studies examining the relationship between sedentary behavior during adulthood and body weight in adults

Author, Year, Data Source, Country, Risk of Bias*	Sample Size, Age, Gender, Race/Ethnicity, Study Duration	Sedentary Behavior, Outcome Measures	Results
Meyer, 2008 **Atherosclerosis Risk in Communities (ARIC) Study, USA** **Risk of Bias: 4/24**	N=12,678 45-64y; 55.2% female White (73.3%), Black (26.6%) 6y	**Sedentary Behavior:** TV viewing frequency **Outcomes:** Measured height and weight	TV exposure not associated with risk of overweight/obesity
Mozaffarian, 2011 **Nurses' Health Study (NHS), NHS II, Health Professionals Follow-up Study (HPFs), USA** **Risk of Bias: 1/24**	N=70,455 Mean 37y (women), 51y (men); 68% female NR Duration: 8-10y	Average number of hours per week spent watching television at home, repeated measures **Outcomes:** Stated height and weight (correlated with measured weight r=0.96)	**Weight change every 4 Years (95% CI):** *Increase in hours/day watching television:* 0.31 (0.20 to 0.42), P<0.001
Raynor, 2006 **National Weight Control Registry (NWCR), USA** **Risk of Bias: 4/24**	N=1,422 47.9y (SD=12.7); 77% female White (95%) 1y	**Sedentary behaviors:** TV viewing **Outcomes:** Self-reported height and weight	**TV viewing and weight change at follow-up:** *Baseline TV viewing:* β=0.081, P=0.011 *Change in TV time:* β=0.123, P<0.001
Stamatakis, 2012 **1958 British Birth Cohort, UK** **Risk of Bias: 4/24**	N=5,972 23y; 50.6% female NR 21y	**Sedentary Behavior:** TV viewing frequency **Outcomes:** Measured waist circumference (WC)	**TV viewing frequency at age 23y and waist circumference at age 44y** (referent group: <2 times per week): *TV viewing >5 times per week:* β=1.166 (95% CI=0.325-2.008), P for trend=0.004

Question: What is the relationship between sedentary behaviors (including recreational, occupational and screen time) and dietary intake and body weight in adults?

Table 2: Summary of studies examining the relationship between sedentary behavior during adulthood and body weight in adults

Author, Year, Data Source, Country, Risk of Bias*	Sample Size, Age, Gender, Race/Ethnicity, Study Duration	Sedentary Behavior, Outcome Measures	Results
Wijndaele, 2010 **Australian Diabetes, Obesity, and Lifestyle Study (AusDiab), Australia** **Risk of Bias: 2/24**	N=3,846 48.1y; 55.7% female NR 5y	**Sedentary Behavior:** TV/video viewing time **Outcomes:** Measured waist circumference	**Baseline TV/video viewing and change in waist circumference:** NS **Continuous TV/video viewing time and change in waist circumference:** *Men:* 0.43cm (95% CI=0.08 to 0.78), (P=0.02) *Women:* 0.68cm (95% CI=0.20 to 1.05), (P=0.001)
Total Sedentary Time or Composite Measures			
Blanck, 2007 **Cancer Prevention Study II, USA** **Risk of Bias: 2/24**	N=18,583 60.1y; 100% female NR 7y	**Sedentary Behavior:** Self-report non-occupational sedentary time including daily TV viewing **Outcomes:** Self-reported height and weight	**For non-overweight participants, activity level and risk of gaining ≥10lbs:** *≥18.0 MET hours/week (referent: <4.0 MET hours/week):* OR = 0.88 (95% CI = 0.77 – 0.99) *≥6 hours/day sedentary behavior (referent: <3 hours/day):* OR=1.47 (95% CI=1.21-1.79) **For overweight participants, activity level and risk of gaining ≥10lbs:** *≥18.0 MET hours/week (referent: <4.0 MET hours/week):* NS *≥6 hours/day sedentary behavior (referent: <3 hours/day):* NS No associations with risk of gaining 5-9lbs

Question: What is the relationship between sedentary behaviors (including recreational, occupational and screen time) and dietary intake and body weight in adults?

Table 2: Summary of studies examining the relationship between sedentary behavior during adulthood and body weight in adults

Author, Year, Data Source, Country, Risk of Bias*	Sample Size, Age, Gender, Race/Ethnicity, Study Duration	Sedentary Behavior, Outcome Measures	Results
De Cocker, 2010 **Australian Longitudinal Study on Women's Health (ALSWH), Australia** **Risk of Bias: 0/24**	N=5,562 24.6y (SD=1.5y); 100% female Australian descent (92.7%), English-speaking country descent (3.7%), non-English speaking country descent (3.6%) 6y	**Sedentary Behavior:** Self-report sitting time, including sitting while watching TV **Outcomes:** Self-reported height and weight	No associations between sitting and BMI
Mortensen, 2005 University of North Carolina Alumni Heart Study Cohort, USA **Risk of Bias: 4/24**	N=4,595 ~40.5y (SD=~2.5y); 18.3% female NR 8y	**Sedentary Behavior:** Leisure-time physical activity **Outcomes:** Self-reported height and weight	**Baseline sedentary behavior and BMI at follow-up (referent: non-sedentary):** NS **Sedentary behavior and BMI (referent: non-sedentary):** **Age 41-44y** *Sedentary:* β=0.43 (95% CI=0.26-0.60), P<0.001 Become non-sedentary: β=-0.36 (95% CI=-0.55 to -0.17), P<0.001 *Become sedentary:* β = 0.18 (95% CI=0.03-0.32), P=0.02 **Age 44-46y** *Sedentary:* β=0.47 (95% CI=0.26-0.68), P<0.001 *Become non-sedentary:* NS Become sedentary: β=0.55 (95% CI=0.38-0.72), P<0.001 **Age 46-54y** *Sedentary:* β=0.73 (95% CI=0.40-1.07), P<0.001 *Become non-sedentary:* β=-0.33 (95% CI=-0.65 to -0.01), P=0.04 *Become sedentary:* β=0.48 (95% CI=0.21-0.75), P<0.001 **Sedentary behavior and risk of obesity** (referent: non-sedentary): NS other than baseline sedentary

Question: What is the relationship between sedentary behaviors (including recreational, occupational and screen time) and dietary intake and body weight in adults?

Table 2: Summary of studies examining the relationship between sedentary behavior during adulthood and body weight in adults

Author, Year, Data Source, Country, Risk of Bias*	Sample Size, Age, Gender, Race/Ethnicity, Study Duration	Sedentary Behavior, Outcome Measures	Results
			activity level and obesity at ages 44-46y: OR=1.71 (95% CI=1.02-2.84), P=0.04
Pereira, 2013 **1958 British Birth Cohort, UK** **Risk of Bias: 1/26**	N=6,562 50y; 49.4% female NR 5y	**Sedentary Behavior:** **Self-report sedentary time:** 1) TV-viewing 2) Work sitting 3) Motorized commuting. **Outcomes:** Measured height and weight	**Increased hours of TV viewing (hours/day) and change in BMI:** +0.06 (95% CI=0.01-0.12) **Sitting at work (hours/day):** NS **Motorized commute to work:** NS Mean increase in BMI between 45y and 50y was 0.25 (95% CI: 0.17, 0.34) kg/m^2 in men (P=0.001), there was no difference in women.

Question: What is the relationship between sedentary behaviors (including recreational, occupational and screen time) and dietary intake and body weight in adults?

Table 2: Summary of studies examining the relationship between sedentary behavior during adulthood and body weight in adults

Author, Year, Data Source, Country, Risk of Bias*	Sample Size, Age, Gender, Race/Ethnicity, Study Duration	Sedentary Behavior, Outcome Measures	Results
Pulsford, 2013 Whitehall II Cohort, UK Risk of Bias: 6/26	N=1,559 40.5y; 33% female NR 7y	**Sedentary Behavior:** **Self-report sitting time:** 1) Work-related sitting time, 2) TV-viewing time, 3) Non-TV leisure sitting time, 4) Total leisure-time sitting, and 5) Total sitting time. **Outcomes:** Measured height and weight	No prospective association between sitting behaviors and risk of obesity
Saunders, 2013 **Quebec Family Study, Canada** **Risk of Bias: 0/26**	N=286 18-65y; 53.5% female White (100%) 6y	**Sedentary Behavior:** Self-report sedentary behavior. **Outcomes:** Measured height, weight, waist circumference, percent body fat.	**Baseline sedentary behavior change in anthropometric variables at follow-up:** *BMI:* NS *Percent body fat:* NS *Waist circumference*: +0.13cm increase 0.13 (95% CI=0.02-0.25) *Visceral adiposity:* NS
van Uffelen, 2010 **Australian Longitudinal Study on Women's Health (ALSWH), Australia** **Risk of Bias: 0/24**	N=8,233 50-55y; 100% female Australian descent (69.0%), English speaking country descent (13.9%), non-English speaking country descent (17.1%) 6y	**Sedentary Behavior:** Self-report sitting time **Outcomes:** Self-reported weight	No association between sitting time and change in body weight.
Commute Time			

Question: What is the relationship between sedentary behaviors (including recreational, occupational and screen time) and dietary intake and body weight in adults?

Table 2: Summary of studies examining the relationship between sedentary behavior during adulthood and body weight in adults

Author, Year, Data Source, Country, Risk of Bias*	Sample Size, Age, Gender, Race/Ethnicity, Study Duration	Sedentary Behavior, Outcome Measures	Results
Núñez-Córdoba, 2013 **Seguimiento Universidad de Navarra Project,1999-2011, Spain** **Risk of Bias: 2/24**	N=9,160 36.9y; 57.6% female NR 6.4y	**Sedentary Behavior:** Self-report annual distance traveled in motor vehicles **Outcomes:** Self-reported height and weight	Full sample Annual distance traveled in motorized vehicles and risk of obesity **Risk across categories of annual distance traveled:** NS **Subsample: Only participants who maintained level of travel during follow-up** (referent: <10,000 km): *>20,000km traveled:* HR=1.34, 95% CI=1.1-1.7, P for trend 0.021
Sugiyama, 2013 **Physical Activity in Localities and Community Environments, Australia** **Risk of Bias: 8/24**	N=822 48.6y (SD=10.2); 61% female NR 4y	**Sedentary Behavior:** Frequency of car use **Outcomes:** Self-reported weight	**Frequency of commuting in vehicle change in body weight:** NS **Change in body weight for participants with low leisure time PA, by frequency of vehicle commuting:** NS **Change in body weight for participants with high leisure time PA, by frequency of vehicle commuting:** *No vehicle commuting:* NS *Occasional vehicle commuting:* NS *Daily vehicle commuting:* +1.98kg (95% CI=1.02-2.93), P=0.035

*Risk of Bias as determined using the Nutrition Evidence Library Bias Assessment Tool

Direct Measure of Sedentary Behavior

Ekelund, 2008 found sedentary behavior objectively measured using a calibrated heart monitor had no association with change in measured body weight, BMI, fat mass or waist circumference in middle-aged men and women from the UK.

Self-Reported Measures of Sedentary Behavior During Adulthood and Adult Body Weight

BMI

Of the studies that used self-reported measures of sedentary behavior, six studies evaluated the association of sedentary behavior, [four using a composite approach (Saunders, 2013; Pereira, 2013; De Cocker, 2010; Mortensen, 2005) and two assessed TV viewing (French, 2012; Meyer, 2008)] on BMI and found no relationship with baseline sedentary exposure. When Mortensen, 2005 treated sedentary time as a continuous variable and adjusted for concurrent changes in physical activity, individuals who were sedentary had excess mean gains in BMI compared to those who were non-sedentary, but there was no association with incidence of obesity. Two of the studies that used composite measures of sedentary behavior used self-reported height and weight data (De Cocker, 2010; Mortensen, 2005).

Waist Circumference

Two studies assessed self-reported TV exposure and waist circumference. Wijndaele, 2010, found no relationship with baseline TV viewing, but found increased TV and video viewing time when treated as a continuous variable associated with an increase in waist circumference. Stamatakis, 2012 found no relationship between self-reported TV viewing and waist circumference.

Change in Body Weight

The impact of sedentary behavior on change in body weight was assessed in six studies. Two used a composite measure of self-reported sedentary behavior and self-reported weights (van Uffelen, 2010; Blanck, 2007), one measured frequency of commuting and used self-reported weight (Sugiyama, 2013), two assessed TV viewing time and weight (Ding, 2012; Mozafarrarian, 2011), and one assessed TV viewing on weight loss maintenance (Raynor, 2006). In two studies, no relationship was observed, while Blanck, 2007 found a positive relationship among postmenopausal women who were not overweight at baseline. Ding, 2012 found a positive relationship in two of four physical activity groups and Mozafarrarian, 2011 found an association between TV viewing and body weight in a large cohort of nurses and physicians who were not obese at baseline. One study assessed maintenance of weight loss over a one-year period and found increases in TV viewing predictive of one-year weight regain (Raynor, 2006).

Obesity

Four studies assessed sedentary behavior; one used distance traveled (Núñez-Córdoba, 2013), two used composite measures (Pulsford, 2013; Mortensen, 2005) and one measured TV time (Meyer, 2008) and found no association with incidence of obesity. Only one of these studies used measured vs. self-reported weight data (Meyer, 2008).

Dietary Intake

In a prospective analysis, Meyer, 2008 found that, compared with low exposure, high exposure and medium exposure to television remained a predictor of diet and body weight status over the six years of follow-up, and although the six-year associations were attenuated compared to the baseline associations, a consistent relationship was still observed between higher television exposure and more unhealthy dietary outcomes (i.e., below the median for

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fruit and vegetable servings and above the median for salty snack servings, sweet servings, sweetened drink servings, total calories, total fat, percent kcal from fat and percent of energy from saturated fat) and calories vs. energy intake.

In a study of adults enrolled in the National Weight Control Registry who successfully maintained a minimum weight loss of 13.6kg for at least one year, Raynor, 2006 found an increase in TV viewing significantly correlated with increased percentage of energy intake from fat, but not with total energy or percentage of calories from sweets.

Sedentary Behavior (TV Viewing Exposure) in Childhood and Adult Body *Weight*

Six longitudinal analyses (five cohorts) evaluated TV viewing exposure in children and body weight outcomes (Boone, 2007; Hancox, 2004; Landhuis, 2008; Mamun, 2013; Parsons, 2008; Viner, 2005) and found a consistent positive relationship was found between TV viewing during childhood and adult obesity (Viner, 2005; Boone, 2007; Mamun, 2013; Landhuis, 2008) and BMI (Landhuis, 2008; Mamun, 2013; Parsons, 2008; Viner, 2005) (**Table 3**).

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Question: What is the relationship between sedentary behaviors (including recreational, occupational and screen time) and dietary intake and body weight in adults?

Table 3: Summary of studies examining the relationship between sedentary behavior during childhood and body weight in adults

Author, Year, Data Source, Country, Risk of Bias*	Sample Size, Age, Gender, Race/Ethnicity, Study Duration	Sedentary Behavior, Outcome Measures	Results
Boone, 2007 **National Longitudinal Study of Adolescent Health (Add Health), Wave II (adolescent) and Wave III (young adult), USA** **Risk of bias: 4/25**	N=9,155 Wave II 15.9y (SD=0.12), wave III 21.4y (SD=0.11); 53.3% female Varies by study wave, White (10.0-21.7%), Black (12.1-35.8%), Native American (17.0-42.2%), Asian (2.6-18.5%), Hispanic (12.4-28.6%) 5y	**Sedentary Behavior:** Hours TV and video viewing/week; Reported activity level and measured moderate to vigorous physical activity **Outcomes:** Measured height and weight	**Adolescent screen time, MVPA, and risk of obesity in early adulthood** **For those with 1 instance MVPA/week in adolescents: 4 hours/week screen time in adolescents** (referent: 40 hours/week): *Female:* OR=0.58 (95% CI=0.43-0.80) *Male:* OR=0.78 (95% CI=0.61-0.99) **For those with 6 instance MVPA/week in adolescents: 4 hours/week screen time in adolescents** (referent: 40 hours/week): 6 instances of MVPA/week (referent: 1 instance MVPA/week) *Female:* OR=0.55 (95% CI=0.36-0.84) *Male:* NS **Screen time/week in adolescents and longitudinal association with early adulthood obesity** *Male:* β=0.0070 (95% CI=0.0002-0.0139), P=0.043 *Female:* β=0.0150 (95% CI=0.0062-0.0237), P=0.001

Question: What is the relationship between sedentary behaviors (including recreational, occupational and screen time) and dietary intake and body weight in adults?

Table 3: Summary of studies examining the relationship between sedentary behavior during childhood and body weight in adults

Author, Year, Data Source, Country, Risk of Bias*	Sample Size, Age, Gender, Race/Ethnicity, Study Duration	Sedentary Behavior, Outcome Measures	Results
Hancox, 2004 **1972/1973 Birth Cohort Dunedin, Otago Province, New Zealand** **Risk of Bias: 4/24** **Landhuis, 2008** **1972/1973 Birth Cohort Dunedin, Otago Province, New Zealand** **Risk of Bias: 4/24**	N=980 5-26y; 48% female Predominately European, Maori (7.4%), Pacific Islanders (1.5%) ~15y **Sample Size:** 972 5-32y; 48% female Predominately European, Maori (7.4%), Pacific Islanders (1.5%) 27y	**Sedentary Behavior:** Reported mean TV viewing hours/weekday (age 5-15y); mean viewing hours/day including weekends (age 13-15y, 26y (Hancox, 2004), and 32y (Landhuis, 2008) **Outcomes:** Measured height and weight	**BMI (measured) at 26y:** Childhood TV viewing (age 5-15y) and high **BMI:** β(SE)=0.48 (0.19), P=0.0121 **Adult obesity at 32y:** *Hours of childhood weekday TV viewing and risk of obesity in adulthood*: OR=1.25 (95% CI=1.01-1.53)
Mamun, 2013 **Mater–University of Queensland Study of Pregnancy (MUSP) Cohort, Australia** **Risk of Bias: 2/24**	**Sample size:** 2,439 **Age:** 14-21y; 50.7% female **Race/ethnicity:** White (90.2%), Asian (3.5%), Aboriginal-Islander (3.8%) **Study Duration:** 7y	**Sedentary Behavior:** Reported hours of weekday TV viewing (age 14y and 21y) Outcomes: Measured height and weight, waist circumference, and waist-to-hip ratio	**Odds ratios for risk of overweight/ obese at age 21 years** (referent group: TV viewing <3 hours/day at 14 and 21 years): TV viewing <3 hour/day at age 14y, but >3 hour/day at age 21y: *Overweight:* NS *Obesity:* OR=2.33 (95% CI=1.41-3.85) **TV viewing >3 hour/day at age 14 and 21 years:** *Overweight:* NS *Obesity:* OR=2.31 (95% CI=1.52-3.51) **Odds ratios for normal weight at age 14y, but overweight at age 21y** (referent group: healthy weight age 14y and 21y, and TV <3 hours/day at 14y and 21y): *TV <3 hours/day at age 14y, but >3 hours/day at age 21y:* OR=4.30 (95% CI=1.43-12.90) *TV >3 hours/day at age 14y, but <3 hours/day at age 21y:* NS *TV >3 hours/day at age 14y and 21y:* NS

Question: What is the relationship between sedentary behaviors (including recreational, occupational and screen time) and dietary intake and body weight in adults?

Table 3: Summary of studies examining the relationship between sedentary behavior during childhood and body weight in adults

Author, Year, Data Source, Country, Risk of Bias*	Sample Size, Age, Gender, Race/Ethnicity, Study Duration	Sedentary Behavior, Outcome Measures	Results
Parsons, 2008 **1958 British Birth Cohort** **Risk of Bias: 2/24**	**Sample size:** 9,216 **Age:** 11-45y; 49% female **Race/ethnicity:** NR **Study Duration**: 33y	**Sedentary behavior: TV viewing:** Self-reported TV viewing frequency (age 11y, 16y, and 23y), and daily viewing duration (age 45y) **Outcomes:** Measured height and weight (age 11y, 16y, 33y, and 45 y); self-reported height and weight (age 23y); measured waist-to-hip ratio (age 45y)	**Linear change in BMI per year by age 45y** (referent: "sometimes" views TV) *Watch TV "Often" at age 11y:* NS *Watch TV "Often" at age 16y:* *Males:* β=0.011 (95% CI=0.003-0.019), P=0.006 *Females:* β=0.013 (95% CI=0.003-0.023), P=0.009 **Childhood TV viewing and estimated difference in mean waist-to-hip ratio at 45 years:** "*Often" at age 11 y:* NS *"Often" at age 16 y:* NS
Viner, 2005 **1970 British Birth Cohort** **Risk of Bias: 4/24**	**Sample size:** 8,158 **Age:** 5-30y; NR **Race/ethnicity:** White (96.3%), Black (0.6%), South Asia (1.8%), Chinese or other Asian (0.8%), Mixed Ethnicity (0.6%) **Study Duration:** 25y	**Sedentary behavior:** Reported mean daily TV viewing time (age 5y) and frequency (age 10y) **Outcomes:** Measured height (age 5y), measured height and weight (age 10y); self-reported height and weight at 30y	**Television viewing and BMI z-score at age 30 years:** *Mean TV hour/day (weekday) at age 5y:* NS *Mean TV hour/day (weekend) at age 5y:* β =0.03 (95% CI=0.01-0.05), P=0.01 *"Often" views TV at age 10 y* (referent: "never"): NS

*Risk of Bias as determined using the Nutrition Evidence Library Bias Assessment Tool

Reverse or Bidirectional Causality

Three studies assessed reverse or bidirectional causality and mixed results were found (Ekelund 2008; Mortensen 2006; van Uffelen 2010). Mortensen, 2006 found sedentary behavior predicted by BMI in three consecutive age groups [OR=1.04 (95% CI: 1.00, 1.07) per 1kg/m^2 for ages 41 years to 44 years; OR=1.10 (1.07, 1.14) for ages 44 years to 46 years; and OR=1.12 (1.08, 1.17) from ages 46 years to 54 years]. Adjustment for concurrent changes in BMI marginally attenuated effects. Ekelund, 2008 found sedentary time was correlated with body weight (partial R=0.19, P<0.0001), BMI (partial R=0.20, P<0.0001), waist circumference (partial R=0.15, P<0.003) and fat mass (partial R=0.19, P<0.0001). Conversely, van Uffelen, 2010 found no association between weight and sitting time over successive three-year periods.

Assessment of the Body of Evidence

- *Quality and Quantity:* This evidence review includes 22 studies from 17 prospective cohorts, involving more than 110,000 subjects that examine the relationship between sedentary behavior and body weight status in adults. Only one study directly measured sedentary behavior. Risk of bias ratings ranged from zero of 26 to eight of 26, with most studies in the two-to-26 to four-to-26 range. In general, limitations included use of tools to measure sedentary behavior which were not validated, and lack of control for the potential confounding effect of diet.
- *Consistency:* Methodological approaches differed with regard to how exposure variables were defined, timeframes, cohort size and the populations; however, the relationship between sedentary behavior in childhood and adult weight was consistently positive, and the relationship between measures of sedentary behavior during adulthood and adult weight consistently null
- *Impact:* It is difficult to evaluate effect size across studies, but overall they appear small
- *Generalizability:* The majority of studies were conducted in Caucasian populations and minority populations are underrepresented in the studies. Also, many studies are international and conducted in countries with differing rates of obesity and BMI compared to the US.

Limitations

- Reliance on self-report of sedentary behaviors:
  - Only one study directly measured sedentary behavior
  - Reliability and validity of the self-reported TV viewing frequently was not assessed (especially in childhood studies).
- Dietary intake was frequently not measured; therefore, its role as a mediator or confounder could not be assessed
- The majority of studies were conducted in Caucasian populations; therefore, diverse ethnic and racial groups were underrepresented.

Research recommendations

In order to better assess the relationship between sedentary behavior and dietary intake and body weight in adults, additional research is needed to:

- Evaluate and standardize methods to objectively assess sedentary behavior to include the full range of sedentary activities
- Explore the effect of different types of sedentary behavior (e.g., TV viewing, sedentary work) on eating behaviors, dietary quality, body weight and composition across the lifespan

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- Need intervention studies assessing the mediation effect of dietary behavior on sedentary behavior
- Additional prospective research is needed to examine if and how gender, age, socioeconomic status (SES) and race/ethnicity might influence the relationship between validated measures of sedentary behavior, as well as diet quality, body weight and body composition.

Search plan and results

Inclusion criteria

- Human subjects
- Subject populations from countries with high or very high human development, according to the 2012 Human Development Index [1]
- Adults aged 19 years and older
- Subjects who were healthy or at elevated chronic disease risk
- Randomized (RCT) or non-randomized controlled trial, prospective cohort study, longitudinal studies tracking childhood to adulthood
- Intervention studies with a dropout rate of 20% and a differential dropout rate of 15% between groups
- Intervention studies with at least 30 subjects per study arm
- The intervention or exposure was sedentary behavior
- The comparator was different levels of sedentary behavior or different types of sedentary behavior
- The outcome was:
- Diet quality
- Food and food groups
- Macronutrient intakes and proportions
- Obesity
- Overweight
- Body mass index (BMI)
- Waist circumference
- Body weight
- Percent body fat change.
- In addition, articles were included if they were published in English in a peer-reviewed journal between January 2004 and January 2014. If an author is included on more than one primary research article that is similar in content, the paper with the most pertinent data and endpoints was included. If data and endpoints from both papers are appropriate, it was made clear that results are from the same intervention.

Exclusion criteria

- Animals and *in vitro* models
- Subject populations from countries with medium or low human development, according to the 2012 Human Development Index
- Children under the age of 19 years (except longitudinal studies into adulthood); pregnant and postpartum women
- Subjects who were hospitalized, diagnosed with disease and receiving medical treatment
- Systematic review, meta-analysis, narrative review, before-and-after, uncontrolled, cross-sectional studies, case-control studies, ecological designs
- Acute feeding studies

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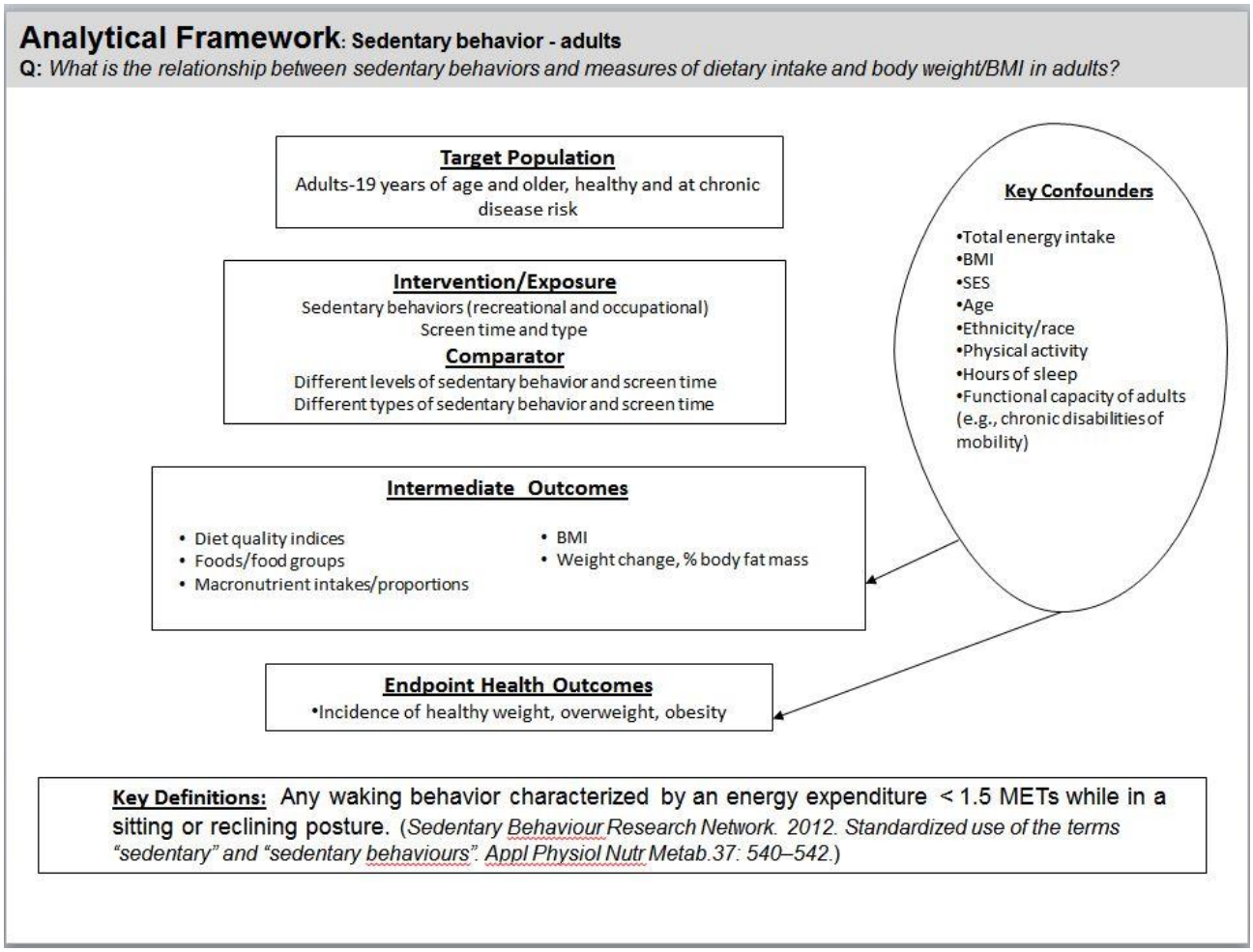
- Articles were excluded if they were not published in English or were published before January 2000. Articles, abstracts and presentations not published in peer-reviewed journals (e.g., websites, magazine articles, federal reports) were also excluded. Finally, if an author was included on more than one review article or primary research article that is similar in content, the paper with the most pertinent data and endpoints was included and others were excluded.

  [1] United Nations Development Programme. Human Development Report 2013, The Rise of the South: Human Progress in a Diverse World 2013. Available from: http://hdr.undp.org/sites/default/files/reports/14/hdr2013_en_complete.pdf.

Analytic framework



Search terms and electronic databases used

- ***Pubmed***
  - *Date(s) Searched:* ***January 2014***
  - *Search Terms:*

    Sedentary Behavior

    ((sedentary lifestyle[mh] OR sedentary[ti] OR "sitting time"[tiab] OR

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sedentary behavior[tiab] OR "occupational sitting"[tiab]) AND ("computer use"[tiab] OR "media time"[tiab] OR media use*[tiab] OR video games[mh] OR "screen time"[tiab] OR television[mh] OR television[tiab] OR TV[tiab] OR computer game*[tiab] OR wii[tiab] OR "screen habits"[tiab] OR "screen-based"[tiab] OR "screen based"[tiab] OR "screen viewing"[tiab] OR Video Game*[tiab] OR videogame*[tiab] OR electronic game*[tiab] OR online game*[tiab] OR console game*[tiab] OR "online gaming"[tiab] OR virtual game*[tiab] OR "virtual gaming"[tiab])) OR ((sedentary lifestyle[mh] OR sedentary[ti] OR sitting[tiab] OR sedentary behavior*[tiab]) AND (occupation*[tiab] OR employment[tiab] OR workplace[tiab])) OR (sedentary lifestyle[mh] OR sedentary[ti] OR sedentary behavior*[tiab] OR "sitting time"[tiab] OR "occupational sitting"[tiab] OR inactive*[tiab]))))*

Body Weight

("body size"[tiab] OR body size[mh] OR obesity[tiab] OR obese[tiab] OR obesity[mh] OR overweight [tiab] OR overnutrition[tiab] OR adiposity[tiab] OR adiposity[mh] OR "body weight"[tiab] OR body weight[mh] OR "body-weight related"[tiab] OR "weight gain"[tiab] OR weight gain[mh] OR "weight loss"[tiab] OR Body Weights and Measures[Majr] OR overweight[tiab] OR "Body Composition"[mh] OR "body fat"[tiab] OR adipos[tiab] OR weight[ti] OR waist[ti] OR "Anthropometry"[Mesh:noexp] OR "body mass index"[tiab] OR BMI[tiab] OR "weight status"[tiab] OR adipose tissue [mh] OR "healthy weight"[tiab] OR waist circumference[mh] OR "body fat mass"[tiab] OR body weight changes[mh] OR "waist circumference"[tiab] OR ideal body weight[mh])*

Dietary Intake

nutrition[tiab] OR diet[mh] OR diet[tiab] OR dietary[tiab] OR food preferences[mh] OR feeding behavior[mh] OR nutrition surveys[mh] OR food[tiab] OR nutritional status[mh] OR "Food and Beverages"[Majr] OR "Eating"[Majr] OR "Energy Intake"[Majr] OR "caloric density"[tiab] OR "caloric intake"[tiab] OR caloric dens*[tiab] OR high calori*[tiab] OR energy dens*[tiab] OR fruit*[tiab] OR vegetable*[tiab] OR food analysis[mh] OR dietary intake*[tiab] OR food intake*[tiab] OR food habits[mh] OR dietary habit*[tiab] OR diet habit*[tiab] OR eating habit*[tiab] OR nutrient intake*[tiab] OR food choice*[tiab] OR portion size*[tiab] OR "diet quality"[tiab] OR dietary choice*[tiab] OR dietary change*[tiab] OR diet records[mh] OR nutritional status[mh] OR nutritional sciences[mh] OR nutrition surveys[mh] OR dietary pattern*[tiab] OR diet pattern*[tiab] OR eating pattern*[tiab] OR food pattern*[tiab] OR eating habit*[tiab] OR dietary habit*[tiab] OR food habit*[tiab] OR dietary profile*[tiab] OR food profile*[tiab] OR diet profile*[tiab] OR eating profile*[tiab] OR dietary guideline*[tiab] OR dietary recommendation*[tiab] OR food intake pattern*[tiab] OR dietary intake pattern*[tiab] OR eating style*[tiab] OR (Macronutrient*[tiab] AND (Proportion*[tiab] OR composition[tiab] OR distribution*[tiab] OR percent*[tiab] OR diet composit*[tiab])) OR dietary score* OR adequacy*

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index OR kidmed OR Food Score* OR Diet Score* OR MedDietScore OR Dietary Pattern Score* OR "healthy eating index" OR ((index*[ti] OR score*[ti] OR indexes OR scoring[ti] OR indices[ti]) AND (dietary[ti] OR nutrient*[ti] OR eating[tiab] OR food[ti] OR food[mh] OR diet[ti] OR diet[mh]) AND (pattern* OR habit* OR profile*))*

Study Type Limiters: ("Study Characteristics" [Publication Type] OR "clinical trial"[ptyp] OR "Epidemiologic Studies"[Mesh] OR "Support of Research"[ptyp]) NOT (editorial[ptyp] OR comment[ptyp] OR news[ptyp] OR letter[ptyp] OR review[ptyp] OR systematic[sb])

Additional Limiters: Adults, English, Human

- ***Cochrane***
  - *Date(s) Searched:* ***February 2014***
  - *Search Terms: 'sedentary OR sitting OR television OR "screen time" in Record Title and weight OR obesity OR obese OR diet OR dietary OR nutrition OR nutritional OR food OR eating OR foods OR fruits OR vegetables OR "energy intake" OR "caloric intake" OR overweight OR "body mass index" OR bmi in Title, Abstract, Keywords and adults OR adult OR women OR men from 2004 to 2014 in Cochrane Central Register of Controlled Trials*
- ***EMBASE***
  - *Date(s) Searched:* ***January 2014***
  - *Search Terms:*

    Sedentary Behavior

    'sedentary lifestyle'/de OR 'sedentary lifestyle':ti, ab OR 'sedentary behavior':ti, ab OR sedentary:ti, ab OR 'sedentary activities':ti, ab OR 'sitting'/de OR ((occupational OR workplace) NEAR/3 sitting) OR inactive:ti, ab OR inactivity:ti, ab OR 'television viewing'/de OR (physical NEAR/3 (inactive OR inactivity)):ti

    Body Weight

    ('body size'/de OR 'obesity'/exp OR overweight:ab, ti OR adiposity:ab, ti OR 'body weight'/exp OR 'weight gain'/de OR 'weight reduction':ab, ti OR 'body composition'/exp OR 'body fat':ab, ti OR 'anthropometry'/de OR 'body mass'/de OR bmi:ab, ti OR weight:ab, ti OR 'waist circumference'/de OR 'waist circumference':ab, ti OR 'waist hip ratio'/de OR 'body fat'/de OR 'adipose tissue'/exp) NOT [medline]/lim

    Dietary Intake

    'nutrition'/de OR nutrition:ab, ti OR 'diet'/exp OR 'diet':ab, ti OR 'dietary intake'/exp OR 'caloric intake':ab, ti OR 'caloric density':ab, ti OR 'dietary intake':ab, ti OR 'feeding behavior'/exp OR 'eating habit'/de OR 'food preference'/de OR 'child nutrition'/de OR 'food intake'/exp OR 'nutritional assessment'/de OR 'nutritional status'/de OR 'nutrition surveys':ab, ti OR

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'fruit'/exp OR 'vegetable'/exp OR 'food'/exp OR 'energy density':ab, ti OR 'dietary quality':ab, ti OR 'eating pattern':ab, ti OR 'food pattern':ab, ti OR 'dietary habit':ab, ti OR 'food habit':ab, ti OR 'food intake':ab, ti OR 'portion size'/de OR 'food choice':ab, ti OR 'diet quality':ab, ti OR 'dietary profile':ab, ti OR 'food profile':ab, ti OR 'diet profile':ab, ti OR 'eating profile':ab, ti OR 'food intake pattern':ab, ti OR 'dietary intake pattern':ab, ti OR 'eating style':ab, ti OR 'macronutrient':ab, ti OR 'macronutrient'/de OR 'dietary score':ab, ti OR kidmed:ab, ti OR 'food score':ab, ti OR 'diet score':ab, ti OR 'meddietscore':ab, ti OR 'dietary pattern score':ab, ti OR 'healthy eating index':ab, ti OR (index:ab, ti OR score:ab, ti OR scoring:ab, ti OR indices:ab, ti AND (dietary:ab, ti OR nutrient:ab, ti OR eating:ab, ti OR food:ab, ti OR diet:ab, ti) AND (pattern:ab, ti OR habit:ab, ti OR profile:ab, ti))

Additional Limiters: Adults, English, Human

Date range: 2004 to 2014

Summary of articles identified to review

- Total hits from all electronic database searches: 1412
- Total articles identified to review from electronic databases: 529
- Articles identified via handsearch or other means: 3
    - Landhuis C, Poulton R, Welch D, Hancox RJ. Programming obesity and poor fitness: the long-term impact of childhood television. *Obesity (Silver Spring).* 2008 Jun;16(6):1457-9. PubMed PMID: 18369346. http://www.ncbi.nlm.nih.gov/pubmed/18369346
    - Meyer AM, Evenson KR, Couper DJ, Stevens J, Pereria MA, Heiss G. Television, physical activity, diet, and body weight status: the ARIC cohort. *Int J Behav Nutr Phys Act.* 2008 Dec 17;5:68. PubMed PMID: 19091124. http://www.ncbi.nlm.nih.gov/pubmed/19091124
    - Raynor DA, Phelan S, Hill JO, Wing RR. Television viewing and long-term weight maintenance: results from the National Weight Control Registry. *Obesity (Silver Spring).* 2006 Oct;14(10):1816-24. PubMed PMID: 17062812. http://www.ncbi.nlm.nih.gov/pubmed/17062812)
- Number of Primary Articles Identified: 19
- Number of Review Articles Identified: 0
- Total Number of Articles Identified: 19
- Number of Articles Reviewed but Excluded: 510

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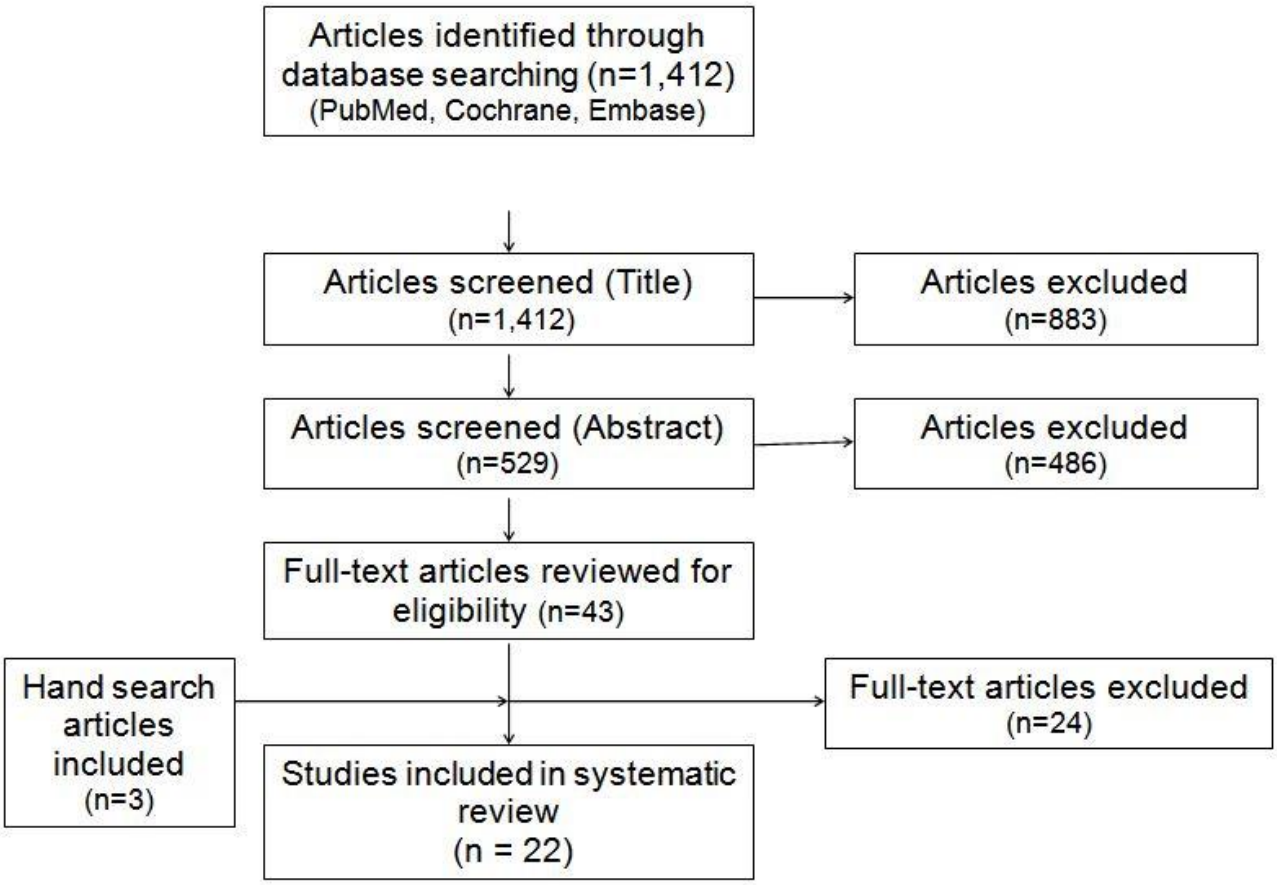

Included articles (References)

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Excluded articles

See Appendix D for a full list of excluded articles with reason.

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CHAPTER 6. SELF-MONITORING

WHAT IS THE RELATIONSHIP BETWEEN USE OF DIET AND WEIGHT SELF-MONITORING STRATEGIES AND BODY WEIGHT OUTCOMES IN ADULTS AND YOUTH?

TECHNICAL ABSTRACT

Background

In the context of comprehensive behavioral lifestyle interventions for weight management, self-monitoring refers to the process by which an individual observes and records specific information reflecting his or her dietary intake, physical activity, and body weight. Self-monitoring provides information that allows an individual to judge whether goals have been met, and if not, to adjust future actions so as to meet the target. The goal of this systematic review was to determine whether self-monitoring of diet and weight is associated with body weight outcomes. This review included studies examining the effect of self-weighing or self-monitoring of diet, such as counting calories and monitoring foods consumed. While paper diaries are the traditional method for self-monitoring, new technological approaches are emerging such as the use of websites, smart phone apps and interactive voice response phone calls. Because self-monitoring is often a component of weight loss and weight maintenance interventions, it is important to understand its effect on weight outcomes

Conclusion statement

Moderate evidence, primarily in overweight adult women living in the United States, indicates that self-monitoring of diet, weight or both in the context of a behavioral weight management intervention generally improves weight loss outcomes.

2015 DGAC Grade: **Moderate**

Limited but consistent evidence suggests that higher frequency or greater adherence to self-monitoring of diet, weight or both in the context of a behavioral weight management program is associated with better weight-loss outcomes.

2015 DGAC Grade: **Limited**

Methods

Literature searches were conducted using PubMed, Embase and Cochrane databases to identify studies published in English in peer-reviewed journals from January 2010 to August 2014 for diet self-monitoring (based on the end date of the 2010 DGAC review) and from January 2004 to August 2014 for body weight monitoring (not included in the 2010 DGAC review). Included studies met the following inclusion and exclusion criteria established *a priori* to the review: randomized controlled trials (RCTs), crossover trials, cohort studies and *post-hoc* analysis of RCTs; human subjects aged two years and older who were healthy or at elevated chronic disease risk; and studies conducted in high or very highly developed countries (2012 Human Development Index). The intervention or exposure was self-monitoring of diet and weight. The outcome was measures of weight outcomes including obesity, overweight, body mass index (BMI), waist circumference, body weight, percent body fat change, weight-for-age, length and stature-for-age, weight for stature, BMI-for-age and BMI Z-score.

Data from each included article were extracted and risk of bias was assessed by two

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abstractors. The evidence was qualitatively synthesized, a conclusion statement was developed and the strength of the evidence (grade) was assessed using pre-established criteria including evaluation of the quality and risk of bias, quantity, consistency, magnitude of effect and generalizability of available evidence.

Findings

- A total of 20 studies were reviewed to examine the relationship between the use of diet and weight self-monitoring on body weight. This review included four RCTs, 15 prospective cohort studies and one retrospective cohort study
- Three RCTs showed that weight management interventions that included self-monitoring of diet, weight or both, coupled with behavioral change strategies, resulted in significantly greater weight loss than controls that did not emphasize self-monitoring. One weight loss maintenance study in children found no effect for self-monitoring via Short Message Service (SMS) on BMI.
- Sixteen cohort studies (15 prospective, one retrospective study) in adults found higher frequency or greater adherence to diet and weight self-monitoring was associated with favorable body weight outcomes:
    - One study with overweight pregnant women provided a four-session behavior change program with a gestational weight gain chart and a recommendation for regular self-weighing. The women in the intervention arm lost more weight six weeks after delivery compared to a control group that received one brief education session.
- Four studies assessed different methods of self-monitoring, including paper diaries and Internet-based or mobile applications, and found that no specific method was superior to others
- Study participants were predominately overweight, educated, white females between the ages of 30 years and 60 years. Additional research is needed among males, and subjects below the age of 30 years and above the age of 60 years.

Limitations

- Studies often used different approaches for self-monitoring and often monitored different behaviors. Study interventions differed between weight loss interventions and weight maintenance interventions. Also, study durations varied from 12 weeks to 3.25 years.
- In seven studies, the impact of self-monitoring was conducted as secondary analysis of pooled intervention data
- In all studies reviewed, self-monitoring was assessed as part of a weight loss or weight maintenance intervention, making it difficult to separate the effects of self-monitoring from other intervention components
- The interaction between frequency of self-monitoring and motivation is unclear.

FULL REVIEW

Conclusion statement

Moderate evidence, primarily in overweight adult women living in the United States, indicates that self-monitoring of diet, weight or both, in the context of a behavioral weight management intervention, generally improves weight-loss outcomes.

Limited but consistent evidence suggests that higher frequency or greater adherence to self-monitoring of diet, weight or both, in the context of a behavioral weight management program, is associated with better weight-loss outcomes.

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Grade

Moderate: Self-monitoring and weight outcomes
Limited: Frequency and adherence to self-monitoring is associated with weight outcomes

Key findings

- Three RCTs showed that weight management interventions that included self-monitoring of diet, weight or both, coupled with behavioral change strategies, resulted in significantly greater weight loss than controls that did not emphasize self-monitoring. One weight loss maintenance study in children found no effect for self-monitoring via Short Message Service (SMS) on BMI.
- Sixteen cohort studies (15 prospective, one retrospective study) in adults found higher frequency or greater adherence to diet and weight self-monitoring was associated with favorable body weight outcomes.
    - One study with overweight pregnant women provided a four-session behavior change program with a gestational weight gain chart and a recommendation for regular self-weighing. The women in the intervention arm lost more weight six weeks after delivery compared to a control group that received one brief education session.
- Four studies assessed different methods of self-monitoring, including paper diaries, Internet-based or mobile applications, and found that no specific method was superior to others
- Study participants were predominately overweight, educated, white, females between the ages of 30 years to 60 years. Additional research is needed among males, and subjects below the age of 30 years and above the age of 60 years.

Evidence summary

Description of the Evidence

Twenty studies were reviewed to examine the relationship between the use of diet and weight self-monitoring on body weight. This review included four randomized controlled trials (RCTs) (Adachi, 2007; de Niet, 2012; Steinberg, 2013; Wing, 2010), 15 prospective cohort studies (Bartfield, 2011; Burke, 2012; Harrison, 2014; Kong, 2012; Krukowski, 2013; Linde, 2005; Ma, 2013; Peterson, 2014; Steinberg, 2014; Turner-McGrievy, 2013; Turk, 2013; VanWormer, 2009; VanWormer, 2012; Wing, 2004; Wing, 2008) and one retrospective cohort study (Johnson, 2011).

Data from several different cohorts or trials were presented in the reviewed articles. Two studies used data from the Self-Monitoring and Recording using Technology (SMART) trial, a 24-month randomized clinical trial of standard behavioral weight loss treatment that compared the effect of three methods for self-monitoring dietary intake and physical activity on weight loss [paper diary; personal digital assistant (PDA) with daily feedback; PDA with no feedback] (Burke, 2012; Turk, 2013). Other cohorts represented in the reviewed articles included *(see abbreviation list below)* PREMIER (Bartfield, 2011), TOURS (Peterson, 2014), Shape (Steinburg, 2014), WEIGH (Steinburg, 2013), Health Works (VanWormer, 2012), NEW (Kong, 2012), SURI (Wing, 2010), POP (Linde, 2005), DPP (Wing, 2004) and WBD (VanWormer, 2009).

All of the articles used data from generally healthy adults and children. Only one study was conducted in children (de Niet, 2012) and one study looked at women during pregnancy and postpartum (Harrison, 2014). Sixteen of the 20 articles were conducted in the United States. Other countries of study origin included Japan (Adachi, 2007), United Kingdom (Johnson, 2011), Australia (Harrison, 2014, and the Netherlands (de Niet, 2012).

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Fifteen studies were weight loss interventions; of these three were RCTs (Adachi, 2007; Steinberg, 2013; Wing, 2010) and 12 were observational studies (Bartfield, 2011; Burke, 2012; Harrison, 2014; Johnson, 2011; Kong, 2012; Krukowski, 2013; Ma, 2012; Steinberg, 2014; Turk, 2013; Turner-McGrievy, 2013; VanWormer, 2009; Wing, 2004). Five studies were weight maintenance interventions. Of these, one was an RCT (de Niet, 2012) and four were observational studies (Linde, 2005; Peterson, 2014; VanWormer, 2012; Wing, 2008).

Study duration and sample sizes varied. Study durations ranged from three months to 3.25 years; three months (Wing, 2010), six months (Krukowski, 2013; Steinberg, 2013; Turner-McGrievy, 2013; Turk, 2013), approximately six months (mean 170 days to 187 days; Johnson, 2011), seven months (Adachi, 2007), approximately eight months (12 weeks to 15 weeks gestation to six weeks postpartum; Harrison, 2014), 12 months (de Niet, 2012; Kong, 2012; VanWormer, 2009), 15 months (Ma, 2013), 18 months (Bartfield, 2011; Peterson, 2014; Steinberg, 2014; Wing, 2008), two years (Burke, 2012; VanWormer, 2012) and 3.25 years (Wing, 2004). Sample sizes ranged from 78 to 3,621.

The independent variable differed among the articles (**Table 1**). Some studies monitored diet or weight alone, while others examined a combination of weight, diet and exercise self-monitoring strategies. Two studies had participants monitor target goals or behaviors that may include weight, diet and exercise goals and were individualized by participants.

All studies included a measure of body weight, weight loss or BMI as a main outcome. Additionally, all but two studies included a measure of self-monitoring adherence or frequency. The two that did not report self-monitoring adherence were de Niet, 2012 and Adachi, 2007.

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Question: What is the relationship between use of diet and weight self-monitoring strategies and body weight outcomes in adults and youth?

Table 1. Self-monitoring outcomes investigated in the reviewed articles examining the impact of self-monitoring on weight outcomes

Independent Variable	Article
Weight monitoring	Harrison, 2014; Steinburg, 2013; VanWormer, 2009; VanWormer, 2012; Wing, 2008
Diet monitoring	Burke, 2012; Peterson, 2014
Weight and diet monitoring	Kong, 2012
Diet and exercise monitoring	Bartfield, 2011; de Niet, 2012; Johnson, 2011; Turk, 2013; Turner-McGrievy, 2013; Wing, 2004
Weight and exercise monitoring	Linde, 2005
Weight, diet, and exercise monitoring	Krukowski, 2013; Ma, 2013; Wing, 2010
“Target goals/behaviors” monitoring	Adachi, 2007; Steinburg, 2014

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Evidence Synthesis

Randomized Controlled Trials

Three articles used an RCT design to examine the relationship between self-monitoring and body weight outcomes in adults (Adachi, 2007; Steinberg, 2013; Wing, 2010). Despite some important limitations and issues with generalizability, this body of evidence showed a beneficial impact of self-monitoring as a component of a behavior change program on weight outcomes. Studies are summarized in **Table 2**.

Adachi, 2007 found that participants who self-monitored target behaviors as part of a behavior change program lost significantly more weight than participants who received an untailored self-help book and participants who received the self-help book with self-monitoring of weight and walking steps. There was no difference in weight loss among the group that received the behavior change program without self-monitoring and the booklet-only or booklet plus self-monitoring group.

Steinberg, 2013 compared weight outcomes between two groups: An intervention group that received “smart” scales for self-weighing, tailored feedback and lessons, and a control group that were provided with the scales but received no other information. The intervention group lost significantly more weight over six months than the control group, and a significantly greater percentage of intervention participants lost more than 5% and more than 10% of their baseline weight compared to the control.

Wing, 2010 looked at the addition of a self-monitoring emphasis to an Internet-based community weight loss program. Both the control and intervention groups were enrolled in a weight loss program but the intervention group was also given printed food diaries and calorie reference guide and were instructed to self-monitor their diet, weight and exercise over 12 weeks. The intervention group lost more weight on average than the control group and more intervention participants lost greater than 5% of their initial weight than the control participants.

One RCT in children (10-year-olds) did not find that self-monitoring of diet and physical activity improved weight loss maintenance (de Niet, 2012).

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Question: What is the relationship between use of diet and weight self-monitoring strategies and body weight outcomes in adults and youth?

Table 2. Summary of studies examining the relationship between self-monitoring strategies of and body weight outcomes in adults and youth

Author, Year Study Design; Cohort Location Risk of bias*	Final N; Attrition Gender, Age (mean), Education Study Duration	Description of self-monitoring	Results	Summary of Findings
Adachi, 2007 **Randomized Controlled Trial (RCT)** **Japan** **10/28**	N=183; 11% 100% female, 46y, Education: NR 7 months	**Self-monitor: Target goals/behaviors** **Study groups:** *Group KM:* 1-month behavioral modification program (KT program) + 6 months target behavior self-monitoring (target behaviors determined by KT program); *Group K:* 1-month KT program only; *Group BM:* KT booklet reading + 7 months of self-monitoring of weight and walking steps; and *Group B:* KT booklet reading	**BMI:** *Reduction in BMI significant in all groups at 7 months:* Group KM (-1.22±1.16) significantly greater than Groups BM (-0.68±0.88) and B (-0.57±0.93) (P<0.05) **Body weight (weight; kg):** *Reduction in Body weight significant in all groups at 7 months:* Group KM (-2.9±2.7) significantly greater than Groups BM (-1.6±2.1) and B (-1.4±2.4) (P<0.05) **% weight loss:** *7 months:* 4.7±4.5% in Group KM,	A significant weight loss was observed in all groups. At 7 months, the mean weight loss was significantly greater with the behavior modification program plus self-monitoring than both booklet groups (with and without self-monitoring). Self-monitoring alone (without the behavior change program) did not lead to significantly greater weight loss, and the behavior change program alone (without self-monitoring) did not lead to significantly greater weight loss.

Question: What is the relationship between use of diet and weight self-monitoring strategies and body weight outcomes in adults and youth?

Table 2. Summary of studies examining the relationship between self-monitoring strategies of and body weight outcomes in adults and youth

Author, Year Study Design; Cohort Location Risk of bias*	Final N; Attrition Gender, Age (mean), Education Study Duration	Description of self-monitoring	Results	Summary of Findings
		only	3.3±4.3% in K, 2.6±3.4% in BM and 2.2±3.5% in B; group KM was significantly greater than groups BM and B (P<0.05). **≥5% weight loss (%):** *7 months:* KM group: 38.9±14, K group: 31.8±14, BM group: 24.5±13, B group: 20.0±10 (NS); *≥7% weight loss (%):* KM group: 19.4±7, K group: 15.9±7, BM group: 7.5±4, B group: 10.0±5 (NS).	
Steinberg, 2013 **RCT; Weighing Everyday to Improve and Gain Health (WEIGH) cohort**	N=87; 4% 75% female, 44y, 78% college-educated 6 months	**Self-monitor: Weight** *Intervention:* Participants received a cellular-connected "smart" scale for daily weighing, web-based weight loss graph, and weekly emails with tailored feedback and lessons. Participants were instructed to weigh daily at the	**Frequency of self-weighing (days/week, intervention vs. control):** 6.1±1.1 vs. 1.1±1.5; P<0.0001 **Weight change (intervention vs, control group):** Mean (95%CI) *3 months:* −4.41%(−5.5, −3.3) vs.	A weight loss intervention that focused on daily self-weighing and also included weight tracking, tailored feedback, and skills training via email (no face-to-face contact) produced greater weight loss than control group.

Question: What is the relationship between use of diet and weight self-monitoring strategies and body weight outcomes in adults and youth?

Table 2. Summary of studies examining the relationship between self-monitoring strategies of and body weight outcomes in adults and youth

Author, Year Study Design; Cohort Location Risk of bias*	Final N; Attrition Gender, Age (mean), Education Study Duration	Description of self-monitoring	Results	Summary of Findings
US **14/28**		same time each day using the smart scales. The smart scale displayed current weight and sent it directly to a website. *Control:* Provided with the scales at baseline for evaluation purposes only and instructed to maintain their current self-weighing habits. Control group participants received no intervention during the study period.	−0.37%(−1.5, 0.76) *6 months:* −6.55%(−7.7, 5.4) vs. −0.35%(−1.5, .79); group×time interaction: P<0.001; **Percentage achieved 5% weight loss (intervention vs. control group):** *6 months:* 42.6% vs. 6.8%; P<0.0001; **Percentage achieved 10% weight loss (intervention vs. control group):** *6 months:* 7.7% vs. 0%; P<0.0001;	
Wing, 2010 **RCT; Shape Up Rhode Island (SURI) cohort**	N=112; 13% 90% female, 47y, 63% college degree 12 weeks	**Self-monitor: Diet, weight, and exercise** The Shape Up RI (SURI) program was an Internet-based community program that used	**Weight loss:** *SURI enhanced vs Standard SURI:* 3.56±3.8kg vs. 1.4±2.7kg; P<0.01; **Weight loss ≥5% of initial weight:** *SURI enhanced vs. Standard SURI:*	Self-monitoring, coupled with video lessons and feedback in a community weight loss program, was associated with greater weight loss over 12-weeks

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Question: What is the relationship between use of diet and weight self-monitoring strategies and body weight outcomes in adults and youth?

Table 2. Summary of studies examining the relationship between self-monitoring strategies of and body weight outcomes in adults and youth

Author, Year Study Design; Cohort Location Risk of bias*	Final N; Attrition Gender, Age (mean), Education Study Duration	Description of self-monitoring	Results	Summary of Findings
US **5/28**		team-based competition to encourage increased physical activity and weight loss. **Study groups:** 1) *Standard SURI:* Had access to all of the components of the intervention based on the Diabetes Prevention Program and were provided with a directory of informative publicly available Web sites 2) *SURI enhanced:* Participants were given printed food diaries and a calorie reference book to use for self-monitoring; participants were instructed to report their daily weight, calories, and fat grams, steps, and exercise minutes via website	40.5 vs. 13.2, P<0.01	than a control group in a similar weight loss program that did not emphasize self-monitoring.
De Niet, 2012	N=141; 1%	**Self-monitor: Diet and exercise**	**BMI-SDS changes:**	No evidence that the use of

Question: What is the relationship between use of diet and weight self-monitoring strategies and body weight outcomes in adults and youth?

Table 2. Summary of studies examining the relationship between self-monitoring strategies of and body weight outcomes in adults and youth

Author, Year Study Design; Cohort Location Risk of bias*	Final N; Attrition Gender, Age (mean), Education Study Duration	Description of self-monitoring	Results	Summary of Findings
RCT **Netherlands** **10/28**	64% female, 10y, NR 12 months	**After 3 months of intensive weight loss intervention, children and parents randomized into 2 groups for 9 months of less intensive follow-up:** *Intervention:* Received SMS maintenance treatment (SMSMT); requested to send weekly self-monitoring data on a five point Likert scale on: physical activity and healthy eating pattern. Researchers sent tailored feedback to the participant based on the self-monitored data to provide tips on how to improve health-related behaviors. *Control:* No SMSMT	*SMSMT vs. non-SMSMT:* NS at 3, 6, 9 and 12 months *Within SMSMT, 3 vs. 12 months:* NS	SMSMT positively influences BMI-SDS during the weight maintenance phase following a 3-month intensive weight loss intervention.
Bartfield, 2011 **PC; PREMIER**	N=507; 0% 61% female, 50y,	**Self-monitor: Diet and exercise** Active intervention groups of	**Average food records per week and odds of ≥5% weight loss:** 6 months (OR, 95% CI); 18 months	Higher levels of attendance, food record completion, and recorded days/week of

Question: What is the relationship between use of diet and weight self-monitoring strategies and body weight outcomes in adults and youth?

Table 2. Summary of studies examining the relationship between self-monitoring strategies of and body weight outcomes in adults and youth

Author, Year Study Design; Cohort Location Risk of bias*	Final N; Attrition Gender, Age (mean), Education Study Duration	Description of self-monitoring	Results	Summary of Findings
(2° analysis of RCT) **US** **0/24**	30% graduate school 18 months	PREMIER trial combined: (Intervention group based on established, traditional lifestyle recommendations; Intervention group based on established lifestyle recommendations plus adherence to the DASH diet) Participants were instructed to record food intake and physical activity minutes daily using a Food and Fitness Diary.	(OR, 95% CI) *<1 per week:* 1.0; 1.0 *1-2.9 per week:* 6.3 (2.7, 14.5); 5.5 (3.3, 9.4) *3.0-4.9 per week:* 14.2 (6.0, 33.6); 14.5 (6.4, 32.9) *≥5.0 per week:* 53.1 (19.6, 144.1); 16.5 (6.0, 45.4)	physical activity were associated with increasing odds of achieving and maintaining 5% weight loss
Burke, 2012 **PC (2° analysis of RCT); Self-Monitoring and Recording Using Technology (SMART)**	N=180; 14% 85% female, 47y, 15.7 y mean education 24 mo	**Self-monitor: Diet** *Study groups:* Personal Digital Assistant alone (PDA), PDA with daily tailored feedback (PDA+FB), conventional paper diary (PR) (There was no control group without a focus on self-monitoring.)	**Weight change over time (within group):** PDA+FB 2.32% (P=0.02); PR and PDA groups NS. **Weight differences among groups over time:** NS. **Adherence and weight loss:** A greater proportion of participants in the PDA groups compared to	Adherence to self-monitoring was associated with greater weight loss. A greater proportion of participants adhered to self-monitoring in the PDA+FB group than PDA alone or paper dairy.

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Table 2. Summary of studies examining the relationship between self-monitoring strategies of and body weight outcomes in adults and youth

Author, Year Study Design; Cohort Location Risk of bias*	Final N; Attrition Gender, Age (mean), Education Study Duration	Description of self-monitoring	Results	Summary of Findings
US **5/24**		All participants were provided with standard behavioral weight loss intervention including group sessions, goal setting, and self-monitoring.	paper group was adherent >60% of the time (PDA vs. paper diary, P=0.03; PDA+FB vs. paper diary, p=0.01) and lost more weight than those who were <30% adherent (P<0.001).	
Krukowski, 2013 **PC** **US** **2/24**	N=147 92%, 46y, 69% college graduates 6 months	**Self-monitor: Dietary intake, physical activity and weight** Enrolled in 6-month on-line comprehensive behavioral weight loss Intervention; included weekly group "chat" sessions and online self-monitoring; participants received weekly individualized counselor feedback on self-monitoring and progress toward meeting exercise and dietary intake goals.	**Self-monitoring as predictor of 6 month weight loss:** β=-0.11, (P<0.001) Each 10% increase in weekday log-ins associated with a 1% increase in weight loss (β=-0.1, P<0.001) Each 10% increase in weekend log-ins, weight loss increased by 0.9% (β=-0.09, P<0.001).	Frequency of online self-monitoring provided as a component of a comprehensive on-line 6-month behavioral weight loss intervention was positively associated with weight loss.
Harrison, 2014 **PC (2° analysis**	N=202; 11% 100% female	**Self-monitor: Weight** Intervention group received a	**Weight gain at 28 weeks gestation by self-weighers (kg):** *Intervention* 5.66 (2.6), *Control* 7.03 (3.56)	Self-weighing, as part of a behavioral lifestyle intervention focused on

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of RCT) **Australia** **0/28**	(pregnant), 32y, NR ~34 weeks (From 12 to 15 weeks pregnant – 6-week postpartum)	four-session behavior change program, emphasizing self-monitoring behaviors. Participants were given a gestational weight gain chart and encouraged to self-weigh regularly. **Control group:** Received one brief non-interactive education session.	(P=0.02) **Postpartum weight retention by self-weighers (kg):** *Invention* -0.57 (3.94), *Control* 1.48 (5.49) (P<0.05), *Between-group difference:* 2.14 kg (95% CI, 0.04 to 4.42) **Weight gain at 28 weeks and postpartum weight retention by non-weighers, control vs. intervention:** NS	healthy gestational weight gain and self-monitoring, had a beneficial effect on gestational weight gain and reduced weight retention at 6 weeks postpartum compared to a control group that received only one brief educational session.
Kong, 2012 **PC; Nutrition and Exercise for Women (NEW) cohort (2° analysis of RCT)** **US**	N=123; 14% 100% female, 58y, 65% college degree 12 months	**Self-monitor: Weight and diet** Data from 2 of 4 weight loss intervention groups from original cohort (diet group and diet and exercise group). Self-monitoring behaviors assessed included self-weighing, submission of	**Self-monitoring of diet:** Women at the 75th percentile of number of food journals submitted had a 3.7% greater weight loss than those at the 25th percentile (P<0.0001); Women who were at the median number (i.e., 17 booklets) of food journal booklets submitted at 6 months lost	Self-monitoring strategies such as keeping food journals and counting calories resulted in more weight loss in post-menopausal women. There was no difference in weight loss based on self-weighing frequency (daily or

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0/24		completed food journals, and calorie counting. Participants were encouraged to self-weigh at home at least weekly for 12-months, record all foods eaten daily on paper diaries (7 days of entries per booklet) and submit one booklet per week to the study dietitian for the first 6-months or until they reached the 10% weight loss goal.	significantly more weight (mean 12.8%, 95% CI 11.3 to 14.2) than those below the median (mean 8.2%, 95% CI 6.6 to 9.8; P<0.0001). Women who reported yes to monitoring energy intake most days of the week experienced greater weight loss (mean 11.7%, 95% CI 10.2 to 13.1) than those who reported no (mean 9%, 95% CI 7.2 to 10.8; P=0.03). **Self-monitoring of weight:** Most participants (88%) reported weighing themselves at least weekly; responses collapsed into two categories: daily or more (N=45) and less than daily (N=78). No significant difference in adjusted mean percent weight change was observed in the daily or more vs the less than daily group.	more vs less than daily).
Linde, 2005	N=992; 19%	**Self-monitor: Weight and exercise**	**Self-weighing frequency:** Time* treatment interaction	The control group with no education or lottery

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PC (2° analysis of RCT); Pound of Prevention (POP) cohort **US** **4/24**	81% female, 35y, 88% at least some college 3y	Treatment conditions: 1) Educational weight control intervention 2) Educational intervention plus a lottery incentive for returning monthly self-monitoring postcards, 3) Minimal contact control condition. Self-weighing was measured by asking participants "How frequently do you weigh yourself?" at baseline, 12 months, and 24 months. Response options were never, about once a year or less, every couple months, every month, every week, and every day; instructions stated, "Weighing yourself is an excellent monitoring activity. … Weigh	(P=0.001); The control group decreased weighing frequency over 3y, and both intervention groups increased weighing over time; **Self-weighing frequency and weight loss:** P=0.0002 and P<0.0001 at 12 and 24 months: Daily weighing associated with weight loss, all other weighing categories (never, every other month, monthly, weekly) associated with weight gain	decreased weighing frequency over time, and both intervention groups (education and education with lottery) increased weighing over time; Daily weighing at 12 and 24 months was associated with weight loss; All other weighing categories (weekly, never) were associated with weight gain

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		yourself at least once a week." Walking was assessed by self-reported number of walking episodes per week; self-monitoring postcards sent monthly.		
Ma, 2013 **PC (2° analysis of RCT)** **USA** **6/24**	N = 133 47%, 53.5y, 98.5% college-educated 15 months	**Self-monitor: Target goals/behaviors, weight, and physical activity** Both groups received 12-session lifestyle balance program and set weight and physical activity goals and tracked progress using the Heart360° website with 12 month follow-up **Study groups:** *Coach-led arm:* Lifestyle program delivered in weekly	**Self-tracking entries and amount of weight loss:** *0 to 3 months:* Self-directed (β=-0.02, P=0.001) vs. coach-led (β=-0.02, P<0.001) interventions; *3 to 15 months:* NS	Self-monitoring as a component of a comprehensive lifestyle balance program was positively correlated with amount of weight loss at 3 months. This trend continued 3 to 15 months, however the association was not significant.

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Author, Year Study Design; Cohort Location Risk of bias*	Final N; Attrition Gender, Age (mean), Education Study Duration	Description of self-monitoring	Results	Summary of Findings
		group visits followed by coach proactive review of self-tracking records and individualized progress feedback, behavior change and maintenance coaching and problem solving assistance every 2-4 weeks. *Self-directed arm:* Lifestyle program delivered via take-home DVD; after 12 weeks, coach e-mailed a biweekly self-monitoring reminder.		
Peterson 2014 **PC; Treatment of Obesity in Underserved Rural Settings (TOURS) cohort** **US**	N=220; 6% 100% female, 59y, 21% education >16y 18 months (6-month intervention, 12-month extended care)	**Self-monitor: Diet** During the extended-care program, participants were provided with paper self-monitoring forms and instructed to complete records at least three days each week (one weekend day and two weekdays), including the type,	**Women who self-monitored consistently (50% or more of the extended-care year) lost weight (-0.98± 6.67%), while less consistent participants gained weight:** 5.1±6.59%, t(218)=6.78, P<0.001; Adherence to daily caloric intake goals partially mediated the moderation of frequency of self-	The association between high total frequency of self-monitoring and reduced weight regain was moderated by weekly consistency of self-monitoring; Increased frequency produced beneficial effects on weight change only when coupled

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2/24		amount, caloric content, and time of consumption for all foods and drinks consumed. Participants were encouraged to self-monitor more frequently if they found it useful.	monitoring by consistency and percent weight change. **Interaction between frequency and consistency of SM on percent weight change:** *Total effect*=-0.0014, P<0.001; *direct effect of the interaction term*=-0.0001, t(219)=-2.12, P=0.035; *total indirect effect z*= -4.3475, P<0.0001, with a point estimate of -0.0007 and a 95% bias-corrected and accelerated bootstrap CI of -0.0012 to -0.0004.	with high consistency (>3 days/week). The favorable effect of high frequency/high consistency self-monitoring on weight change was partially mediated by participants success in meeting daily caloric intake goals.
Steinberg, 2014 **PC (2° analysis of RCT); Shape cohort** **US** **8/24**	N=86; 6% 100% female, 35y; 7% college degree 18 months	**Self-monitor: Target goals/behaviors** *Study groups:* Shape intervention: behavior change goals identified via algorithm; self-monitoring of these goals via weekly Interactive Voice Response (IVR) phone calls; tailored skills training	**IVR completion rate ≥80% vs. <80%:** *Weight loss:* −1.97kg, SE=0.67 vs. 0.48 kg, SE=0.69; P=0.01; **Change in weight (kg, mean (95% CI)) at 6 and 12 months:** *6 months:* NS; *12 months:* −2.45 (−4.37 to −0.54)	High adherence to IVR self-monitoring (IVR completion rate ≥80%) was associated with greater weight and BMI loss.

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		materials; monthly counseling calls with a registered dietitian; and, YMCA membership. Participants self-monitored their goals via weekly IVR phone calls where it asked how many days this past week they achieved each of their assigned behavioral goals. *Usual care group:* Participants received routine standard of care from their providers.	**Change in BMI at 6 and 12 months (mean (95% CI):** *6 months:* NS *12 months:* −0.94 (−1.64 to −0.24)	
Turk, 2013 **PC; SMART cohort (2° analysis of RCT)** **US** **4/24**	N=192; 9% 85% female, 47y, 16y mean education 6 months	**Self-monitor: Diet and exercise** *Study groups:* Paper diary, no feedback; PDA, no feedback; PDA with daily tailored feedback. All participants were provided with standard behavioral weight loss intervention	**Feedback and adherence to Self-Monitoring:** Receiving daily feedback messages significantly increased self-monitoring adherence (β=0.14, SE=0.04, P=0.002); Mean adherence to self-monitoring for those who did not receive daily feedback was lower (64%, SD=31%)	Self-monitoring adherence mediated the effect of participant feedback on weight loss; Daily feedback group had higher adherence to self-monitoring and greater weight loss than those not receiving daily feedback.

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		including group sessions, goal setting, and self-monitoring. Self-monitoring was defined as daily recording of all eating (calorie and fat gram) and activity behaviors and adherence was defined as recording at least 50% of the weekly goal.	than those who received daily feedback (78%, SD=27%) ($\chi2(1)=11.1$, $P<0.001$). **Self-monitoring adherence and weight loss:** $\beta=-11.78$, SE = 1.24, $P<0.001$; the effect of feedback on weight loss was mediated by self-monitoring adherence (M=−1.66, 95% CI=−2.67, −0.67, i.e., indirect effect). **Feedback and weight loss:** Participants who did not receive daily feedback lost less weight in kilograms (M=5.0 kg, SD= 5.6) and percent weight loss (M=5.5%, SD=6.2%) compared to those who received daily feedback (M=7.0 SD=6.5 and M= 7.3%, SD=6.6%), ($\chi2=3.87$, $P<0.05$ and $t(207) = 1.97$,	

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			P<0.05, respectively); After adjusting for self- monitoring adherence, the effect of feedback group on weight loss was no longer significant (β=−0.20, SE=0.81, P=0.80)	
Turner-McGrievy, 2013 **PC (2° analysis of RCT)** **US** **8/24**	N=78; 19% 70-87% female, 41 – 47y, >88% college degree 6 months	**Self-monitor: Diet and exercise** *Intervention groups:* Weight loss intervention delivered by audio podcast only or by the same podcast plus mobile diet monitoring using a diet and physical activity monitoring app as well as moderator and social support; Participants in both groups collapsed and categorized by their chosen self-monitoring method for PA and diet (app, website or paper journal). All participants were	**Diet monitoring method and self-monitoring frequency:** NS **Diet monitoring method and BMI:** NS **Self-monitoring frequency and weight loss over the 6-month:** The more days of dietary self-monitoring was associated with greater weight loss (F (6.95)=73.54; P<0.001)	Method of diet self-monitoring (paper, app, or website) was not related to self-monitoring frequency or BMI, but frequency of self-monitoring (regardless or method) was associated with greater weight loss at 6 months.

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		encouraged to self-monitor and report self-monitoring behaviors and body weight each week via an online questionnaire. The Podcast group received a book with calorie and fat gram amounts of food to assist them in monitoring their dietary intake. The Podcast+Mobile group was instructed to download a diet and physical activity monitoring application (app).		
VanWormer 2012 **PC; Health Works trial (2° analysis of RCT)** **US**	N=1,222; 31% 61% female, 44y, 60% college degree 2y	**Self-monitor: Weight** Part of a workplace environment intervention (Health Works), assessed self-weighing frequency at baseline and 24-month follow-up using a single-item, self-reported measure that asked "How often do you weigh yourself?" with	**Self-weighing frequency and weight change at 24 months:** *Daily:* β±SE=-1.79±0.48, t=3.76, P<0.001, *Weekly:* β±SE=-0.92±0.40, t=2.29, P=0.022; Reported daily and weekly self-weighing lost on average 1.8kg and	More frequent self-weighing was associated more favorable weight change. Weight change and self-weighing frequency was modified by baseline BMI category.

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7/24		seven response options: never, about once a year or less, every couple of months, once a month, once a week, once a day, or more than once a day. These were collapsed into three categories: Daily, Weekly, or Monthly or less.	0.9kg, respectively, more than those who self-weighed monthly. **Significant interaction between follow-up self-weighing frequency and baseline BMI (P=0.005):** Greatest weight loss seen in participants who were obese at baseline and reported self-weighing daily at 24 months; largest weight gain seen in those who were a healthy BMI at baseline and self-weighed monthly at 24 months.	
VanWormer, 2009 **PC; Weigh By Day** **US** **7/24**	N=100; 53% 91% female, 47y, 47% college degree *Treatment:* 6 months *Follow-up:* 12 months	**Self-monitor: Weight** Participants received a home-telemonitoring scale and were instructed to self-weigh daily. Scale automatically transmitted weight data to counselors. Self-weighing frequency was defined as the percentage of days self-weighed (i.e., total	**Frequent self-weighing (≥weekly) and >5% weight loss at follow-up vs. infrequent self-weighing (<weekly):** *6 month:* OR=11.1 (95% CI=3.0-41.2); P<0.001 *12 month follow-up:* NS	More frequent self-weighing was associated with higher odds of losing greater than 5% of baseline weight at 6 months, but not at 12 months.

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		number of days self-weighed divided by the total number of days in the active treatment phase. Frequent self-weighing was defined as having self-weighed at least once per week for at least 24 of the 25 treatment weeks. Treatment also included up to 10 counselor calls from a dietitian and a manual focusing on diet and exercise strategies.		
Wing, 2008 **PC (2° analysis of RCT)** **US** **4/24**	N=261; 17% 82% female, 51y, NR 18 months	**Self-monitor: Weight** *Intervention (2 groups: face-to-face and internet):* Instructed to weigh themselves daily and gauge whether changes in eating and exercise habits were warranted. Weight submitted weekly via phone (face-to-face group) or Internet (Internet group). Researchers provided	**Weight regain with self-weighing frequency:** Between group variation, P=0.0009 *Changes in self-weighing frequency and weight gain:* Control group NS, intervention arms P=0.0005, between intervention arms NS; 1 unit increase in self-weighing frequency associated with -0.98kg (95% CI=0.43, 1.53) weight regain in	Frequency of self-weighing associated with improved weight loss maintenance in intervention groups.

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		reinforcers and individual counseling based on weight results through phone or email. Lessons provided in-person or by phone on issues related to maintenance of weight loss and recommended strategies by NWCR to maintain weight loss *Control:* Received newsletter only	intervention groups. *Longitudinal regression model (0-6 months), Between groups:* NS. *Longitudinal regression model (6-18 months), Time*Group (intervention vs. control):* β:-0.03 (SE=0.02; P=0.03) *Weight regain:* Higher rate of weight regain in control group compared to combined intervention group (P=0.03)	
Wing, 2004 **PC; Diabetes Prevention Program (DPP) (2° analysis of RCT)** **US** **2/24**	N=1,035; 5% 68% female, 51y, NR Mean 3.25y	**Self-monitor: Diet and exercise** All participants from one arm of DPP intervention Participants were instructed to self-monitor minutes of physical activity and fat grams consumed every day during the core curriculum, then 1 week per month until study completion.	**Weight loss:** *At core completion,* 6.5 kg (SD=4.7) or 6.9% (SD=45) of body weight *At final intervention visit,* 4.5 (SD=7.6) or 4.9% (SD=7.4) **Achieving weight loss goal:** *At core completion,* 49%; *At final intervention visit,* 37%.	Self-monitoring fat intake was significantly related to achieving and sustaining weight loss.

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		Participants were assigned to meet with the case manager 16 times over the first 6 months to complete a core curriculum. Follow-up contacts occurred at individual sessions or group classes at least once every 2 months.	Success at meeting the weight loss goal at the end of the core curriculum and at the final intervention visit was predicted by the number of times fat grams were self-monitored (OR=1.08 per one record increase, P<0.0001 at end of core; OR=1.02, P=0.0005 at final visit).	
Johnson, 2011 **Retrospective Cohort Study** **UK** **2/24**	N=3,621; 0% 82% female, 36 y, NR Approx. 6 months	**Self-monitor: Diet and exercise** Nutracheck is a platform for food and exercise online diaries. The users report height, weight, activity levels and desired weight loss and the system provides personal daily targets. The website also offers weight charting software, access to health and nutritional information, and an active online social community to	**Association between food diary engagement and percentage weight loss (β (P-value)):** *Women:* 0.36 (P<0.001) *Men:* 0.30 (P<0.001) **Association between food diary adherence (tertile) and >5% weight loss:** Ref low adherence; OR (95% CI), P **Women:**	Use of self-monitoring tools were predictive in context of commercial, online weight control program.

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		provide support and motivation.	*Med adherence:* 2.54 (1.91-3.36), P<0.001 *High adherence:* 5.05 (3.51-7.26), P<0.001 **Men:** *Med adherence:* NS *High adherence:* 3.48 (2.03-7.49), P<0.001	

* Based on NEL Bias Assessment Test; lower values represent less bias

Observational Studies

Fifteen articles used prospective cohort designs (Bartfield, 2011; Burke, 2012; Harrison, 2014; Kong, 2012; Krukowski, 2013; Linde, 2005; Ma, 2013; Peterson, 2014; Steinberg, 2014; Turk, 2013; Turner-McGrievy, 2013; VanWormer, 2009; VanWormer, 2012; Wing, 2004; Wing, 2008) and one study employed a retrospective cohort design (Johnson, 2011) to assess the relationship between self-monitoring and anthropometric outcomes. This body of evidence had a high degree of agreement. The findings from the observational studies are consistent with the RCTs, suggesting a beneficial effect of self-monitoring on weight-related outcomes.

Five articles studied self-monitoring of weight on weight-related outcomes (Harrison, 2014; Kong, 2012; VanWormer, 2009; VanWormer, 2012; Wing, 2008). While Kong, 2012 found self-weighing frequency was not associated with weight, both VanWormer, 2012 and Wing, 2008 found a positive association between frequency of self-weighing and weight loss. VanWormer, 2009 used digital scales linked to study databases to monitor frequency of self-weighing for six months, then scales were removed and participants reported self-weighing for the next six months. They found self-weighing was associated with weight loss at six months but not at 12 months. Harrison, 2014 showed that as part of a four-session weight change program in overweight pregnant women, self-monitoring weight resulted in less weight retention six weeks after giving birth compared to a control group that received only one brief educational session.

Three articles examined the relationship between dietary self-monitoring and weight-related outcomes (Burke, 2012; Kong, 2012; Peterson, 2014) and all reported a positive association between dietary self-monitoring and weight loss. Peterson, 2014 found this relationship when diet was monitored at least three times per week. Kong, 2012 reported that higher frequencies of energy intake monitoring were associated with more weight loss compared to those who self-monitored less frequently. Burke, 2012 found no weight loss difference between three groups self-monitoring using either PDAs, PDAs with feedback or paper diaries. There was a weight loss difference, however, based on self-monitoring adherence with greater adherence associated with greater weight loss and the two PDA groups demonstrated greater adherence than the paper diary group.

Five articles investigated the relationship between a combination of diet and exercise monitoring on weight-related outcomes (Turner-McGrievy, 2013; Wing, 2004; Bartfield, 2011; Johnson, 2011; Turk, 2013). Two studies reported on self-monitoring of weight, diet and physical activity (Ma, 2013, Krukowski, 2013). One study reported on self-monitoring of weight and exercise (Linde, 2005). All studies agreed that greater adherence to self-monitoring of a combination of diet, exercise and weight was associated with greater weight loss. One cohort study (Steinberg, 2014) looked at the effect of self-monitoring target behaviors using weekly interactive voice response (IVR) phone calls on weight outcomes. They found adherence to self-monitoring was associated with greater weight loss. Those that had an IVR completion rate above 80% had a significantly greater reduction in body weight and BMI over 12 months.

Self-monitoring Techniques

Across the studies, different techniques were used to self-monitor or to report self-monitoring. Four studies compared the effectiveness of these techniques on weight. Two studies (Burke, 2012; Turk, 2013) used data from the SMART trial, which had three study groups: PDA, PDA with daily tailored feedback and a paper diary control group. The Burke 2012 article reported that there was greater self-monitoring adherence in the PDA groups combined compared to the control group. The Turk, 2013 article reported that adherence was greater in the PDA plus feedback group compared to PDA alone or paper diary groups. Both analyses reported that greater adherence was associated with greater weight loss. Wing, 2008 compared weight maintenance interventions that emphasized weight self-monitoring delivered via face-by-face

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or via the Internet compared to a control group that only received a newsletter. They found that the frequency of self-weighing was associated with weight loss and there was no difference between the face-to-face or Internet groups. Turner-McGrievy performed an analysis comparing participant's chosen method for self-monitoring (app, Web site or paper journal) and found that the method for self-monitoring was not associated with weight loss, but that greater frequency of self-monitoring, regardless of method, resulted in greater weight loss at six months.

Qualitative Assessment of the Body of Evidence

- *Quality and Quantity:* Twenty studies, four randomized controlled trials, 15 prospective cohort studies and one retrospective cohort studies, were reviewed to examine the relationship between the use of diet and weight self-monitoring on body weight. Study size ranged from 78 to 3,621. NEL Bias Assessment Tool (BAT) scores ranged from zero to 14, with the most common limitations being limited generalizability and that study participants and researchers were not blinded to the intervention.
- *Consistency:* Studies in adults consistently show weight management interventions that included self-monitoring of diet, weight or both, coupled with behavioral change strategies, resulted in significantly greater weight loss than controls that did not emphasize self-monitoring. Additionally, the body of prospective cohort studies indicate there is an association between higher frequency of or greater adherence to self-monitoring and weight outcomes. One RCT in children showed no beneficial relationship between self-monitoring and weight outcomes.
- *Impact:* RCTs in adults showed that interventions including self-monitoring had a positive but relatively small impact on weight. Wing, 2010 found a difference of average weight loss of 2.16kg between the intervention and control groups, and 41% of intervention participants lost at least 5% of their initial weight compared to 13% of control participants. Krukowski, 2013 found that, in women, a 10% increase in self-monitoring log-ins was associated with an approximate 1% increase in weight loss. Steinberg, 2013 reported that daily weighing with feedback and skills training resulted in about 6.5% weight loss compared to less than 1% weight loss in the control group. In a trial to prevent postpartum weight retention, Harrison, 2013 reported that an intervention focusing on self-weighing resulted in an average difference of 2.14kg at six weeks postpartum compared to a control group. Adachi, 2012 found that an intervention group in a behavior change program with self-monitoring resulted in greater weight loss than a group provided only with a self-help book or a group provided with a self-help book plus self-monitoring. There was no significant weight loss difference between the group in the behavior weight change program with self-monitoring and a group in the behavior weight loss program without self-monitoring.
- *Generalizability:* The beneficial effect of self-monitoring on weight loss and weight maintenance may not be generalizable to the entire US population. Study participants were primarily overweight, college educated, white women between the ages of 30 years and 60 years.

Limitations

There are several limitations that should be considered when interpreting these results.

- *Limited generalizability:* Participants were predominately overweight or obese, middle-aged, white, female and well-educated. There was poor representation of children, males, young adults, older adults and low-income populations.
- *Heterogeneity in methodology*: Studies often used different approaches for self-monitoring and often monitored different behaviors. Study interventions differed between weight loss interventions and weight maintenance interventions. Study

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durations varied from 12 weeks to 3.25 years.
- In 12 cohort studies, the impact of self-monitoring was conducted as secondary analysis of pooled intervention data from RCTs
- In all studies reviewed, self-monitoring was assessed as part of a multicomponent weight loss or weight maintenance intervention, making it difficult to separate the effects of self-monitoring from other intervention components
- The interrelationship between frequency of self-monitoring, motivation and weight outcomes is unclear.

Research recommendations

- Studies are needed to evaluate the impact of different frequencies of self-monitoring on weight outcomes based on RCT designs, and to rule out the possibility that frequency of self-monitoring is simply an indicator of motivation to lose weight. These studies should examine both the weight loss intervention and maintenance periods.
- Studies are needed to quantify the singular effect of self-monitoring on weight loss in a multi-component intervention, and determine which intervention strategies combine with self-monitoring to have optimal weight loss or weight maintenance
- Evaluate the impact of behavioral feedback on adherence to self-monitoring
- Examine the relationship between baseline BMI and optimal frequency of self-monitoring
- Examine if and how frequency and consistency of self-monitoring interact on body weight outcomes
- Further research is needed to evaluate the use and effectiveness of various self-monitoring techniques on weight outcomes
- Weight control trials are needed to study the impact of self-monitoring healthy lifestyles and weight at preventing overweight and obesity
- More studies are needed that include ethnic/racial minorities; low education, low literacy, and low numeracy populations; males; and subjects below the age of 30 years and above 60 years

Cohort Abbreviations

- SMART: Self-Monitoring and Recording Using Technology (Burke, 2012; Turk, 2013)
- TOURS: Treatment of Obesity in Underserved Rural Settings (Peterson, 2014)
- WEIGH: Weighing Everyday to Improve and Gain Health (Steinburg, 2013)
- NEW: Nutrition and Exercise for Women (Kong, 2012)
- SURI: Shape Up Rhode Island (Wing, 2010)
- POP: Pond of Prevention (Linde, 2005)
- DPP: Diabetes Prevention Program (Wing, 2004)
- WBD: Weigh By Day (VanWormer, 2009)

Search plan and results

Inclusion criteria

- *Study design:* Randomized controlled trials (RCTs), crossover trials, cohort and *post hoc* analysis of RCTs to assess effectiveness of self-monitoring; Intervention studies
- *Size of study groups:* At 30 or more subjects per study arm (15 subjects for crossover trials)
- *Study dropout rate:* Less than 20% within the first six months and less than 30% after six months.
- Peer-reviewed articles published in English

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- Human subjects
- Youth (school-age and older) and adults
- International population from high or very highly developed countries as defined by the 2012 Human Development Index [1]
- Healthy and those with elevated chronic disease risk (grouped by health status)

[1] United Nations Development Programme. Human Development Report 2013, The Rise of the South: Human Progress in a Diverse World 2013. Available from: http://hdr.undp.org/sites/default/files/reports/14/hdr2013_en_complete.pdf.

Exclusion criteria

- *Study design:* Reviews (narrative, systematic and meta-analyses), before-and-after studies, case-control studies, cross-sectional studies and non-randomized controlled trials, prospective cohort studies
- *Study dropout rate:* Dropout rate higher than 20% within the first six months and higher than 30% after six months.
- *Size of study groups:* Less than 30 subjects per study arm (Less than15 subjects for crossover trials)
- Articles not published in English
- Animal subjects
- Articles, abstracts and presentations not published in peer-reviewed journals (e.g., websites, magazine articles, Federal reports)
- Exclude studies conducted with hospitalized patients or malnourished subjects, or studies that exclusively enroll subjects with a particular disease. [Note: Studies that exclusively enroll subjects with obesity will not be excluded.]

Analytic framework

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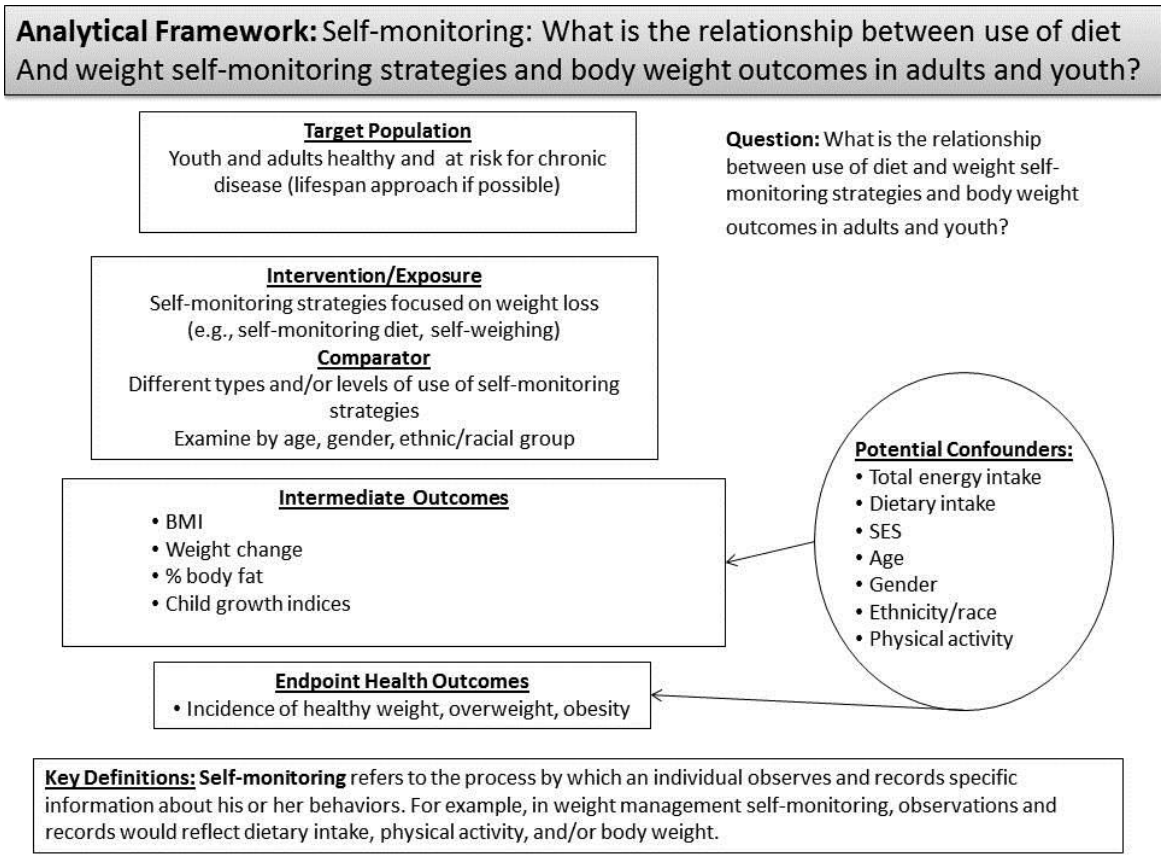

Search terms and electronic databases used

- ***Pubmed***
  - *Date(s) Searched:* ***June 2014; Updated September 2014***
  - *Search Terms: ("dietary self-monitoring"[tiab] OR "dietary self monitoring"[tiab] OR ((diet[tiab] OR diets[tiab] OR dietary[tiab] OR diet[mh] OR diet records[mh] OR dieting[tiab] OR eating[tiab] OR eating[majr] OR dietary intake*[tiab] OR food intake*[tiab] OR caloric intake*[tiab] OR food*[tiab] OR feeding behavior[majr]) AND (self-monitor*[tiab] OR self monitor*[tiab] OR self-management[tiab] OR self manage*[tiab] OR self regulat*[tiab] OR self-regulat*[tiab] OR self care[majr] OR self report[majr])) OR ((diet[tiab] OR diets[tiab] OR dietary[tiab] OR diet[mh] OR diet records[mh] OR eating[tiab] OR eating[mh] OR dietary intake*[tiab] OR food intake[tiab] OR caloric intake*[tiab] OR food*[tiab] OR feeding behavior[mh])AND ("Self Report"[Mesh] OR self care[mh] OR self[tiab]) AND (monitor*[tiab] OR manag*[tiab]))*

    AND

    (Clinical trial[ptyp] OR random OR (blinded OR blind) OR "randomized controlled trial"[tiab] OR rct[tiab] OR "clinical trial"[tiab] OR trial*[tiab] OR placebo*[tiab] OR cross-over studies[mh] OR cross-over[tiab] OR crossover[tiab] OR cross-over OR controlled clinical trials as topic[mh]*

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OR randomized controlled trials as topic[mh]) NOT (editorial[ptyp] OR comment[ptyp] OR news[ptyp] OR letter[ptyp] OR review[ptyp] OR systematic[sb])

- ***Pubmed***
  - *Date(s) Searched:* ***June 2014; Updated September 2014***
  - *Search Terms: "self weighing"[tiab] OR self-weighing[tiab] OR ((weight[tiab] OR body weight[majr]) AND ((self-monitor*[tiab] OR self monitor*[tiab] OR self-management[tiab] or self manage*[tiab] OR self regulat*[tiab] OR self-regulat*[tiab]) OR ((weight[tiab] OR body weight[majr]) AND ((self care[majr] OR self[tiab]) AND (monitor*[tiab] OR regulat*[tiab] OR manag*[tiab]))*

    AND

    (Clinical trial[ptyp] OR random OR (blinded OR blind) OR "randomized controlled trial"[tiab] OR rct[tiab] OR "clinical trial"[tiab] OR trial*[tiab] OR placebo*[tiab] OR cross-over studies[mh] OR cross-over[tiab] OR crossover[tiab] OR cross-over OR controlled clinical trials as topic[mh] OR randomized controlled trials as topic[mh]) NOT (editorial[ptyp] OR comment[ptyp] OR news[ptyp] OR letter[ptyp] OR review[ptyp] OR systematic[sb])*

- ***Cochrane***
  - *Date(s) Searched:* ***June 2014; Updated September 2014***
  - *Search Terms: 'self-monitoring OR self-monitor OR "self monitoring" OR "self monitor" OR "self-weighing" OR "self weighing" in Title, Abstract, Keywords AND diet OR dietary OR weight OR eating OR "food intake" OR "caloric intake" in Title, Abstract, Keywords AND weight OR bmi OR body fat OR obesity OR obese OR overweight OR "body mass index" in Title, Abstract, Keywords , Publication Date from 2004 to 2014 in Trials'*

- ***Embase***
  - *Date(s) Searched:* ***June 2014; Updated September 2014***
  - *Search Terms: 'dietary self-monitoring':ab, ti OR 'dietary self monitoring':ab, ti OR 'diet self-monitoring':ab, ti OR 'diet self monitoring':ab, ti AND ([embase]/lim OR [embase classic]/lim) AND [humans]/lim AND [english]/lim AND ([embase]/lim OR [medline]/lim) AND [2014-2014]/py OR diet:ab, ti OR diets:ab, ti OR dietary:ab, ti OR dieting:ab, ti OR 'dietary intake'/de OR 'diet'/exp/mj OR eating:ab, ti OR 'eating'/de OR 'caloric intake':ab, ti OR 'food intake':ab, ti OR 'food intakes':ab, ti OR food:ti OR foods:ti OR 'food'/exp/mj OR 'feeding behavior'/exp AND ('self care'/mj OR 'self help'/de OR 'self report'/mj OR self:ti) AND (monitor*;ti, ab OR manage*:ab, ti) AND ([embase]/lim OR [embase classic]/lim) AND [humans]/lim AND [english]/lim AND ([embase]/lim OR [medline]/lim) AND [2014-2014]/py OR diet:ab, ti OR diets:ab, ti OR dietary:ab, ti OR dieting:ab, ti OR 'dietary intake'/de OR 'diet'/exp/mj OR eating:ab, ti OR 'eating'/de OR 'caloric intake':ab, ti*

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OR 'food intake':ab, ti OR 'food intakes':ab, ti OR food:ti OR foods:ti OR 'food'/exp/mj OR 'feeding behavior'/exp AND ('self monitor':ab, ti OR 'self monitoring':ab, ti OR 'self monitoring'/exp) AND [humans]/lim AND [english]/lim AND ([embase]/lim OR [medline]/lim) AND [2014-2014]/py

'body size'/de OR 'obesity'/exp OR obese:ab, ti OR overweight:ab, ti OR adiposity:ab, ti OR 'body weight'/exp OR 'body weight':ab, ti OR'weight gain'/de OR 'body composition'/exp OR 'body fat':ab, ti OR 'anthropometry'/de OR 'body mass'/de OR bmi:ab, ti OR weight:ab, ti OR 'waist circumference'/de OR 'waist circumference':ab, ti OR 'waist hip ratio'/de OR 'body fat'/de OR 'adipose tissue'/exp OR 'weight reduction':ab, ti OR 'weight loss':ab, ti OR 'weight change':ab, ti OR 'weight management':ab, ti OR 'weight control':ab, ti OR 'weight gain':ab, ti OR 'weight maintenance':ab, ti AND [humans]/lim AND [english]/lim AND ([embase]/lim OR [medline]/lim) AND [2014-2014]/py

'randomized controlled trial'/exp OR 'randomized controlled trial' OR 'crossover procedure'/exp OR 'crossover procedure' OR crossover:ab, ti OR 'cross over':ab, ti OR [controlled clinical trial]/lim OR [randomized controlled trial]/lim OR 'placebo'/de OR 'placebo' OR 'clinical trial'/exp OR 'clinical trial' OR 'clinical trial (topic)'/exp OR 'clinical trial (topic)' OR 'controlled study'/exp OR 'controlled study' OR 'controlled study':ab OR random:ab, ti OR trial*:ab, ti OR ((singl* OR doubl* OR trebl* OR tripl*) NEAR/3 (blind* OR mask*)):ab, ti AND [humans]/lim AND [english]/lim AND [2014-2014]/py*

NOT ([conference abstract]/lim OR [conference paper]/lim OR [conference review]/lim) AND [humans]/lim AND [english]/lim AND [2014-2014]/py

- ***Embase***
  - *Date(s) Searched:* ***June 4 to June 5, 2014; Updated Sept 26, 2014***
  - *Search Terms: T 'weight reduction'/de OR weight:ab, ti OR 'body weight':ab, ti OR 'body weight'/exp AND ('self monitor':ab, ti OR 'self monitoring':ab, ti OR 'self monitored':ab, ti OR 'self monitoring'/exp) AND [humans]/lim AND [english]/lim AND [2014-2014]/py OR 'weight reduction'/de OR weight:ab, ti OR 'body weight':ab, ti OR 'body weight'/de AND ('self care'/mj OR 'self help'/de OR 'self report'/mj OR self:ti) AND (monitor*:ab, ti OR manage*:ab, ti) AND [humans]/lim AND [english]/lim AND [2014-2014]/py OR 'self weighing':ab, ti OR 'self-weighing':ab, ti AND [humans]/lim AND [english]/lim AND ([embase]/lim OR [medline]/lim) AND [2014-2014]/py*

    'body size'/de OR 'obesity'/exp OR obese:ab, ti OR overweight:ab, ti OR adiposity:ab, ti OR 'body weight'/exp OR 'body weight':ab, ti OR'weight gain'/de OR 'body composition'/exp OR 'body fat':ab, ti OR 'anthropometry'/de OR 'body mass'/de OR bmi:ab, ti OR weight:ab, ti OR 'waist circumference'/de OR 'waist circumference':ab, ti OR 'waist hip ratio'/de OR 'body fat'/de OR 'adipose tissue'/exp OR 'weight

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reduction':ab, ti OR 'weight loss':ab, ti OR 'weight change':ab, ti OR 'weight management':ab, ti OR 'weight control':ab, ti OR 'weight gain':ab, ti OR 'weight maintenance':ab, ti AND [humans]/lim AND [english]/lim AND ([embase]/lim OR [medline]/lim) AND [2014-2014]/py

'randomized controlled trial'/exp OR 'randomized controlled trial' OR 'crossover procedure'/exp OR 'crossover procedure' OR crossover:ab, ti OR 'cross over':ab, ti OR [controlled clinical trial]/lim OR [randomized controlled trial]/lim OR 'placebo'/de OR 'placebo' OR 'clinical trial'/exp OR 'clinical trial' OR 'clinical trial (topic)'/exp OR 'clinical trial (topic)' OR 'controlled study'/exp OR 'controlled study' OR 'controlled study':ab OR random:ab, ti OR trial*:ab, ti OR ((singl* OR doubl* OR trebl* OR tripl*) NEAR/3 (blind* OR mask*)):ab, ti AND [humans]/lim AND [english]/lim AND [2014-2014]/py*

NOT ([conference abstract]/lim OR [conference paper]/lim OR [conference review]/lim) AND [humans]/lim AND [english]/lim AND [2014-2014]/py

Date range:

- PubMed:
  - Diet self-monitoring: January 1, 2010 to September 9, 2014
  - Body weight monitoring: January 1, 2004 to September 26, 2014
- Cochrane:
  - Body Weight monitoring: January 1, 2004 to September 26, 2014
  - Diet self-monitoring: January 1, 2010 to September 26, 2014
- Embase:
  - Diet self-monitoring: January 1, 2010 to September 26, 2014
  - Body weight monitoring: January 1, 2004 to September 26, 2014

Summary of articles identified to review

- Total hits from all electronic database searches: 1235
- Total articles identified to review from electronic databases: 283
- Articles identified via handsearch or other means:0
- Number of Primary Articles Identified: 20
- Number of Review Articles Identified: 0
- Total Number of Articles Identified: 20
- Number of Articles Reviewed but Excluded: 263

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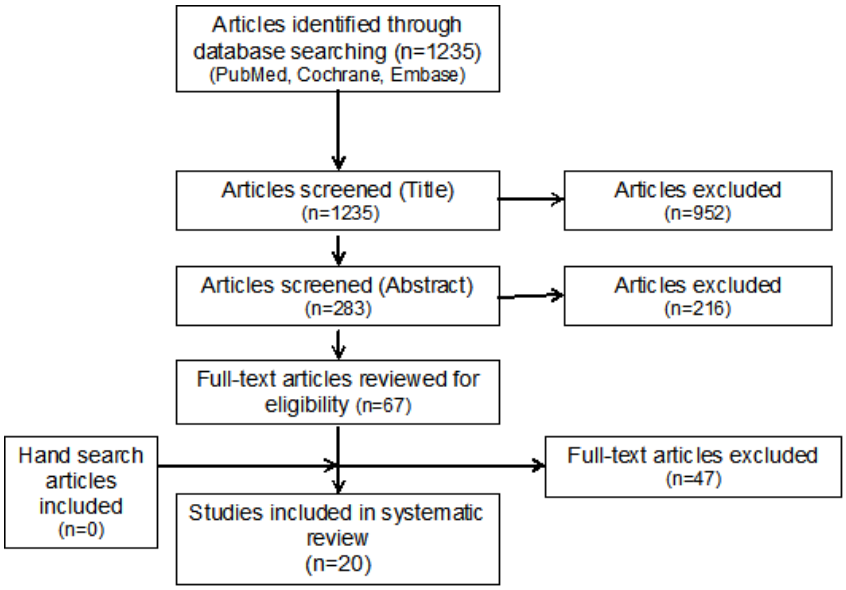

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Excluded articles

See Appendix E for a full list of excluded articles with reason.

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CHAPTER 7. FOOD AND MENU LABELING

WHAT IS THE EFFECT OF USE OF FOOD AND MENU LABELS ON MEASURES OF FOOD SELECTION AND DIETARY INTAKE IN U.S. POPULATION GROUPS?

TECHNICAL ABSTRACT

Background

Food and menu labels can provide information that improves an individual's food selection and potentially improves body weight outcomes. Research focusing upon the impact of food labeling on body weight and other health outcomes is beginning to emerge. A recent systematic review included 17 studies with experimental or quasi-experimental designs that determined whether menu-based nutrition information affects the selection and consumption of calories in restaurants and other foodservice establishments. The review concluded that menu labeling of calories alone did not decrease calories selected or consumed but that the addition of contextual or interpretive information on menus, such as daily caloric recommendations or physical activity equivalents, assisted consumers to select and consume fewer calories. The intent of this NEL systematic review was to focus on controlled trials that isolate the impact of menu labeling on food selection and consumption at the individual level.

Conclusion statement

Limited and inconsistent evidence exists to support an association between menu calorie labels and food selection or consumption.

2015 DGAC Grade: **Limited**

Methods

Literature searches were conducted using PubMed, Embase, Cochrane, EconLit, Social Sciences and SocINDEX databases to identify studies published in English in peer-reviewed journals from January 2004 to November 2014. Included studies met the following inclusion and exclusion criteria established *a priori* to the review: randomized and non-randomized controlled trials; human subjects; adults and adolescents who were healthy or at elevated chronic disease risk; studies conducted in the United States; at least 30 subjects per study arm; the dependent variable included menu labeling or Nutrition Fact Panel labeling for packaged foods; and outcome measures included food selection or dietary intake.

Data from each included article were extracted and risk of bias was assessed by two abstractors. The evidence was qualitatively synthesized, a conclusion statement was developed and the strength of the evidence (grade) was assessed using pre-established criteria including evaluation of the quality and risk of bias, quantity, consistency, magnitude of effect and generalizability of available evidence.

Findings

- Ten randomized controlled trials (RCTs) were included in this body of evidence that compared menu calorie labeling on food selection. Three of the studies also measured calorie intake of a test meal.
- Results were mixed regarding the influence of menu calorie labeling on food selection:
    - Five studies found no effect of calorie information alone on food selection
    - Three studies found calorie labeling led to selection of fewer calories
    - Two studies showed mixed results. One found an impact of calorie labeling

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with women but not men, and another found that parents ordered fewer calories for their children, but not for themselves when calorie information was included on a test menu.

- Two studies found that providing calorie labels with either recommended daily caloric intake information or physical activity equivalents resulted in the consumption of fewer calories at a test meal. One study did not find an effect of calorie labeling on calorie consumption.
- Two studies examining physical activity equivalents as a component of the calorie labeling found a decrease in the calorie content of selected food items
- One study that examined the effect of calorie labeling and value pricing (structuring product prices such that the per-unit cost decreases as portion size increases) also showed no association between calorie labeling and food selection or consumption.

Limitations

The ability to draw stronger conclusions was limited by the following issues:

- *Short study duration:* Most studies only measured food selection or consumption at one time point, although two studies measured subsequent intake via dietary recall
- Studies did not measure physical activity
- *External validity:* Laboratory-based settings or surveys were used to collect data, yet consumer behavior may be markedly different in a restaurant setting
- Many studies relied on a convenience sample
- Design and analysis did not control for hunger and physical activity
- Results are not generalizable to broader US population.

FULL REVIEW

Conclusion statement

Limited and inconsistent evidence exists to support an association between menu calorie labels and food selection or consumption.

Grade

Limited

Key findings

- Ten RCTs were included in this body of evidence that compared menu calorie labeling on food selection. Three of the studies also measured calorie intake of a test meal.
- Results were mixed regarding the influence of menu calorie labeling on food selection:
  - Five studies found no effect of calorie information alone on food selection
  - Three studies found calorie labeling led to selection of fewer calories
  - Two studies showed mixed results. One found an impact of calorie labeling with women but not men, and another found that parents ordered fewer calories for their children but not for themselves when calorie information was included on a test menu.
- Two studies found that providing calorie labels with either recommended daily caloric intake information or physical activity equivalents resulted in the consumption of fewer calories at a test meal. One study did not find an effect of calorie labeling on calorie consumption.
- Two studies examining physical activity equivalents as a component of the calorie labeling found a decrease in the calorie content of selected food items

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- One study that examined the effect of calorie labeling and value pricing (price structure such that the per-unit cost decreases as portion size increases) also showed no association between calorie labeling and food selection or consumption
- This body of evidence has many limitations: Two of 10 studies were conducted in actual restaurant settings, limiting the external validity of the findings; only three studies measured food intake; some studies included pricing as a confounder while others did not; and all studies were conducted in one session
- The methodological complexities of laboratory studies limit generalizability to free living populations

Evidence summary

Description of the Evidence

This systematic review includes ten randomized controlled trials (RCTs) that tested the effect of menu calorie labeling on food selection (**Table 1**). There were no studies that met the inclusion and exclusion criteria with nutrition facts panel as the independent variable. Risk of bias scores based on the NEL Bias Assessment Tool (BAT) ranged from zero to 15 of 28, with a lower number indicating less bias (higher quality). Seven studies had a NEL BAT score of four or less, three studies scored between 12 and 15, indicating quality concerns. Limitations included lab-based settings that are not externally valid; little information on methods including randomization; short duration, use of convenience sample and design; and analysis did not control for hunger and physical activity.

All ten RCTs compared menus that displayed calorie information to a control menu that did not display calorie information and measured food selection as a primary outcome. All studies were carried out in one test session. Only three studies measured calorie consumption (Roberto, 2010; James, 2014; Harnack, 2008). Of these three studies, two measured intake for the remainder of the day via dietary recall (Roberto, 2010; James, 2014). Two studies were conducted in restaurant settings and provided the foods ordered but did not measure intake (Wisdom, 2010; Ellison, 2013).

All studies took place in the United States as defined in the inclusion criteria and had sample sizes varying from 99 to 802. Participants were mostly adults above the age of 18 years. Harnack, 2008 included participants 16 years and older. The study by Tandon, 2010 asked parents to select foods for themselves and their children (aged three to six years old). The majority of participants across the studies were white women, generally healthy weight and with at least some college education.

In addition to comparing menus with and without calorie information, seven studies included additional test conditions. Three studies had designs comparing menus with and without calorie information as well as daily recommended values (Roberto, 2010; Wisdom, 2010; Burton, 2006). Two studies tested the impact of reporting calories in terms of energy expenditure, i.e., the activity needed to burn the calories (Dowray, 2013; James, 2014). The Burton, 2006 study looked at the inclusion of fat and sodium information along with calories. Ellison, 2013 tested the impact of a traffic light symbol along with caloric information on food selection. Harnack, 2008 examined the impact of calorie information and value pricing on food selection.

Roberto, 2010 included three labeling conditions: No calories, with calories, and with calories and a statement saying “The recommended daily caloric intake for an average adult is 2,000 calories.” The studies by Wisdom, 2010 and Burton, 2006 employed factorial designs to compare the presence of calories and daily calorie recommendations. In addition to caloric information, Burton also included a set of conditions displaying calories, fat, saturated and trans fats and sodium.

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Question: What is the effect of use of food and menu labels on dietary intake or body weight across U.S. population groups?

Table 1. Summary of studies examining the impact of menu labeling on food selection and consumption

Article Study Design NEL BAT Score*	Sample Size and Demographics (age, gender, race/ethnicity, education)	Menu Labeling Study Conditions Outcomes	Results	Summary of Findings
Roberto, 2010 **Randomized controlled trial (RCT)** **0/28**	N=273 30.5y 50% female 55% white 65% at least some college	**3 menu conditions:** 1) Menu without any calorie labels 2) A menu with calorie labels 3) A menu with calorie labels and a message "The recommended daily caloric intake for an average adult is 2000 calories" Study took place in a university classroom; participants sat behind dividers. Participants arrived at 5:30pm after abstaining from food for at least 3 hours. Participants were instructed to order whatever they liked, provided the meal represented one they might actually order when eating at a restaurant. To prevent individuals from over-ordering, they were told that no food could be taken home. Participants then chose a meal and consumed the food.	**Menu condition and calories (no calorie label vs. calorie label only vs. calorie label plus daily recommendation information)** *Total calories ordered:* 2,189.4 (SD=1080.5) vs. 1,862.2 (SD=937.3) vs. 1,859.7 (SD=1,062.6), P=0.04, no-cal SD from cal-only and cal+info *Total calories consumed:* 1,458.9 (SD=724.6) vs. 1,334.7 (SD=620.7) vs. 1,256.4 (SD=688.5), NS *Total post dinner calories:* 179.1 (SD=310.3) vs. 293.6 (SD=386.7) vs. 176.8 (SD=308.9), P=0.03, cal-only SD from no-cal and cal+info *Dinner plus post-dinner calories:* 1,630.04 (810.73) vs. 1,624.87 (741.01) vs. 1,379.64 (639.26), P=0.03, cal+info SD from no-cal and cal-only **Secondary analysis for total calories consumed, no calorie information vs. pooled calorie**	Compared to those in the no calorie label group, those in both calorie label conditions ordered fewer calories for dinner, and when calorie label group data was pooled, they consumed fewer calories during dinner. In the post dinner meal, the calorie label only group consumed more calories than the other groups. However, the calorie plus information group consumption significantly less energy for dinner and post dinner than the other two groups.

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		Outcomes: Calories ordered; calories consumed; calories consumed after dinner meal	**information groups Total calorie consumed:** 1,466 (SD=724) vs. 1,289 (SD=656), P=0.04	
James, 2014 RCT 4/28	N=300 21.9y 56% female 88% white 77% college students	**3 conditions:** Lunch menu labeling (fast food and beverages) 1) Exercise-labels: Menu displaying minutes of brisk walking needed to burn the food (for the average young man or woman) 2) Kcal-labels: Displayed kilocalorie content of the foods and a statement with the total daily kcal needs of most women (2,000) and men (2,400), 3) No-label control **Outcomes**: Energy ordered at lunch; energy consumed at lunch; diet composition (%fat, protein, carbohydrate) ordered and consumed at lunch; energy consumed post-lunch (remainder of day)	**Energy ordered at lunch, kcal:** (P=0.008) for menu type; Mean (95% CI) for the exercise-labels group (763 (703,824)) vs. the no-labels group (902 (840, 963)), P=0.002; all other differences between groups NS ***Energy consumed at lunch, kcal:*** (P=0.04) for menu type; Mean (95% CI) for the exercise-labels group (673 (620,725)) vs. the no-labels group (770 (717, 823)), P=0.01; all other differences between groups NS ***Energy consumed post-lunch, kcal:*** (NS) for menu type; differences between groups NS **Energy from fat, %:** calories ordered: (P=0.03) for menu type; Mean (95% CI) for the exercise-labels group (36.5 (34.7, 38.3)) vs. the no-labels group (39.9 (38.1, 41.8)), P=0.009 **Calories consumed:** (NS) for menu	In young adults of mostly normal weight, exercise-labels led to ordering and consuming less energy and fat at lunch compared to no-labels. Energy ordered and consumed did not differ between the kcal-labels group and no-labels group, and post-lunch energy consumption was not different among the three groups.

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		Study took place in dining area of metabolic kitchen and graduate student residence dining area.	type; Mean (95% CI) for the exercise-labels group (36.4 (34.6, 38.3)) vs. the no-labels group (39.3 (37.5, 41.2)), P=0.09	
Harnack, 2008 **RCT** **3/28**	N=594 16-25 y (24.8%), 26-40 y (19.4%), 41-60 y (41.8%), >60 y (14.1%) 59% female 97% non-Hispanic 75% at least some college	**4 menu conditions:** 1) No calories, no value pricing 2) Calories, no value pricing 3) Calories and value pricing 4) No calories, value pricing (control). All items were available at McDonald's restaurants. Study took place at dinnertime in 3 sites: 2 conference rooms in suburban hotels, and 1 urban church basement. Participants selected meals and consumed their selected meal. **Outcomes**: Calories ordered and consumed	No significant (NS) differences between study groups for calories ordered or consumed. **Secondary analysis:** Average energy intake was higher among males in all conditions (calories, price, and calories+price) compared control, P=0.01	Calorie labeling had no significant effect on food selection and consumption. Males choosing from menus with calorie information actually consumed more calories than those in the control group.
Dowray, 2013 **RCT** **2/28**	N=802 44y 88% female 71% white 96% at least some	**4 conditions:** 1) No calorie label 2) Calorie label 3) Calorie and minutes walking need to burn the calories	**Mean calories ordered:** *Total calories:* No label (1020.15 (579.45)), calorie label (927.05 (681.74)), calorie and minutes walking label (916.15 (664.45)), calorie and	Respondents ordered significantly fewer total calories, fewer calories from burgers, and fewer calories from sides when shown the menu with both calorie information and miles

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Article Study Design NEL BAT Score*	Sample Size and Demographics (age, gender, race/ethnicity, education)	Menu Labeling Study Conditions Outcomes	Results	Summary of Findings
	college	(energy expenditure of a 160 lb adult walking at 30 minutes per mile) 4) Calorie and miles walking needed to burn the calories Fast food restaurant menu labeling, via online survey **Outcomes**: Mean calories ordered: total calories; burger calories; salad calories; side calories; dessert calories; drink calories; total calories ordered by body mass index (BMI)	miles walking label (826.29 (539.18)), (P=0.02); no label vs. miles walking label (P=0.0007), all other pairwise comparisons (NS) *Burger calories:* No label (414.85 (256.2)), calorie label (381.58 (307.31)), calorie and minutes walking label (372.92(242.59)), calorie and miles walking label (336.24 (222.49)), (P=0.03), no label vs. miles walking label (P=0.001), all other pairwise comparisons (NS) *Side calories:* No label (245.3 (189.02)), calorie label (201.92 (189.79)), calorie and minutes walking label (230.29 (167.97)), calorie and miles walking label (193.35 (192.22)), (P=0.02), no label vs. miles walking label (P=0.007), no label vs. calorie menu (P=0.02), all other pairwise comparisons (NS) **Total calories ordered by BMI:** *Underweight/normal weight:* No label (1,094 (661)), calorie label (693 (333)), calorie and minutes walking label (929	need to walk, compared to those shown a menu with no labels. Menu labeling influenced the total calories ordered for underweight/normal weight respondents, but not for those who were overweight or obese.

Table 1. Summary of studies examining the impact of menu labeling on food selection and consumption

Article Study Design NEL BAT Score*	Sample Size and Demographics (age, gender, race/ethnicity, education)	Menu Labeling Study Conditions Outcomes	Results	Summary of Findings
			(729)), calorie and miles walking label (702 (463)), (P=0.0001) *Overweight* (NS) *Obese* (NS)	
Gerend, 2009 RCT 15/28	N=288 19y 62% female 73% Caucasian 100% college students	**2 Menus:** 1) No calorie info 2) With calorie info In a laboratory setting, participants were asked to imagine three different hunger scenarios (i.e., "quick dinner", "starving", and "not too hungry") then to select foods from a fast food menu with or without calorie information. Calories were averaged across the three scenarios per participant. Menus included prices, but participants did not actually purchase the items and were not served items. **Outcomes**: Mean calories ordered: Total calories; burger	**Caloric content of meals by menu condition (no calorie information vs. calorie information):** *Females:* Calories per meal: 934 (SD=371) vs. 788 (SD=274), P<0.05 *Items per meal:* NS *Calories per item:* 237 (SD=57) vs. 218 (SD=64), P<0.05 *Males:* Calories per meal, items per meal, and calories per item: NS	Females chose fewer calories per meal and per item when using menus with calorie information, but there was no significant difference for males. Males and females chose similar numbers of items per meal regardless of gender or menu group. This study had several limitations.

Table 1. Summary of studies examining the impact of menu labeling on food selection and consumption

Article Study Design NEL BAT Score*	Sample Size and Demographics (age, gender, race/ethnicity, education)	Menu Labeling Study Conditions Outcomes	Results	Summary of Findings
		calories; salad calories; side calories; dessert calories; drink calories; total calories ordered by BMI		
Roseman, 2013 **RCT** **14/28**	N=302 >18y Gender NR Race/ethnicity NR Education NR	**2 Fast-food menus:** 1) With calorie information 2) Without calorie information Participants randomly given one of two fast-food menus: 1) with calorie information; 2) without calorie information. Prices were not provided on menus. Participants choose items, but did not actually have to purchase or consume the item. **Outcomes**: Calories of selected items Participants were recruited at high-pedestrian, downtown street corner of medium-sized US city (pop~300,000) and completed survey.	NS difference in caloric content of item selections between menu groups based on grocery nutritional label usage (P=0.198). NS difference in caloric content of item selections between menu groups based on restaurant labeling attitudes (P=0.306).	Caloric content of menu items did not affect food selection based on grocery nutritional label usage or restaurant labeling attitudes.
Tandon, 2010 **RCT**	N=99 parent/child dyads 38y parent/ 4.3y	**McDonalds picture menu under two conditions**: 1) Picture menu with price and	**Total calories ordered for child by parent:** *Mean (SD): Intervention:* 569.1 (208.1); Control: 671.5 (263.5); P=0.004	Parents in the intervention arm presented with calorie information ordered an average of 102 fewer calories for their

Question: What is the effect of use of food and menu labels on dietary intake or body weight across U.S. population groups?

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Article Study Design NEL BAT Score*	Sample Size and Demographics (age, gender, race/ethnicity, education)	Menu Labeling Study Conditions Outcomes	Results	Summary of Findings
0/28	child 77% female parent/49% female child 75% white 88% at least some college	numeric calorie information 2) Picture menu with price but no calorie information. **Outcomes**: Energy ordered for parent; energy ordered for child (by parent) Took place in a pediatric-care clinic	**Total calories ordered for parent:** *Mean (SD): Intervention:* 765.9 (385.9); Control: 759.3 (523.5); P=0.9	children than the parents in the control arm not presented with calorie information. There was no difference in parent's energy ordered between the two groups.
Wisdom, 2010 **RCT** **12/28**	N=638 29y 39% female 54% white Education: NR	**Lunchtime at fast food sandwich restaurant** **Menu labeling conditions (2x2):** - With and without calories - With and without daily calorie recommendation **Outcomes:** Caloric content of food selection	**Providing calorie information:** Significantly fewer calories ordered (B =−60.7, t(621)=−3.20, P<0.001), **Providing the daily calorie recommendation:** Significantly fewer calories ordered (B=−37.8, t(621)=−2.01, P<0.05). **Specific cal info*daily recommended cal info:** NS	Providing calorie information on menu led to fewer calories ordered.
Burton, 2006 **RCT**	N=193 39 y	**Participants completed mail survey with 1 of 6 menu conditions**	**Purchase intentions:** *Hamburger and French Fries platter:* Lower PI for cal+nutrients (M=3.43,	The addition of calorie and nutrient information for dinner house items influenced

Question: What is the effect of use of food and menu labels on dietary intake or body weight across U.S. population groups?

Table 1. Summary of studies examining the impact of menu labeling on food selection and consumption

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3/28	63% female Race/ethnicity NR 97% high school graduates	**3 (cal info) x2 (daily recommendation) design:** *3 nutrition menu conditions:* 1) Calories, fat, saturated/trans fat, and sodium levels presented ("cal+nutrients"), 2) only calorie information presented, and 3) No nutrition information presented. **2 versions of daily recommended values:** 1) Daily value recommendations for fat, saturated fat and sodium based on a 2000 calorie diet 2.) No daily values. **Outcomes**: Purchase intent (PI; 7-point scale)	P<0.01) and cal only conditions (M=3.80, P<0.05) compared to control, *Mean (SD):* No nutrition information: 4.44 (2.1); Calories only (3.80 (2.1); *Calories and nutrients:* 3.43 (2.1); *Chef's salad:* Cal+nutrient lower PI compared to control (P<0.01) and cal-only (P<0.02); Mean (SD): No nutrition info control: 4.92 (1.7); Calories only: 4.68 (1.7) (NS); Calories and nutrients: 3.97 (2.0) *Grilled chicken breast and baked potato:* NS; Mean (SD): No nutrition information: 5.59 (1.6); Calories only: 5.58 (1.6); Calories and nutrients: 5.55 (1.7); *Turkey sandwich:* Stronger PI for cal-only and cal+nutrients compared to control (P<0.01 and P<0.05, respectively); Mean (SD): No nutrition information: 4.86 (1.9); Calories only: 5.86 (1.5); Calories and nutrients: 5.48 (1.7) *Purchase likelihoods (univariate F value, P-value):* Nutrition information: 2.9 (P=NS); Daily value information: 0.9 (P=NS); Item type: 47.9 (P<0.01); *Nutrition information x item type:* 5.2 (P<0.01); Nutrition information x daily	purchase intention. Purchase intention decreased for items that were less-healthy than expected, whereas they remained constant or slightly increased for items more consistent with nutritional expectations.

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			value information: 1.4 (P=NS); Daily value information x item type: 2.4 (P=NS); Nutrition information x item type x daily value information: 1.1 (P=NS) *Daily value information:* NS	
Ellison, 2013 **RCT** **4/28**	N=138 18-35y: 70% 56% female Race/ethnicity: NR 63% current college students	**Full-service restaurant,** restaurant divided into 3 sections, each section received 1 of 3 menus (no indication of which meal, lunch or dinner) **3 Menu labeling conditions**: 1) *Control:* No nutritional information, 2) *Numeric menu:* Calories-only, the number of calories in parentheses before each item's price, 3) *Symbolic menu:* Calorie+traffic light, numeric caloric information preceding each item's price and a traffic light symbol representing low, medium, or high calories (Green light=<400kcal, yellow light=401-800kcal, and red light=>800kcal)	**Entrée calories ordered**: Compared to control, numeric NS; symbolic menu led to significantly fewer entrée calories ordered compared to other two conditions (P=0.033); "**Extra" calories ordered**: NS; **Total calories ordered**: Numeric and Symbolic compared to control NS, Symbolic menu condition ordered significantly fewer calories than numeric menu condition (P=0.063)	The calorie+traffic light label significantly reduced entrée calories ordered but there was no difference between the control and calorie-only label. Neither type of calorie labeling reduced extra calories or total calories ordered compared to the control.

Question: What is the effect of use of food and menu labels on dietary intake or body weight across U.S. population groups?

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		Outcomes: Calories ordered (entrée calories, "extra" calories (sides/beverages)		

Two studies included a physical activity component with calorie labeling. James, 2014 had three labeling conditions: No calories, calories and exercise labels indicating the number of minutes of brisk walking required to utilize the energy for each food item (calculated separately for men and women to account for sex differences). Dowray, 2013 compared food selection using four menus: No calories, calories, calories with minutes walking needed to burn the calories (energy expenditure of a 160-lb adult walking at 30 minutes per mile) and calories with miles walking needed to burn the calories.

The study by Ellison, 2013 examined if including a traffic light symbol with calorie information impacted food selection. Harnack, 2008 used a 2x2 factorial design to test calorie labeling and value pricing, which refers to structuring product prices such that the per unit cost decreases as portion size increases. The four conditions included: No calories with value pricing (control), no calories without value pricing, calorie information with value pricing and calorie information without value pricing.

Evidence Synthesis

In this body of evidence, ten randomized and non-randomized controlled studies were considered to determine the impact of menu labeling on food selection and consumption. Studies varied considerably in methodology. Three studies measured food intake (Robert, 2010; James, 2014; Harnack, 2008), while the others required participants to select foods without having to consume them, thus limiting the validity of the results. Some studies to took place in central locations such as community-based locations (Harnack, 2008), universities or clinics (Roberto, 2010; James, 2014; Gerand, 2009; Tandon, 2010) and restaurants (Wisdom, 2010; Ellison, 2013), while others were based on surveys completed at various locations (Dowray, 2013; Roseman, 2013; Burton, 2006). Results were mixed. Three studies found calorie labeling led to selection of fewer calories (Roberto, 2010; Wisdom, 2010; Burton, 2006). Five studies found no effect of calorie information alone on food selection (Roseman, 2013; James, 2014; Dowray, 2013; Ellison, 2013; Harnack, 2008). Two studies showed mixed results. Gerand (2009) found an impact of calorie labeling with women but not men, and Tandon (2010) found that parents ordered fewer calories for their children, but not for themselves when calorie information was included on a test menu.

Three studies conducted in parents, college students and adult pedestrians did a direct comparison of calorie menu labeling using only two conditions (menus with calorie information compared to menus without calorie information) and found mixed results. Of these studies, one found no impact of calorie information on food selection (Roseman, 2013) while the other two had mixed results. In one study in college students, females chose fewer calories per meal and per item when using menus with calorie information, but there was no significant difference for males (Gerend, 2009). In another study in a pediatric clinic setting, parents were asked to order a meal using a test menu for themselves and their child. When calorie information was provided, parents ordered fewer calories for their children but there was no difference in the amount of calories ordered for the parents' meal (Tandon, 2010).

Three studies tested the effect of calorie labeling alone and calorie labeling with a information about daily recommended values and found that providing calories and daily recommended values led to the selection of fewer calories compared to a control group.
Roberto, 2010 compared a control menu to a menu with calorie-only information and one with calories and a message that stated, "The recommended daily caloric intake for an average adult is 2,000 calories." The menu was based on Au Bon Pain and a local restaurant and included traditional fast-food options and took place in a university classroom not affiliated with eating research. Participants were separated by dividers. Compared to those in the no calorie control group, those in both calorie label conditions ordered fewer calories for dinner. There was no difference in calorie consumption at dinner among the three groups but when the calorie label group data was pooled, they consumed fewer calories during dinner

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compared to the control group. Food intake after dinner was assessed via a dietary recall. Those in the calorie-only group consumed less post-dinner calories; those in the calorie-plus information group consumed significantly less energy for dinner and post-dinner combined than either of the other groups. In a fast-food restaurant setting, Wisdom, 2010 found that including both calorie information and daily recommended calorie information independently led to significantly fewer calories selected at a lunch meal.

Burton, 2006 used a mailed survey to determine how nutrition information impacted food selection. This study showed that including calorie information as well as fat and sodium information impacted food selection, but that the direction of impact varied based on how the nutrition information met consumers' expectation. For example, purchase intent decreased for a hamburger and fries meal when calories and calories, fat and sodium information was provided. For a chef's salad, however, calorie information alone did not affect purchase intent, but calories plus fat and sodium decreased purchase intent likely because the fat levels exceeded daily recommended value.

Two studies measured menus that included calorie information and a physical activity component on food selection and found that including a physical activity equivalent led to the selection of fewer calories compared to the control menu with no calorie information. James, 2014 included three conditions: Exercise labels (menu displaying minutes of brisk walking needed to burn the food for the average young man or woman), kilocalorie (kcal) labels [displayed kcal content of the foods and a statement with the total daily kcal needs of most women (2,000) and men (2,400)] and a no-label control. This study took place at lunchtime in a university metabolic kitchen dining area and graduate residence dining area. After making their lunch selection, food was served and measured to calculate energy intake. In young adults of mostly normal weight, exercise labels led to ordering and consuming less energy and fat at lunch compared to no labels. Energy ordered and consumed did not differ between the kcal labels group and no labels group and post-lunch energy consumption was not different among the three groups.

Dowray, 2013 also examined the impact of calorie and energy expenditure labels on food selection. Four menu conditions were compared using an online survey: No calorie label, calorie label, calorie and minutes of walking needed to burn the calories (energy expenditure of a 160lb adult walking at 30 minutes per mile) and calorie and miles of walking needed to burn the calories. When shown the menu with calorie information and miles to walk compared to those shown a menu with no labels, respondents ordered significantly fewer total calories, fewer calories from burgers and fewer calories from sides. Menu labeling influenced the total calories ordered for underweight and normal weight respondents, but not for those who were overweight or obese. Calorie labeling alone reduced the number of calories from side dishes but did not significantly reduce total calories ordered compared to the control group.

Ellison, 2013 compared the impact of calorie information with calorie information plus a traffic light symbol on menu items ordered at a full-service restaurant on a college campus. The traffic light was color-coded to indicate low, medium or high calories (green light for less than 400kcal, yellow light for 401kcal to 800kcal and red light for more than 800 kcal). The calorie plus traffic light label significantly reduced entrée calories ordered, but there was no difference between the control and calorie-only label. Neither type of calorie labeling reduced extra calories or total calories ordered compared to the control.

Harnack, 2008 examined the effect of fast-food menu calorie labeling and value pricing on food purchase intent and food intake. Results showed that calorie labeling had no significant effect on food selection or consumption. Participants were recruited and came to a central location (either a suburban hotel conference room or urban-based church basement) where they were provided with test menus and then served the food that they ordered. The fast-food menu varied based on four conditions: No calories and no value pricing, calories and no value

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pricing, calories and value pricing and no calories and value pricing (control).

Assessment of the Body of Evidence

- *Quality and Quantity*: This body of evidence included few studies that varied in methodology. Food menu labels included different combinations of information across studies. Most studies addressing food choices asked participants to imagine they were ordering food at a restaurant, and only three studies assessed actual food consumption. There were several issues with the quality of the research. NEL BAT scores varied from zero to 15, with three studies indicating a high degree of bias. Common limitations included randomization, use of convenient sample with no clear inclusion and exclusion criteria and not controlling for hunger and physical activity.
- *Consistency*: The results across the studies were not consistent; there was substantial variation in methodology as well
- *Impact*: Given the limited evidence, it is hard to gauge the impact of menu labeling on individuals' food choice and consumption. Also, no studies assessed compensation through caloric intake or energy expenditure after menu labeling exposure. Therefore, the impact of menu labeling on calorie consumption is likely to be low.
- *Generalizability*: All studies were conducted in the United States and most study participants were white, female adults with at least some college education. Therefore, results may not be generalizable to the American public. Additionally, studies did not represent real-world scenarios. Few studies actually took place in a restaurant setting. Most were conducted in labs, clinics or through mail or web-based surveys. Only three studies actually measured consumption, and this was limited to one meal.

Limitations

- *Short study duration:* Most studies only measured food selection or consumption at one time point, although two studies measured subsequent intake via dietary recall
- Studies did not measure physical activity
- *External validity:* Lab-based settings or surveys were used to collect data, yet consumer behavior may be markedly different in a restaurant setting
- Many studies relied on a convenience sample
- Design and analysis did not control for hunger and physical activity
- Results are not generalizable to broader US population.

Research recommendations

- Conduct randomized clinical trials in free-living populations on types of menu labeling that are specific to various food outlets
- Test the effects of different combinations of information on menu labels on diet and weight-related outcomes
- Design studies to control for critical confounders, such as price of labeled meals and study participant characteristics when testing the effectiveness of food and menu labels
- Conduct studies with longitudinal follow up to assess the impact of labeling on overall caloric intake and energy expenditure, diet quality and weight-related outcomes
- Determine how current food labeling strategies used in free-living populations can be tested and validated in laboratory settings

Search plan and results

Inclusion criteria

- Study design:

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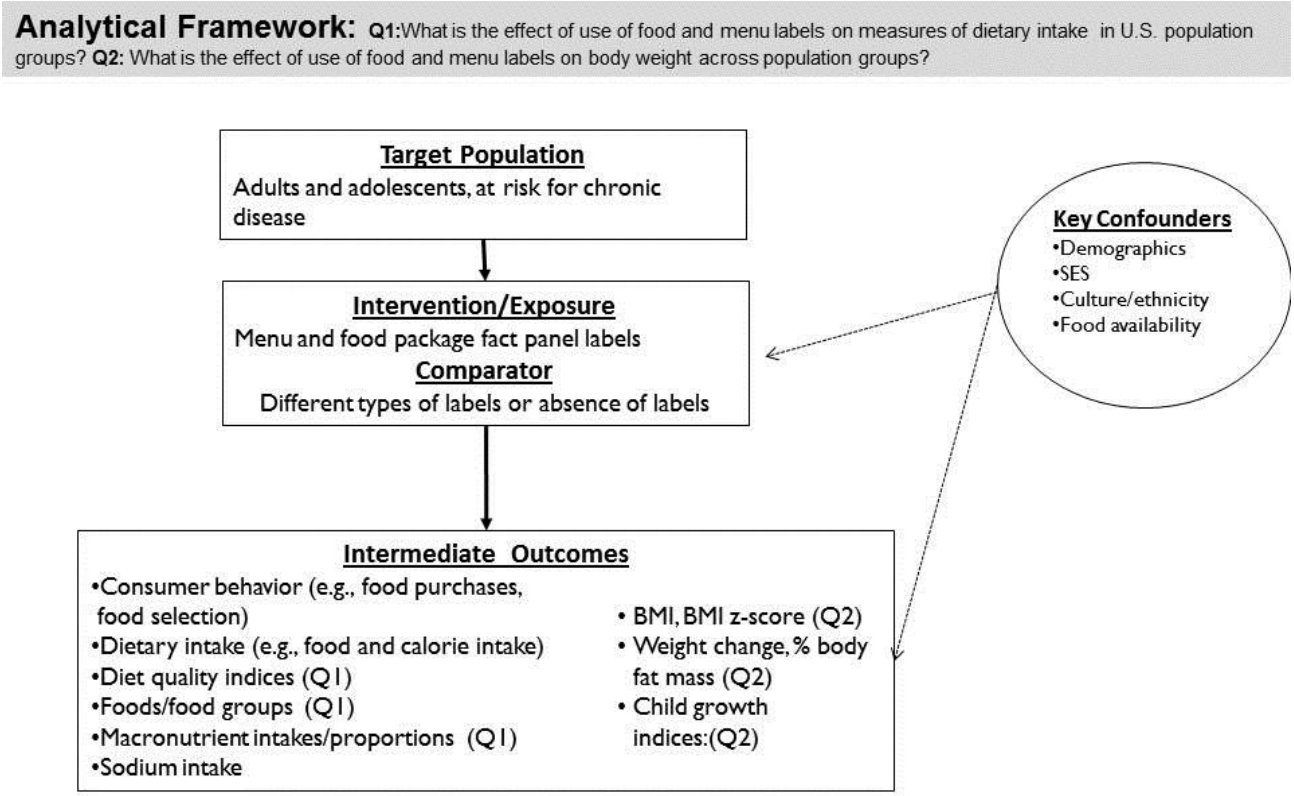
  - Randomized controlled trials (RCTs)
  - Non-randomized controlled trials.
- Peer-reviewed articles published in English
- Human subjects
- Adolescents and adults
- Studies conducted in the United States
- Healthy, those with elevated chronic disease risk
- At least 30 subjects per study arm

Exclusion criteria

- Prospective cohort studies, narrative reviews, systematic reviews, meta-analyses, before-and-after studies, case-control studies, cross-sectional studies and uncontrolled trials
- Exclude studies conducted with hospitalized patients or malnourished subjects, or studies that exclusively enroll subjects with a particular disease other than cardiovascular disease (CVD) and Type 2 diabetes (T2D). (Note: Studies that exclusively enroll subjects with obesity will not be excluded.)
- Studies with a dropout rate higher than 20% within the first six months and higher than 30% after six months and a differential dropout rate of higher than 15% between groups

Analytic framework



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Search terms and electronic databases used

- ***Pubmed***
  - *Date(s) Searched:* ***August 2014***
  - *Search Terms: ("Food Labeling"[Mesh] OR "food labeling"[tiab] OR "food labels"[tiab] OR "food label"[tiab] OR "calorie label"[tiab] OR "calorie labels"[tiab] OR "calorie labeling" OR "caloric label"[tiab] OR "caloric labeling"[tiab] OR "caloric labels"[tiab] OR menu label[tiab] OR "menu labels"[tiab] OR menu labeling[tiab] OR "nutrition labels"[tiab] OR "nutritional labels"[tiab] OR "nutritional label"[tiab] OR "nutritional labeling"[tiab] OR (menu[tiab] AND label*[tiab]) OR (menus[tiab] AND label*[tiab]) OR (calorie*[tiab] AND label*[tiab]) OR (caloric[tiab] AND label*[tiab]) OR (nutrition*[tiab] AND label*[tiab]))*

    AND

    ("body size"[tiab] OR body size[mh] OR obesity[tiab] OR obese[tiab] OR overweight[mh] OR obesity[mh] OR overweight [tiab] OR overnutrition[tiab] OR adipos[tiab] OR adiposity[mh] OR body composition[mh] OR body fat distribution[mh] OR "body fat"[tiab] OR "body weight"[tiab] OR body weight[mh:noexp] OR weight gain[mh] OR weight loss[mh] OR "body-weight related"[tiab] OR "weight gain"[tiab] OR weight-gain[tiab] OR weight loss[tiab] OR weight-loss[tiab] OR Body Weights and Measures[mh] OR weight[ti] OR "Anthropometry"[Mesh:noexp] OR body mass index[mh] OR "body mass index"[tiab] OR BMI[tiab] OR "weight status"[tiab] OR adipose tissue [mh] OR "healthy weight"[tiab] OR waist circumference[mh] OR "body mass"[ti] OR "body fat mass"[tiab] OR body weight changes[mh] OR "waist circumference"[tiab] OR ideal body weight[mh] OR waist-hip ratio[mh] OR child development[mh] OR growth[ti] OR growth[mh:noexp]) OR*

    nutrition[tiab] OR diet[mh] OR diet[tiab] OR diets[tiab] OR dietary[tiab] OR food preferences[mh] OR feeding behavior[mh] OR nutrition surveys[mh] OR food[tiab] OR "Food and Beverages"[mh] OR "Eating"[mh] OR caloric intake*[tiab] OR caloric dens*[tiab] OR high calori*[tiab] OR energy dens*[tiab] OR fruit*[tiab] OR vegetable*[tiab] OR food analysis[mh] OR dietary intake*[tiab] OR food intake*[tiab] OR energy intake*[tiab] OR energy intake[mh] OR food habits[mh] OR dietary habit*[tiab] OR diet habit*[tiab] OR eating habit*[tiab] OR nutrient intake*[tiab] OR food choice*[tiab] OR portion size*[tiab] OR "diet quality"[tiab] OR dietary choice*[tiab] OR dietary change*[tiab] OR diet records[mh] OR nutritional status[mh] OR nutritional sciences[mh] OR dietary pattern*[tiab] OR diet pattern*[tiab] OR eating pattern*[tiab] OR food pattern*[tiab] OR eating habit*[tiab] OR dietary habit*[tiab] OR food habit*[tiab] OR dietary profile*[tiab] OR food profile*[tiab] OR diet profile*[tiab] OR eating profile*[tiab] OR dietary guideline*[tiab] OR dietary recommendation*[tiab] OR food intake pattern*[tiab] OR dietary intake pattern*[tiab] OR eating style*[tiab] OR ((Macronutrient*[tiab] AND*

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(Proportion[tiab] OR composition[tiab] OR distribution*[tiab] OR percent*[tiab] OR diet composit*[tiab])) OR dietary score*[tiab] OR adequacy index*[tiab] OR kidmed[tiab] OR Food Score*[tiab] OR Diet Score*[tiab] OR MedDietScore[tiab] OR Dietary Pattern Score*[tiab] OR "healthy eating index"[tiab] OR ((index*[ti] OR score*[ti] OR indexes[ti] OR scoring[ti] OR indices[ti]) AND (dietary[ti] OR nutrient*[ti] OR eating[tiab] OR food[ti] OR food[mh] OR diet[ti] OR diet[mh]) AND (pattern* OR habit* OR profile*)) OR*

"blood pressure"[tiab] OR "blood pressure"[mesh] OR "cardiovascular diseases"[mh:noexp] OR cardiovascular disease[tiab] OR cardiovascular event*[tiab] OR hypertens*[tiab] OR "Myocardial Infarction"[Mesh] OR "Myocardial Infarction"[tiab] OR "Heart Failure"[Mesh] OR "Heart Arrest"[Mesh] OR "Myocardial Ischemia"[Mesh] OR "heart failure"[tiab] OR "heart arrest"[tiab] OR "Myocardial Ischemia"[tiab] OR coronary artery diseas*[tiab] OR coronary diseas*[tiab] OR hypertension[mh] OR stroke[tiab] OR "stroke"[Mesh] OR "cholesterol/blood"[mh] OR "Cholesterol, Dietary"[Mesh] OR "Cholesterol"[Mesh] OR hypercholesterolemia[mh] OR hypercholesterol*[tiab] OR "Cholesterol, HDL"[Mesh] OR "Cholesterol, LDL"[Mesh] OR "Cholesterol, VLDL"[Mesh] OR cholesterol*[tiab] OR "Cholesterol, Dietary"[Mesh] OR triglyceride* OR "Lipids/blood"[Mesh] OR "Sodium, Dietary"[Mesh] OR "sodium"[MeSH Terms] OR "sodium chloride"[mesh] OR sodium[tiab] OR salt[tiab] OR glucose intoleran*[tiab] OR insulin resist*[tiab] OR insulin resistance[mh] OR insulin sensitive*[tiab] OR "Diabetes Mellitus, Type 2"[Mesh] OR diabet*[ti] OR prediabet*[ti] OR prediabetic state[mh] OR hyperglycemia[mh]*

- ***Cochrane***
  - *Date(s) Searched:* ***August 2014***
  - *Search Terms: (food OR calorie OR caloric OR menu OR nutrition*) AND (labeling OR label OR labels)*
- ***EMBASE***
  - *Date(s) Searched:* ***August 2014***
  - *Search Terms:*

    food NEAR/3 label OR menu NEAR/2 label* OR nutrition* NEAR/2 label OR calori* NEAR/2 label* OR 'food packaging'/exp/mj AND ([article]/lim OR [article in press]/lim) AND [humans]/lim AND [english]/lim AND [2004-2014]/py*

    AND

    'cardiovascular disease'/de OR 'cardiovascular disease':ab, ti OR 'hypertension'/exp OR hypertension:ab, ti OR 'blood pressure'/exp OR 'blood pressure':ab, ti OR 'triacylglycerol'/exp OR triglyceride:ab, ti OR cholesterol NEAR/2 hdl OR cholesterol NEAR/2 ldl OR 'low density lipoprotein'/exp OR 'high density lipoprotein cholesterol'/exp OR*

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'cholesterol intake'/exp OR cholesterol:ab, ti OR 'stroke'/exp OR 'heart failure'/exp OR 'heart failure':ab, ti OR 'heart infarction'/exp OR 'heart infarction':ab, ti OR 'heart disease'/exp OR 'heart disease':ab, ti OR 'sodium'/exp OR 'sodium chloride'/exp OR salt:ab, ti OR sodium:ti OR diabet:ab, ti OR 'non insulin dependent diabetes mellitus'/exp OR 'insulin resistance'/exp OR 'impaired glucose tolerance'/exp OR prediab*:ab, ti AND ([article]/lim OR [article in press]/lim) AND [humans]/lim AND [english]/lim AND [2004-2014]/py OR*

'body size'/de OR 'obesity'/exp OR overweight:ab, ti OR obese:ab, ti OR obesity:ab, ti OR 'weight gain':ab, ti OR adiposity:ab, ti OR adipose:ab, ti OR 'body weight'/exp OR 'weight gain'/de OR 'weight reduction':ab, ti OR 'weight loss':ab, ti OR 'body composition'/exp OR 'body fat':ab, ti OR 'anthropometry'/de OR 'body mass'/de OR bmi:ab, ti OR 'body mass index':ab, ti OR weight:ab, ti OR 'waist circumference'/de OR 'waist circumference':ab, ti OR 'waist hip ratio'/de OR 'body fat'/de OR 'adipose tissue'/exp AND ([article]/lim OR [article in press]/lim) AND [humans]/lim AND [english]/lim AND [2004-2014]/py OR

'nutrition'/de OR nutrition:ab, ti OR 'diet'/exp OR 'diet':ab, ti OR 'dietary intake'/exp OR 'caloric intake':ab, ti OR 'caloric density':ab, ti OR 'dietary intake':ab, ti OR 'feeding behavior'/exp OR 'eating habit'/de OR 'food preference'/de OR 'child nutrition'/de OR 'food intake'/exp OR 'nutritional assessment'/de OR 'nutritional status'/de OR 'nutrition surveys':ab, ti OR 'fruit'/exp OR 'vegetable'/exp OR 'food'/exp OR 'energy density':ab, ti OR 'dietary quality':ab, ti OR 'eating pattern':ab, ti OR 'food pattern':ab, ti OR 'dietary habit':ab, ti OR 'food habit':ab, ti OR 'food intake':ab, ti OR 'portion size'/de OR 'food choice':ab, ti OR 'diet quality':ab, ti OR 'dietary profile':ab, ti OR 'food profile':ab, ti OR 'diet profile':ab, ti OR 'eating profile':ab, ti OR 'food intake pattern':ab, ti OR 'dietary intake pattern':ab, ti OR 'eating style':ab, ti OR 'macronutrient':ab, ti OR 'macronutrient'/de OR 'dietary score':ab, ti OR kidmed:ab, ti OR 'food score':ab, ti OR 'diet score':ab, ti OR 'meddietscore':ab, ti OR 'dietary pattern score':ab, ti OR 'healthy eating index':ab, ti OR (index:ab, ti OR score:ab, ti OR scoring:ab, ti OR indices:ab, ti AND (dietary:ab, ti OR nutrient:ab, ti OR eating:ab, ti OR food:ab, ti OR diet:ab, ti) AND (pattern:ab, ti OR habit:ab, ti OR profile:ab, ti)) AND ([article]/lim OR [article in press]/lim) AND [humans]/lim AND [english]/lim AND [2004-2014]/py

- ***EconLit***
  - *Date(s) Searched:* ***November 2014***
  - *Search Terms: (restaurant* OR food OR nutrition* OR calori*) w5 menu* OR (food OR nutrition* OR menu OR calori*) n3 label**
- ***Social Sciences***
  - *Date(s) Searched:* ***November 2014***
  - *Search Terms: (restaurant* OR food OR nutrition* OR calori*) w5 menu* OR (food OR nutrition* OR menu OR calori*) n3 label**

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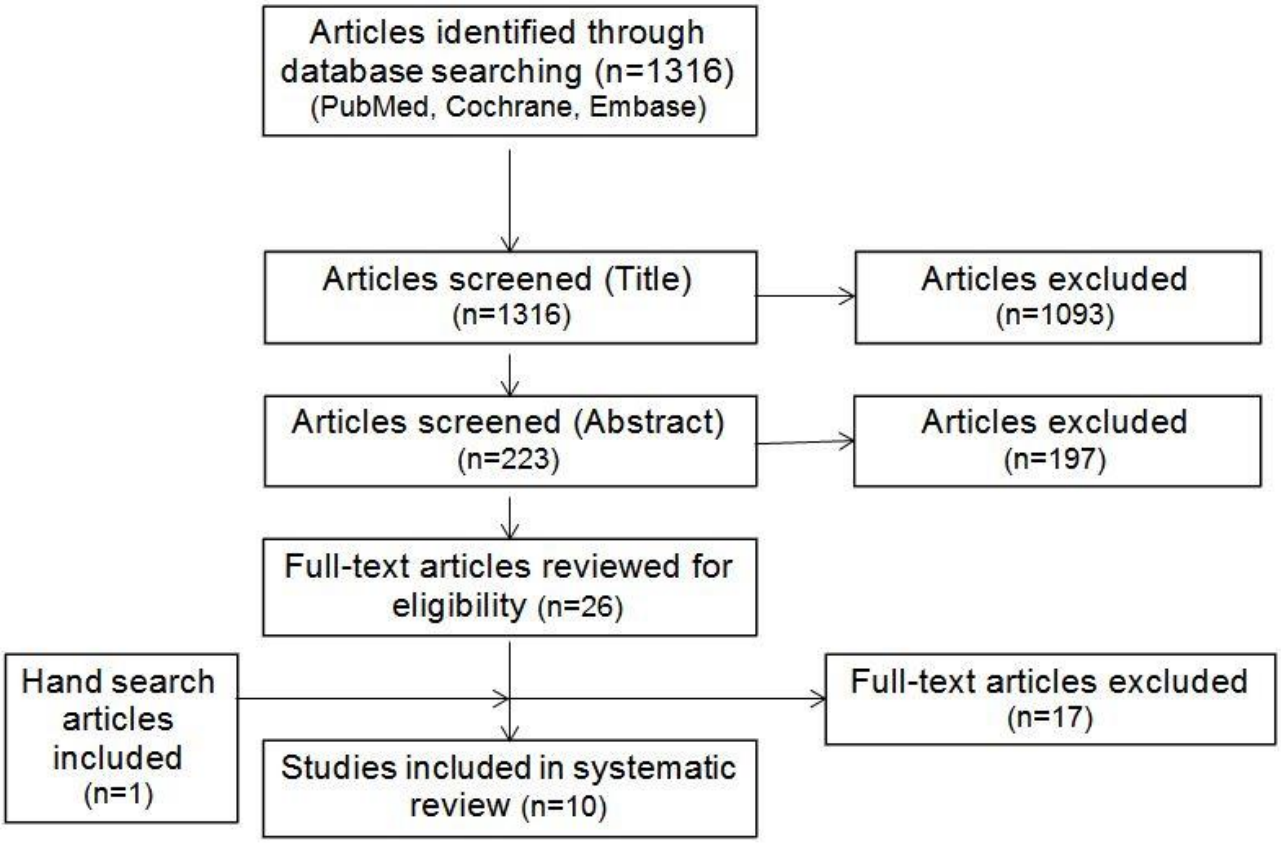
- ***SocINDEX***
  - *Date(s) Searched:* ***November 2014***
  - *Search Terms: (restaurant* OR food OR nutrition* OR calori*) w5 menu* OR (food OR nutrition* OR menu OR calori*) n3 label**

Date range: January 2004 to 2014

Summary of articles identified to review

- Total hits from all electronic database searches: 1316
- Total articles identified to review from electronic databases: 223
- Articles identified via handsearch or other means: 1
  - Wisdom J, Downs JS, Loewenstein G. Promoting healthy choices: information versus convenience. *American Economic Journal: Applied Economics 2.* 2010 April;164–178.
- Number of Primary Articles Identified: 10
- Number of Review Articles Identified: 0
- Total Number of Articles Identified: 10
- Number of Articles Reviewed but Excluded: 214



Included articles (References)

1. Burton S, Creyer EH, Kees J, Huggins K. Attacking the Obesity Epidemic: The potential health benefits of providing nutrition information in restaurants. *Am J Public Health.* 2006;96(9):1669-1675. http://www.ncbi.nlm.nih.gov/pubmed/16873758.

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2. Dowray S, Swartz JJ, Braxton D, Viera AJ. Potential effect of physical activity based menu labels on the calorie content of selected fast food meals. *Appl Physiol Nutr Metab.* 2013;38(6):666-72. PMID: 23220355. http://www.ncbi.nlm.nih.gov/pubmed/23220355.
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6. James A, Adams-Huet B, Shah M. Menu labels displaying the kilocalorie content or the exercise equivalent: effects on energy ordered and consumed in young adults. *Public Health Nutr.* 2014;17(5):1147-55. PMID: 24575727. http://www.ncbi.nlm.nih.gov/pubmed/24575727.
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8. Roseman MG, Mathe-Soulek K, Higgins JA. Relationships among grocery nutrition label users and consumers' attitudes and behavior toward restaurant menu labeling. *J Prim Care Community Health.* 2014;5(2):139-43. PMID: 24012965. http://www.ncbi.nlm.nih.gov/pubmed/24012965.
9. Tandon PS, Wright J, Zhou C, Rogers CB, Christakis DA. Nutrition menu labeling may lead to lower-calorie restaurant meal choices for children. *Pediatrics.* 2010;125(2):244-8. PMID:20100765. http://www.ncbi.nlm.nih.gov/pubmed/20100765
10. Wisdom J, Downs JS, Loewenstein G. Promoting healthy choices: information versus convenience. *American Economic Journal: Applied Economics 2.* 2010 April;164–178. (Hand search)

Excluded articles

See Appendix F for a full list of excluded articles with reason.

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CHAPTER 8. HOUSEHOLD FOOD INSECURITY (HFI)

WHAT IS THE RELATIONSHIP BETWEEN HOUSEHOLD FOOD INSECURITY (HFI) AND MEASURES OF BODY WEIGHT?

TECHNICAL ABSTRACT

Background

Food insecurity is a leading nutrition-related public health issue that is associated with reduced food intake or hunger because the household lacks money and other resources for food. Food insecurity can compromise nutritional intake, potentially leading to increased risk of chronic diseases.[1] In addition, food insecurity may promote anxiety and psychological distress, further affecting the health and well-being of an individual or family.[2,3] Household food insecurity is defined as "access to enough food for an active, healthy life. It includes at a minimum (a) the ready availability of nutritionally adequate and safe foods, and (b) an assured ability to acquire acceptable foods in socially acceptable ways.[4] The causes of food insecurity are multifactorial and the types of nutrition-related problems resulting from food insecurity are diverse, differing across the life cycle. This review examines the relationship between food insecurity and diet quality and body weight with a focus on prospective cohorts.

Conclusion statement

Limited and inconsistent evidence from studies conducted in adults and children ages three to six years suggests that a positive association may exist between persistent and progressing household food insecurity and higher body weight in older adults, pregnant women and young children. No studies reported a relationship with lower body weight.

2015 DGAC Grade: **Limited**

Insufficient evidence was available from prospective studies to assess the relationship between household food insecurity and dietary intake.

2015 DGAC Grade: **Not assignable**

Methods

Literature searches were conducted using PubMed, Embase and Cochrane databases to identify studies published in English in peer-reviewed journals from January 2004 to May 2014. Included studies met the following inclusion and exclusion criteria established *a priori* to the review: prospective cohort studies; human subjects aged two years and older who were healthy or at elevated chronic disease risk; studies conducted in high or very highly developed countries (Human Development Index 2013); household food insecurity and measures of dietary intake including diet quality, foods, food groups, macronutrient intakes or proportions and measures of obesity, overweight, body mass index (BMI) and measures of weight, growth and body composition including waist circumference, body weight, percent body fat, weight-for-age, length and stature-for-age, weight for stature, BMI-for-age and BMI Z-score.

Data from each included article were extracted, and risk of bias was assessed. The evidence was qualitatively synthesized, a conclusion statement was developed and the strength of the evidence (grade) was assessed using pre-established criteria including evaluation of the quality and risk of bias, quantity, consistency, magnitude of effect and generalizability of available evidence.

Findings

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- Among older adults, becoming food insecure during follow-up was positively associated with BMI in one large cohort
- Among pregnant women, findings were inconsistent with one of two studies, suggesting no association between food insecurity and pregnancy weight gain outcomes. One study found null findings among marginally food secure but greater weight gain, adequacy of weight gain and severe pregravid obesity among food-insecure women.
- Among children, findings were inconsistent; however, there was some suggestion of an association between food insecurity and weight status for girls and those who had low birth weight.

Limitations

- Heterogeneity in populations and methodology used to measure household food insecurity may contribute to mixed findings
- Use of self-reported outcomes (such as height and weight) in adult studies, rather than investigator measured outcomes, increased risk for responder bias
- The studies were not consistent in their selection of variables in multivariate analysis, so adjustments could be made to account in a similar fashion for potential confounding
- Few studies were available with men, adolescent or middle-aged populations and racially diverse samples

FULL REVIEW

Conclusion statement

Limited and inconsistent evidence from studies conducted in adults and children ages three to six years suggests that a positive association may exist between persistent and progressing household food insecurity and higher body weight in older adults, pregnant women and young children. No studies reported a relationship with lower body weight.

Insufficient evidence was available from prospective studies to assess the relationship between household food insecurity and dietary intake.

Grade

Limited: Household food insecurity and body weight
Not assignable: Household food insecurity and dietary intake

Key findings

- Among older adults, becoming food insecure during follow-up was positively associated with BMI in one large cohort, but there was no association in a different cohort from the same study
- Among pregnant women, findings were inconsistent, with one of two studies suggesting no association between food insecurity and pregnancy weight gain outcomes. One study found null findings among the marginally food secure, but greater weight gain, adequacy of weight gain and severe pregravid obesity among food-insecure women.
- Among children, findings were inconsistent; however, there was some suggestion of an association between food insecurity and weight status for girls and those who had low birth weight

Evidence summary

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Description of the Evidence

This systematic review includes nine prospective cohort studies, four conducted in adults and five in children, examining the relationship between household food insecurity and weight status.

Overview of Adult Studies

Four prospective cohort studies assessed the relationship between household food insecurity and measures of body weight, with one study focusing on older adults (Kim, 2007) and three studies focusing only on women (Laraia, 2010; Olson, 2005; Whitaker, 2007). The study of older adults derived data from two large cohorts including the Health and Retirement Survey (HRS) and the Asset and Health Dynamics among the Oldest Old (AHEAD) (Kim, 2007). The studies on women ranged in sample size from 303 to 1,707, with the data derived from relatively small cohort study populations including the Bassett Mothers Health Project (BMHP) cohort study (Olson, 2005); the Pregnancy, Infection, and Nutrition (PIN) cohort (Laraia, 2010); and the Fragile Families and Child Wellbeing Study (Whitaker, 2007).

The study of older adults focused on a relatively homogenous population who were mostly white (Kim, 2007). Of the studies in women, two assessed diverse populations (Laraia, 2010; Whitaker, 2007), while one was composed almost entirely of white women (Olson, 2005). Study participant ages varied among cohorts. Older adults participated in two cohorts with mean ages of 60.8 years and 80 years. The studies in women were focused on women of childbearing age (e.g., two studies included women in their late twenties (Olson, 2005; Laraia, 2010).

Regarding weight status at baseline in the cohorts with older adults, the baseline mean body mass index (BMI) and prevalence of overweight in the HRS cohort were 27.3kg/m^2 and 65.8%, respectively; in the AHEAD cohort they were 25.1kg/m^2 and 46.4%, respectively. In the three women's studies, approximately 50% or more of the study participants were overweight or obese. That is, in Laraia, 2010, the prevalence of pregravid BMI was 13% underweight, 42% normal weight, 12% overweight, 17% obese and 16% severely obese. In Olson, 2005, 25.7% of the population-based sample in early pregnancy were overweight and 23.3% were obese. In Whitaker, 2007, the prevalence of obesity was 41% at baseline.

All the adult studies used the U.S. Household Food Security Survey Module (HFSSM), with some variations in which questions were used. Kim, 2007 classified subjects as food insecure based on responses to two modified questions; Laraia, 2010 grouped subjects into three levels of food insecurity (food scarce, marginally food scarce and food insecure) based on answers to the HFSSM questions at 27 weeks to 30 weeks' gestation; Olson, 2005 measured food insecurity of subjects at baseline (during early pregnancy) using three questions included in the woman's medical record from the Institute of Medicine's (IOM) Nutrition Questionnaire and measured postpartum food insecurity using three questions from the HFSSM in a mailed questionnaire. Whitaker, 2005 measured food insecurity using 10 household-referenced and adult-referenced questions in the HFSSM that was administered at baseline and at a two-year follow up.

Regarding the weight outcomes examined, the study focusing on older adults assessed change in BMI (based on self-reported height and weight) over time (Kim, 2007). The three studies in women used a variety of weight-related outcomes, including risk of obesity and weight gain from baseline (second trimester of pregnancy) to follow up at two years postpartum (Olson, 2005); change in body weight (assessed in the home by an investigator at three and five years after delivery) (Whitaker, 2007); and pregnancy weight gain, adequacy of weight gain ratio and severe pregravid obesity based on pregravid self-reported weight and height and delivery weight in the medical record (Laraia, 2010).

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Studies examined health care-related factors as possible mediators, including access to food assistance programs as a modifier (Kim, 2007). Studies adjusted for various covariates such as baseline income, poverty level, education, race/ethnicity, relationship status, number of children in household, material hardship, employment, age, parity, previous BMI, sex, number of chronic diseases, activities of daily living and smoking status, among others. Laraia, 2010 also adjusted for pregravid BMI and gestational age. The studies had NEL Bias Assessment Tool (BAT) scores ranging from four of 24 to six of 24.

Study Results (Adults)

Characteristics of the four included adult studies are described in **Table 1**.

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Question: What is the relationship between household food insecurity (HFI) and measures of body weight?

Table 1. Summary of studies examining the relationship between household food insecurity & weight outcomes in adults

Author, Year Study Design, Duration Risk of Bias Score: Data Source, Location	Race/ Ethnicity Sample Size Age, Gender Baseline weight status	Description Food Insecurity Measure	Results	Summary of Findings	Limitations
Kim, 2007 **Prospective Cohort Study (PCS); 7y and 8y** **Risk of Bias Score: 4/24** **Health and Retirement Survey (HRS) and Asset and Health Dynamics Among the Oldest Old (AHEAD)** **USA**	81.2% (HRS), 87.4% (AHEAD) White N=9,481 (HRS), 6,354 (AHEAD) 60.8y (SD=4.2) [HRS]; 79.6y (SD=5.8) [AHEAD] 47.7% (HRS) 59.9% (AHEAD) female **Baseline mean BMI and prevalence of overweight** **HRS:** 27.3 and 65.8 % AHEAD: 25.1 and 46.4%	Respondents were classified as food insecure (in past 2 years) based on responses to two modified questions on the US Household Food Security Survey Module	**Previous food insecurity and BMI at follow-up:** [HRS] NS; [AHEAD] NS **Change in food insecurity level and change in BMI during follow-up:** [HRS] NS; [AHEAD] β=0.30 (P=0.025)	Change in food insecurity was positively related to BMI in AHEAD, but not in HRS. Previous food insecurity was not significantly associated with BMI at follow-up in either cohort.	**NEL BAT Limitations:** self-reported height and weight; did not adjust for dietary intake, household composition, or affordability of foods available. **Other limitations:** Death rate was 13% in AHEAD, but was not associated with food insecurity; only two questions were used to assess food insecurity status, which authors state could have underestimated the exposure.
Laraia, 2010 **PCS; ~13wk**	68.8% White and other 31.2% Black	**Food insecurity definition used: Three levels of food**	**Food insecurity and weight gain during** pregnancy (ref: food	Food insecurity was associated with greater weight gain during	**NEL BAT Limitations:** Self-reported pre-pregnancy weight; no measure of diet

Question: What is the relationship between household food insecurity (HFI) and measures of body weight?

Table 1. Summary of studies examining the relationship between household food insecurity & weight outcomes in adults

Author, Year Study Design, Duration Risk of Bias Score: Data Source, Location	Race/ Ethnicity Sample Size Age, Gender Baseline weight status	Description Food Insecurity Measure	Results	Summary of Findings	Limitations
Risk of Bias Score: 4/24 **Pregnancy, Infection, and Nutrition (PIN) cohort** **USA**	N=810 27.3y (SD=5.5) 100% female **Prevalence of pregravid BMI:** 13% underweight 42% normal weight 12% overweight 17% obese 16% severely obese	**insecurity created using the 18-item Core Food Security Module at 27-30 weeks' gestation:** 1) Food scarce (answered no to all 18 questions) 2) Marginally food scarce (answered yes to 1 or 2 questions indicating that there was anxiety about sufficient quantity of food 3) Food insecure (answered yes to 3 or more questions indicating insufficient quantity and reduced quality and desirability of food).	secure): **Marginally food secure** *Pregnancy weight gain:* NS *Adequacy of weight gain ratio:* NS **Food insecure** *Pregnancy weight gain:* β=1.87 (95% CI=0.13-3.62) *Adequacy of weight gain ratio:* β=0.25 (95% CI=0.01-0.49) **Food insecure** *Severe pregravid obesity:* [adjusted odds ratio (AOR) 2.97, 95% confidence intervals (CI) 1.44, 6.14]	pregnancy and greater adequacy of weight gain ratio, while being marginally food secure was not. Living in a food insecure household: was significantly associated with severe pregravid obesity.	**Other limitations:** 337 women excluded due to missing information differed from included subjects (less education, less income, and more likely to be black, which are risk factors for food insecurity); small sample size: few women experienced food insecurity (10%, n=79); did not adjust for participation in nutrition assistance programs

Question: What is the relationship between household food insecurity (HFI) and measures of body weight?

Table 1. Summary of studies examining the relationship between household food insecurity & weight outcomes in adults

Author, Year Study Design, Duration Risk of Bias Score: Data Source, Location	Race/ Ethnicity Sample Size Age, Gender Baseline weight status	Description Food Insecurity Measure	Results	Summary of Findings	Limitations
Olson, 2005 **PCS; 2y** **Risk of Bias Score: 6/24** **Bassett Mothers Health Project (BMHP) cohort study** **USA (Rural NY)**	Non-Hispanic white (95.7%) Native American (2.1%) Asian (0.5%) African American (0.5%) Hispanic (0.2%) Others (1%) N=303 28.8y±5.4 100% female **Population-based sample in early pregnancy:** 25.7% overweight, 23.3% obese	**Baseline food insecurity:** measured by 3 items included in the woman's medical record from the (IOM) Nutrition Questionnaire. Postpartum food insecurity measured using 3 questions from the US Household Food Security Survey that were included in a mailed questionnaire.	**Food insecurity early in pregnancy and weight at 2y follow-up:** *Risk of obesity:* NS *Risk of major weight gain*: (≥4.55kg): NS **Became food secure and anthropometric outcomes at follow-up (3rd grade):** *All groups, BMI, and weight*: NS	Food insecurity in early pregnancy was not associated with increased risk of obesity or major weight gain at 2 years postpartum.	**NEL BAT Limitations:** race/ethnicity, physical-activity, use of food assistance, and energy-intake not controlled; Only baseline food insecurity used in analysis; large loss to follow-up may have biased results **Other Limitations:** Did not include family composition, participation in food assistance programs, availability and accessibility of food.

Question: What is the relationship between household food insecurity (HFI) and measures of body weight?

Table 1. Summary of studies examining the relationship between household food insecurity & weight outcomes in adults

Author, Year Study Design, Duration Risk of Bias Score: Data Source, Location	Race/ Ethnicity Sample Size Age, Gender Baseline weight status	Description Food Insecurity Measure	Results	Summary of Findings	Limitations
Whitaker, 2007 **PCS; 2y** **Risk of Bias Score: 4/24** **The Fragile Families and Child Wellbeing Study** **USA-urban population**	White, non-Hispanic (19.6%) Black, non-Hispanic (54.0%) Hispanic (23.7%) Other races (2.8%) N=1,707 ≥18y 100% female **Prevalence of obesity:** 41% at baseline	Household Food Security Survey Module; food security was based on the 10 household- and adult-referenced questions in the module; validated scale; administered at baseline and 2y follow-up	**Baseline food insecurity and odds of obesity or weight gain at follow-up (ref: food secure)** *Marginally food secure:* NS *Food insecure:* NS *Change in food security and weight gain at follow-up:* NS	Food insecurity at baseline or changes in food security status over a 2-year interval were not significantly associated with changes in body weight over that period.	**NEL BAT:** Did not account for physical activity, age, energy intake, or participation in food assistance programs; height and/or weight were self-reported for some subjects **Other Limitations:** The study included only one-third of the original birth sample, those studied were more socioeconomically disadvantaged, selection bias possible; limited generalizability of sample; sample was too small to determine whether the relationship between changes in food security status and changes in weight differed by certain characteristics, such as income or baseline obesity status

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Overview of Children's Studies

A total of five prospective cohort studies (three cohorts) assessed the relationship between household food insecurity and measures of body weight in children. One of the five studies assessed household food insufficiency, a similar measure considered more severe than the concept of food security, although not as severe as hunger (Dubois, 2006). Four of the studies were conducted on populations in the United States (Bhargava, 2008; Jyoti, 2005; Metallinos-Katsara, 2012; Rose, 2006) and one study on a Canadian population (Dubois, 2006). The studies ranged in size from 1,514 to 28,353 subjects. The data were derived from nationally representative cohorts, including three studies using data from the Early Child Longitudinal Study-Kindergarten Cohort (ECLS-K) (Bhargava, 2008; Jyoti, 2005; Rose 2006), one study using data from the Longitudinal Study of Child Development in Quebec (LSCDQ) (Dubois, 2006) and one study deriving data from a large cohort participating in the Massachusetts Women, Infants and Children (WIC) Program (Metallinos-Katsara, 2012).

Four studies focused on study populations of young children ranging from a mean age of 4.5 years to 6 years of age (Bhargava, 2008; Jyoti, 2005; Dubois, 2006; Rose, 2006) and one study of younger children with a mean age of about three years of age (Metallinos-Katsara, 2012). All the studies were composed of about 50% female subjects. Four studies conducted in the United States included a racially and ethnically diverse study population (Bhargava, 2008; Jyoti, 2005; Rose, 2006 had about 60% white, 12% black and 15% Hispanic; and Metallinos-Katsara, 2012 had a population about 40% white, 20% black and 30% Hispanic).

Regarding weight status at baseline, in Metallinos-Katsara, 2012, more than 30% of the children from two years to five years of age were overweight; in the three ECLS-K studies, the mean BMI was about 16kg/m^2 to 17kg/m^2; and in Dubois, 2006, the majority of children were normal birth weight with only 4.4% born at less than 2,500g, with 28.2% of the mothers overweight or obese.

All the US studies used the U.S. Household Food Security Survey Module (HFSSM), with one study using a four-question subscale during infancy and the last child visit and an additional measure of food insecurity status created by combining the two measures into a time-integrated variable reflecting status at both time points as a measure of chronicity (Metallinos-Katsara, 2012). The three ECLS-K studies assessed household food insecurity at different times: kindergarten (Rose, 2006); kindergarten and third grade (Jyoti, 2005); and first, third and fifth grades (Bhargava, 2008). Dubois (2006) assessed family food insufficiency data via self-administered maternal questionnaires when the child was 1.5 years old and again at 4.5 years old.

Regarding the weight outcomes examined, the studies measured height and weight mostly using trained professionals and assessed BMI (Dubois, 2006; Bhargava, 2008; Jyoti, 2005; Rose 2006), BMI-for-age Z-scores (Metallinos-Katsara, 2012; Bhargava, 2008; Rose 2006) and change in weight (Bhargava, 2008; Jyoti, 2005; Rose, 2006).

One study examined maternal pre-pregnancy weight status as a modifier of the association between household food insecurity and weight in children (Metallinos-Katsara, 2012). Jyoti, 2005 examined the effects of modified food insecurity on changes in child outcomes using lagged, dynamic and difference (i.e., fixed effects) models and controlling for child and household contextual variables. Studies adjusted for various covariates such as age, child's gender, child's race-ethnicity, birth weight, disability status, child health insurance status, first language spoken at home, household income, household size, frequency of child's exercise, parents' age, mothers' age at first birth, parent marital status, parent highest education, parent depression rating, parent rating of ability to get going, child care status, parent employment status, number of parents, number of siblings, neighborhood safety rating, area of residence, region of residence and child height, among others. The studies had NEL BAT scores ranging

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from two of 24 to four of 24.

Study Results (Children)

Characteristics of the four included children's studies are described in **Table 2**.

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Question: What is the relationship between household food insecurity (HFI) and measures of body weight?

Table 2. Summary of studies examining the relationship between household food insecurity and weight outcomes in children

Author, Year Study Design, Duration Risk of Bias Score: Data Source, Location	Race/ Ethnicity Sample Size Age Gender Weight status at baseline	Description Food Insecurity Measure	Results	Summary of Findings	Limitations
Bhargava, 2008 **PCS; 4y** **Risk of Bias Score: 4/24** **The Early Child Longitudinal Study-Kindergarten Cohort (ECLS-K)** **US-nationally representative**	Black (9%) Hispanic of all races (16%) White (65%) Asian (4%) N=7,635 6.1y (SD=0.4) 49.5% female **Mean BMI:** 16.86±2.83kg/m^2	**Households' food security levels in previous 12 months:** Used USDA Household Food Security Survey Module (HFSSM)- 18-item scale	**Maximum likelihood estimates from dynamic random effects model using model 1:** *Weight:* NS *BMI:* NS *Z-score of BMI:* NS	Household food insecurity was not a significant predictor of children's weights, BMI or Z-scores of BMI.** **Authors compared differences in findings to similar studies such as Jyoti, 2005 and suggested that findings "were presumably due to different model formulations, use of appropriate econometric techniques for longitudinal data at three time points and systematic treatment of households' food insecurity scores". (Noted for Jyoti et al, 2005: They "approximated food insecurity via a dichotomous variable that did not reflect intensity; statistical significance of its coefficient	NEL BAT Limitations: high loss to follow-up (61%) was not addressed; Diet not measured. **Other limitations:** Children's energy and nutrient intakes were not measured. It would be useful to measure weight of parents in the cohort for further analysis of determinants of food insecurity. Low rate of food insecurity in the cohort (<7%).

Question: What is the relationship between household food insecurity (HFI) and measures of body weight?

Author, Year Study Design, Duration Risk of Bias Score: Data Source, Location	Race/ Ethnicity Sample Size Age Gender Weight status at baseline	Description Food Insecurity Measure	Results	Summary of Findings	Limitations
				in the model for girls' weight changes may have been due to chance, given the low explanatory power of the model.")	
Dubois, 2006 **PCS; 3y** **Risk of Bias Score: 4/24** **Longitudinal Study of Child Development in Quebec (LSCDQ)** **Canada-nationally representative**	NR N=1,514 4.5y (at follow-up) 49.0% female **Birth weight:** *<2500g:* 4.4% *2500-4000g:* 84.8% *>4000g:* 10.8% **Mother's BMI:** *<25 (normal):* 71.8% *≥25 (overweight or obese):* 28.2%	Family Food Insufficiency data were collected via self-administered maternal questionnaires administered when the child was 1.5 years old and again at 4.5 years old. The questions were originally developed for the Radimer/Cornell questionnaire validated in the US.	**Food insufficiency and risk of obesity at follow-up** (ref: food sufficient): *Obesity risk (Cole criteria of obesity):* Adjusted OR=3.43 (95% CI=1.543-7.621) *Less than 2500g birth weight (Cole criteria of obesity):* Adjusted OR=3.144 (95% CI=1.160-8.525) *Obesity risk (≥95%ile on USDA growth curve):* Adjusted OR=1.958 (95% CI=1.052-3.644) *Less than 2500g birth weight (≥95%ile on USDA growth curve):* Adjusted OR=1.088 (95% CI=0.419-2.825)	Household food insufficiency was positively associated to increased likelihood of overweight/obesity among preschool children, independent of living in a low-income household. Food insufficiency during early childhood is related to overweight at 4.5 years with the highest risk being among low-birth-weight children who experience food insufficiency in their preschool years.	NEL BAT Limitations: no adjustment for race, physical activity, energy intake, or use of food assistance; it appears children could be categorized as food insufficient if either baseline or follow-up indicated they were, this could lead to very small exposure periods/cross-sectional relationships for some children who were only food insufficient at follow-up **Other Limitations:** Food insufficiency measure not specific to

Question: What is the relationship between household food insecurity (HFI) and measures of body weight?

Author, Year Study Design, Duration Risk of Bias Score: Data Source, Location	Race/ Ethnicity Sample Size Age Gender Weight status at baseline	Description Food Insecurity Measure	Results	Summary of Findings	Limitations
					the child; prevalence food insufficiency relatively low (6.3%)
Jyoti, 2005 **PCS; 4y** **Risk of Bias Score: 2/24** **Early Child Longitudinal Study-Kindergarten Cohort (ECLS-K)** **USA**	White (62.1%) Black (11.4%) Hispanic (16.6%) Other or more than one race (10.0%) N=11,460 6.2y 49.1% female **Mean BMI:** 16.42±2.32kg/m^2	Household food insecurity measured using USDA's Household Food Security Survey Module, an 18-item scale.	**Baseline food insecurity (kindergarten) and anthropometric outcomes at follow-up (3rd grade):** *All and Boy's (change in BMI):* NS *Girl's change in BMI:* β=0.428 (P=0.002) *All and Boy's (change in weight):* NS *Girl's change in weight:* β=0.761 (P=0.002) **Persistent food insecurity and anthropometric outcomes at follow-up (3rd grade):** *All (change in BMI):* β=0.354 (P=0.028) *Boy's change in BMI:* NS *Girl's change in BMI:* β=0.552	After controlling for known confounders in the lagged model, food insecurity at kindergarten predicted greater BMI and weight gains for girls. When looking at food security over time, girls had significant increase in weight gain when comparing those with secure food with persistently insecure food as well as comparing secure food to insecure food at any time. No associations with boy's weight or BMI were seen in fully adjusted models.	NEL BAT Limitations: high loss to follow-up (46%); no adjustment for diet/energy **Other limitations:** There is a long distance between the cause-effect relationship of food security change and weight gain to make strong conclusions; Some measures were taken by teachers, who are not involved in collection of exposure status, but it is not reported if the assessors of body

Question: What is the relationship between household food insecurity (HFI) and measures of body weight?

Author, Year Study Design, Duration Risk of Bias Score: Data Source, Location	Race/ Ethnicity Sample Size Age Gender Weight status at baseline	Description Food Insecurity Measure	Results	Summary of Findings	Limitations
			(P=0.021) *All (change in weight):* β=0.649 (P=0.026) *Boy's change in weight:* NS *Girl's change in weight:* β=1.040 (P=0.016) **Became food secure and anthropometric outcomes at follow-up (3rd grade):** *All groups, BMI, and weight:* NS		weight and height were blinded.

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Question: What is the relationship between household food insecurity (HFI) and measures of body weight?

Author, Year Study Design, Duration Risk of Bias Score: Data Source, Location	Race/ Ethnicity Sample Size Age Gender Weight status at baseline	Description Food Insecurity Measure	Results	Summary of Findings	Limitations
Metallinos-Katsara, 2012 **PCS; 5y** **Risk of Bias Score: 2/24** **Special Supplemental Nutrition Program for Women, Infants, and Children** **US**	Non-Hispanic white (41.4%) Non-Hispanic black (20.6%) Hispanic (31.6%) Asian (6.5%) N=28,353 3.1y (SD=0.81) 49.0% female **Underweight:** 3.3% **Normal weight:** 62.8% **Child overweight:** 16.8% **Obese:**17.1%	Food insecurity status derived from parent/caretaker responses to a four question sub scale (of the 18-item Core Food Security Module) during first infancy and last child visit. A third measure of food-security status combined these two measures into a single-time integrated variable that reflects status at both time points to measure chronicity.	**Food insecurity and risk of obesity** (Ref: persistently food secure) **Persistent food insecure with no hunger:** OR=1.22 (95% CI=1.06-1.41) **All other combinations of late, early, or persistent food insecurity and no hunger/hunger:** NS	Persistent food insecurity without hunger is prospectively related to child obesity. Non-persistent food insecurity and persistent or non-persistent food insecurity with hunger were not associated with obesity risk.	NEL BAT Limitations: Diet and physical activity was not assessed **Other limitations:** Data used are program data and generally have greater measurement error than data gathered specifically for research, household food-security status reflected adult status.

Question: What is the relationship between household food insecurity (HFI) and measures of body weight?

Author, Year Study Design, Duration Risk of Bias Score: Data Source, Location	Race/ Ethnicity Sample Size Age Gender Weight status at baseline	Description Food Insecurity Measure	Results	Summary of Findings	Limitations
Rose, 2006 **PCS; 1y** **Risk of Bias Score: 2/24** **Early Childhood Longitudinal Study-Kindergarten Cohort (ECLS-K)** **US**	58.8% white, 15.5% black, 18.6% Hispanic/Latino, 2.7% Asian N=12,890 6.2y 48.6% female 11.2% of the girls and 11.8% of the boys were overweight	Food-insecurity status was assessed by using the full 18-question US Department of Agriculture household Food Security Scale. Food insecure (i.e., either with or without hunger) or food secure.	**Food insecurity and weight outcomes at 1 year follow-up** *Risk of overweight:* NS *Risk of high weight gain:* OR=0.73 (95% CI=0.57-0.93)	Household food insecurity was not associated with risk of overweight, and was associated with reduced risk of high weight gain in young children.	NEL BAT Limitations: No control for diet or physical activity, although proxy measures of these were controlled for **Other limitations:** Short follow up time; authors reported the food-insecurity variable was correlated with the error terms in the regression equations, unobserved factors, or omitted variables, which affect both food insecurity and overweight status, could bias estimates; the food insecure group combined those with and without hunger

Evidence Synthesis

Food Insecurity and Weight Outcomes in Adults

Four articles assessed relationships between baseline food insecurity and change in food security status and weight outcomes in adults. Several different populations were studied in this body of evidence, with relevant limitations that are discussed. In general, few significant associations were found in this evidence.

Three studies assessed baseline food security status and weight outcomes at follow up (Kim, 2007; Olson, 2005; Whitaker, 2007). Two studies of young women found no association between food insecurity at baseline and weight gain, risk of obesity or BMI at two-year follow up (Olson, 2005; Whitaker, 2007). Another study assessed BMI at a seven-year or eight-year follow up in older adults and found no significant associations with baseline food security status (Kim, 2007).

Two studies assessed the relationship between change in food security status over time and weight outcomes (Kim, 2007; Whitaker, 2007). Kim, 2007 found that there was a positive association between food insecurity over time and BMI in the AHEAD cohort, which had a mean age of approximately 80 years. However, there were no associations found in the HRS cohort. Whitaker, 2007 found no association between change in food insecurity over a two-year period and change in body weight in a diverse sample of young women.

Laraia, 2010 examined food insecurity and weight gain during pregnancy and found a positive association. Food-insecure women gained more weight during pregnancy, had higher weight gain adequacy ratios and were at greater risk for severe pregravid obesity. No significant associations were seen for women who were only marginally food insecure.

This body of evidence had several limitations that should be considered when interpreting results. Men and middle-aged people were poorly represented, and the large elderly cohorts (Kim, 2007) were relatively homogenous with respect to race, limiting the generalizability of these studies. Additionally, although these articles controlled for many confounders and covariates, none adjusted for dietary and energy intake, and two did not adjust for physical activity (Olson, 2005; Whitaker, 2007). Another limitation is the follow up periods for three of the articles were relatively short at just two or less years (Laraia, 2010; Olson, 2005; Whitaker, 2007). Finally, self-report measures of height and weight were used for the large elderly cohorts (Kim, 2007) and self-report baseline weight was used for the study of weight gain during pregnancy (Laraia, 2010).

The limited number of articles that assessed the relationship between food security status and weight outcomes in adults employed heterogeneous methodology, studied different populations and yielded mostly null findings, yet some associations were found. The data suggest vulnerable populations (i.e., the elderly and pregnant women) may be at the greatest risk for poor weight status among the food insecure. Also, it is important to note that while findings were mostly non-significant, the direction of effect was positive (greater food insecurity was associated with greater weight gain or status) and no study reported an inverse association between food insecurity and weight status. A larger body of evidence with longer exposure periods, objective measures of independent and dependent variables and diverse samples are needed.

Food Insecurity and Weight Outcomes in Children

Five articles assessed the relationship between food insecurity and change in food insecurity status and weight in children. The studies enrolled racially diverse large samples of young children, and relevant limitations are discussed. The body of evidence is small and findings were mixed.

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All five articles examined the relationship between baseline food insecurity status and weight outcomes at follow-up. Follow-up periods ranged from one year to five years. Only one study found a positive association between food security and obesity risk at follow-up (Dubois, 2006). That study measured food insufficiency in a Canadian population and noted that low birth weight increased this effect at the three-year follow-up. Two studies found no associations between baseline food security status and weight outcomes (Bhargava, 2008; Metallinos-Katsara, 2012). Two studies had mixed findings (Jyoti, 2005; Rose, 2006). Jyoti, 2005 found significant associations between food insecurity and increased BMI and weight among girls but not boys. Rose, 2006 found no association with risk of overweight at one-year follow-up, and found an inverse association with risk of high weight gain. These varying findings may have been related to differing definitions of independent variables (e.g., food insecurity vs. food insufficiency) and exposure periods; therefore, more research is needed.

Two studies examined changes in food security status and weight outcomes (Jyoti, 2005; Metallinos-Katsara, 2012). Metallinos-Katsara, 2012 found that persistent food insecurity without hunger during the observation period was associated with increased obesity risk. That study found all other combinations of change in food security status (e.g., becoming food insecure during the observation period), with and without hunger, were not significantly associated with obesity risk. Jyoti, 2005 found persistent food insecurity during the observation period was associated with increased BMI and weight gain in girls but not boys. Jyoti, 2005 did not find significant associations with other combinations of change in food security status and did not make a distinction between food insecurity with or without hunger. This small body of evidence suggests the duration of exposure, hunger status and child gender may be important factors in studying the relationship between food insecurity and weight outcomes.

Compared to the adult studies, the studies of children enrolled large diverse samples over a similar age group; however, several of the same, and some different, limitations exist that should be considered when interpreting the results. Like the studies with adults, the studies in children did not adjust for diet and energy intake, and two did not adjust for physical activity while the others used proxy measures of physical activity. Also, the observation periods were relatively short, ranging from one year to five years. There were inconsistencies in the definition of food insecurity (e.g., insecurity vs. insufficiency and hunger vs. no hunger). Though the sample sizes were large and diverse, no studies examined adolescents. Lastly, three of the five articles came from the same cohort (ECLS-K), which may introduce the possibility of publication bias.

Although the overall findings were mixed, they suggest that persistent exposure to food insecurity may be related to increased weight or obesity risk in young children, while intermittent exposure may not be. There was also some indication that the effect may differ by variable definition, with the accompaniment of hunger and by gender. A larger body of evidence is needed with longer exposure periods, adjustment for diet and physical activity levels and adolescent participants.

Limitations

Overall, heterogeneity in populations and methodology may contribute to the mixed findings. Additional research is needed across a broader age range, among more ethnically and racially diverse populations using a more consistent approach to measure household food insecurity and analysis of potential mediators including dietary intake, and access to food assistance programs.

The following limitations were noted in this body of evidence:

- Limited generalizability:
    - Adult studies: Few studies with men or middle-aged populations; lacking

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racially diverse samples
    - Child studies: No studies with adolescents.
- Food insecurity definitions differed:
    - Variations in the questions from the HFSSM used to assess food insecurity could affect ability to make comparison of results across studies
    - Assessment of hunger with food insecurity was not consistent
- Use of self-reported outcomes (such as height and weight) in adult studies, rather than investigator measured outcomes, increased risk for responder bias
- The studies were not consistent in their selection of variables in multi-variate analysis, so adjustments could be made to account in a similar fashion for potential confounding
- Studies did not control for diet or energy intake and few controlled for physical activity
- Observation periods were relatively short

Research recommendations

- Additional research is needed in the following areas:
- Conduct prospective cohort studies which cover a wider age range during childhood, adolescents and older adults and include boys, families, and ethnically/racially diverse populations
- Studies designed to better describe potential effect modifiers such as gender, ethnic and cultural factors, family structure, area of residence (i.e., urban vs. rural), employment and use of social support systems
- Prospective cohort studies that assess the relationship between household food insecurity and dietary intake
- Studies designed to enhance understanding of the temporal sequencing of the exposure and how families cope with food insecurity
- Standardization of research methodology, including a more consistent approach to measurement of food insecurity and use of measured height and weight to reduce the likelihood of responder bias.

Search plan and results

Inclusion criteria

- Databases:
    - PubMed
    - EMBASE
    - Cochrane
- Year Range (children and adults): 2004 to May 2014
- Search Terms (specific terms used will be tailored depending on database searched):
- Dependent variables:
    - Diet quality
    - Foods and food groups
    - Macronutrient intakes and proportions
    - Obesity
    - Overweight
    - Body mass index (BMI)
    - Waist circumference
    - Body weight
    - Weight change
    - Percent body fat mass
    - Child growth indices (weight-for-age, length/stature-for-age, weight for stature, BMI-for-age, BMI Z-score)

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- Independent variables: Household food insecurity
- Prospective cohort studies
- Peer-reviewed articles published in English
- Human subjects
- Two years and older (grouped by age group, as possible)
- International population from high or very highly developed countries as defined by the 2012 Human Development Index[1]
- Healthy and those with elevated chronic disease risk (grouped by health status)
- Articles were included if they were published in English in a peer-reviewed journal between January 2004 and May 2014. If an author is included on more than one primary research article that is similar in content, the paper with the most pertinent data and endpoints was included and others excluded. If data and endpoints from both papers are appropriate, it was made clear that results are from the same intervention

  [1] United Nations Development Programme. Human Development Report 2013, The Rise of the South: Human Progress in a Diverse World 2013. Available from http://hdr.undp.org/sites/default/files/reports/14/hdr2013_en_complete.pdf.

Exclusion criteria

- Narrative reviews, systematic reviews, meta-analyses, before-and-after studies, case-control studies, cross-sectional studies, non-randomized controlled trials, randomized controlled trials (RCTs), crossover trials
- Studies conducted with hospitalized patients or malnourished subjects
- Studies that exclusively enroll subjects with a particular disease
- (Note: Studies that exclusively enroll subjects with obesity will not be excluded.)

Analytic framework

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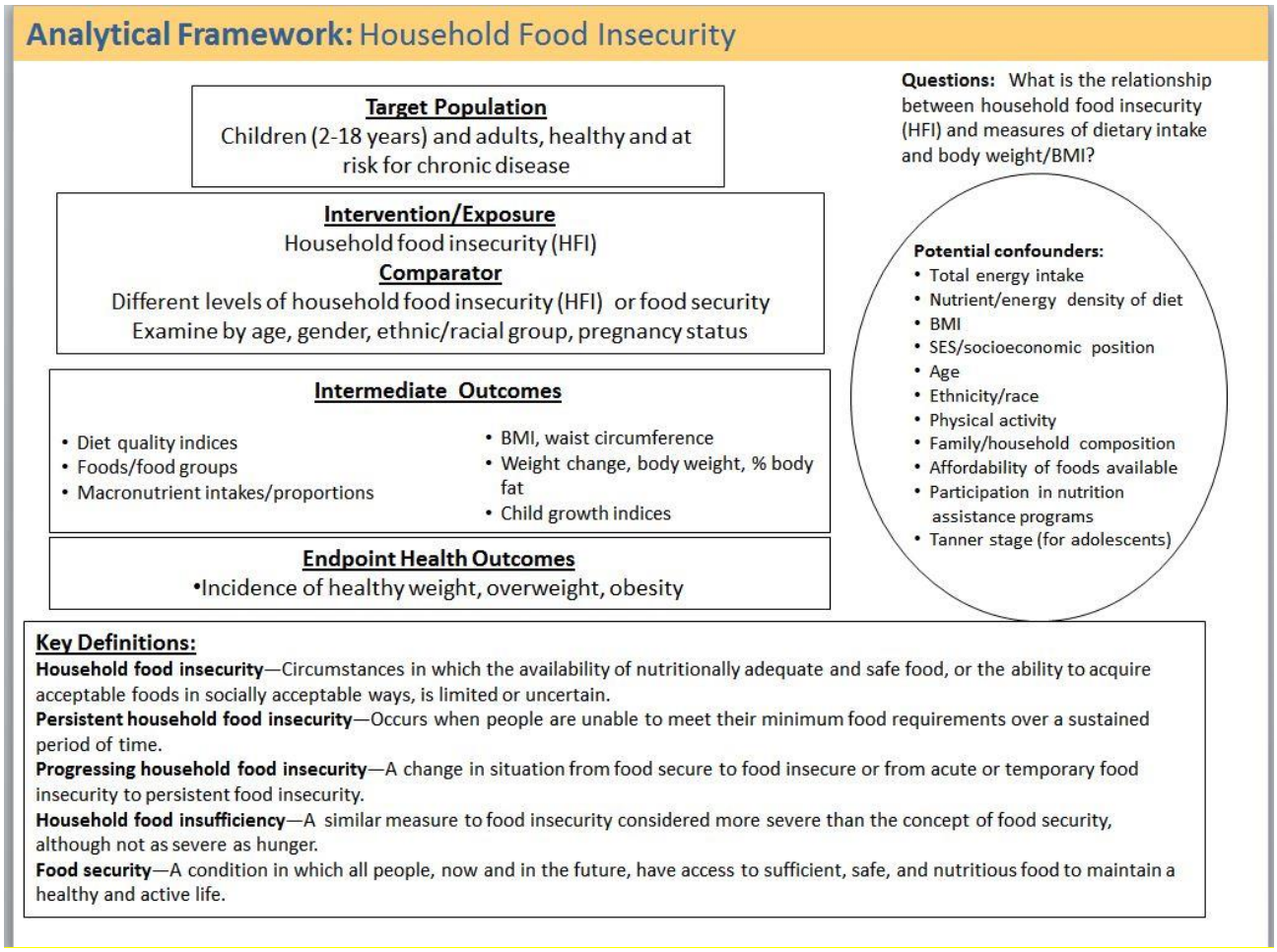

Search terms and electronic databases used

- ***PubMed/MEDLINE***
  - *Date(s) Searched:* ***May 2014***
  - *Search Terms: (house*[tiab] OR family[tiab] OR families[tiab] OR family[mh] OR home[tiab] OR homes[tiab] OR parent*[tiab] OR parenting[mh] OR family characteristics[mh] OR parents[mh] OR poverty[majr] OR low income*[tiab])*

    AND

    (food insecur[tiab] OR food-insecur*[tiab] OR food landscape*[tiab] OR food supply[majr] OR food secur*[tiab] OR food availabil*[tiab] OR food insufficienc*[tiab] OR food hardship*[tiab] OR hunger[tiab]OR hunger[mh] OR food affordabilit*[tiab] OR food access*[tiab] OR food inaccessib*[tiab])*

    AND

    nutrition[tiab] OR diet[mh] OR diet[tiab] OR dietary[tiab] OR food preferences[mh] OR feeding behavior[mh:noexp] OR nutrition surveys[mh] OR food[tiab] OR Food and Beverages[mh] OR food*

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group[tiab] OR eating behavior*[tiab] OR eating behaviour*[tiab] OR meals[ti] OR meal[ti] OR breakfast[tiab] OR lunch[tiab] OR dinner[tiab] OR snacks[tiab] OR snack[tiab] OR caloric intake*[tiab] OR caloric dens*[tiab] OR high calori*[tiab] OR energy dens*[tiab] OR fruit*[tiab] OR vegetable*[tiab] OR dietary intake*[tiab] OR food intake*[tiab] OR energy intake*[tiab] OR food habits[mh] OR dietary habit*[tiab] OR diet habit*[tiab] OR eating habit*[tiab] OR nutrient intake*[tiab] OR food choice*[tiab] OR portion size*[tiab] OR "diet quality"[tiab] OR "dietary quality"[tiab] OR dietary choice*[tiab] OR dietary change*[tiab] OR diet records[mh] OR nutritional status[mh] OR nutritional sciences[mh:noexp] OR dietetics[mh] OR dietary pattern*[tiab] OR diet pattern*[tiab] OR eating pattern*[tiab] OR food pattern*[tiab] OR eating habit*[tiab] OR food habit*[tiab] OR dietary profile*[tiab] OR food profile*[tiab] OR diet profile*[tiab] OR eating profile*[tiab] OR dietary guideline*[tiab] OR dietary recommendation*[tiab] OR food intake pattern*[tiab] OR dietary intake pattern*[tiab] OR eating style*[tiab]) OR (Macronutrient*[tiab] AND (Proportion*[tiab] OR composition[tiab] OR distribution*[tiab] OR percent*[tiab] OR diet composit*[tiab])) OR dietary score*[tiab] OR adequacy index*[tiab] OR kidmed[tiab] OR Food Score*[tiab] OR Diet Score*[tiab] OR MedDietScore[tiab] OR Dietary Pattern Score*[tiab] OR "healthy eating index"[tiab] OR "Diet Quality Index" OR "Recommended Food Score" OR "Eating Plan Score"*

AND

("body size"[tiab] OR body size[mh] OR obesity[tiab] OR obese[tiab] OR overweight[mh] OR obesity[mh] OR overweight [tiab] OR overnutrition[tiab] OR adipos[tiab] OR adiposity[mh] OR body composition[mh] OR body fat distribution[mh] OR "body fat"[tiab] OR "body weight"[tiab] OR body weight[mh:noexp] OR weight gain[mh] OR weight loss[mh] OR "weight gain"[tiab] OR weight loss[tiab] OR weight change*[tiab] OR Body Weights and Measures[Majr] OR weight[ti] OR "Anthropometry"[Mesh:noexp] OR "body mass index"[tiab] OR BMI[tiab] OR "weight status"[tiab] OR adipose tissue [mh] OR "healthy weight"[tiab] OR waist circumference[mh] OR "body fat mass"[tiab] OR body weight changes[mh] OR "waist circumference"[tiab] OR ideal body weight[mh] OR waist-hip ratio[mh] OR child development[mh] OR growth[ti] OR growth[mh:noexp])*

Limiters to: Types

(cohort studies[mh] OR cohort[tiab] OR prospective[tiab] OR prospective studies[mh] OR prospective stud*[tiab] OR prospective cohort*[tiab] OR longitudinal[tiab]) NOT (retrospective studies[mh] OR cross-sectional studies[mh] OR cross-sectional[tiab] OR case-control studies[mh] OR case-control*[tiab] OR seroepidemiologic studies[mh] OR hiv seroprevalence[mh])*

- ***Cochrane***
  - *Date(s) Searched:* ***May 2014***

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- *Search Terms: (Household food insecurity OR household food security OR ((family OR families OR household) AND (hunger OR food access OR food insufficiency OR food hardship OR food availability OR food security))*

  AND

  (obesity OR obese OR weight OR diet OR dietary OR overweight OR adipos OR growth OR bmi OR "body mass" OR underweight OR nutrition OR eat* OR feed* OR calor* OR "energy intake" OR anthropom*)*

  - *Note: No articles retrieved*

- ***EMBASE***
  - *Date(s) Searched:* ***May 2014***
  - *Search Terms: 'nutritional science'/mj OR nutrition:ab, ti OR 'nutrition'/exp OR 'food'/exp OR diet:ti OR dietary:ti OR 'food preferences':ab, ti OR 'food preference':ti OR 'feeding behavior':ab, ti OR food*:ti OR eating:ab, ti OR 'eating habit':ab, ti OR 'eating behavior':ab, ti OR 'eating behaviour':ab, ti OR 'eating behaviors':ti OR meals:ti OR meal:ti OR breakfast:ab, ti OR lunch:ab, ti OR dinner:ab, ti OR snacks:ab, ti OR snack:ab, ti OR 'caloric density':ab, ti OR 'caloric intake':ab, ti OR 'calorie dense':ab, ti OR 'high calorie':ab, ti OR 'energy dense':ab, ti OR fruit*:ab, ti OR vegetable*:ab, ti OR 'dietary intake':ab, ti OR 'food intake':ab, ti OR 'energy intake':ab, ti OR 'diet habits':ab, ti OR 'eating habits':ab, ti OR 'nutrient intake':ab, ti OR 'nutrient intakes':ab, ti OR 'food choice':ab, ti OR 'food choices':ab, ti OR 'portion size':ab, ti OR 'portion sizes':ab, ti OR 'diet quality':ab, ti OR 'dietary choice':ab, ti OR 'dietary choices':ab, ti OR 'dietary change':ab, ti OR 'nutritional status':ti OR 'dietary pattern':ab, ti OR 'dietary patterns':ab, ti OR 'diet pattern':ab, ti OR 'diet patterns':ab, ti OR 'eating pattern':ab, ti OR 'eating patterns':ab, ti OR 'food pattern':ab, ti OR 'food patterns':ab, ti OR 'food habit':ab, ti OR 'food habits':ab, ti OR 'dietary profile':ab, ti OR 'food profile':ab, ti OR 'diet profile':ab, ti OR 'eating profile':ab, ti OR 'eating profiles':ti OR 'dietary guideline':ab, ti OR 'dietary recommendation':ab, ti OR 'food intake pattern':ab, ti OR 'food intake patterns':ab, ti OR 'dietary intake pattern':ab, ti OR 'dietary intake patterns':ab, ti OR 'eating style':ab, ti OR 'eating styles':ab, ti OR (macronutrient*:ab, ti AND (proportion*:ab, ti OR composition:ab, ti OR distribution*:ab, ti OR percent*:ab, ti OR 'diet composition':ab, ti)) OR 'dietary score':ab, ti OR 'adequacy index':ab, ti OR kidmed:ab, ti OR 'food score':ab, ti OR 'diet score':ab, ti OR meddietscore:ab, ti OR 'dietary pattern score':ab, ti OR 'healthy eating index':ab, ti NOT ([conference abstract]/lim OR [conference paper]/lim OR [conference review]/lim) AND [humans]/lim AND [english]/lim AND [2004-2014]/py OR*

    'body size'/de OR 'obesity'/exp OR overweight:ab, ti OR 'body weight'/exp OR 'weight reduction':ab, ti OR 'body weight'/exp/mj OR 'weight'/mj OR 'weight height ratio'/mj OR 'body mass':ab, ti OR 'body

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mass'/de OR weight:ab, ti OR growth:ab, ti OR 'growth'/de OR 'body growth'/exp OR 'anthropometric parameters'/exp OR 'physical development'/de OR 'body size':ab, ti OR 'body height':ab, ti OR 'body height'/de OR 'body weight':ti OR 'weight gain':ab, ti OR 'weight gain'/de OR 'weight loss':ab, ti OR obesity:ab, ti OR obese:ab, ti OR 'overnutrition'/de OR adiposity:ab, ti OR 'body composition'/mj OR 'body fat':ab, ti OR adipos:ab, ti OR weight:ti OR 'body mass index':ab, ti OR bmi:ab, ti OR 'weight status':ab, ti OR 'healthy weight':ab, ti OR 'body fat mass':ab, ti OR 'weight change':ab, ti OR 'waist circumference':ab, ti OR 'waist hip ratio'/de OR 'body fat'/de OR 'adipose tissue'/exp NOT ([conference abstract]/lim OR [conference paper]/lim OR [conference review]/lim) AND [humans]/lim AND [english]/lim AND [2004-2014]/py*

AND

'household food insecurity':ab, ti NOT ([conference abstract]/lim OR [conference paper]/lim OR [conference review]/lim) AND [humans]/lim AND [english]/lim AND [2004-2014]/py OR

(food NEAR/2 (afford OR access* OR avail* OR insufficien* OR hardship* OR inacces sib* OR insecure* OR secur* OR landscape* OR supply* OR desert OR deserts)):ab, ti NOT ([conference abstract]/lim OR [conference paper]/lim OR [conference review]/lim) AND [humans]/lim AND [english]/lim AND [2004-2014]/py OR*

hunger:ab, ti OR 'hunger'/mj OR 'food insecurity'/de OR 'food security'/de OR 'food availability'/mj NOT ([conference abstract]/lim OR [conference paper]/lim OR [conference review]/lim) AND [humans]/lim AND [english]/lim AND [2004-2014]/py

AND

'cohort analysis'/de OR cohort:ab, ti OR longitudinal:ab, ti OR prospective:ab, ti OR 'prospective cohort':ab, ti AND [humans]/lim AND [english]/lim AND [2004-2014]/py NOT ([conference abstract]/lim OR [conference paper]/lim OR [conference review]/lim)

Date range: May 2004 to May 2014

Summary of articles identified to review

- Total hits from all electronic database searches: 574
- Total articles identified to review from electronic databases: 65
- Articles identified via handsearch or other means: 0
- Number of Primary Articles Identified: 65
- Number of Review Articles Identified: 0
- Total Number of Articles Identified: 9
- Number of Articles Reviewed but Excluded: 56

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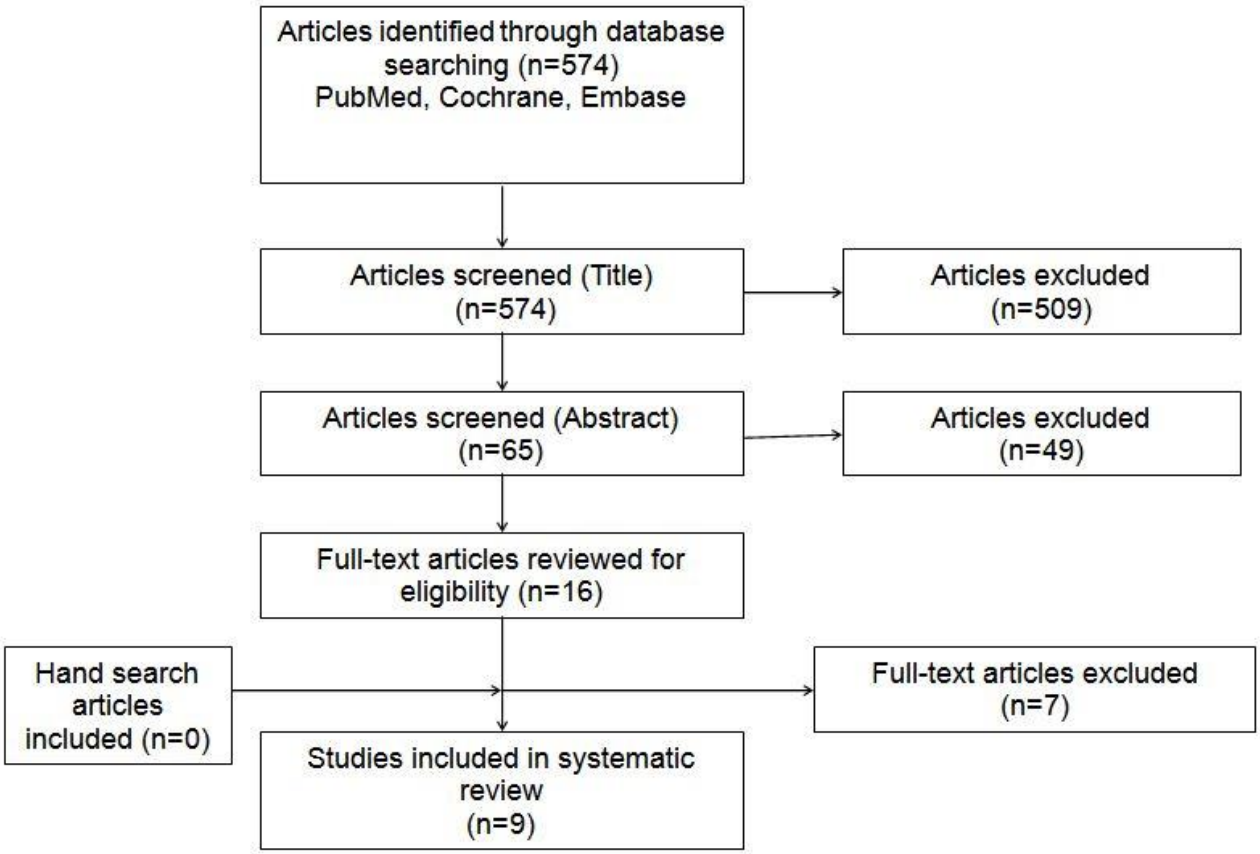

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Excluded articles

See Appendix G for a full list of excluded articles with reason.

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CHAPTER 9. ACCULTURATION – DIETARY INTAKE

WHAT IS THE RELATIONSHIP BETWEEN ACCULTURATION AND DIETARY INTAKE?

TECHNICAL ABSTRACT

Background

The goal of this systematic review was to determine whether acculturation is associated with measures of dietary intake. Acculturation has been defined both as the "process by which immigrants adopt the attitudes, values, customs, beliefs and behaviors of a new culture,"[1] and as the "gradual exchange between immigrants' original attitudes and behavior and those of the host culture."[1] Acculturation is relevant for individual dietary behaviors because evidence suggests that the healthy lifestyles with which recent immigrants arrive deteriorate as they integrate or assimilate into mainstream American culture.[2] Moreover, evidence suggests that to be effective in helping immigrants retain their healthy lifestyles, nutrition education and food assistance programs must be tailored to their different levels of acculturation.[2]

Conclusion statement

Limited evidence from cross-sectional studies suggests that in adults of Latino/Hispanic national origin, particularly women and those of Mexican origin, higher acculturation to the United States is associated with lower fruit and vegetable intake, as well as higher intake of fast food. Insufficient evidence is available for children, Asians and African Americans in general, and among populations of diverse Latino/Hispanic national origin to draw a conclusion regarding the association between measures of acculturation and dietary intake.

2015 DGAC Grade: **Limited**

Methods

Literature searches were conducted using PubMed, Embase and Cochrane databases to identify studies that evaluated the association between acculturation and dietary intake. Studies that met the following criteria were included in the review: cross-sectional and cohort studies; human subjects aged two years and older who were healthy or at elevated chronic disease risk; studies conducted in the United States with participants residing within the United States and when available, participants residing in the country of origin; and studies published in English in peer-reviewed journals January 2004 to January 2014. The exposure was acculturation measured by acculturation scales, or more than one proxy for acculturation (e.g., time living in the United States, language preference, place of birth). The outcome was diet quality, foods, food groups, macronutrient intakes or proportions.

Data from each included article were extracted, and risk of bias was assessed. The evidence was qualitatively synthesized, a conclusion statement was developed and the strength of the evidence (grade) was assessed using pre-established criteria, including evaluation of the quality and risk of bias, quantity, consistency, magnitude of effect and generalizability of available evidence.

Findings

- This evidence review includes 17 studies, 15 cross-sectional and two longitudinal studies that examine the association between multidimensional or multiple proxy measures of acculturation and dietary intake in Latino/Hispanic and Asian populations
- In adults of Latino/Hispanic national origin, evidence from nine cross-sectional

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analyses suggests that higher acculturation to the United States is associated with lower adherence to recommended dietary patterns:
  - Among adults of Latino/Hispanic national origin, primarily women and those of Mexican origin, higher acculturation is consistently associated with lower fruit and vegetable intake, as well as higher intake of fast foods
  - In children and youth of Latino/Hispanic national origin, emerging evidence from two cross-sectional studies suggests an association between acculturation and diet behaviors. A study with three-year-olds to five-year-olds (proxied by caregiver acculturation) indicated an association with higher sweets intake and a study among adolescents, indicated an association with higher intake of fast foods.
- Among Asian populations, emerging evidence from five cross-sectional and two longitudinal studies suggest that higher acculturation to the United States is associated with lower adherence to recommended dietary patterns:
  - In adults, six studies among Asian populations (mainly Korean, Chinese and Filipino) suggest higher acculturation is associated with higher fast food and alcohol consumption
  - One study suggests higher acculturation is associated with increased fast food consumption among Asian adolescents.
- Insufficient evidence is available among children, those of Latino/Hispanic national origin (other than Mexican-Americans), and among immigrant populations from Asia, Africa, Europe, and the Middle East regarding the association between measures of acculturation and dietary intake.

Limitations

- The preponderance of the evidence is from cross-sectional studies, thus causality inferences cannot be made and it is unknown whether the relationship changes over time
- Acculturation measures differed substantially across studies and very few studies used multidimensional acculturation scales

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FULL REVIEW

Conclusion statement

Limited evidence from cross-sectional studies suggests that in adults of Latino/Hispanic national origin, particularly women and those of Mexican origin, higher acculturation to the United States is associated with lower fruit and vegetable intake, as well as higher intake of fast foods. There is insufficient evidence available for children, Asians and African Americans in general, and among populations of diverse Latino/Hispanic national origin, to draw a conclusion regarding the association between measures of acculturation and dietary intake.

Grade

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Limited

Key findings

- In adults of Latino/Hispanic national origin, evidence from nine cross-sectional analyses suggests that higher acculturation to the United States is associated with lower adherence to recommended dietary patterns:
    - Among adults of Latino/Hispanic national origin, primarily women and those of Mexican origin, higher acculturation is consistently associated with lower fruit and vegetable intake, as well as higher intake of fast foods
    - In children and youth of Latino/Hispanic national origin, emerging evidence from two cross-sectional studies suggests an association between acculturation and diet behaviors. A study with three-year-olds to five-year-olds (proxied by caregiver acculturation) indicated an association with higher sweets intake and a study among adolescents indicated an association with higher intake of fast foods.
- Among Asian populations, emerging evidence from five cross-sectional and two longitudinal studies suggest that higher acculturation to the United States is associated with lower adherence to recommended dietary patterns:
    - In adults, six studies among Asian populations (mainly Korean, Chinese and Filipino) suggest higher acculturation is associated with higher fast food and alcohol consumption
    - One study suggests higher acculturation is associated with increased fast-food consumption among Asian adolescents
- Insufficient evidence is available among children, those of Latino/Hispanic national origin (other than Mexican-Americans), and among immigrant populations from Asia, Africa, Europe, and the Middle East regarding the association between measures of acculturation and dietary intake

Evidence summary

Description of the Evidence

This evidence review includes 17 studies, including 15 cross-sectional studies (Corral, 2008; Creighton, 2012; Dubowitz, 2008; Gomez, 2004; Erinosho, 2012; Ghaddar, 2010; Kasirye, 2005; Matias, 2013; Montez, 2008; Parikh, 2009; Shin 2011; Song, 2004; van Rompay, 2012; Van Wieren, 2011; Wang, 2011) and two longitudinal studies (Novotny, 2012; Unger, 2004), which examine the association between multidimensional or multiple proxy measures of acculturation and dietary intake in Latino/Hispanic and Asian populations residing within the United States and, when available, participants residing in the country of origin. Four studies assessed data from the California Health Interview Survey (CHIS), each used a different method to measure acculturation and focused on a different segment of the population including Mexican-American adults (Corral, 2008); Latino-American adults (Van Wieren, 2011); Mexican-American children three years to five years of age, proxied by caregiver acculturation (Erinosho, 2012); and Chinese, Korean and Vietnamese adults (Wang, 2011). One longitudinal study assessed the prospective association between acculturation measures in Asian American and Latino/Hispanic sixth grade urban middle school students in Southern California and frequency of fast food consumption in seventh grade (Unger, 2004). One retrospective longitudinal study conducted in adult Hawaiian hotel employees, predominately of Asian and Pacific Islander ancestry, examined the association between acculturation at 24 months, dietary change resulting from a 24-month wellness intervention and baseline dietary intake data (Novotny, 2012). Risk of bias scores on the NEL Bias Assessment Tool (BAT) ranged from zero of 24 to six of 24. Scores ranged from zero to 24 to two of 24 in studies conducted in Latino/Hispanic populations, indicating low risk of bias for a cross-sectional

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study design. Studies among Asian populations had relatively higher risk of bias, with scores ranging from two of 24 to six of 24. Risk of bias was due primarily to the use of multiple acculturation proxies rather than validated multidimensional scales and use of a non-validated dietary assessment tool (NEL BAT Summary).

Population

Ten studies focused on Latino/Hispanic populations (Corral, 2008; Creighton, 2012; Dubowitz, 2008; Erinosho, 2012; Ghaddar, 2010; Kasirye, 2005; Matias, 2013; Montez, 2008; van Rompay, 2012; Van Wieren, 2011), six studies targeted Asian populations (Gomez, 2004; Novotny, 2012, Parikh, 2009; Shin, 2011; Song, 2004; Wang, 2011) and one study included both Latino/Hispanic and Asian students (Unger, 2004). Ten studies were conducted in California, six in Latino/Hispanic populations (Corral, 2008; Creighton, 2012; Erinosho, 2012; Kasirye, 2005; Matias, 2013; Van Wieren, 2011), three in Asian populations (Gomez, 2004; Song, 2004; Wang, 2011) and one study included both Latino/Hispanic and Asian students (Unger, 2004). Studies focused on Latino/Hispanic populations were also conducted in Massachusetts (Dubowitz, 2008; van Rompay, 2012), states along the Mexican border (Ghaddar, 2010) and one study included a national sample (Montez, 2008). Additional studies targeting Asian populations were conducted in Hawaii (Novotny, 2012), New York (Parikh, 2009) and a Midwestern city (Shin, 2011).

Five studies focused specifically on Mexican-American populations (Corral, 2008; Creighton, 2012; Erinosho, 2012; Ghaddar, 2010; Montez, 2008), one study targeted Puerto Rican residence of Boston, Massachusetts (van Rompay, 2012) and five studies included a broader range of Latino/Hispanic subjects (Dubowitz, 2008; Kasirye, 2005; Matias, 2013; Unger, 2004; Van Wieren, 2011). Among studies focused on Asian populations, two studies examined Korean populations (Shin, 2011; Song, 2004); one studied a Chinese population (Parikh, 2009); one study included Chinese, Korean and Vietnamese subjects (Wang, 2011); one studied self-reported Asian-American students (Unger, 2004); and two included a broad range of subjects from the Philippines, Korea, Vietnam, China, Japan and Pacific Islands (Gomez, 2004; Novotny, 2012).

Analytic sample sizes varied from 76,638 to 517 subjects. Twelve studies had less than 2,100 participants (Creighton, 2012; Dubowitz, 2008; Erinosho, 2012; Ghaddar 2010; Kasirye, 2005; Matias, 2013; Montez, 2008; Novotny, 2012; Shin, 2011; Parikh, 2009; Unger, 2004; van Rompay, 2012), four studies had 3,000 to 7,300 participants (Corral, 2008; Gomez, 2004; Song 2004; Wang, 2011) and one study had 76,638 subjects (Van Wieren, 2011).

Two studies assessed dietary intake in children, one examined the association between caretaker acculturation and dietary intake of three-year-olds to five-year-olds (Erinosho, 2012) and one assessed the relationship between sixth grader's acculturation and consumption of fast foods one year later (Unger, 2004). The remainder of the studies focused on adult populations and one study focused specifically on Chinese Americans older than 55 years of age (Parikh, 2009).

The majority of studies included both men and women, but three studies conducted in Latino/Hispanic populations included only women; one recruited pregnant Latina/Hispanic women (Kasirye, 2005), one studied women six weeks to 20 weeks postpartum (Dubowitz, 2008) and one included non-pregnant women of Mexican descent (Montez, 2008). Information related to socioeconomic status (SES) was reported in all studies, and indicators included educational achievement, income level, employment status, and housing information**.**

Strategies for Measuring Acculturation

Methodologically, acculturation was assessed in Latino/Hispanic and Asian populations using

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multidimensional acculturation scales and a variety of acculturation proxies. Only one study used a multicultural measurement tool, the Acculturation, Habits, and Interests Multicultural Scale for Adolescents (AHIMSA), to measure acculturation in both Latino/Hispanic and Asian youth (Unger 2004). Most multidimensional scales were culturally specific, but underlying model assumptions varied. Commonly used acculturation proxies included language preference or proficiency, nativity (place of birth), measures of social acculturation, generation, age at immigration and duration of time in the United States. Methods used to collect and combine proxies varied widely between studies.

- *In Latino/Hispanic populations*:
    - Seven studies used multidimensional acculturation scales:
        - Two studies used the Acculturation Rating Scale for Mexican-Americans (ARSMA-II) short version (Kasirye, 2005; Matias, 2013). One investigator collapsed the scale into two categories rather than three and augmented the tool by evaluating dietary intake by country of birth, years living in the United States and school attendance in the United States (Matias, 2013). This scale uses an orthogonal, multidimensional approach, assessing cultural orientation toward Mexican and Anglo culture independently (Dawson, 1996).
        - One study used the Psychological Acculturation Scale (PAS), which assesses an individual's sense of psychological attachment to and belonging within the Anglo American and Latino/Hispanic cultures (Tropp, 1999), along with the language-based modified Bi-dimensional Acculturation Scale for Hispanics (BAS) and the acculturation proxy length of stay in the United States to assess acculturation in a Puerto Rican population (van Rompay 2012)
        - One study used the Short Acculturation Scale for Hispanics (SASH), a five-item scale that measures language, English vs. Spanish (Ghaddar, 2010)
        - One study used a six-item scale based upon a unidimensional model of acculturation addressing interview language, primary language used at home, English proficiency, citizenship status, birthplace and percent of life spent in the United States (Van Wieren, 2013)
        - One study created a scoring system that combined place of birth, length of US residency and language spoken at home (Erinosho, 2010)
        - One study focused on youth, used the newly developed Acculturation, Habits, and Interests Multicultural Scale for Adolescents (AHIMSA) (Unger, 2004).
    - Four studies assessed acculturation using multiple acculturation proxies:
        - One study used nativity and language proxies (Corral, 2008)
        - One study measured language, social and generation acculturation (Creighton, 2012)
        - One study examined nativity, language spoken at home, social support and neighborhood characteristics (Dubowitz, 2008)
        - One study assessed nativity, language acculturation and an interaction variable representing both country of birth (nativity) and language acculturation (Montez, 2008).
- *In Asian populations*:
    - Four studies used multidimensional acculturation scales:
        - One study adapted a tool from a previous study for an Asian and Pacific Islander population that took into account country of birth, age when immigrated, number years living in the United States, language spoken at home and highest level of formal education (Novotny, 2010)
        - One study measured acculturation in a Chinese-American population using a

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two-category variable associated with language and media preference (Parikh, 2009)
    - One study used Lee's Acculturation Scale which measured language proficiency, identity, friends and acquaintances (Shin, 2001). English language and Korean language surveys were analyzed separately.
    - One study used a tool designed to measure cultural preferences involving language, music, food, self-identification, father's identification and social linkages including ethnicity of peers and preferred associations, and used cluster analysis to created acculturation groups (Song, 2004).
  - Two studies assessed acculturation using multiple acculturation proxies:
    - One study considered four proxies, including country of birth, age at which family moved to the United States, generation and language preference (Gomez, 2004)
    - One study constructed three acculturation groups (traditional, bicultural and acculturated) by combining nativity and language proficiency in English and Asian languages (Wang, 2011).

Outcome Assessment

Dietary intake was assessed primarily using short screening tools focused on specific dietary intake categories.

- *In Latino/Hispanic populations*:
  - Fruit and vegetable intake was assessed in ten cross-sectional studies, nine in adult populations (Corral, 2008; Creighton, 2012; Dubowitz, 2008; Ghaddar, 2010; Kasirye, 2005; Matias, 2013; Montez 2008; van Rompay, 2012; Van Wieren, 2011) and one in children (Erinosho, 2012)
  - Fast food was assessed in one longitudinal study in youth (Unger, 2004) and two cross-sectional studies (Van Wieren, 2011; Creighton, 2012) in adult populations
  - Sugar-sweetened beverage or sweets were analyzed in two cross-sectional studies (Creighton, 2012; Van Wieren, 2011) in adult populations and one cross-sectional analysis in children (Erinosho, 2012)
- *In Asian populations*:
  - Fruit and vegetable intake was assessed in one longitudinal study (Novotny, 2012) and two cross-sectional studies (Song, 2004; Wang, 2011) in adults
  - Sugar-sweetened beverage intake was measured in one longitudinal study (Novotny, 2012) and one cross-sectional analysis (Wang, 2011) in adults
  - Fast food consumption was assessed in one longitudinal study (Unger, 2004) in children, and two cross-sectional analyses (Song, 2004; Wang, 2011) in adults
  - Meat intake was examined in adults, in one longitudinal study (Novotny, 2012) and one cross-sectional analysis (Song, 2004)
  - Alcohol intake was assessed in three cross-sectional studies (Gomez, 2004; Parikh, 2009; Song, 2004)
  - One study assessed fatty acid and starch content of the diet (van Rompay, 2012)
  - One study assessed soy intake (Gomez, 2004)

Evidence Synthesis

Themes and Key Findings for Acculturation and Dietary intake

Dietary Intake in Latino/Hispanic Populations

Ten cross-sectional studies (Corral, 2008; Creighton, 2012; Dubowitz, 2008; Erinosho, 2012; Ghaddar, 2010; Kasirye, 2005; Matias, 2013; Montez, 2008; van Rompay, 2012; Van Wieren, 2011) and one longitudinal study (Unger, 2004) investigated the association between

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acculturation and dietary intake in Latino/Hispanic populations (**Table 1**). Most commonly measured outcomes included fruits and vegetables, fast food and sugar-sweetened beverage intake.

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Question: What is the relationship between acculturation and dietary intake?

Table 1: Association between multidimensional or multiple proxy measures of acculturation and dietary intake in Latino/Hispanic populations

Author, Year Sample Size Data Source, Location Risk of Bias*	Race/Ethnicity/Nativity Age Gender	Acculturation Measure Dietary Intake Measure	Results	Trend by Acculturation Measure
Longitudinal Study (1 year)				
Unger, 2004 **N=2004** **School-based survey, California** **Risk of bias: 2/24**	Latino/ Hispanic (69%), Asian Descent (31%) 11y 53.7% female	Subscale of the Acculturation, Habits, and Interests Multicultural Scale for Adolescents (AHIMSA) (validated); language proxy **Dietary Measure:** Self-reported fast-food intake	**Fast-food consumption:** Acculturation to US associated with increased frequency (β=0 .078, P<0.001) **Language usage:** Non significant (NS)	**US orientation subscale of the AHIMSA (high vs. low):** *Fast-food:* Positive association **English language use:** *Fast-food:* No association
Cross-sectional Studies				

Question: What is the relationship between acculturation and dietary intake?

Table 1: Association between multidimensional or multiple proxy measures of acculturation and dietary intake in Latino/Hispanic populations

Author, Year Sample Size Data Source, Location Risk of Bias*	Race/Ethnicity/Nativity Age Gender	Acculturation Measure Dietary Intake Measure	Results	Trend by Acculturation Measure
Corral , 2008 **Nativity N=7,230** **Language N=3,257** **2001 California Health Interview Survey (CHIS), California** **Risk of bias: 2/24**	**Nativity:** Mexico (67.1%), US (32.9%) 38.6y (SD=13.6) 57.8% female	**Proxies:** Nativity; language spoken at home **Dietary Measure:** Dichotomous question - intake of 5 servings fruits and vegetables per day over past month	**Consumption of 5 or more fruits and vegetables, Prevalence rate (% yes), Traditional vs. Acculturated (Chi-square test, regression):** **Nativity proxy** *Men:* 62.3% vs. 47.1%, P<0.001; OR=0.66 (95% CI=0.43-0.62, P <0.001); *Women:* 56.3% vs. 37.9%, P<0.001; OR=0.50 (95% CI=0.43-0.08, P<0.001) **Language proxy** *Men:* 61.2% vs. 48.5%, P<0.001; OR=0.48 (95% CI=0.37-0.03, P<0.001); *Women:* 55.9% vs. 36.7%, P<0.001; OR=0.63 (95% CI=0.45-0.88, P<0.002)	**Nativity:** *Fruit and vegetables (men and women):* Negative association **Language:** *Fruit and vegetables (men and women):* Negative association
Erinosho, 2012 **N=1,105** **2007 CHIS, California** **Risk of bias:0/24**	Latino/ Hispanic (40.4%), non-Hispanic white (59.6%) **Children:** 3-5y NR	**Scale developed from:** Caregiver place of birth, length of residence, language spoken **Dietary Measure:** 8-item dietary screener; caregiver reported intake of 3-5y children	**Caregiver's level of acculturation and dietary intake of children:** *Sweets:* β (95% CI)=0.09 (0.10, 0.18), P<0.05 *Fruit:* NS *100% fruit juice:* NS *Vegetables (including fried potatoes):* NS *Fruits and vegetables (F/V):* NS *Sugar-sweetened beverages:* NS	**Increased caregiver acculturation:** *Sweets:* Positive association *F/V:* No association *Fruit juice:* No association *SSB:* No association

Question: What is the relationship between acculturation and dietary intake?

Table 1: Association between multidimensional or multiple proxy measures of acculturation and dietary intake in Latino/Hispanic populations

Author, Year Sample Size Data Source, Location Risk of Bias*	Race/Ethnicity/Nativity Age Gender	Acculturation Measure Dietary Intake Measure	Results	Trend by Acculturation Measure
Van Wieren, 2011 **N=76,638** **2005 and 2007 CHIS, California** **Risk of bias: 0/24**	Latino/ Hispanic (21%), non-Hispanic white (79%) ~46y ~50% female	6-item acculturation scale (validated) **Dietary Measure:** Frequency fruit/vegetable (F/V), fast food (FF), soda intake; dichotomous variables: 5-a-day F/V intake; FF/soda intake (0 vs. ≥1 servings/day)	**All Latino/Hispanic:** **Fast food (FF) consumption: ORs (95% CIs) of consuming any daily fast food:** *Low:* OR=0.74 (0.63-0.88), *Moderate:* OR=1.35 (1.17-1.56), *High:* OR=1.69 (1.48-1.93) (P<0.0001); **Soda consumption: ORs (95% CIs) of consuming any daily soda:** *Low:* OR=1.74 (1.54-1.96), *Moderate:* OR= 1.60 (1.46-1.75), *High:* OR=1.40 (1.27-1.54) (P<0.0001) **5-a-day fruit/vegetable consumption:** NS **By country/region of origin:** **Daily fast food intake**: Increased acculturation was associated with increased intake among Mexicans (N=13,070) (P<0.0001), Central Americans (N=337) (P=0.0164), and Puerto Ricans (N=282) (P=0.0028); No associations found among Guatemalans (N=418), Salvadorans (N=682), and South Americans (N=533) **5-a-day fruit/vegetable consumption:** NS among all Latino sub-groups **Daily soda consumption:** Increased acculturation associated with reduced adjusted ORs for Mexicans (P<0.0001); Soda consumption among the other Latino subgroups: NS	**Increased acculturation (among Latinos/Hispanics):** *Fast-food intake:* Positive association *Soda intake:* Negative association *5/day Fruits/vegetables:* No association

Question: What is the relationship between acculturation and dietary intake?

Table 1: Association between multidimensional or multiple proxy measures of acculturation and dietary intake in Latino/Hispanic populations

Author, Year Sample Size Data Source, Location Risk of Bias*	Race/Ethnicity/Nativity Age Gender	Acculturation Measure Dietary Intake Measure	Results	Trend by Acculturation Measure
Creighton, 2012 **N=1,610** **L.A.FANS-2, California** **Risk of bias: 2/24**	Mexican Americans, African Americans, European Americans (distribution not reported) 39.9y (SD=0.76); 27.8-45.6 51% female	**Proxies:** Immigrant generation, language, social measures **Dietary Measure:** Number servings fruit, vegetables, sweetened beverages (SSB), and fast food consumed in the previous day	**Higher linguistic acculturation:** *Fruits:* β=-0.146, P<0.05 *Vegetables:* β=-0.156, P<0.05 *Fast Food:* β=0.079, P<0.05 *Sugar sweetened beverage (SSB):* NS **Higher social acculturation:** No significant associations **Immigrant generation (Ref: 1st generation from Mexico <15y)** **1st generation from Mexico (>15y)** No significant associations **2nd generation from Mexico** *Vegetables, Fruits, Fast Food:* NS *SSB:* β=0.291, P<0.10 **3rd generation from Mexico** *Vegetables, Fruits, Fast Food:* NS *SSB:* β= 0.370, P<0.10 **3rd generation white** *Fruits:* NS *Vegetables:* β=0.396, P<0.05 *Fast Food:* NS *SSB:* NS **3rd generation black** *Fruits:* β=- 0.346, P<0.10 *Vegetables:* NS *Fast Food:* β= 0.174, P<0.10 *SSB:* β=0.425, P<0.05	**Linguistic acculturation:** *Fruit:* Negative association *Vegetables:* Negative association *Fast food:* Positive association *SSB:* No association **Social acculturation:** *Fruits, vegetables, SSB, or fast food:* No association **Immigrant generations:** *SSB:* Positive association in 2nd/ 3rd generation Mexicans; 3rd generation blacks *NS:* 3rd generation whites *Fast food:* Positive association 3rd generation blacks only *Vegetables:* Positive association in 3rd generation whites *NS:* 2nd/3rd generation Mexicans and 3rd generation blacks *Fruits:* NS in 2nd and 3rd generation Mexicans; 3rd generation whites; Negative association in 3rd generation blacks

Question: What is the relationship between acculturation and dietary intake?

Table 1: Association between multidimensional or multiple proxy measures of acculturation and dietary intake in Latino/Hispanic populations

Author, Year Sample Size Data Source, Location Risk of Bias*	Race/Ethnicity/Nativity Age Gender	Acculturation Measure Dietary Intake Measure	Results	Trend by Acculturation Measure
Dubowitz, 2008 **N=641** **Baseline wellness trial data, Massachusetts** **Risk of bias: 2/24**	Latino /Hispanic (72%), non-Hispanic black (7%), non-Hispanic white (16%), other (5%) 18-44y 100% female (Post-partum)	**Proxies:** Race/ethnicity, nativity, duration of residence, language acculturation, instrumental and emotional support, socioeconomic position, census tract **Dietary Measure:** 61-item FFQ; usual F/V intake during last 4 weeks	**Fruit and vegetable intake:** **Foreign born and years of residence in US:** US-born (reference) *Foreign born (>14 y in US):* NS *Foreign born (10-14y in US):* β=1.388, P<0.05 *Foreign born (5-9y in US):* β=2.036, P<0.01 *Foreign born (<5y in US):* β=1.974, P<0.01 **Language spoken at home:** Spanish (reference) *English:* NS *Both:* β=1.111, P<0.01 **Higher proportion of foreign born people in census tract:** β=0.029, P<0.01 **Higher instrumental/emotional support:** β=0.044, P<0.01	**Nativity and duration of residence:** Foreign-born women living in the US between 0 and 14 years had significantly higher fruit and vegetable consumption than the US-born, although foreign-born living in the U.S. for more than 14 years did not have significantly different consumption. **Language:** Speaking both English and Spanish in the home, compared to only Spanish, was related to greater fruit and vegetable consumption.

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Question: What is the relationship between acculturation and dietary intake?

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Author, Year Sample Size Data Source, Location Risk of Bias*	Race/Ethnicity/Nativity Age Gender	Acculturation Measure Dietary Intake Measure	Results	Trend by Acculturation Measure
Ghaddar, 2010 **N=2,381** **Alliance for a Healthy Border, states along US/Mexico border, Texas, Arizona, California, and New Mexico** **Risk of bias: 0/24**	Latino/Hispanic (100%) >18y 78.8% female	Short Acculturation Scale for Hispanics (SASH) (validated) scale for language acculturation; country of birth **Dietary Measure:** Fruit/Vegetable intake questions from BRFSS 2005 survey; 12-item health habits scale	**Language scale:** Low acculturation had a higher **fruit and vegetable weekly consumption** relative to the moderate to high acculturation group (OR=13.88, 95% CI=3.67-25.61) **Country of birth:** Those born in Mexico had a higher **fruit and vegetable intake** compared to those born in the US (OR=17.0, 95% CI=6.29-28.79). **Language scale:** Participants speaking primarily Spanish language scored more points on the **Healthy Habits Scale** than those who did not (OR=0.82, 95% CI=0.10-1.54). **Country of birth:** Those born in Mexico scored higher on the **Healthy Habits Scale** than those born in the US (OR=1.52, 95% CI=0.81-2.24).	**SASH score (language) and Country of Birth results consistent:** Less acculturation was associated with higher fruit and vegetable consumption and more healthy habits

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Kasirye, 2005 **N=1,062** **Study of Hispanic Acculturation, Reproduction and the Environment, California** **Risk of bias: 2/24**	Latino/Hispanic (100%) 25.2y (SD=6.3) 100% female (pregnant)	Acculturation Rating Scale for Mexican Americans (ARSMA-II) short version (Validated) **Dietary Measure:** Reported intake of F/V and FF in previous month (not validated)	**Odds Ratio for intake of more than 3 servings of fruit/day:** *Low Acculturation:* 1.0 *Moderate Acculturation:* 1.1 (0.8-1.5) *High Acculturation:* 0.5 (0.3-0.7) **Odds Ratio for intake of more than 3 servings of vegetables/day:** *Low Acculturation:* 1.0 *Moderate Acculturation:* 0.9 (0.6-1.3) *High Acculturation:* 0.8 (0.5-1.2) **Odds Ratio for intake of more than 2 servings of fast food/week**: *Low Acculturation:* 1.0 *Moderate Acculturation:* 4.3 (2.6-7.3) *High Acculturation:* 4.9 (2.8-8.6)	**Increased ARSMA-II:** **Higher acculturation score:** *Fruit intake:* Negative association *Vegetable intake:* No association *Fast-food intake:* Positive association
Matias, 2013 **N=802** **Fruit/vegetable analysis N=783, Fat analysis N=717** **Mexican Immigration to California: Agricultural Safety and Acculturation (MICASA) cohort,**	**Nativity:** Mexico; Central America 37y (SD=10) 52% female	Acculturation Rating Scale for Mexican Americans (ARSMA)-II short version; country of birth, length of residence, age at immigration, school attendance in US **Dietary Measure:** Block Fruit/Vegetable/Fiber Screener; Block Fat Screener	**Consumption of fruit and vegetables** *Acculturation level:* NS *US school attendance:* NS *Longer US residence:* Associated with increased odds of meeting the ≥5 servings of fruits or vegetables/ day dietary recommendation: OR=1.5 (95% CI: 1.0-2.3; P=0.035 *Central America nativity:* Associated	**Consumption of fruits and vegetables:** *ARSMA-II*: No association *US School attendance:* No association *Length in US:* Positive association **Nativity:** *Men and Women in Central America:* Positive association **Percent calories from fat:**

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Author, Year Sample Size Data Source, Location Risk of Bias*	Race/Ethnicity/Nativity Age Gender	Acculturation Measure Dietary Intake Measure	Results	Trend by Acculturation Measure
California **Risk of bias: 0/24**			with significantly increased odds of consuming ≥5 daily servings of fruits and vegetables (Adjusted OR: 2.7; 95% CI: 1.2, 6.2; P=0.024) **Average daily percent of calories from fat** *Higher acculturation level:* OR=0.2 (95% CI:0.1–0.5) *United States school attendance:* OR= 0.5 (95% CI:0.3–0.7) **Association between country of birth and fat intake (modified by gender):** *Men born in Mexico vs. US:* OR=2.8 (95% CI: 1.1–7.2) *Women born in Central America vs. US*: OR=4.8 (95% CI: 1.6-14.7), had higher odds of consuming ≤35% of calories from fat	*ARSMA-II:* Positive association *US School attendance:* Positive association *Length in US:* No association **Nativity:** *Men from Mexico and Women from Central America:* Positive association

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Author, Year Sample Size Data Source, Location Risk of Bias*	Race/Ethnicity/Nativity Age Gender	Acculturation Measure Dietary Intake Measure	Results	Trend by Acculturation Measure
Montez, 2008 **N=1,245** **National Health Interview Survey (NHIS), USA** **Risk of bias: 2/24**	Mexican Descent 25-64y 100% female	**Proxies:** Language, nativity, interaction between nativity and language acculturation **Dietary Measure:** Food frequency screener developed by NCI	**Acculturation and diet (least-squares regression)** **Country of birth:** *Fruits and vegetables (F/V):* NS *Fiber:* β=-2.44 (95%CI=-4.17-0.72 , P<0.01) *Percent energy from fat:* β=2.06 (95%CI=0.73-3.39, P<0.01) **Language acculturation:** *Fruits and vegetables:* NS *Fiber:* β=-1.07 (95%CI=-1.68-0.46, P<0.01) *Percent energy from fat:* NS **Country of birth x language acculturation:** *Fruits and vegetables:* β=-0.27 (95%CI= -0.59-0.05, P<0.10) *Fiber:* NS *Percent energy from fat:* NS	**US born:** *F/V:* No association *Fiber:* Negative association *% calories fat:* Positive association **Increased English use**: *F/V:* No association *Fiber:* Negative association *% calories fat:* No association **Nativity X language:** *F/V:* Negative association *Fiber:* No association *% calories fat:* No association
van Rompay, 2012 **N=1,219** **Boston Puerto Rican Health Study, Massachusetts**	Puerto Rican Descent 45-75y 72% female	**Summary score combining:** Psychological Acculturation Scale (PAS); Bi-dimensional Acculturation Scale (BAS); length of stay	**Dietary intake (mean g/d) by BAS quartiles:** *Saturated fat intake:* Q1(23.4), Q2(23.4), Q3(23.7), Q4(24.8), P for trend 0.03	**Increased acculturation scale score (BAS):** *Total fiber*: No association *Fiber from fruit:* Positive association

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Author, Year Sample Size Data Source, Location Risk of Bias*	Race/Ethnicity/Nativity Age Gender	Acculturation Measure Dietary Intake Measure	Results	Trend by Acculturation Measure
Risk of bias: 0/24		**Dietary Measure:** 246 item FFQ - carbohydrate quality, fiber	*PUFA intake:* Q1(21.8), Q2(21.4), Q3(20.8), Q4(19.3), P for trend 0.0001 *Starch intake:* Q1(126), Q2(128), Q3(125), Q4(120), P for trend 0.005; *Fruit fiber intake:* Q1(1.8), Q2(1.7), Q3(1.7), Q4(2.1), P for trend 0.009; *Non-starchy vegetable fiber intake:* Q1(2.4), Q2(2.4), Q3(2.4), Q4(2.6), P for trend 0.05 *Starchy vegetable fiber intake:* Q1(2.6), Q2(2.4), Q3(2.4), Q4(2.1), P for trend 0.009 *Legume fiber intake:* Q1(6.6), Q2(7.0), Q3(6.2), Q4(5.8), P for trend 0.01; *Cereal fiber intake:* Q1(4.5), Q2(4.9), Q3(4.9), Q4(5.4), P for trend 0.004 *Protein intake; Carbohydrate intake; Total fat intake; MUFA intake; Added sugars intake; Total dietary fiber intake; Total energy (Kcal/d):* P for trend NS. Greater PAS associated with **lower starch intake and higher fruit fiber** LOS associated with **lower starchy vegetables and legume fiber, and**	*Fiber from non-starchy vegetables:* Positive association *Fiber from starchy vegetables*: Negative association *Cereal fiber:* Negative association *Legume fiber:* Negative association Greater **PAS** associated with lower starch intake and higher fruit fiber **LOS** associated with lower starchy vegetables and legume fiber, and higher cereal fiber

Question: What is the relationship between acculturation and dietary intake?

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Author, Year Sample Size Data Source, Location Risk of Bias*	Race/Ethnicity/Nativity Age Gender	Acculturation Measure Dietary Intake Measure	Results	Trend by Acculturation Measure
			higher cereal fiber	

*Risk of Bias as determined using the Nutrition Evidence Library Bias Assessment Tool

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Fruit and/or Vegetable Intake

- *In children:* One cross-sectional study examined the relationship between acculturation and fruit and vegetable intake and 100% fruit juice intake in three-year-old to five-year-old children and found no association (Erinosho, 2012). Acculturation was measured using a multidimensional scale designed to assess caregiver acculturation, and fruit and vegetable intake was assessed using an eight-item dietary screener.
- *In adults:* Six of nine studies using cross-sectional analysis reported an association between higher acculturation and decreased intake of fruits and vegetables among in Latino/Hispanic adults, although results varied by acculturation proxy.
- Two articles, one in Mexican-American adults (Corral, 2008) and one in a broader Latino/Hispanic population (Van Wieren, 2011) used CHIS study data to assess the relationship between acculturation and the intake of five servings of fruits and vegetables a day (treated as a dichotomous variable) and found mixed results. Van Wieren, 2011 used a validated six-item multidisciplinary scale to measure acculturation in Latino/Hispanic adults and found increased acculturation not related to eating five servings of fruits and vegetables a day. In a Mexican American population, Corral, 2008 measured acculturation using acculturation proxies (nativity and language spoken at home) and found an association between higher acculturation and decreased consumption of five servings of fruits and vegetables per day in both men and women.
- Three studies assessed fruit and vegetable intake in women subjects only and found that in general, higher acculturation associated with lower fruit and vegetable intake (Dubowitz, 2008; Kasirye, 2005; Montez, 2008):
    - One study recruited postpartum Latino/Hispanic women and used multiple acculturation proxies including nativity, duration of residence, language acculturation, instrumental and emotional aspects of social support and neighborhood characteristics, and found higher acculturation consistently associated with lower fruit and vegetable intake measured using a 61-item food frequency questionnaire (FFQ) (Dubowitz, 2008)
    - One study recruited pregnant Latino/Hispanic women and used the validated Acculturation Rating Scale for Mexican-Americans (ARMSA-II) to measure acculturation and found increased acculturation associated with a lower intake of fruits, but not related to vegetable intake (Kasirye, 2005)
    - One study used National Health Interview Survey (NHIS) data for women of Mexican descent to assess the relationship between multiple acculturation proxies including language, country of birth and the interaction between country of birth and language acculturation and intake of fruits and vegetables measured using a National Cancer Institute developed food frequency screener. Higher acculturation assessed using the interaction between country of birth and language acculturation was associated with lower fruit and vegetable intake. No relationship was found with either language or birth acculturation proxies independently (Montez, 2008).
- One study assessed multiple acculturation proxies including immigrant generation, language and social acculturation and number of servings of fruits and vegetables consumed the previous day and found results varied by acculturation proxy (Creighton, 2012). This investigator found no association between social acculturation and dietary intake. Higher linguistic acculturation was found to be associated with lower consumption of fruits and vegetables. Results by immigrant generation indicated second-generation and third-generation Mexicans consume less fruit, more sweetened drinks and more fast food than the first generation.

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- One study measured language acculturation using the Short Acculturation Scale for Hispanics (SASH) and country of birth (nativity), and assessed fruit and vegetable intake using questions from the 2005 Behavioral Risk Factor Surveillance System survey. Higher acculturation measured by SASH and nativity were associated with decreased fruit and vegetable intake (Ghaddar, 2010).
- One study conducted in the Mexican Immigration to California: Agricultural Safety and Acculturation Cohort, measured acculturation using the Acculturation Rating Scale for Mexican Americans (ARSMA)-II short version, along with country of birth, length of residence, age at immigration and measured fruit and vegetable intake using the Block Fruit, Vegetable, Fiber Screener (Matias, 2013). Increased length of residence in the United States was associated with increased odds on consuming five or more servings of fruit and vegetable per day. Central American nativity was also associated with increased fruit and vegetable intake.
- One study assessed the relationship between a multidimensional measure of acculturation and carbohydrate nutrition, including multiple sources of fiber in Puerto Rican adults using baseline data from the Boston Puerto Rico Health Study. Higher acculturation was not associated with total dietary fiber intake, but associated with increased fiber from fruits and non-starchy vegetables and associated with decreased intake of fiber from starchy vegetables.

Fast food intake

Four studies evaluated the association between acculturation and frequency of fast food intake, one longitudinal study conducted in youth found high acculturation associated with increased fast food intake and three cross-sectional analyses found an association between at least one measure of acculturation and fast food intake. Studies did not collect information on type or portion size of food consumed, but on frequency of meals consumed from fast food restaurants (Van Wieren, 2011; Kasirye, 2005; Unger, 2004; Creighton, 2012). Unger, 2004 assessed fast food intake in sixth-grade students using two questions: “How many times during the school week (Monday to Friday) do you typically get something to eat at MacDonald’s, Burger King, Dominoes, Pizza Hut, Taco Bell or other fast -food restaurants?’’ The same question was asked about the number of times over the weekend (Saturday to Sunday). Van Weiren, 2011 used California Health Information Survey data which asks the number of times per month, week or day fast food is consumed. If participants needed clarification, the following prompt was provided “food from restaurants such as MacDonald’s, KFC, Taco Bell, etc.” Kasirye, 2005 asked the number of times fast food meals were consumed the previous month. Creighton, 2012 asked participants the number of servings of fast food consumed the previous day.

Longitudinal Analysis

One longitudinal study assessed the prospective association between acculturation measures in Latino/Hispanic and Asian sixth grade urban middle school students in Southern California and frequency of fast food consumption in seventh-grade students (Unger, 2004). The validated Acculturation, Habits, and Interests Multicultural Scale for Adolescents (AHIMSA) was used to measure acculturation and an association was found between higher acculturation and increased fast food intake in this multicultural group of students. The AMIMSA acculturation scale and language acculturation proxy used, are weakly inter-correlated ($R=0.34$, $P<0.0001$), but no association was found between fast food consumption and English language usage in middle school students.

Cross-sectional Analysis

Three cross-sectional analyses examined the relationship between acculturation and fast food intake (Kasirye, 2005; Van Wieren, 2011; Creighton, 2012) and, in general, a positive

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association was observed. Two studies used a validated multidimensional acculturation scale and found an association between higher acculturation and increased fast food intake (Kasirye, 2005; Van Wieren, 2011). One study found a relationship between acculturation proxy measures and fast food intake, but the relationship varied by proxy (Creighton, 2012). A relationship was found between language acculturation, assessed in bilingual respondents. No association was found between generations or social acculturation and fast food intake.

Sugar-sweetened Beverage/Sweets Intake

Three studies, one cross-sectional analysis in children (Erinosho, 2012) and two studies in adult Latino/Hispanic adults (Creighton, 2012; Van Wieren, 2011) examined the relationship between measures of acculturation and intake of sugar-sweetened beverages or sweets and reported mixed results. Among children, higher caretaker acculturation was associated with higher intake of sweets, but not sugar-sweetened beverages (Erinosho, 2012). One study in adults found high acculturation measured using a multidimensional scale was associated with decreased sugar-sweetened beverage intake (Van Wieren 2011). The other adult study (Creighton, 2012), found no association between acculturation proxies language, social measures, and intake of sugar-sweetened beverages, but a positive association among second-generation and third-generation subjects from Mexico, compared to recent immigrants from Mexico.

Acculturation and Dietary intake in Asian Populations

Seven studies investigated the association between multidimensional acculturation measures or multiple acculturation proxies and dietary intake in Asian populations, including adults who immigrated from Korea (Shin, 2011; Song, 2004), China (Parikh, 2009), Korea and Vietnam (Wang, 2011) and multicultural Asian adults from the Philippines, Korea, Vietnam, China, Japan and Pacific Islands (Gomez, 2004; Novotny, 2012) and Asian and Latino/Hispanic children (Unger, 2004) (**Table 2**). Most frequently measured outcomes include fruits and vegetables, sugar-sweetened beverages, fast foods, meat and alcohol.

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Question: What is the relationship between acculturation and dietary intake?

Table 2: Association between multidimensional or multiple proxy measures of acculturation and dietary intake in Asian populations

Author, Year Sample Size Data Source, Location Risk of Bias*	Race/Ethnicity/Nativity Age Gender	Acculturation Measure Dietary Intake Measure	Results	Trend by Acculturation Measure
Longitudinal Studies				
Novotny, 2012 **N=1,612** **Work, Weight and Wellness (3W) Program, Hawaii** **6/24**	Filipino (42.0%), other Asian (32.0%), Pacific Islander (13.0%), White (9.0%), African American (1.0%), other (3.0%) 46.0y (SD=10.2) 52% female	Acculturation scale (not validated) **Dietary Measure:** Dietary intake screening questions derived from 3 validated tools (frequency/portions)	**Acculturation level at 24 months with baseline, diet; association with variables across a 24 month intervention period:** *Dietary intake:* Associated with consuming more servings of **meat** at baseline (F=4.45, P<0.0002); there was no change in **meat** consumption across the intervention period. Associated with consuming more **sugar sweetened drinks** (SSB) at baseline (F=2.58, P=0.02), but not with change in sweetened drink consumption across the intervention period. Associated with more **fruit** consumption at baseline (F=5.58, P<0.0001), but not with change in **fruit** intake across the intervention period.	**Increased acculturation (baseline):** *Fruit:* Positive association *Meat:* Positive association *SSB:* Positive association **Increased acculturation (2-yr follow-up):** *Fruit:* No association *Meat:* No association *SSB:* No association

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Table 2: Association between multidimensional or multiple proxy measures of acculturation and dietary intake in Asian populations

Author, Year Sample Size Data Source, Location Risk of Bias*	Race/Ethnicity/Nativity Age Gender	Acculturation Measure Dietary Intake Measure	Results	Trend by Acculturation Measure
Unger, 2004 **N=2,004** **School-based survey, California** **2/24**	Latino/Hispanic (69%), Asian Descent (31%) 11y 53.7% female	**Acculturation:** US orientation subscale of the Acculturation, Habits, and Interests Multicultural Scale for Adolescents (AHIMSA) (validated) **Dietary Measure:** 2 questions-frequency of fast-food during week and weekend	**Fast-food consumption (1 year)** Acculturation to US associated with increased frequency (β =0.078, P<0.001) **Language usage:** NS	The association between acculturation and fast-food intake differs based on acculturation proxy. **Fast food** *AHIMSA subscale*: Positively associated *English language proxy:* No association
Cross-sectional Studies				

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Gomez, 2004 **N=3,965** **Data from Kaiser Permanente Medical Care Program case-control study, California** **5/24**	White (79.8%), Chinese (6.6%), Japanese (2.5%), Filipino (6.8%), other Asian (2.3%), multiple-race Asian (2.0%) >45 y 75.9% female	**Proxies:** Country of birth; age at which family moved to the US; generation language **Dietary Measure:** Frequency of soy milk, tofu and alcohol intake	**Soy consumption and length of residence** (Referent group: US-born Asians of second generation or later) *Foreign-born Asians in US ≤50% of their lives:* OR=3.1 (95% CI=1.6-6.1; P<0.05) *Foreign-born Asians who had been in US 50-75% of their lives:* OR=2.4 (95% CI=1.3-4.6; P<0.05). **Alcohol consumption and language preference** (referent group: Preferring English in all contexts): *Preferring foreign language in all contexts vs. preferring English in all contexts:* OR=0.3 (95% CI 0.2-0.6; P<0.05)	**Nativity:** Compared to US-born Asians, foreign-born Asians are more likely to consume soy. **Language:** Asians that prefer their native language in all contexts, compared to preferring English in all contexts, are less likely to consume alcohol.
Parikh, 2009 **N=517** **2003 New York City Chinese Health Survey, New York** **2/24**	Chinese 55-75y 42.2% female	**Proxies:** Proportion of lifetime spent in US; language **Dietary Measure:** Type and frequency of drinking; ordinal categories non-drinker, 1-30 drinks/month, >30 drinks/mo	**Alcohol intake (Acculturated vs. not acculturated) OR (95% CI)** *Women:* OR=7.99 (1.33, 48.19), P<0.05 *Men:* NS	**Proportion of time in US and language**: Chinese women more acculturated to the US are more likely to consume alcohol than women less acculturated. There was no difference in alcohol intake in men based on degree of acculturations.

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Author, Year Sample Size Data Source, Location Risk of Bias*	Race/Ethnicity/Nativity Age Gender	Acculturation Measure Dietary Intake Measure	Results	Trend by Acculturation Measure
Shin, 2011 **N=517** **Survey, Indiana** **2/24**	Asian descent (100%) 41.6y (SD=13.81) 51.7%	**Acculturation:** Lee's Acculturation Scale (validated) **Dietary Measure:** 18-item Healthy Eating Benefits and Barriers Scales; Self-Efficacy for Eating Habits Scale; Health Promoting Lifestyle Profile (HPLP) II	**Healthy eating scores, mean (SD)** **Stratified by age group:** *English survey:* 18-40y 2.49 (0.55), >40y 2.81 (0.56); (P<0.05) *Korean survey:* NS **Stratified by gender:** *English survey:* NS *Korean survey:* Male 2.23 (0.56), female 2.47 (0.52); (P<0.05) **Stratified by acculturation category:** *English survey:* Assimilation 2.49 (0.63), integration 2.77 (0.55), separation 2.54 (0.54); (P<0.01) *Korean survey:* NS	Asians who chose an **English-language** survey and were in the **"integrated" cluster** had higher healthy eating scores than all other groups.
Song, 2004 **N=3,330** **Survey, California** **4/24**	Korea-descent (100%) >18y ~50% female	Multidimensional scale (validated) **Dietary Measure:** Reported frequency consumption of major food groups, high fat foods, ethanol, beverages and behaviors.	**Frequency per week (SE), all values are significantly different (P<0.05):** **Beef** *Seoul Residents:* 1.52 (0.08) *Traditional:* 2.13 (0.03) *"Acculturated":* 3.40 (0.22) **Fish** *Seoul Residents:* 3.12 (0.12)	**Increased acculturation:** Associated with high intake of American foods (e.g., beef, butter/margarine, fried food) , alcohol (in women, not men) and low intake of traditional Korean foods (e.g., Kimchi, vegetables, fruit, rice, fish)

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Author, Year Sample Size Data Source, Location Risk of Bias*	Race/Ethnicity/Nativity Age Gender	Acculturation Measure Dietary Intake Measure	Results	Trend by Acculturation Measure
			Traditional: 2.76 (0.04) *"Acculturated"*: 1.84 (0.12) **Rice** *Seoul Residents:* 13.57 (0.09) *Traditional:* 9.6 (0.08) *"Acculturated"*: 6.25 (0.27) **Fruit** *Seoul Residents:* 7.04 (0.18) *Traditional:* 6.35 (0.06) *"Acculturated":* 5.39 (0.24) **Green Vegetables** *Seoul Residents:* 12.37 (0.15) *Traditional:* 6.46 (0.06) *"Acculturated":* 5.74 (0.21) **Yellow/White Vegetables** *Seoul Residents:* 12.26 (0.17) *Traditional:* 5.01 (0.06) *"Acculturated":* 4.14 (0.20) **Milk** *Seoul Residents:* 4.76 (0.17) *Traditional:* 3.03 (0.08) *"Acculturated":* 2.75 (0.23)	

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Question: What is the relationship between acculturation and dietary intake?

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Author, Year Sample Size Data Source, Location Risk of Bias*	Race/Ethnicity/Nativity Age Gender	Acculturation Measure Dietary Intake Measure	Results	Trend by Acculturation Measure
Wang, 2011 **N=5,074** **California Health Interview Study (CHIS), California** **4/24**	Chinese (56%), Korean (19%), Vietnamese (25%) 43.6y 57.3% female	Combined nativity, language proficiency (English and Asian) **Dietary Measure:** Frequency of fruit/vegetable, soda and French fry intake/week based on 30-d recall	Number of times foods were consumed in the last 7 days by acculturation category (baseline measure) **Fruits and vegetables:** *Men:* NS *Women*: NS **Fries and soda:** *Men:* "Traditional" (1.99), "Bicultural" (2.87), "Acculturated": (3.85), P=0.0001 *Women:* "Traditional" (0.805), "Bicultural" (1.38), "Acculturated": (2.17), P<0.0001 Addition of diet mediators to the logistic regression model examining independent association of acculturation category and overweight/obesity reduced the odds ratio only minimally.	**Acculturated (ref: traditional):** Fries and soda consumption increased with the level of acculturation (from traditional to bicultural to acculturated) for both men and women. There were no differences in fruit and vegetable consumption.

*Risk of Bias as determined using the Nutrition Evidence Library Bias Assessment Tool

Longitudinal Analysis

One retrospective longitudinal analysis conducted in a multicultural sample of Asian adults, found no relationship between a multidimensional acculturation score and change in sweetened drinks, meat and fruit intake, over a 24-month intervention (Novotny, 2012). The wellness intervention was not effective in significantly changing any dietary behaviors (controlling for acculturation, other socio-demographic factors and behaviors), which may have contributed to the null finding. Also, acculturation was only measured in subjects who completed the intervention (30% attrition rate), potentially biasing the sample to those most motivated to improve their eating habits. Cross-sectional analysis from this study showed a relationship between high acculturation and increased intake of fruit, meat and sugar-sweetened beverages.

One longitudinal study assessed the prospective association between acculturation measures in Asian and Latino/Hispanic sixth-grade urban middle school students and frequency of fast food consumption one year later (Unger, 2004). Unger, 2004 used the Acculturation, Habits, and Interests Multicultural Scale for Adolescents (AHIMSA) tool and found an association between higher acculturation and increased fast food intake in this multicultural group of students. No association was found between fast food consumption and English language usage in these middle school students.

Cross-sectional Analysis

Alcohol intake: Three studies, one in Chinese (Parikh, 2009), one in Korean (Song, 2004) and one in multicultural Asian subjects (Gomez, 2004), assessed the relationship between acculturation and alcohol intake. One study found high acculturation was associated with increased alcohol intake in Chinese women, but not men; one study found acculturation positively associated with alcohol intake in Korean-Americans; and one study reported a positive association between one of multiple acculturation proxies and alcohol intake.

- One study assessed acculturation based upon proportion of lifetime spent living in the United States and a language proxy based upon language used at home and preferred newspaper language and found acculturated women nearly eight times more likely to consume alcohol than non-acculturated women (Parikh, 2009). This finding was not significant in men. Methodology used to measure acculturation and dietary intake was not validated.
- One study compared dietary intake between acculturation Korean-American groups, including traditional, bicultural and acculturated, and a comparison group residing in Seoul, Korea (Song, 2004). Korean Americans were less likely to be alcohol drinkers compared to those residing in Korea; however, among those Korean-Americans who drink, higher acculturation was associated with higher alcohol intake. Validity of dietary intake methodology was not reported.
- One study assessed multiple acculturation proxies including country of birth, age family moved to the United States, generation and language preference, in multicultural Asian subjects enrolled in a bone fracture case-controlled study and frequency of alcohol intake (beer, wine or champagne, and hard liquor) over the previous 12 months (Gomez, 2004). Validation of dietary intake tools was not described and only select results were reported, but lower odds of drinking were reported for those preferring a foreign language in all contexts. Thus higher language acculturation was associated with higher alcohol intake in this group.

Fruit and Vegetable, Fast Food, Meat and Sugar-sweetened Beverage Intake

Three cross-sectional analyses were conducted; one in Korean (Song, 2004); multicultural subjects from China, Vietnam, and Korea (Wang, 2011); and Asian and Pacific Islanders

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(Novotny, 2012) to assess the relationship between acculturation and fruit and vegetable intake. One study found high acculturation associated with lower fruit and vegetable intake in Korean Americans, one study found no association between acculturation and fruit and vegetable intake and one study found high acculturation associated with increased fruit intake. Song, 2004 assessed frequency of eating at fast food restaurants and Wang, 2011 measured "fries and soda intake" to assess the mediating effect on weight, both found higher acculturation associated with increased fast food intake. Novotny, 2012 examined baseline acculturation and intake of sugar-sweetened beverages. Both Song, 2004 and Novotny, 2012 conducted a cross-sectional analysis on acculturation and meat, and found higher acculturation related to increased meat or beef intake.

- One study examined the effects of acculturation on health behaviors of Korean Americans living in California, and recruited a comparison group of adults residing in Seoul, Korea (Song, 2004). A multidimensional scale was used to assess acculturation in Korean-Americans and cluster analysis was used to form three acculturated groups (traditional, bicultural and acculturated). This study found acculturation was associated with lower consumption of green vegetables, yellow/white vegetables and kimchi among Koreans living in California and found Koreans residing in Korea consumed a significantly higher intake of these foods than traditional, bicultural and acculturated Korean Americans. These investigators also found acculturation was associated with increased frequency of eating at fast food restaurants; however, level of significance was not reported between Korean-American subgroups. Koreans living in Seoul were less likely to go to fast food restaurants than acculturated Korean-Americans. Finally, Song 2004 reported higher acculturation among Korean-Americans was associated with high consumption of American foods including beef, fried foods and butter/margarine as well as lower consumption of traditional Korean foods such as kimchi, rice and fish.
- One study categorized subjects based upon nativity and language proficiency into three groups (traditional, bicultural and acculturated) to examine the association of acculturation with overweight and obesity using a multivariate regression model (Wang, 2011). Since diet might mediate this relationship, 30-day recall data from the CHIS was used to create two mediating factors (intake of fruits and vegetables and intake of fries and soda). Mediators were sequentially added to the model and intake of fruits and vegetables was not associated with acculturation, but intake of fries and soda increased with acculturation, a finding consistent with that reported by Unger, 2004 in Asian and Latino/Hispanic youth.
- Cross-sectional analysis from the Novotny, 2012 study showed a positive association between baseline acculturation and intake of fruit, meat and sugar-sweetened beverages. Longitudinal analysis measuring the relationship between acculturation and change in fruit and vegetable intake following a 24-month wellness intervention did not confirm this finding.

Other Dietary Intake Outcomes

One study reported partial results related to soy intake, finding foreign nativity (lower acculturation) was associated with greater soy intake (Gomez, 2004). Relationship with other acculturation proxies was not reported.

Assessment of the Body of Evidence

- *Quality and Quantity:* This review includes two longitudinal studies, one in Asian adults and one in Latino/Hispanic and Asian youth, and 14 cross-sectional studies (nine in Latino/Hispanic subjects and five in Asian subjects), that examined dietary intake, including fruit and vegetables (10 Latino/Hispanic and three Asian), fast foods (four

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Latino/Hispanic and two Asian), sugar-sweetened beverages or sweets (three Hispanic/Latino and two Asian) and alcohol (no Latino/Hispanic and three Asian). Analytic sample sizes varied from 76,638 to 517 subjects. NEL BAT scores ranged from zero of 24 to six of 24.

- *Consistency:*
    - In Latino/Hispanic adults, six of nine studies using cross-sectional analysis reported an association between higher acculturation and decreased intake of fruits and vegetables, though results varied by acculturation proxy measured. In Asians populations, there was no clear pattern.
    - In Latino/Hispanic subjects, four studies evaluated the association between acculturation and frequency of fast food intake, one longitudinal study conducted within youth found high acculturation associated with increased fast food intake and three cross-sectional analysis found an association between at least one measure of acculturation and fast food intake
    - In Asian populations, two cross-sectional studies assessed fast food intake (frequency of eating at fast food restaurants or a measure of fries and soda intake), as a mediating effect on weight, and both found higher acculturation associated with increased fast food intake
    - In Asian populations, three cross-sectional studies found a positive association between acculturation and alcohol intake, but results varied by gender and acculturation proxy
    - Different multidimensional acculturation measures were used in nine studies. Many different combinations of acculturation proxies were used by investigators; however, nativity (place of birth) and language acculturation were frequently used.
- *Impact:* Odds ratios reported were around 2.0, a magnitude that is considered of clinical and public health significance. Results quantified as percent of energy or grams tended to be small in magnitude; however, those that described percent of the population meeting a certain requirement had more meaning and demonstrated bigger differences between groups.
- *Generalizability:*
    - In Latino/Hispanic populations, five studies focused specifically on Mexican-American populations; one study targeted Puerto Rican residents in Boston, Massachusetts while five studies included a broader range of Latino/Hispanic subjects. One study used a national data set, one recruited from multiple states on the Mexico-US border and six studies were conducted in California. The majority of studies included both men and women. Three studies included only women, one recruited pregnant women, one studied women six weeks to 20 weeks postpartum and one included non-pregnant women. One study focused on three-year-olds to five-year-olds and one study included 11-year-old youth.
    - Among studies focused on Asian populations, two studies examined Korean-American populations; one studied Chinese-Americans; one study included Chinese, Korean and Vietnamese subjects; one studied self-reported Asian-American youth; and two included a broad range of subjects from the Philippines, Korea, Vietnam, China, Japan, and Pacific Islands. Four studies were conducted in California while studies also were conducted in New York and Hawaii. No studies included a nationally representative sample. One study recruited youth (approximately 11 years old) and the remaining studies included only adult men and women.
- The preponderance of the evidence is from cross-sectional studies, thus causality inferences cannot be made and it is unknown whether the relationship changes over time

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- There was limited generalizabilty since ethnic groups other than Latinos/Hispanics and Asians are not represented
- Multidimensional acculturation scales were used in very few studies
- Acculturation measures differed substantially across studies making it difficult to compare results:
    - Currently, there is no standard tool for the assessment of acculturation.
    - Indicators used were built differently across studies, even when based on the same variables (e.g., place of birth and time in the United States)

Research recommendations

In order to better assess the relationship between acculturation and dietary intake, the following research is needed:

- Conduct prospective longitudinal studies, including those that start in early childhood and include comparison groups in countries of origin (among other things, these studies can help rule out rural-urban migration bias)
- Examination of acculturation diet association using non-linear models, since the relationship may be U-shaped
- Include individuals and families from diverse immigrant backgrounds, so the influence of factors such as country of origin and rural vs. urban origin can be assessed
- Development of a standard tool to measure acculturation or validation of multidimensional acculturation scales in different immigrant groups and in different languages
- Multistate studies using the same methodology, especially for measuring acculturation
- Examination of a wider range of foods and dietary patterns.

Search plan and results

Inclusion criteria

- Human subjects
- Studies conducted within the United States (may include subjects from country of origin)
- Human subject older than two years of age
- Subjects who were healthy or at elevated chronic disease risk
- Cohort study, cross-sectional studies, randomized or non-randomized controlled trial
- Intervention studies with a dropout rate of 20% and a differential dropout rate of 15% between groups:
    - *Intervention studies:* At least 30 subjects per study arm
    - Observational studies with more than 500 subjects.
- The intervention or exposure was acculturation
- Multidimensional measure of acculturation used (multidimensional scale or greater than one acculturation proxy)
- The comparator was different levels of acculturation:
    - The outcome included diet quality, foods and food groups, macronutrient intakes and proportions, AND/OR obesity, overweight, body mass index (BMI), waist circumference, body weight, percent body fat change
    - *Child growth indices:* Weight-for-age, length and stature-for-age, weight for stature, BMI-for-age, BMI Z-score, AND cardiovascular disease (CVD), type 2 diabetes (T2D), cancer and pregnancy outcomes

Exclusion criteria

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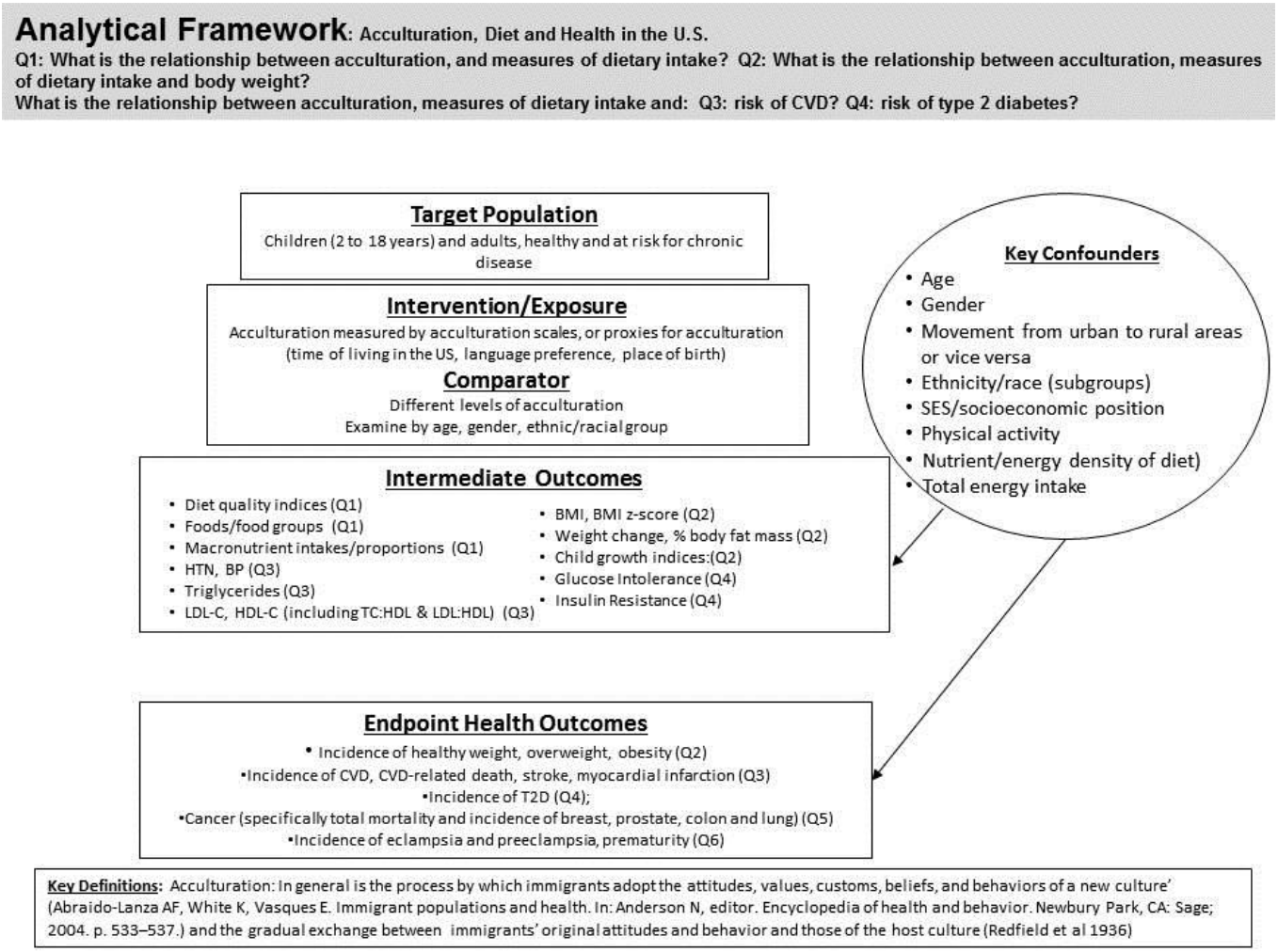
- Animals and *in vitro* models
- Children less than two years of age
- Studies conducted in countries outside the United States
- Subjects who were hospitalized, diagnosed with disease and receiving medical treatment
- Systematic review, meta analysis, narrative review, qualitative studies.
- In addition, articles were included if they were published in English in a peer-reviewed journal between January 2004 and January 2014. If an author is included on more than one primary research article that is similar in content, the paper with the most pertinent data and endpoints was included. If data and endpoints from both papers are appropriate, it was made clear that results are from the same intervention

Analytic framework



Search terms and electronic databases used

- ***PubMed/MEDLINE***
  - *Date(s) Searched:* ***January 2014***
  - *Search Terms:*

    Acculturation and Measures of Dietary Intake

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(((((nutrition[tiab] OR diet[mh] OR diet[tiab] OR dietary[tiab] OR food preferences[mh] OR feeding behavior[mh] OR nutrition surveys[mh] OR food[tiab] OR "Food and Beverages"[mh] OR "Eating"[mh] OR "caloric density"[tiab] OR "caloric intake"[tiab] OR caloric dens*[tiab] OR high calori*[tiab] OR energy dens*[tiab] OR fruit*[tiab] OR vegetable*[tiab] OR food analysis[mh] OR dietary intake*[tiab] OR food intake*[tiab] OR energy intake*[tiab] OR food habits[mh] OR dietary habit*[tiab] OR diet habit*[tiab] OR eating habit*[tiab] OR nutrient intake*[tiab] OR food choice*[tiab] OR portion size*[tiab] OR "diet quality"[tiab] OR dietary choice*[tiab] OR dietary change*[tiab] OR diet records[mh] OR nutritional status[mh] OR nutritional sciences[mh] OR dietary pattern*[tiab] OR diet pattern*[tiab] OR eating pattern*[tiab] OR food pattern*[tiab] OR eating habit*[tiab] OR dietary habit*[tiab] OR food habit*[tiab] OR dietary profile*[tiab] OR food profile*[tiab] OR diet profile*[tiab] OR eating profile*[tiab] OR dietary guideline*[tiab] OR dietary recommendation*[tiab] OR food intake pattern*[tiab] OR dietary intake pattern*[tiab] OR eating style*[tiab] OR ((Macronutrient*[tiab] AND (Proportion*[tiab] OR composition[tiab] OR distribution*[tiab] OR percent*[tiab] OR diet composit*[tiab])) OR dietary score*[tiab] OR adequacy index*[tiab] OR kidmed[tiab] OR Food Score*[tiab] OR Diet Score*[tiab] OR MedDietScore[tiab] OR Dietary Pattern Score*[tiab] OR "healthy eating index"[tiab] OR ((index*[ti] OR score*[ti] OR indexes[ti] OR scoring[ti] OR indices[ti]) AND (dietary[ti] OR nutrient*[ti] OR eating[tiab] OR food[ti] OR food[mh] OR diet[ti] OR diet[mh]) AND (pattern* OR habit* OR profile*)))) AND (Acculturation[mh] OR acculturation[tiab] OR assimilat*[ti] OR acculturat*[tiab] OR "dietary acculturation"[tiab] OR cultural factors*[tiab] OR hispanic american*[mh] OR hispanic*[tiab] OR latinos[tiab] OR latina[tiab] OR latino[tiab] OR mexican American*[tiab] OR puerto rican*[tiab] OR korean*[tiab] OR asian american*[tiab] OR chinese american*[tiab] OR emigration and immigration[mh] OR migrant*[tiab] OR immigrant*[tiab] OR immigration[tiab] OR filipino american*[tiab] OR transients and migrants[mh] OR Ethnic Groups[Mesh] OR "Cultural Characteristics"[Majr] OR Cross-Cultural Comparison[Mesh] OR Cultural Diversity[Mesh] OR Ethnology[mh] OR African Americans[Mesh] OR Asian Continental Ancestry Group[Mesh])) AND "last 10 years"[PDat] AND Humans[Mesh] AND English[lang])) AND ((acculturation[mh] OR acculturat* OR assimilat* OR transition[tiab]))) AND ("Epidemiologic Studies"[Mesh] OR "Support of Research"[ptyp] OR cohort[tiab] OR observational[tiab] OR observational study[ptyp] OR retrospective[tiab] OR longitudinal[tiab]) Filters: published in the last 10 years; Humans; English*

Acculturation and Body Weight

("body size"[tiab] OR body size[mh] OR obesity[tiab] OR obese[tiab] OR obesity[mh] OR overweight [tiab] OR adiposity[tiab] OR adiposity[mh]] OR "body weight"[tiab] OR body weight[mh]] OR "body-weight related"[tiab] OR "weight gain"[tiab] OR weight gain[mh] OR "weight

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loss"[tiab] OR Body Weights and Measures[Majr] OR overweight[tiab] OR "Body Composition[mh] OR "body fat"[tiab] OR adipos[tiab] OR weight[ti] OR waist[ti] OR "Anthropometry"[Mesh:noexp] OR "body mass index"[tiab] OR BMI[tiab] OR "weight status"[tiab] OR adipose tissue [mh] OR "healthy weight"[tiab] OR waist circumference[mh] OR "body fat mass"[tiab] OR body weight changes[mh] OR "waist circumference"[tiab])*

Acculturation and CVD

((cardiovascular diseases[majr] OR heart OR cardiac OR coronary OR hypertension[majr] OR hypertens[tiab] OR blood pressure[mh] OR "blood pressure"[tiab] OR "metabolic syndrome" OR metabolic syndrome x[majr] OR hypercholesterolemia[mh] OR dyslipidemias[mh] OR cholesterol, ldl[mh] OR lipoproteins, hdl[mh] OR lipoproteins, ldl[mh]))*

Acculturation and T2D

(diabetes mellitus[mh] OR diabet OR prediabetic state[mh] OR prediabet* OR hyperglycemia[mh] OR "glucose intolerance" OR insulin resistance[mh] OR "insulin resistance")*

- ***Cochrane***
  - *Date(s) Searched:* ***January 2014***
  - *Search Terms: ('acculturat* OR assimilat*) and diet* OR nutrition OR bmi OR weight OR obes* OR overweight OR adipos* OR "body mass"*
- ***EMBASE***
  - *Date(s) Searched:* ***January 2014***
  - *Search Terms:*

Acculturation and Dietary Intake

acculturation:ab, ti OR transition:ab, ti AND [humans]/lim AND [english]/lim NOT [medline]/lim AND [2000-2014]/py AND 'cultural factor'/de OR acculturation:ab, ti OR acculturate:ab, ti OR transition:ab, ti OR 'cultural characteristics':ab, ti OR 'ethnic group'/exp OR hispanic:ab, ti OR hispanics:ab, ti OR 'american indian':ab, ti OR 'asian american':ab, ti OR 'asian americans':ab, ti OR 'ethnology'/mj OR 'cultural anthropology'/mj OR 'african american':ab, ti OR 'african americans':ab, ti OR 'immigrant'/de OR immigrants:ab, ti OR migrant:ab, ti OR migrants:ab, ti OR 'chinese american':ab, ti OR 'mexican americans':ab, ti OR 'mexican american':ab, ti OR 'ethnicity'/de OR 'korean':ab, ti OR 'puerto rican':ab, ti OR latino:ab, ti OR latinos:ab, ti OR latina:ab, ti AND [humans]/lim NOT [medline]/lim AND [2000-2014]/py AND 'nutrition'/de OR nutrition:ab, ti OR 'diet'/exp OR 'diet':ab, ti OR 'dietary intake'/exp OR 'caloric intake':ab, ti OR 'caloric density':ab, ti OR 'dietary intake':ab, ti OR 'feeding behavior'/exp OR 'eating habit'/de OR 'food preference'/de OR 'child nutrition'/de OR 'food intake'/exp OR 'nutritional assessment'/de OR 'nutritional status'/de OR 'nutrition surveys':ab, ti OR 'fruit'/exp OR 'vegetable'/exp OR 'food'/exp OR 'energy density':ab, ti OR 'dietary

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quality':ab, ti OR 'eating pattern':ab, ti OR 'food pattern':ab, ti OR 'dietary habit':ab, ti OR 'food habit':ab, ti OR 'food intake':ab, ti OR 'portion size'/de OR 'food choice':ab, ti OR 'diet quality':ab, ti OR 'dietary profile':ab, ti OR 'food profile':ab, ti OR 'diet profile':ab, ti OR 'eating profile':ab, ti OR 'food intake pattern':ab, ti OR 'dietary intake pattern':ab, ti OR 'eating style':ab, ti OR 'macronutrient':ab, ti OR 'macronutrient'/de OR 'dietary score':ab, ti OR kidmed:ab, ti OR 'food score':ab, ti OR 'diet score':ab, ti OR 'meddietscore':ab, ti OR 'dietary pattern score':ab, ti OR 'healthy eating index':ab, ti OR (index:ab, ti OR score:ab, ti OR scoring:ab, ti OR indices:ab, ti AND (dietary:ab, ti OR nutrient:ab, ti OR eating:ab, ti OR food:ab, ti OR diet:ab, ti) AND (pattern:ab, ti OR habit:ab, ti OR profile:ab, ti)) AND [article]/lim AND [2004-2014]/py AND [humans]/lim AND [english]/lim NOT [medline]/lim AND [2000-2014]/

Acculturation and Body Weight

('body size'/de OR 'obesity'/exp OR overweight:ab, ti OR adiposity:ab, ti OR 'body weight'/exp OR 'weight gain'/de OR 'weight reduction':ab, ti OR 'body composition'/exp OR 'body fat':ab, ti OR 'anthropometry'/de OR 'body mass'/de OR bmi:ab, ti OR weight:ab, ti OR 'waist circumference'/de OR 'waist circumference':ab, ti OR 'waist hip ratio'/de OR 'body fat'/de OR 'adipose tissue'/exp) AND [humans]/lim AND [english]/lim NOT [medline]/lim AND [2000-2014]/py

Acculturation and CVD

'cardiovascular disease'/exp OR heart:ab, ti OR cardiac:ab, ti OR coronary:ab, ti OR 'cardiovascular disease':ab, ti OR 'cholesterol'/exp OR cholesterol:ab, ti OR 'triglyceride':ab, ti OR 'triglycerides':ab, ti OR 'dyslipidemia'/exp OR 'low density lipoprotein cholesterol'/de OR 'high density lipoprotein cholesterol'/exp OR ldl:ab, ti OR hdl:ab, ti OR 'hypertension'/de OR 'myocardial infarction':ab, ti OR 'heart failure':ab, ti OR 'myocardial ischemia':ab, ti OR 'hypercholesterolemia':ab, ti OR 'blood pressure':ab, ti OR 'metabolic syndrome':ab, ti OR 'metabolic syndrome x'/de AND [humans]/lim AND [english]/lim NOT [medline]/lim AND [2000-2014]/py

Acculturation and Diabetes Mellitus, Type 2

'non insulin dependent diabetes mellitus'/de OR 'type ii diabetes':ab, ti OR 'type 2 diabetes':ab, ti OR diabetes:ti OR diabetic:ti OR 'prediabetic state':ab, ti OR 'impaired glucose tolerance'/de OR 'glucose intolerance':ab, ti OR 'insulin resistance'/de OR 'hemoglobin a1c'/de OR 'insulin sensitivity'/de OR 'insulin sensitivity':ab, ti OR 'onset diabetes':ab, ti OR 'adult onset diabetes':ab, ti OR 'glucose intolerance'/de AND AND [humans]/lim AND [english]/lim NOT [medline]/lim AND [2000-2014]/py

Date range: 2004 to 2014

Summary of articles identified to review

- Total hits from all electronic database searches: 580
- Total articles identified to review from electronic databases: 0

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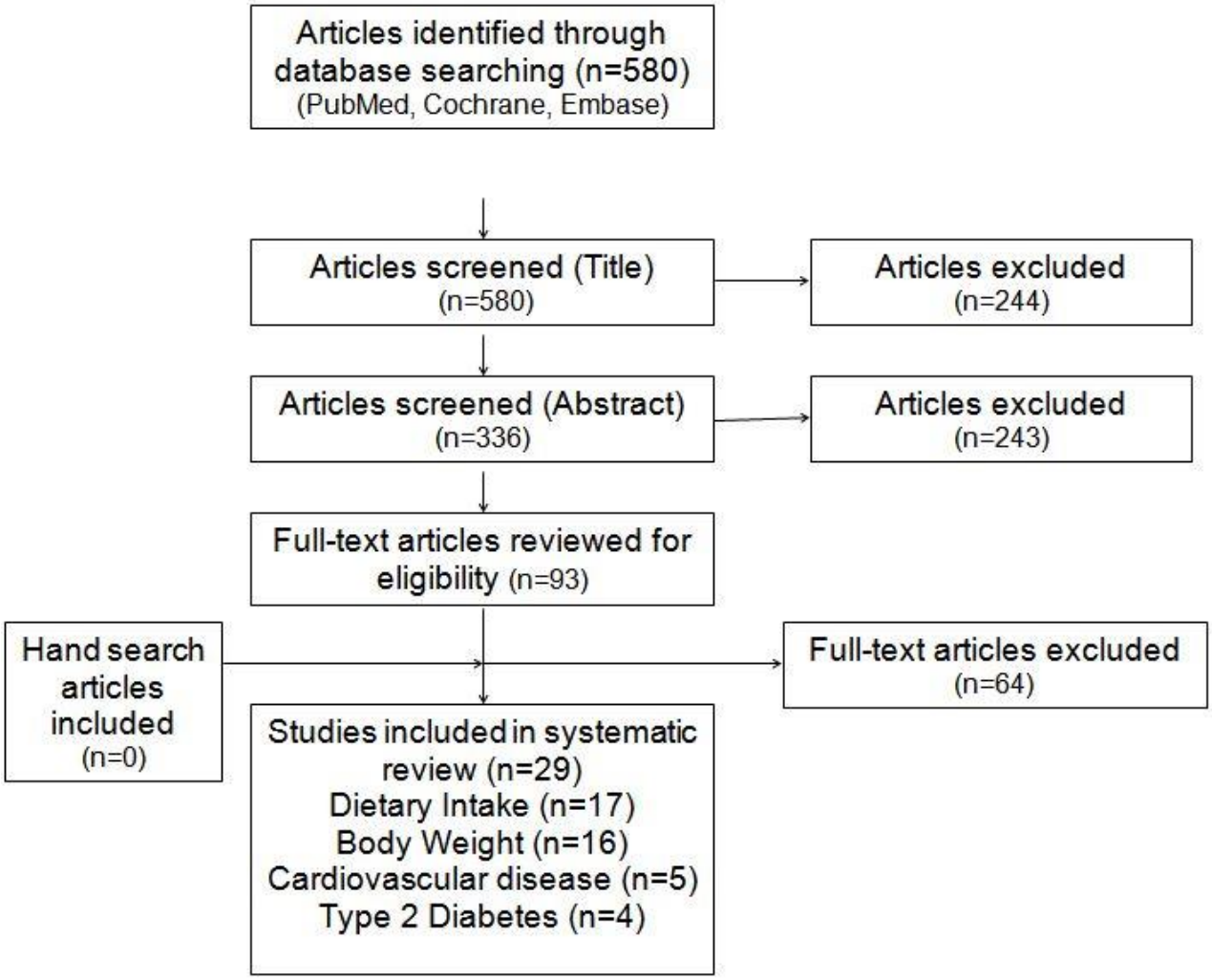
- Articles identified via handsearch or other means: 0
- Number of Primary Articles Identified: 336
- Number of Review Articles Identified: 0
- Total Number of Articles Identified: 29
- Number of Articles Reviewed but Excluded: 307



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Q1: What is the relationship between acculturation and dietary intake? (Articles marked * were used for more than one acculuration question.)

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*Q2: What is the relationship between acculturation and body weight? (Articles marked * were used for more than one acculuration question.)*

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*Q4: What is the relationship between acculturation, dietary intake, and risk of type 2 diabetes? (Articles marked * were used for more than one acculuration question.)*

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Excluded articles

See Appendix H for a full list of excluded articles with reason.

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CHAPTER 10. ACCULTURATION – BODY WEIGHT

WHAT IS THE RELATIONSHIP BETWEEN ACCULTURATION AND BODY WEIGHT?

TECHNICAL ABSTRACT

Background

The goal of this systematic review was to determine whether acculturation is associated with measures of body weight. Acculturation has been defined both as the "process by which immigrants adopt the attitudes, values, customs, beliefs and behaviors of a new culture."[1] and as the "gradual exchange between immigrants' original attitudes and behavior and those of the host culture"[1] Acculturation is relevant for individual dietary behaviors because evidence suggests that the healthy lifestyles with which recent immigrants arrive deteriorate as they integrate or assimilate into mainstream American culture.[2] Moreover, evidence suggests that to be effective in helping immigrants retain their healthy lifestyles, nutrition education and food assistance programs must be tailored to their different levels of acculturation.[2]

Conclusion statement

Limited evidence suggests a relationship between higher acculturation to the United States and increased body weight. This relationship varies by national origin and gender. Specifically, findings were mixed in both Asian and Latino/Hispanic populations. In Asians, the association was stronger in women than men and in Latino/Hispanic populations; associations were stronger in Mexican-born women.

2015 DGAC Grade: **Limited**

Methods

Literature searches were conducted using PubMed, Embase and Cochrane databases to identify studies that evaluated the association between acculturation and body weight. Studies that met the following criteria were included in the review: cross-sectional and cohort studies; human subjects aged two years and older who were healthy or at elevated chronic disease risk; studies conducted in the United States with participants residing within the United States and when available, participants residing in the country of origin; and studies published in English in peer-reviewed journals January 2004 to January 2014. The exposure was acculturation measured by acculturation scales, or more than one proxy for acculturation (e.g., time living in the United States, language preference, place of birth). The outcome was obesity; overweight; body mass index (BMI); and measures of weight, growth and body composition including waist circumference, body weight, percent body fat, weight-for-age, length/stature-for-age, weight for stature, BMI-for-age and BMI Z-score.

Data from each included article were extracted and risk of bias was assessed. The evidence was qualitatively synthesized, a conclusion statement was developed and the strength of the evidence (grade) was assessed using pre-established criteria including evaluation of the quality and risk of bias, quantity, consistency, magnitude of effect and generalizability of available evidence.

Findings

- This evidence review includes 13 studies, 12 cross-sectional studies and one longitudinal study that examine the relationship between multidimensional or multiple proxy measures of acculturation and body weight in predominantly Latino/Hispanic

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and Asian populations

- Seven studies included Asian populations (predominantly of Vietnamese, Chinese, Korean or Filipino origin) and two of these studies included subjects from the United States and the country of origin. Five studies included Latino/Hispanic populations (predominately of Mexican American origin). One study included subject from four global regions.
- Among Asian populations, the majority of the data suggests a positive relationship between acculturation and increased body weight, but results are not consistent
- Among Latino/Hispanic populations, the association has been documented mostly among women of Mexican origin
- The preponderance of the evidence is in middle-aged adults; no studies addressed the association between acculturation and growth or weight status in children or older adults

Limitations

- The preponderance of the evidence is from cross-sectional studies, thus causality inferences cannot be made and it is unknown whether the relationship changes over time.
- Methodological limitations included use of multiple acculturation proxies, which may not capture the complexity of the construct, use of non-validated multidimensional acculturation scales, and self-reported weight and height.

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FULL REVIEW

Conclusion statement

Limited evidence suggests a relationship between higher acculturation to the United States and increased body weight. This relationship varies by national origin and gender. Specifically, findings were mixed in both Asian and Latino/Hispanic populations. In Asians, the association was stronger in women than men and in Latino/Hispanic populations; associations were stronger in Mexican-born women.

Grade

Limited

Key findings

- Among Asian populations, the majority of the data suggests a positive relationship between acculturation and increased body weight, but results are not consistent
- Among Latino/Hispanic populations, the association has been documented mostly among women of Mexican origin.

Evidence summary

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Description of the Evidence

This evidence review includes 13 studies: one longitudinal study (Novotny, 2012) and 12 cross-sectional studies (Ahluwalia, 2007; Chen, 2012; Creighton, 2012; Fu, 2012; Garcia, 2012; Gomez, 2004; Hubert, 2005; Koya, 2007; Parikh, 2009; Song, 2004; van Rompay, 2012; Wang, 2011) that examined the relationship between multidimensional or multiple proxy measures of acculturation and body weight. The risk of bias scores measured using the NEL Bias Assessment Tool (BAT) ranged from zero of 24 to six of 24 indicated the body of evidence was prone to bias. Limitations in measurement techniques included use of multiple acculturation proxies, which may not capture the complexity of the construct, use of non-validated multidimensional acculturation scales and self-reported weight and height. A major limitation in the design of most included studies was the absence of objective measures of dietary intake and physical activity, inhibiting adjustment for these potential confounding factors in analysis.

All studies included adults (approximately 25 years to 75 years). Ten studies included both men and women and five studies analyzed results by gender (Hubert, 2005; Koya, 2007; Parikh, 2009; Song, 2004; Wang, 2011). Sample sizes ranged from 517 to 5,230 subjects; five studies had less than 1,000 participants (Ahluwalia, 2007; Chen, 20012; Fu, 2012; Hubert, 2005; Parikh, 2009), three studies had 1,000 to 3,000 subjects (Creighton, 2012; Novotny, 2012; van Rompay, 2012) and five studies had 3,000 to 5,300 participants (Garcia, 2012; Gomez, 2004; Koya, 2007; Song, 2004; Wang, 2011). Information related to socioeconomic status (SES) was available in nine of 10 studies, but variation in method of reporting makes data difficult to summarize.

Four studies included Mexican-American subjects (Ahluwalia, 2007; Creighton, 2012; Garcia, 2012; Hubert, 2005); one study included Puerto Rican subjects (van Rompay, 2012); seven studies focused on Asian populations including Vietnamese (Fu, 2012), Chinese (Parikh, 2009), Korean (Song, 2004), a combination of Korean, Chinese and Vietnamese subjects (Chen, 2012; Wang, 2011); and two studies included a broader Asian ethnic population, e.g., Filipino, Japanese and Pacific Islander subjects (Gomez, 2004, Novotny, 2012). One study (Koya, 2007) included subjects born in four different world regions including South and Central America, Europe and Russia, Africa and the Middle East and Asia. Five studies were conducted in California, three in Asian populations (Gomez, 2004; Song, 2004; Wang, 2011) and two in Latino/Hispanic populations (Creighton, 2012; Hubert, 2005). One study included Puerto Rican subjects from Boston, Massachusetts (van Rompay, 2012). One study included a global sample (Koya, 2007). Additional studies including Asian subjects were conducted in New York (Parikh, 2009), Hawaii (Novotny, 2012), Louisiana (Fu, 2012) and Maryland (Chen, 2012). One study included a national sample of Latino/Hispanic subjects (Garcia, 2012).

Two studies included subjects from the United States and the country of origin. Fu, 2012 included samples of Vietnamese US immigrants, Vietnamese nationals who never migrated and individuals who migrated and then returned to Vietnam, in an effort to disentangle the effects of migration, selection and acculturation. Analysis was done by migration status, and both the “never migrant” group and “returnees” group served as a referent group in analysis. Song, 2004 studied a population of Korean adults residing in California and a sample residing in Seoul, Korea. Three acculturation groups were established within the Korean-American sample using cluster analysis of “Traditional,” “Bicultural” and “Acculturated.” The odds ratio for prevalence of overweight and obesity was analyzed by acculturation sub-group and gender. Hurbert, 2005 studied a community sample of men and women and a sample of men from an agricultural labor camp and analyzed results by gender, community and labor camp sample.

Approaches used to measure acculturation varied across the body of evidence; however, dimensions such as language preference, place of birth or nativity and years of US residence

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were commonly used. Four studies used multidimensional scales developed for specific Asian populations (Chen, 2012; Fu, 2012; Novotny, 2012; Song, 2004). Slightly different versions of the Suinn-Lew Asian Self-Identity Acculturation Scale (SL-ASIA), validated among Korean Americans in California) were used by Chen, 2013 and Song, 2004. This scale includes questions on language, ethnicity self-identification, father's ethnicity identification and social linkages, including ethnicity of peers, music and food preference, years of education and years of residency in the country of origin and the United States, respectively, and country of birth. In addition to the SL-ASIA summary score, Chen, 2012 analyzed acculturation using the following individual proxies: Age at arrival, language preference, education in the United States, food preference at home, food preference in restaurant and self-identify. Fu, 2012 used an acculturation scale developed for Southeast Asians (i.e., Cambodians, Laotians and Vietnamese), which addressed language proficiency, food and social contact preferences, length of stay in the United States and age at immigration. Novotny 2010 adapted a tool from a previous study for an Asian and Pacific Islander population that took into account country of birth, age when immigrated to the United States, years of US residency, language spoken at home and highest level of formal education. Parikh, 2009 scored acculturation in a Chinese-American population using a two-category variable associated with language and media preference, and combined this measure with percent time in the United States. Gomez, 2004 used the following proxies: Country of birth, age at which family moved to the United States, generation and language. Wang, 2011 used nativity and language proficiency.

Four of five studies conducted in Latino/Hispanic populations used a multiple proxy approach to measure acculturation, but proxies measured and combinations used varied. All studies used a language proxy when measuring acculturation. In addition to a language proficiency or preference proxy, nativity or birthplace was incorporated into the acculturation measure in Garcia, 2012. Hubert, 2005 assessed length of US residence, Creighton 2012 assessed social acculturation, and two studies assessed generation status (Creighton, 2012; Hubert, 2005). One study conducted in Puerto Rican subjects used the Psychological Acculturation Scale (PAS) and the Bi-dimensional Acculturation Scale for Hispanics (BAS) along with length of stay in the United States (van Rompay, 2012).

One study (Koya, 2007) included subjects born in four different world regions and utilized acculturation proxies including duration of US residence and place of birth.

The reviewed studies assessed the relationship between acculturation and measures of body weight including body mass index (BMI) (Chen, 2012; Fu, 2012; Hubert, 2005; Novotny, 2012), waist-to-hip ratio (WHR) (Fu, 2012; Novotny, 2012) and prevalence of overweight or obesity (Ahluwalia, 2007; Creighton, 2012; Fu, 2012; Garcia, 2012; Koya 2007; Parikh, 2009; Song, 2004; Wang, 2011). Self-reported height and weight was used to calculate BMI in the four studies (Gomez, 2004; Hubert, 2005; Song, 2004; Wang, 2011).

Evidence Synthesis

Acculturation and Body Weight in Asian Populations

Longitudinal Study: One longitudinal analysis was included in this review, assessing the relationship between a multidimensional measure of acculturation at 24 months and change in weight and WHR at 24 months in subjects enrolled in an intervention to promote diet and physical activity change (Novotny, 2012). The intervention had no significant effect on weight and WHR, and no association was found between acculturation measured in program completers at 24 months and change in weight or WHR over the intervention period. At baseline, acculturation was associated with higher BMI.

Cross-sectional Analysis: Six cross-sectional analyses (Chen, 2012; Fu, 2012; Gomez, 2004; Parikh, 2009; Song 2004; Wang, 2011) examined the relationship between multidimensional

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or multiple proxy measures of acculturation and body weight outcomes including BMI, waist circumference or WHR, and prevalence of overweight and obesity in middle-aged Asian men and women primarily of Vietnamese, Chinese, Korean and Filipino origin (**Table 1**).

Overweight and Obesity: Three of five cross-sectional studies found a positive association between acculturation and prevalence of overweight and obesity (Fu, 2012; Song, 2004; Wang, 2011). Two studies found a positive association between high acculturation and overweight and obesity in both men and women (Song, 2004; Wang, 2011). One study measured acculturation using a validated multidimensional scale and self-reported height and weight measures in Korean American men and women, compared to a referent group of Seoul residents (Song, 2004). The other study assessed nativity and language proficiency, created three subgroups (traditional, bicultural, and acculturated) in Chinese, Korean and Vietnamese immigrants and used self-reported measures of height and weight (Wang, 2011). Fu, 2012, found a positive relationship between acculturation measured using a validated multidimensional scale and prevalence of overweight and obesity, assessed using measured height and weight, in Vietnamese immigrants. The study compared middle-aged men and women who immigrated to the New Orleans area in the United States to both Vietnamese subjects who never immigrated and to those who immigrated to the United States and then returned to Vietnam to live. The design of this natural experiment increased the potential for bias, but the study provides unique insight to the impact of acculturation vs. selection and migration effects. Two studies found no association between acculturation and prevalence of overweight or obesity, one conducted in Chinese men and women (Parikh, 2009) and one in Asian subgroups (Gomez, 2004). However, the study analyzing Asian subgroups may not have been adequately powered to detect differences and both studies used self-reported height and weight and non-validated acculturation measures.

BMI: Two cross-sectional studies found a positive relationship between multidimensional measures of acculturation and body mass index (Chen, 2012; Fu, 2012). Chen, 2012 found a positive association between acculturation and BMI (stronger among men than women) when acculturation was assessed using the Suinn-Lew Asian Self-Identity Acculturation Scale and the following acculturation proxy measures (having education in the United States, arrival in the United States before the age of 10 years, self-identification as American and equal preference of Asian and American food in restaurants). No association was found with food preference at home and language preference. Fu, 2012 found Vietnamese immigrants to the United States were more likely to be overweight than individuals who never left their country of origin and those who immigrated and returned to their country of origin. Novotny, 2012 used a multidimensional acculturation measure (non-validated) and found a positive association at baseline, but not over one year in a predominately Filipino, other Asian and Pacific Islander group of hotel workers enrolled in a wellness program.

Waist-to-hip ratio: Fu, 2012 found a positive association between a multidimensional measure of acculturation and waist-to-hip ratio expressed both as a continuous and a categorical variable in Vietnamese immigrants compared to those who never migrated and those who migrated and then returned to live in Vietnam.

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Question: What is the relationship between acculturation and body weight?

Table 1: Summary of studies examining the association between multidimensional or multiple proxy measures of acculturation and body weight in Asian populations

Author, Year Sample Size, Data Source, Location Risk of Bias*	Race/Ethnicity Age % Female	Acculturation Measure/Proxy Body Weight Measure	Results
Longitudinal Study			
Novotny, 2012 **N=1,612** **Work, Weight and Wellness Study, Hawaii** **Risk of Bias: 4/24**	Filipino (42.0%), other Asian (32.0%), Pacific Islander (13.0%), White (9.0%), African American (1.0%), other (3.0%) 46.0y (SD=10.2) 52.0% female	Acculturation scale (not validated) considered age at immigration, country of birth, English spoken at home, and highest education level Measured weight, height, waist circumference	**Longitudinal analysis:** *Change in BMI and WHR over 24 months*: NS **Cross-sectional analysis:** Acculturation associated with higher baseline BMI, (F=2.66, P=0.02)
Cross-sectional Studies			

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Table 1: Summary of studies examining the association between multidimensional or multiple proxy measures of acculturation and body weight in Asian populations

Author, Year Sample Size, Data Source, Location Risk of Bias*	Race/Ethnicity Age % Female	Acculturation Measure/Proxy Body Weight Measure	Results
Chen, 2012 **N=847** **Liver cancer prevention trial 2009-2010 data, Maryland** **Risk of Bias: 4/24**	Korean (33.3%), Chinese (35.1%), Vietnamese (31.6%) 45.0y (SD=13.5) 58.2% female	Suinn-Lew Asian Self-Identity Acculturation Scale (SL-ASIA; validated) assessed language, friendship choice, music and food preference, years education and residency in country of origin and US, respectively, and country of birth **Proxies:** Age at immigration; education in the US; self-identity; language preference; food preference at home; food preference in restaurants Measured height and weight	**BMI [β(SE)] association found with increased BMI** **Higher SL-ASIA score**: β=0.71 (0.28), P<0.05 **Age at arrival to US:** 4y and above: Referent group *11-40y:* NS *6-10y:* β=1.55 (0.78), P<0.05 *0-5y:* β=3.32 (0.76), P<0.01 **Language preference*:*** NS **Food preference at home*:*** NS **Education in the US** (No referent group): *Had any:* 0.56 (0.28), P<0.05 **Food preference at restaurants:** Asian cuisine: Referent group *Equal (American and Asian):* β=0.92 (0.28), P<0.01 *American cuisine:* NS **Self-identity:** Asian: Referent group *Equal (American and Asian):* NS *American:* β=1.51 (0.77), P<0.05

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Question: What is the relationship between acculturation and body weight?

Table 1: Summary of studies examining the association between multidimensional or multiple proxy measures of acculturation and body weight in Asian populations

Author, Year Sample Size, Data Source, Location Risk of Bias*	Race/Ethnicity Age % Female	Acculturation Measure/Proxy Body Weight Measure	Results
Fu, 2012 **Migrant status analysis N=703** **Age and language analysis N=124** **Survey, Louisiana/Vietnam** **Risk of Bias: 6/24**	Vietnamese descent (100.0%); Immigrant status: Immigrant (17.6%), returnee (19.1%), or never migrant (63.3%) 39.0y; 23-53y 49.8% female	Acculturation scale developed for Southeast Asians (validated) assessed language proficiency and preference, food and social contact preferences, length of stay in US, age at immigration Measured weight, height, waist circumference, and hip circumference	**BMI, WHR continuous, being obese/overweight, having high WHR:** **Migration status** (Never migrant: Referent group) **Returnees (estimates effects of selection):** BMI (NS), WHR continuous (NS), being obese/overweight (NS), having high WHR (NS) **Immigrants:** BMI (β=1.40 (SE=0.35), P<0.001), WHR continuous (β=0.066 (SE=0.007), P<0.001), being obese/overweight (OR=2.16 (1.34-3.47)), having high WHR (OR=5.09 (3.09-8.40)) Returnees: referent group **Immigrants (estimates effect of migration and US acculturation net of selection effects):** BMI (β=1.65 (SE=0.41), P<0.001), WHR continuous (β=0.07 (SE=0.008), P<0.001), being obese/overweight (OR=2.50 (1.38-4.54)), having high WHR (OR=5.96 (3.35-10.59)) **Acculturation and weight status among Vietnamese immigrants** (N=124) *Age at arrival:* BMI (β=-0.12 (0.06), P<0.05), all other measures: NS *English proficiency:* Having high WHR (OR=0.76 (0.61-0.94)), all other measures: NS *Length of residency, language/social/food preference, Vietnamese proficiency, and being bilingual:* Not associated with weight

Question: What is the relationship between acculturation and body weight?

Table 1: Summary of studies examining the association between multidimensional or multiple proxy measures of acculturation and body weight in Asian populations

Author, Year Sample Size, Data Source, Location Risk of Bias*	Race/Ethnicity Age % Female	Acculturation Measure/Proxy Body Weight Measure	Results
Gomez, 2004 **N=3,965** **Kaiser Permanente Medical Care Program bone health case-control study, California** **Risk of Bias: 5/24**	White (79.8%), Chinese (6.6%), Japanese (2.5%), Filipino (6.8%), other Asian (2.3%), multiple-race Asian (2.0%) >45y 75.9% female	**Proxies:** Country of birth, age at which family moved to the US, generation, language Self-reported weight and height	**Overweight/obesity (BMI >25) analyzed by subgroup**: **Birthplace** (US-Born as referent group) *Chinese:* NS *Japanese:* NS *Filipino:* NS *Other Asian:* NS *Multi-racial Asian:* NS **Language preference (English as referent group):** No significant relationships
Parikh, 2009 **Final N=517** **New York City Chinese Health Survey, New York** **Risk of Bias: 4/24**	Chinese (100%) 63.5y (SE=0.38); 55-75y 42.2% female	Acculturation score (invalidated) considered length of time in US and language usage Self-reported weight and height	**Overweight/obesity (BMI >25) association with acculturation:** NS in men and women **Overweight/obesity (BMI >25) association with percent of time in US:** NS in men and women

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Question: What is the relationship between acculturation and body weight?

Table 1: Summary of studies examining the association between multidimensional or multiple proxy measures of acculturation and body weight in Asian populations

Author, Year Sample Size, Data Source, Location Risk of Bias*	Race/Ethnicity Age % Female	Acculturation Measure/Proxy Body Weight Measure	Results
Song, 2004 **N=3,330** **Survey, California/South Korea** **Risk of Bias: 4/24**	Korea-descent (100%) >18y ~50% female	Suinn-Lew Asian Self-Identity Acculturation Scale (considers language, music, food, self-identification, father's identification, and social linkages including ethnicity of peers, and preferred associations) Acculturation groups established using cluster analysis Self-reported weight and height	**Obesity (Seoul residents as reference)** *Men* "Traditional": 3.59 (0.84-15.41) "Bicultural": 2.57 (0.47-14.21) "Acculturated": 14.8 (3.11-70.25) *Women* "Traditional": 2.27 (0.29-17.65) "Bicultural": 3.24 (0.29-36.48) "Acculturated": 6.40 (0.38-107.8) **Overweight (Seoul residents as reference)** *Men* "Traditional": 2.39 (1.65-3.47) "Bicultural": 2.60 (1.66-4.07) "Acculturated": 2.40 (1.08-8.42) *Women* "Traditional": 1.37 (0.78-2.38) "Bicultural": 1.30 (0.59-2.87) "Acculturated": 3.02 (1.08-8.42)

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Question: What is the relationship between acculturation and body weight?

Table 1: Summary of studies examining the association between multidimensional or multiple proxy measures of acculturation and body weight in Asian populations

Author, Year Sample Size, Data Source, Location Risk of Bias*	Race/Ethnicity Age % Female	Acculturation Measure/Proxy Body Weight Measure	Results
Wang, 2011 **N=5,074** **2005 and 2007 California Health Interview Study (CHIS), California** **Risk of Bias: 4/24**	Chinese (56%), Korean (19%), Vietnamese (25%) 43.6y 57.3% female	**Proxies:** Nativity and language proficiency **3 acculturation groups:** *"Traditional":* Foreign-born/poor English *"Bicultural":* Foreign-born/ good English; or US-born/spoke and use Asian language at home/answered the interview in an Asian language *"Acculturated":* US-born/good English; or answered the interview in English, and did not speak an Asian language at home. Self-reported weight and height	**Overweight/obesity (BMI >25)** **Acculturation status** (Referent group: "Traditional"): *Men:* "Bicultural": NS "Acculturated": OR=2.11 [95% CI=1.25-3.55] *Women:* "Bicultural": NS "Acculturated": OR=2.38 [95% CI=1.41-4.01] **Overweight/obesity (BMI >25)** **Acculturation status** (Referent group: "Bicultural"): *Men:* "Acculturated" OR=2.13 [95% CI=1.40-3.23] *Women:* "Acculturated" OR=3.28 [95% CI=2.14-5.04]

*Risk of Bias as determined using the Nutrition Evidence Library Bias Assessment Tool

Acculturation and Body Weight in Latino/Hispanic Populations

Four cross-sectional studies assessed the relationship between acculturation proxies and measures of body weight including BMI (Hubert, 2005), waist circumference (Ahluwalia, 2007) and overweight and obesity prevalence (Ahluwalia, 2007; Creighton, 2012; Garcia, 2012) in middle-aged Mexican American men and women (**Table 2**). One study assessed the relationship between multidimensional measures of acculturation and waist circumference in Puerto Rican subjects (van Rompay, 2012).

Overweight and Obesity: Three studies found mixed results when the relationship between acculturation and prevalence of overweight or obesity in Mexican American subjects was assessed. One study found a positive association between measures of social acculturation and immigrant generation, but not with linguistic acculturation and prevalence of obesity (Creighton, 2012). Another study found a positive association in Mexican born, predominately English-language-speakers and obesity and a negative relationship between Mexican born, predominately Spanish-language-speakers and overweight (Garcia, 2012). A third small study from a nationally derived sample found higher levels of language acculturation was associated with both higher rates of obesity and higher rates of healthy weight status in the overall sample, in women, but not in men (Ahluwalia, 2007).

BMI: Hubert, 2005 assessed acculturation using years of US residence, generational status and primary language spoken at home and found a positive association between generational status and BMI (calculated using self-reported height and weight) in women, but not men, and found a positive relationship between years of US residence and BMI in men, but not in women.

Waist Circumference: Ahluwalia 2007, in a small national sample, showed that in women, but not men, high language acculturation was associated with a waist circumference measure higher than the recommended level (Ahluwalia, 2007). van Rompay 2012 found an inverse association between language acculturation and waist circumference, but no association between psychological acculturation in Puerto Rican subjects from Boston.

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Question: What is the relationship between acculturation and body weight?

Table 2: Summary of cross-sectional studies examining the association between multidimensional or multiple proxy measures of acculturation and body weight in Latino/Hispanic Populations

Author, Year Sample Size Data Source, Location Risk of Bias*	Race/Ethnicity Age % Female	Description of Acculturation Measure/Proxy	Results
Ahluwalia, 2007 **BMI Final N=964; Waist Circumference Final N=1,047** **2001-2002 National Health and Nutrition Examination Survey (NHANES), USA** **Risk of Bias: 6/24**	Mexican Americans (100%) 35.7y (SD = 0.9) 47.4% female	**Proxy:** English usage scale; parental nativity used in multivariable analysis Measured height and weight	**Distribution of Body Mass Index (BMI) by high vs. low acculturation** **Overall:** *Healthy weight:* 34.2% (2.91) vs. 30.4 % (2.82) *Overweight:* 33.0% (2.30) vs. 45.1% (2.09) *Obese:* 31.7 % (2.60) vs. 24.2% (2.51); P<0.05 **Male:** NS **Female:** *Underweight:* NR *Healthy weight:* 36.5% (3.95) vs. 25.8% (5.34) *Overweight:* 27.7 % (3.05) vs. 36.6% (4.14) *Obese:* 33.8 % (4.2) vs. 36.9% (6.62); P<0.05 **Distribution of waist circumference by high vs. low acculturation** **Overall:** *Higher and lower than recommendation:* Non-significant (NS) **Male:** *Higher and lower than recommendation:* NS **Female:** *Higher than recommendation:* 69.6% (4.22) vs. 78.3% (5.40), *Lower than recommendation:* 30.4% (4.22) vs. 21.7% (5.40), P<0.05

Question: What is the relationship between acculturation and body weight?

Table 2: Summary of cross-sectional studies examining the association between multidimensional or multiple proxy measures of acculturation and body weight in Latino/Hispanic Populations

Author, Year Sample Size Data Source, Location Risk of Bias*	Race/Ethnicity Age % Female	Description of Acculturation Measure/Proxy	Results
Creighton, 2012 **N=1,610** **L.A. Family and Neighborhood Survey-2 (2006-2008), California** **Risk of Bias: 4/24**	Mexican Americans, African Americans, European Americans (distribution NR) 39.9y (SD=0.76); 27.8-45.6 51% female	**Proxies:** Immigrant generation, linguistic acculturation, social acculturation Predominately measured height and weight	**Obesity: BMI ≥30** *Higher linguistic acculturation:* NS *Higher social acculturation:* OR=1.36, P<0.05 **Generation (Reference is 1st generation from Mexico <15y)** *1st generation Mexican (>15 y*): OR=1.72, P<0.01 *2nd generation Mexican:* OR=2.50, P<0.001 *3rd generation Mexican:* OR=2.04, P<0.05 *3rd generation white:* NS *3rd generation black:* OR=2.81, P<0.001
Garcia, 2012 **N=5,069** **1999-2008 NHANES, USA** **Risk of Bias: 4/24**	Mexican descent (100%) 20-85y NR	**Proxies:** Predominant language used and birthplace Measured height and weight	**Birthplace, language, and weight status** **Overweight (Referent group: US born, English predominant)** *US born, Spanish predominant:* NS *Mexican Born, English predominate:* NS *Mexican Born, Spanish predominate:* PR=1.23 (95% CI=1.12-1.36) **Obesity (Referent group: US born, English predominant)** *US born, Spanish predominant:* NS *Mexican Born, English predominate:* PR=0.76 (95% CI=0.65-0.89) *Mexican Born, Spanish predominate:* PR=0.70 (95% CI=0.64-0.76)

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Question: What is the relationship between acculturation and body weight?

Table 2: Summary of cross-sectional studies examining the association between multidimensional or multiple proxy measures of acculturation and body weight in Latino/Hispanic Populations

Author, Year Sample Size Data Source, Location Risk of Bias*	Race/Ethnicity Age % Female	Description of Acculturation Measure/Proxy	Results
Hubert, 2005 **N=901** **Cancer-related risk factor and screening practices survey, California** **Risk of Bias: 4/24**	Latino /Hispanic (predominantly Mexican origin) 35.2y (SD=10.5) 42.2% female	**Proxies:** Years of US residence, generational status, primary language spoken at home. Self-reported height and weight	**BMI** **Generational status (0,1st, 2nd)** *Women*: β=1.58 (SE=0.35); P<0.01 *Non labor-camp men:* NS *Labor-camp men:* NS **Years in US** *Women:* NS *Non labor-camp men:* β=0.09 (SE=0.02); P<0.01 *Labor camp men:* β=-0.11 (SE=0.05); P<0.05
van Rompay, 2012 **N=1,219** **Boston Puerto Rican Health Study, Massachusetts** **Risk of Bias: 0/24**	Puerto Rican Descent 45-75y 72% female	Psychological Acculturation Scale (PAS), Bi-dimensional Acculturation Scale (BAS), length of stay (LOS) Measured height, weight, waist circumference	**Central obesity (%) by BAS quartiles:** Inverse association found between language based acculturation:Q1(69.5), Q2(68.4), Q3(61.0), Q4(60.3), P for trend 0.02 **Obesity (%) by BAS quartiles**: P for trend NS **Obesity/Central obesity by PAS or LOS quartiles**: NS

*Risk of Bias as determined using the Nutrition Evidence Library Bias Assessment Tool

Acculturation and Body Weight in Populations from Four Global Regions

Koya, 2007 used data from the population-based National Health Interview Survey (NHIS) to examine acculturation in foreign born immigrants from four global regions including South and Central America, Europe, Africa and Middle East/Asia. The majority of subjects were overweight or obese (56%). The association between a BMI higher than 25kg/m^2 was significant for all participants and for women, but not men at both 10 to less than 15 years and greater than 15 years of US residence. When variations in the association between length of residence and overweight and obesity by region of birth subgroups were examined by including an interaction term (length of residence × birth region), a significant interaction was found.

Table 3: Summary of One Study Examining the Association Between Multiple Proxy Measures of Acculturation and Body Weight in Subjects Born in Four Different World Regions, Including South and Central America, Europe and Russia, Africa and the Middle East and Asia

Author, Year Sample Size, Data Source, Location Risk of Bias*	Race/Ethnicity Age % Female	Acculturation Measure/Proxy Body Weight Measure	Results
Koya, 2007 N=5,230 National Health Interview Survey (NHIS) 2002, USA Risk of Bias: Four of 24	Immigrants to United States born in South/Central America, Europe, Africa and Middle East/Asia N=5,230 42.7 years (SE=0.2) 50% female	Proxy measures: Years of residence (less than 10 years, 10 years to less than 15 years and 15 or more years) and country of birth, analyzed separately Self-reported height and weight	Obesity by length of residence and gender: 10 years to less than 15 years and more than 15 years of US residence: *All:* OR=1.35 (1.06 to 1.73) and OR=1.31 (1.03 to 1.65); P<0.05) *Male:* NS *Females:* OR=1.47 (1.04 to 2.07) and 1.38 (1.01 to 1.88; P<0.05)

*Risk of Bias as determined using the Nutrition Evidence Library Bias Assessment Tool.

Assessment of the Body of Evidence

- *Quality and Quantity:* This review included 12 cross-sectional studies (six in Asian, five in Latino/Hispanic populations and one in a global population) and one longitudinal study in Asian youth. Analyses in both Asian and Latino/Hispanic populations were frequently not adjusted for energy intake or physical activity level. Multiple acculturation proxies were used, particularly among Mexican American populations, which may not have captured the complexity of the construct and few validated, multidimensional acculturation scales were used. Six of 13 studies used self-reported measures of weight and height (four among Asian populations, one among Mexican Americans and one in a global population) increasing the risk of detection bias. Study size ranged from 517 to 5,074 subjects and four studies analyzed results by gender.

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Two studies included populations from the country of origin (Vietnam and Korea).

- *Consistency:* In both Asian and Latino/Hispanic populations, the findings were mixed. In Asian populations, the relationship between acculturation and BMI, waist circumference, and prevalence of overweight and obesity tended to be positive, but results varied by acculturation proxy and a positive association was more consistently found among women than men. Studies in Mexican American populations generally found a positive association between acculturation and BMI, waist circumference and prevalence of overweight and obesity, particularly among women, but results varied by acculturation proxy. One study in Puerto Rican subjects found no association between acculturation and waist circumference. One study in a global population found a positive association in all subjects, females, but not in males.
- *Impact:* In general, studies assessed outcomes directly related to the systematic review question. When associations were found between a measure of acculturation and weight status, results were clinically meaningful. However, a number of the included studies did not find an association.
- *Generalizability:* The evidence examined focused on a very limited range of Latino/Hispanic and Asian origin groups. Four studies were conducted in Mexican American and one in a Puerto Rican population and Asian studies included subjects primarily of Vietnamese, Chinese, Korean and Filipino origin. Only two studies drew from a national sample. Studies included middle-aged adults; therefore, children and older adults were not represented. For these reasons, results are not generalizable to the US population

Limitations

- The preponderance of the evidence is from cross-sectional studies, thus causality inferences cannot be made and it is unknown whether the relationship changes over time
- The preponderance of the evidence is in middle-aged adults; no studies addressed the association between acculturation and growth or weight status in children or older adults
- Ethnic groups other than Latino/Hispanic and Asian are under-represented. Latino/Hispanic results are based upon studies conducted in predominately Mexican American populations and results among Asian populations are based on studies of predominately Korean, Filipino and Vietnamese subjects
- Variations in the combination and methods used to assess acculturation proxies and application of differing multidimensional acculturation scales made comparison of results across studies difficult.
- Use of self-reported weights, rather than investigator-measured anthropometry, increased risk for responder bias
- The studies were not consistent in their selection of variables in multivariate analysis and few studies objectively measured dietary intake and physical activity level, so adjustments could be made to account for potential confounding

Research recommendations

Additional research is needed in the following areas:

- Conduct prospective, longitudinal, multistate or national studies, including those that start in early childhood, and include a comparison group from the countries of origin are needed to improve the reliability and generalizabilty of results across the life cycle and ethnic groups
- Include individuals and families of diverse national origins. Include comparison groups in countries of origin to rule out, among other things, the potential confounding by

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internal migration from rural to urban area within the country of origin.
- Develop a standard tool to measure acculturation or validation of multidimensional acculturation scales in different immigrant groups and in different languages. Standard measures of acculturation facilitate comparison of results across studies.
- Outcomes based on investigator measured anthropometry, rather than self-reported measures to increase the validity of findings
- Studies are needed which objectively assess dietary intake, physical activity and sedentary behaviors and examine them as mediators of the association between acculturation and body weight outcomes. This is a key gap in the literature.

Search plan and results

Inclusion criteria

- Human subjects
- Studies conducted within the United States (may include subjects from country of origin)
- Human subject older than two years of age
- Subjects who were healthy or at elevated chronic disease risk
- Cohort study, cross-sectional studies, randomized or non-randomized controlled trial
- Intervention studies with a dropout rate of 20% and a differential dropout rate of 15% between groups:
    - *Intervention studies:* At least 30 subjects per study arm
    - Observational studies with more than 500 subjects.
- The intervention or exposure was acculturation
- Multidimensional measure of acculturation used (multidimensional scale or greater than one acculturation proxy)
- The comparator was different levels of acculturation:
    - The outcome included diet quality, foods and food groups, macronutrient intakes and proportions, AND/OR obesity, overweight, body mass index (BMI), waist circumference, body weight, percent body fat change
    - *Child growth indices:* Weight-for-age, length and stature-for-age, weight for stature, BMI-for-age, BMI Z-score, AND cardiovascular disease (CVD), type 2 diabetes (T2D), cancer and pregnancy outcomes

Exclusion criteria

- Animals and *in vitro* models
- Children less than two years of age
- Studies conducted in countries outside the United States
- Subjects who were hospitalized, diagnosed with disease and receiving medical treatment
- Systematic review, meta analysis, narrative review, qualitative studies.
- In addition, articles were included if they were published in English in a peer-reviewed journal between January 2004 and January 2014. If an author is included on more than one primary research article that is similar in content, the paper with the most pertinent data and endpoints was included. If data and endpoints from both papers are appropriate, it was made clear that results are from the same intervention

Analytic framework

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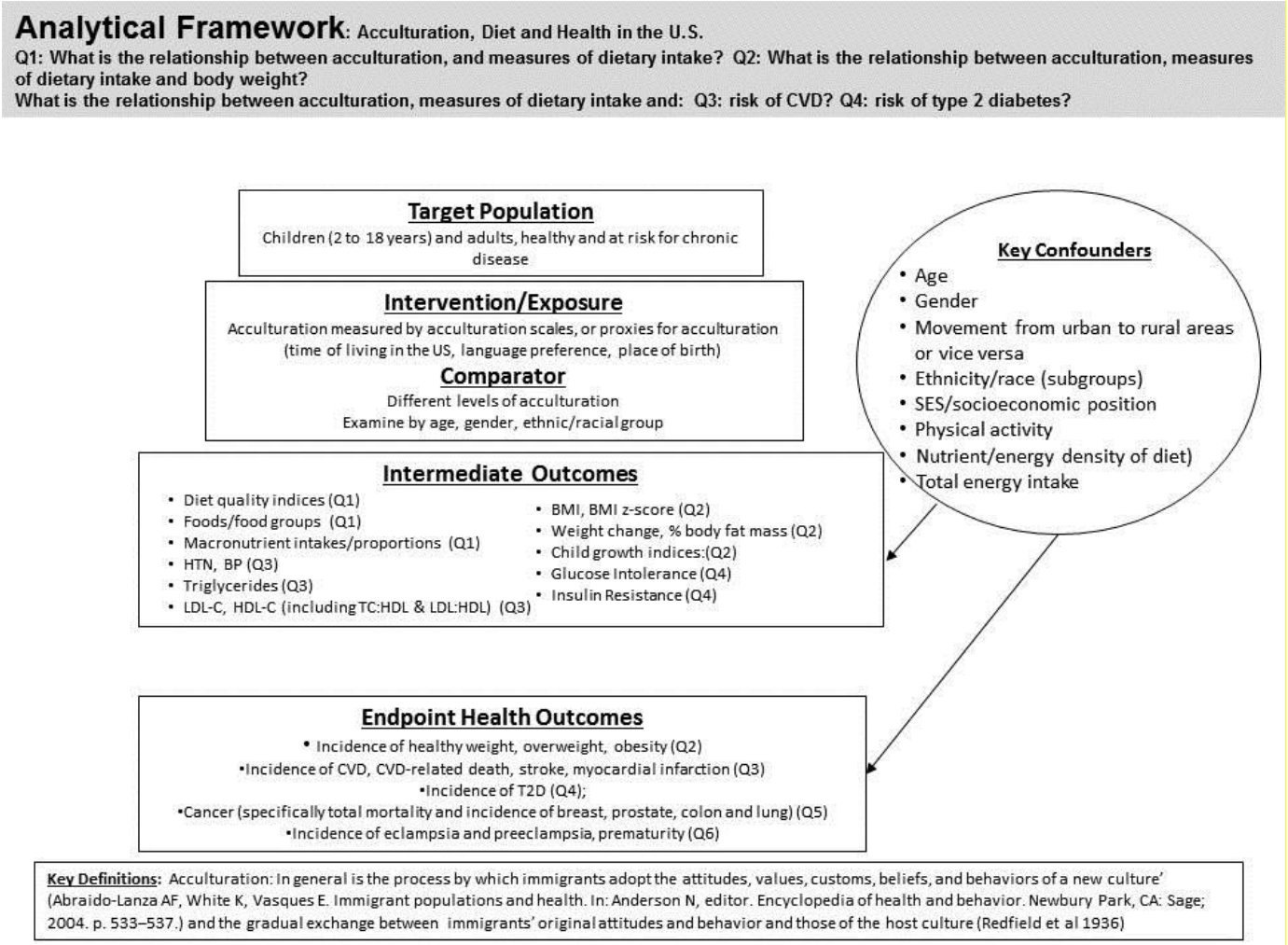

Search terms and electronic databases used

- ***PubMed/MEDLINE***
  - *Date(s) Searched:* ***January 2014***
  - *Search Terms:*

    Acculturation and Measures of Dietary Intake

    (((((nutrition[tiab] OR diet[mh] OR diet[tiab] OR dietary[tiab] OR food preferences[mh] OR feeding behavior[mh] OR nutrition surveys[mh] OR food[tiab] OR "Food and Beverages"[mh] OR "Eating"[mh] OR "caloric density"[tiab] OR "caloric intake"[tiab] OR caloric dens*[tiab] OR high calori*[tiab] OR energy dens*[tiab] OR fruit*[tiab] OR vegetable*[tiab] OR food analysis[mh] OR dietary intake*[tiab] OR food intake*[tiab] OR energy intake*[tiab] OR food habits[mh] OR dietary habit*[tiab] OR diet habit*[tiab] OR eating habit*[tiab] OR nutrient intake*[tiab] OR food choice*[tiab] OR portion size*[tiab] OR "diet quality"[tiab] OR dietary choice*[tiab] OR dietary change*[tiab] OR diet records[mh] OR nutritional status[mh] OR nutritional sciences[mh] OR dietary pattern*[tiab] OR diet pattern*[tiab] OR eating pattern*[tiab] OR food pattern*[tiab] OR eating*

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habit[tiab] OR dietary habit*[tiab] OR food habit*[tiab] OR dietary profile*[tiab] OR food profile*[tiab] OR diet profile*[tiab] OR eating profile*[tiab] OR dietary guideline*[tiab] OR dietary recommendation*[tiab] OR food intake pattern*[tiab] OR dietary intake pattern*[tiab] OR eating style*[tiab] OR ((Macronutrient*[tiab] AND (Proportion*[tiab] OR composition[tiab] OR distribution*[tiab] OR percent*[tiab] OR diet composit*[tiab])) OR dietary score*[tiab] OR adequacy index*[tiab] OR kidmed[tiab] OR Food Score*[tiab] OR Diet Score*[tiab] OR MedDietScore[tiab] OR Dietary Pattern Score*[tiab] OR "healthy eating index"[tiab] OR ((index*[ti] OR score*[ti] OR indexes[ti] OR scoring[ti] OR indices[ti]) AND (dietary[ti] OR nutrient*[ti] OR eating[tiab] OR food[ti] OR food[mh] OR diet[ti] OR diet[mh]) AND (pattern* OR habit* OR profile*)))) AND (Acculturation[mh] OR acculturation[tiab] OR assimilat*[ti] OR acculturat*[tiab] OR "dietary acculturation"[tiab] OR cultural factors*[tiab] OR hispanic american*[mh] OR hispanic*[tiab] OR latinos[tiab] OR latina[tiab] OR latino[tiab] OR mexican American*[tiab] OR puerto rican*[tiab] OR korean*[tiab] OR asian american*[tiab] OR chinese american*[tiab] OR emigration and immigration[mh] OR migrant*[tiab] OR immigrant*[tiab] OR immigration[tiab] OR filipino american*[tiab] OR transients and migrants[mh] OR Ethnic Groups[Mesh] OR "Cultural Characteristics"[Majr] OR Cross-Cultural Comparison[Mesh] OR Cultural Diversity[Mesh] OR Ethnology[mh] OR African Americans[Mesh] OR Asian Continental Ancestry Group[Mesh])) AND "last 10 years"[PDat] AND Humans[Mesh] AND English[lang])) AND ((acculturation[mh] OR acculturat* OR assimilat* OR transition[tiab]))) AND ("Epidemiologic Studies"[Mesh] OR "Support of Research"[ptyp] OR cohort[tiab] OR observational[tiab] OR observational study[ptyp] OR retrospective[tiab] OR longitudinal[tiab]) Filters: published in the last 10 years; Humans; English*

Acculturation and Body Weight

("body size"[tiab] OR body size[mh] OR obesity[tiab] OR obese[tiab] OR obesity[mh] OR overweight [tiab] OR adiposity[tiab] OR adiposity[mh]] OR "body weight"[tiab] OR body weight[mh]] OR "body-weight related"[tiab] OR "weight gain"[tiab] OR weight gain[mh] OR "weight loss"[tiab] OR Body Weights and Measures[Majr] OR overweight[tiab] OR "Body Composition[mh] OR "body fat"[tiab] OR adipos[tiab] OR weight[ti] OR waist[ti] OR "Anthropometry"[Mesh:noexp] OR "body mass index"[tiab] OR BMI[tiab] OR "weight status"[tiab] OR adipose tissue [mh] OR "healthy weight"[tiab] OR waist circumference[mh] OR "body fat mass"[tiab] OR body weight changes[mh] OR "waist circumference"[tiab])*

Acculturation and CVD

((cardiovascular diseases[majr] OR heart OR cardiac OR coronary OR hypertension[majr] OR hypertens[tiab] OR blood pressure[mh] OR "blood pressure"[tiab] OR "metabolic syndrome" OR metabolic syndrome x[majr] OR hypercholesterolemia[mh] OR dyslipidemias[mh] OR*

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cholesterol, ldl[mh] OR lipoproteins, hdl[mh] OR lipoproteins, ldl[mh]))

Acculturation and T2D

(diabetes mellitus[mh] OR diabet OR prediabetic state[mh] OR prediabet* OR hyperglycemia[mh] OR "glucose intolerance" OR insulin resistance[mh] OR "insulin resistance")*

- ***Cochrane***
  - *Date(s) Searched:* ***January 2014***
  - *Search Terms: ('acculturat* OR assimilat*) and diet* OR nutrition OR bmi OR weight OR obes* OR overweight OR adipos* OR "body mass"*
- ***EMBASE***
  - *Date(s) Searched:* ***January 2014***
  - *Search Terms:*

Acculturation and Dietary Intake:

acculturation:ab, ti OR transition:ab, ti AND [humans]/lim AND [english]/lim NOT [medline]/lim AND [2000-2014]/py AND 'cultural factor'/de OR acculturation:ab, ti OR acculturate:ab, ti OR transition:ab, ti OR 'cultural characteristics':ab, ti OR 'ethnic group'/exp OR hispanic:ab, ti OR hispanics:ab, ti OR 'american indian':ab, ti OR 'asian american':ab, ti OR 'asian americans':ab, ti OR 'ethnology'/mj OR 'cultural anthropology'/mj OR 'african american':ab, ti OR 'african americans':ab, ti OR 'immigrant'/de OR immigrants:ab, ti OR migrant:ab, ti OR migrants:ab, ti OR 'chinese american':ab, ti OR 'mexican americans':ab, ti OR 'mexican american':ab, ti OR 'ethnicity'/de OR 'korean':ab, ti OR 'puerto rican':ab, ti OR latino:ab, ti OR latinos:ab, ti OR latina:ab, ti AND [humans]/lim NOT [medline]/lim AND [2000-2014]/py AND 'nutrition'/de OR nutrition:ab, ti OR 'diet'/exp OR 'diet':ab, ti OR 'dietary intake'/exp OR 'caloric intake':ab, ti OR 'caloric density':ab, ti OR 'dietary intake':ab, ti OR 'feeding behavior'/exp OR 'eating habit'/de OR 'food preference'/de OR 'child nutrition'/de OR 'food intake'/exp OR 'nutritional assessment'/de OR 'nutritional status'/de OR 'nutrition surveys':ab, ti OR 'fruit'/exp OR 'vegetable'/exp OR 'food'/exp OR 'energy density':ab, ti OR 'dietary quality':ab, ti OR 'eating pattern':ab, ti OR 'food pattern':ab, ti OR 'dietary habit':ab, ti OR 'food habit':ab, ti OR 'food intake':ab, ti OR 'portion size'/de OR 'food choice':ab, ti OR 'diet quality':ab, ti OR 'dietary profile':ab, ti OR 'food profile':ab, ti OR 'diet profile':ab, ti OR 'eating profile':ab, ti OR 'food intake pattern':ab, ti OR 'dietary intake pattern':ab, ti OR 'eating style':ab, ti OR 'macronutrient':ab, ti OR 'macronutrient'/de OR 'dietary score':ab, ti OR kidmed:ab, ti OR 'food score':ab, ti OR 'diet score':ab, ti OR 'meddietscore':ab, ti OR 'dietary pattern score':ab, ti OR 'healthy eating index':ab, ti OR (index:ab, ti OR score:ab, ti OR scoring:ab, ti OR indices:ab, ti AND (dietary:ab, ti OR nutrient:ab, ti OR eating:ab, ti OR food:ab, ti OR diet:ab, ti) AND (pattern:ab, ti OR habit:ab, ti OR profile:ab, ti)) AND [article]/lim AND [2004-2014]/py AND

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[humans]/lim AND [english]/lim NOT [medline]/lim AND [2000-2014]/py

Acculturation and Body Weight

('body size'/de OR 'obesity'/exp OR overweight:ab, ti OR adiposity:ab, ti OR 'body weight'/exp OR 'weight gain'/de OR 'weight reduction':ab, ti OR 'body composition'/exp OR 'body fat':ab, ti OR 'anthropometry'/de OR 'body mass'/de OR bmi:ab, ti OR weight:ab, ti OR 'waist circumference'/de OR 'waist circumference':ab, ti OR 'waist hip ratio'/de OR 'body fat'/de OR 'adipose tissue'/exp) AND [humans]/lim AND [english]/lim NOT [medline]/lim AND [2000-2014]/py

Acculturation and CVD

'cardiovascular disease'/exp OR heart:ab, ti OR cardiac:ab, ti OR coronary:ab, ti OR 'cardiovascular disease':ab, ti OR 'cholesterol'/exp OR cholesterol:ab, ti OR 'triglyceride':ab, ti OR 'triglycerides':ab, ti OR 'dyslipidemia'/exp OR 'low density lipoprotein cholesterol'/de OR 'high density lipoprotein cholesterol'/exp OR ldl:ab, ti OR hdl:ab, ti OR 'hypertension'/de OR 'myocardial infarction':ab, ti OR 'heart failure':ab, ti OR 'myocardial ischemia':ab, ti OR 'hypercholesterolemia':ab, ti OR 'blood pressure':ab, ti OR 'metabolic syndrome':ab, ti OR 'metabolic syndrome x'/de AND [humans]/lim AND [english]/lim NOT [medline]/lim AND [2000-2014]/py

Acculturation and Diabetes Mellitus, Type 2

'non insulin dependent diabetes mellitus'/de OR 'type ii diabetes':ab, ti OR 'type 2 diabetes':ab, ti OR diabetes:ti OR diabetic:ti OR 'prediabetic state':ab, ti OR 'impaired glucose tolerance'/de OR 'glucose intolerance':ab, ti OR 'insulin resistance'/de OR 'hemoglobin a1c'/de OR 'insulin sensitivity'/de OR 'insulin sensitivity':ab, ti OR 'onset diabetes':ab, ti OR 'adult onset diabetes':ab, ti OR 'glucose intolerance'/de AND AND [humans]/lim AND [english]/lim NOT [medline]/lim AND [2000-2014]/py

Date range: 2004 to 2014

Summary of articles identified to review

- Total hits from all electronic database searches: 580
- Total articles identified to review from electronic databases: 0
- Articles identified via handsearch or other means: 0
- Number of Primary Articles Identified: 336
- Number of Review Articles Identified: 0
- Total Number of Articles Identified: 29
- Number of Articles Reviewed but Excluded: 307

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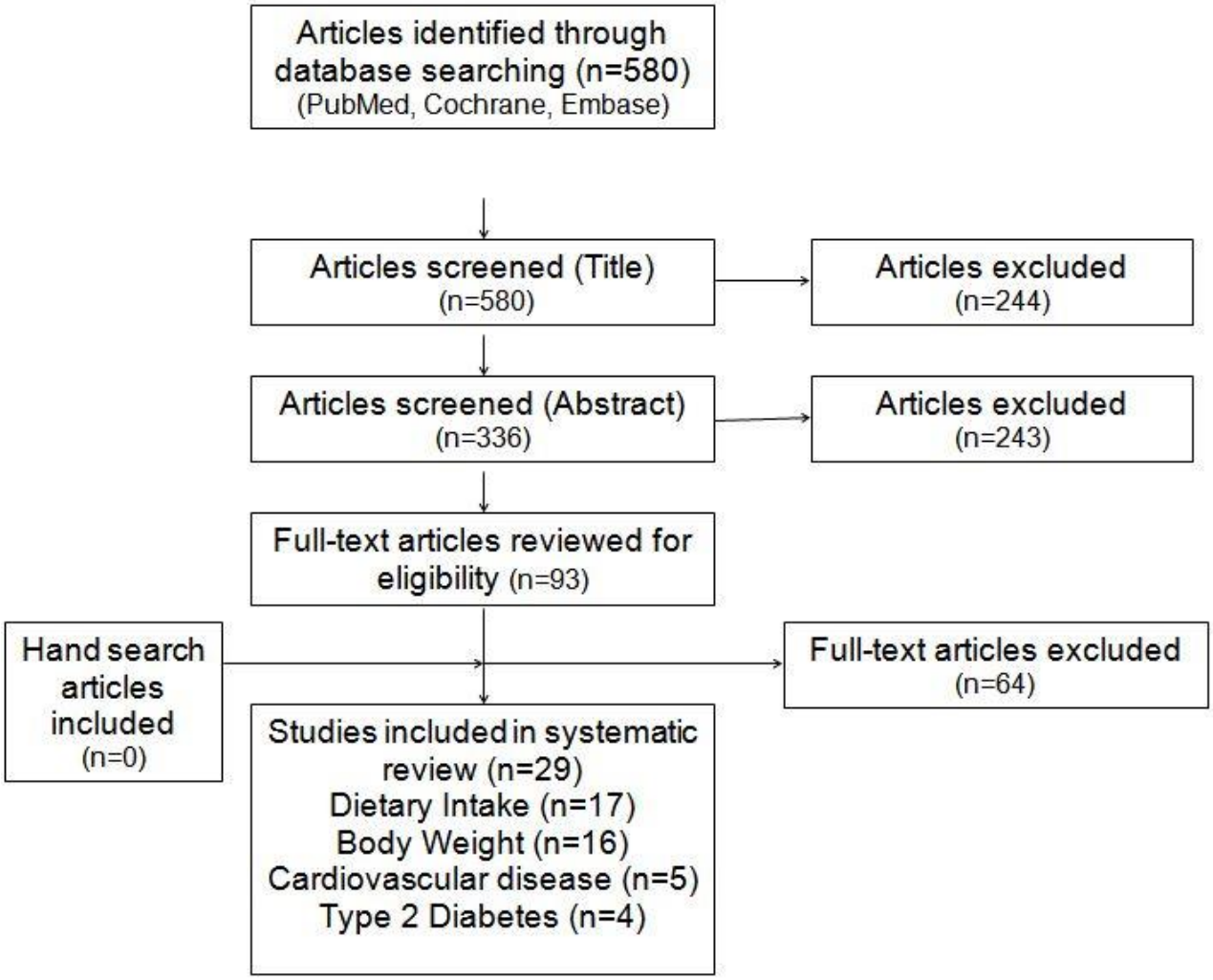

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*Q1: What is the relationship between acculturation and dietary intake? (Articles marked * were used for more than one acculuration question.)*

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*Q4: What is the relationship between acculturation, dietary intake, and risk of type 2 diabetes? (Articles marked * were used for more than one acculuration question.)*

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Excluded articles

See Appendix I for a full list of excluded articles with reason.

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CHAPTER 11. ACCULTURATION – CARDIOVASCULAR DISEASE

WHAT IS THE RELATIONSHIP BETWEEN ACCULTURATION, DIETARY INTAKE AND CARDIOVASCULAR DISEASE?

TECHNICAL ABSTRACT

Background

The goal of this systematic review was to determine whether acculturation is associated with risk of cardiovascular disease (CVD). Acculturation has been defined both as the "process by which immigrants adopt the attitudes, values, customs, beliefs and behaviors of a new culture",[1] and as the "gradual exchange between immigrants' original attitudes and behavior and those of the host culture".[1] Acculturation is relevant for individual dietary behaviors because evidence suggests that the healthy lifestyles with which recent immigrants arrive deteriorate as they integrate or assimilate into mainstream American culture.[2] Moreover, evidence suggests that to be effective in helping immigrants retain their healthy lifestyles, nutrition education and food assistance programs must be tailored to their different levels of acculturation.[2]

Conclusion statement

No conclusion can be drawn regarding the relationship between acculturation to the United States and the risk of CVD. This is due to the small number of studies, wide variation in methodology used to assess acculturation, and limited representation of ethnic groups in the body of evidence. Very limited evidence from a small number of cross-sectional studies conducted in Latino/Hispanic populations suggest a positive relationship between language acculturation and elevation in low-density lipoprotein cholesterol (LDL-C) and no relationship between acculturation and blood pressure. Insufficient evidence is available for other race/ethnic populations and among children for these outcomes and other CVD outcomes.

2015 DGAC Grade: **Not assignable**

Methods

Literature searches were conducted using PubMed, Embase and Cochrane databases to identify studies that evaluated the association between acculturation and risk of cardiovascular disease (CVD). Studies that met the following criteria were included in the review: cross-sectional studies and cohort studies; human subjects aged two years and older who were healthy or at elevated chronic disease risk; studies conducted in the United States with participants residing within the United States and when available, participants residing in the country of origin; and studies published in English in peer-reviewed journals January 2004 to January 2014. The exposure was acculturation measured by acculturation scales, or more than one proxy for acculturation (e.g., time living in the United States, language preference, place of birth). The outcome was risk of cardiovascular disease and included the following outcomes: LDL-C, high-density lipoprotein cholesterol (HDL-C), (including total cholesterol (TC):HDL and LDL:HDL ratios), triglycerides, blood pressure (systolic and diastolic), incidence of coronary heart disease (CHD) or CVD, incidence of myocardial infarction (MI), incidence of stroke, CVD-related mortality and incidence of hypertension.

Data from each included article were extracted, and risk of bias was assessed. The evidence was qualitatively synthesized, a conclusion statement was developed and the strength of the evidence (grade) was assessed using pre-established criteria including evaluation of the quality and risk of bias, quantity, consistency, magnitude of effect and generalizability of

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available evidence.

Findings

- This systematic review includes six cross-sectional studies in adult men and women between the ages of 40 to 60 years. The study populations included five Latino/Hispanic and one multicultural population; the data were predominately derived from large, multi-state or national data sets
- Three studies found a positive relationship between language acculturation and elevated blood lipid levels, but results varied by acculturation indicator
- Two studies assessed the association between acculturation and blood pressure in Latino/Hispanic populations and no association was found
- Two studies assessed the relationship between acculturation and hypertension in Latino/Hispanic and a multicultural population, and found no association
- Two studies suggest a positive association between language acculturation and overall CVD risk, but results varied as a function of language acculturation indicator used.

Limitations

- The preponderance of the evidence is from cross-sectional studies, thus causality inferences cannot be made and it is unknown whether the relationship changes over time.
- Variations in the combination and methods used to assess acculturation proxies and application of differing multidimensional acculturation scales, made comparison of results across studies difficult.

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FULL REVIEW

Conclusion statement

No conclusion can be drawn regarding the relationship between acculturation to the United States and the risk of CVD. This is due to the small number of studies, wide variation in methodology used to assess acculturation and limited representation of ethnic groups in the body of evidence. Very limited evidence from a small number of cross-sectional studies conducted in Latino/Hispanic populations suggest a positive relationship between language acculturation and elevation in LDL cholesterol and no relationship between acculturation and blood pressure. Insufficient evidence is available for other race/ethnic populations and among children for these outcomes and other CVD outcomes.

Grade

Not assignable

Key findings

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- Three studies found a positive relationship between language acculturation and elevated blood lipid levels, but results varied by acculturation indicator
- Two studies assessed the association between acculturation and blood pressure in Latino/Hispanic populations and no association was found
- Two studies assessed the relationship between acculturation and hypertension in Latino/Hispanic and a multicultural population, and found no association.
- Two studies suggest a positive association between language acculturation and overall CVD risk, but results varied as a function of language acculturation indicator used.

Evidence summary

Description of the Evidence

Six cross-sectional studies assessed the relationship between multidimensional or multiple proxy measures of acculturation and risk of cardiovascular disease (CVD) (Daviglus 2012; Eamranond 2009; Eamranond, Wee, 2009; Kershaw, 2012; Koya, 2007; van Rompay, 2012). Studies ranged in size from 904 to 15,079 subjects. Data from five of six studies were derived from large, multistate or national population-based surveys, including the National Health and Nutrition Examination Survey (NHANES) (1999 to 2004) (Eamranond, Wee, 2009) and (2003 to 2008) (Kershaw, 2012), National Health Interview Survey (NHIS) (Koya, 2007), Multi-Ethnic Study of Atherosclerosis (MESA) (Eamranond 2009) and the Hispanic Community Health Study/Study of Latinos (HCHS/SOL) (Daviglus, 2012). One study included Puerto Rican subjects from Boston, Massachusetts (van Rompay, 2012).

Five of the six studies focused on Hispanic/Latino populations (Daviglus, 2012; Eamranond, 2009; Eamranond, Wee, 2009; Kershaw, 2012; van Rompay, 2012), including foreign and US-born subjects from Cuba, the Dominican Republic, Mexico, Puerto Rico, Central America and South America. One study (Koya, 2007) included subjects born in four different world regions including South and Central America, Europe and Russia, Africa, and the Middle East and Asia. Studies included both men and women with a mean age of study participants ranging from approximately 40 years to 60 years. Two studies had a strong focus on participants with existing CVD risk factors (Eamranond, 2009; Eamranond, Wee, 2009

Three studies used multidimensional measures of acculturation including an abbreviated version of the Short Acculturation Scale for Hispanics (SASH) (Daviglus, 2012), the Short Acculturation Scale (SAS) (Eamranond, Wee, 2009), and the Psychological Acculturation Scale (PAS) and the Bi-dimensional Acculturation Scale for Hispanics (BAS) (along with length of stay in the US) (van Rompay, 2012). The remaining three studies utilized acculturation proxies including duration of US residence (Eamranond, 2009; Kershaw, 2012; Koya, 2007), language (Eamranond, 2009; Kershaw, 2012) and place of birth or nativity (Koya, 2007).

Studies examined a variety of self-reported and measured outcome measures. Two studies assessed overall CVD risk or number of CVD risk factors (Daviglus, 2012; Kershaw, 2012), four studies assessed blood lipid levels (Eamranond, Wee 2009; Eamranond, 2009; Kershaw, 2012; Koya, 2007), two studies assessed prevalence of hypertension (Koya, 2007; van Rompay, 2012) and one assessed self-reported coronary heart disease (CHD) and stroke (Daviglus, 2012). Some studies examined health care-related factors as possible mediators, including access to health insurance (Kershaw, 2012; Eamranond, 2009; Eamranond, Wee, 2009; Koya, 2007) and having a usual source of care (Eamranond, 2009; Eamranond, Wee, 2009; Koya, 2007). Few studies controlled for body mass index (BMI) and dietary intake variables. Studies adjusted for various covariates such as diet and physical activity, among others. The studies had NEL Bias Assessment Tool (BAT) scores ranging from zero of 24 to four of 24.

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Study Results

Characteristics of the six included studies are described in **Table 1**.

Daviglus, 2012 used the multicenter, population-based Hispanic Community Health Study/Study of Latinos (HCHS/SOL) 2008-2011 to examine a large sample of U.S. Hispanics from Cuba, Dominican Republic, Mexico, Puerto Rico, Central America and South America. Of all included participants, 52% of men and 37% of women self-reported hypercholesterolemia; 25% of men and 24% of women reported they were hypertensive; approximately 37% of men and 43% of women were obese, and approximately 17% of men and women had diabetes. Prevalence rates and mean level of individual risk factors varied by Latino/Hispanic group. Acculturation was assessed using an abbreviated version of the Short Acculturation Scale for Hispanics (SASH) that includes years of residence in the United States, generational status and language preference. Analysis was controlled for age and gender (other variables were analyzed separately). The relationship between acculturation and number of adverse CVD risk factors (defined using national guidelines) and self-reported prevalence of stroke and CHD was assessed. Subjects with higher acculturation had a higher prevalence of three risk factors, and those with low acculturation had a greater prevalence of no risk factors. There was a positive association between acculturation and self-reported stroke, but no association with self-reported CHD.

Eamranond, 2009 analyzed data for Hispanic individuals with CVD risk factors who participated in the population-based Multi-Ethnic Study of Atherosclerosis (MESA). The study assesses the relationship between acculturation proxies and systolic blood pressure in subjects with hypertension, fasting LDL-cholesterol in subjects with hypercholesterolemia and fasting glucose for participants with diabetes; therefore, analyses were limited to Hispanic participants with hypertension, hypercholesterolemia, and diabetes. Acculturation was assessed using two proxies: language spoken at home (English vs. Spanish) and proportion of life in the United States (calculated by dividing duration of residence in the US by age). Multivariable analysis controlled for age, gender, education and dietary factors found Spanish speakers had significantly higher LDL-cholesterol, but no association was found with systolic blood pressure. No association was found between proportion of time in the US and systolic blood pressure and LDL-cholesterol. Authors report that differences in systolic blood pressure were accounted for mainly by education, whereas differences in LDL-cholesterol were almost entirely accounted for by cholesterol-lowering medication use.

Eamranond, Wee, 2009 investigated the relationship of acculturation and the control of hypercholesterolemia, hypertension and diabetes among a national sample of US Hispanic adults in the NHANES, 1999–2004. Of all included subjects, 22% had hypercholesterolemia, 13% had diabetes and 31% had hypertension. The degree of acculturation was assessed using the Short Acculturation Scale, a five-item scale measuring use of the Spanish language and has been shown to be comparable to longer published acculturation scales. Analyses was controlled for age, sex, education, insurance, usual place of care, BMI, exercise and fat intake. Consistent with findings from the MESA study described above, a positive association was found between language acculturation and cholesterol control and no association was found between language acculturation and systolic blood pressure.

Kershaw, 2012 analyzed data on foreign and US-born Mexican American and non-Hispanic White participants in the nationally representative NHANES 2003-2008. Of all included subjects, 75% were overweight or obese, all were diabetes free, 50% had favorable cholesterol levels, 50% had favorable blood pressure levels and 75% did not smoke. The study assessed the relationship between acculturation and prevalence of low cardiovascular risk (optimal levels of all major CVD risk factors). The proxies used to assess acculturation included language that the questionnaire was completed in (Spanish vs. English), language usually used at home (Spanish vs. English) and number of years residing in the US (less than

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10 vs. 10 or more years). Analyses were controlled for age, sex, education, insurance status, Healthy Eating Index and leisure-time physical activity. Spanish vs. English language use at home was associated with low CVD risk, but no association was seen between language of questionnaire and CVD risk. Foreign-born Mexican Americans were significantly more likely to be at lower risk than whites. Foreign-born Mexican Americans living in the US for less than 10 years were found to be 4.3 times more likely to be at low risk than US-born Mexican Americans.

Koya, 2007 also used data from the population-based National Health Interview Survey (NHIS) to examine acculturation in foreign-born immigrants from four regions throughout the world. Some study subjects were overweight or obese (56%), diagnosed with hypertension (15.5%), had hyperlipidemia (15.3%) or had diabetes mellitus (14.3%). Analyses were adjusted for age, gender, race/ethnicity, education, income, employment, insurance, marital status, source of usual sick care, self-reported health status, region of birth and citizenship status. Adjusted odds ratios of CVD risk factors were calculated by language, and length of residence. No association was found between length of residence and hypertension in the full sample, for both men or women. Longer residence in the United States (15 years or more vs. less than 10 years) was associated with increased odds of hyperlipidemia in all participants, and in males but not females. Prevalence of hypertension and hyperlipidemia differed significantly by region of birth.

van Rompay, 2012 used baseline data from the longitudinal Boston Puerto Rico Health Study to examine the associations among acculturation, lifestyle characteristics, health status and carbohydrate nutrition in Puerto Rican adults. Acculturation was assessed using the Psychological Acculturation Scale (PAS); a language-based modified bi-dimensional acculturation scale for Hispanics (BAS) and length of stay in the United States (LOS). Analysis was controlled for age, sex and poverty status. No relationship was detected between hypertension and acculturation measured independently using the Psychological Acculturation Scale, the Bi-dimensional Acculturation Scale or length of stay. This finding is consistent with lack of association between acculturation and hypertension reported by Koya, 2007.

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Question: What is the relationship between acculturation, dietary intake and cardiovascular disease?

Table 1: Summary of studies examining the association between multidimensional or multiple proxy measures of acculturation and cardiovascular disease

Author, Year Data Source, Location Risk of Bias*	Race/Ethnicity Sample Size Age % Female	Acculturation Measure/Proxy CVD Measures	Results
Daviglus, 2012 **Hispanic Community Health Study/Study of Latinos (HCHS/SOL) 2008-2011, New York, Illinois, Florida, California** **Risk of Bias: 4/24**	**Latino/Hispanic:** Cuba; Dominican Republic, Mexico, Puerto Rico, Central America, South America, Country of birth (US/Foreign) N=15,079 43.2y (Range 43.1-~44y) 60.3% female	Short Acculturation Scale for Hispanics (SASH) (incorporates years of US residence, generational status, and language preference) **Self-reported:** Acculturation, physical activity, diet (1 24-hr recall), prevalent CHD, prevalence of stroke **Measured:** Height, weight, blood pressure, plasma glucose, total serum cholesterol, LDL, HbA1c	**SASH acculturation score Low (<3) vs. High (≥3):** **Self-reported CHD % (95% CI):** *SASH score:* *Low vs. High:* NS **Self-reported Stroke % (95% CI):** SASH score: *Low:* 0.7 (0.5, 1.0) *High:* 1.7 (1.2 - 2.5), P<0.001 **Number of adverse CVD risk factors:** **No risk factors:** *SASH score:* *Low:* 25.8 (24.4-27.2) *High:* 20.7 (18.3-23.2), P<0.001 **1 and 2 risk factors:** NS **3 Risk Factors:** *SASH score:* *Low:* 13.8 (12.8-14.8) *High*: 18.4 (16.1-20.9), P<0.001
Eamranond, 2009 **MESA, California, New York, Minnesota** **Risk of Bias: 2/24**	Latino/ Hispanic born in Puerto Rico, Mexico, or Dominican Republic N=904 (Hypertension N=580; hypercholesterolemia N=539) 63.0y (SD=10.0) 53% female	**Proxies:** Language spoken at home (English vs. Spanish); proportion of life in the US Measured blood pressure (BP) and LDL cholesterol	**Analysis among subjects with diagnosed risk factors (β±SE)** (Ref groups: English language and US born) **Language:** *Systolic BP:* NS *LDL cholesterol:* 7.5±3.7, P=0.05 **Proportion of time in US:** *Systolic BP:* NS *LDL:* NS

Question: What is the relationship between acculturation, dietary intake and cardiovascular disease?

Table 1: Summary of studies examining the association between multidimensional or multiple proxy measures of acculturation and cardiovascular disease

Author, Year Data Source, Location Risk of Bias*	Race/Ethnicity Sample Size Age % Female	Acculturation Measure/Proxy CVD Measures	Results
Eamranond PP, Wee C et al, 2009 **National Health and Nutrition Examination Survey (NHANES) 1999-2004, USA** **Risk of Bias: 0/24**	Hispanic born in Puerto Rico, Mexico, or Dominican Republic N=4,729 18-85y By acculturation level: Low: 57%, Medium: 47%, High: 55% female	Short Acculturation Scale (SAS), five-item Spanish language usage scale Self-reported diagnosis, current use of disease-specific medication, and/or laboratory/physical examination detected hypercholesterolemia, hypertension, diabetes, LDL cholesterol, systolic blood pressure, hemoglobin A1c	Analysis among subjects with diagnosed risk factors (OR (95% CI) (Ref groups: High acculturation) **Language:** **Poorly controlled cholesterol:** *Moderate acculturation:* 1.45 (0.70, 3.03) *High acculturation:* 4.49 (1.43, 14.09) **Poorly controlled blood pressure:** *Moderate acculturation:* NS *High acculturation:* NS
Kershaw, 2012 **NHANES 2003-2008, USA** **Risk of Bias: 2/24**	Hispanic (26.4%), Non-Hispanic White (73.6%) N=8,693 20y and older (mean ~42y) 50% female	**Proxy measures:** Language that the questionnaire was completed in (Spanish versus English); language usually used at home (Spanish vs. English); number of years residing in the US (<10 vs. 10 or more years) Measured total cholesterol, HbA1C, resting blood pressure; weight and height; self-reported diabetes, use of cholesterol lowering medication, and use of antihypertensive medication	**Low cardiovascular risk (Comparing Spanish vs. English language questionnaire):** NS **Comparing Spanish vs. English spoken at home:** [OR=2.25 (95% CI=1.20-4.23)] **Comparing foreign-born Mexican Americans living in the US for less than 10y to US-born Mexican Americans:** [OR=4.30 (95% CI: 2.61, 7.10)] **Comparing foreign-born Mexican Americans living in the US for ≥10y to US-born Mexican Americans:** NS

Question: What is the relationship between acculturation, dietary intake and cardiovascular disease?

Table 1: Summary of studies examining the association between multidimensional or multiple proxy measures of acculturation and cardiovascular disease

Author, Year Data Source, Location Risk of Bias*	Race/Ethnicity Sample Size Age % Female	Acculturation Measure/Proxy CVD Measures	Results
Koya DL, 2007 **National Health Interview Survey (NHIS) 2002, USA** **Risk of Bias: 4/24**	Immigrants to US born in South/Central America, Europe, Africa, and Middle East/Asia N=5,230 42.7y (SE=0.2) 50% female	**Proxy measures:** Years of residence (<10, 10 to <15, and ≥15 years); country of birth, analyzed separately Self-reported hypertension, hyperlipidemia diagnoses	**Hypertension by length of residence and gender:** NS for all groups **Hyperlipidemia**: **>15 years of US residence:** *All:* OR=1.59 (95% CI= 1.14-2.22; P<0.05) *Males:* 2.02 (95% CI=1.23-3.32; P<0.05) *Females:* NS **10 to <15 years of US residence:** *Analyzed for all, men and women:* NS
van Rompay 2012 **Boston Puerto Rican Health Study** **Risk of Bias: 2/24**	Puerto Rican descent N=1,219 45-75y (mean ~58y) 72% female	Psychological Acculturation Scale; Bi-dimensional Acculturation Scale; length of stay **HTN:** Measured SBP ≥140mmHg, DBP≥90mmHg, or use of anti-hypertensive medication;	**HTN (%)** *By BAS quartiles:* P for trend NS *HTN by PAS or LOS quartiles:* NS

*Risk of Bias as determined using the Nutrition Evidence Library Bias Assessment Tool

Evidence Synthesis

Summary of Results by Outcome

Elevated blood lipids: Three studies found a positive relationship between language acculturation and elevated blood lipid levels (Eamranond, 2009; Eamranond, Wee, 2009; Koya, 2007). Eamranond, 2009 and Eamranond, Wee, 2009 found high vs. low language acculturation associated with higher LDL-cholesterol in two national or multistate studies of Latino/Hispanic subjects. Eamranond, 2009 found no relationship between proportion of time in the United States and LDL-cholesterol. Koya, 2007 found an association between longer US residence and self-reported hyperlipidemia in immigrants born in four geographic regions outside the United States.

High blood pressure and hypertension: Two studies assessed the association between acculturation and blood pressure in Hispanic populations; no association was found (Eamranond, 2009; Eamranond, Wee, 2009). Two studies assessed the relationship between acculturation and hypertension in a Latino/Hispanic and a multicultural population and found no association (Koya, 2007; van Rompay, 2012).

Prevalence of coronary heart disease (CHD): One large multistate study found that more acculturated participants (those born in the US, second-generation and third-generation immigrants, and preferred English) were significantly more likely to have prevalent CHD (Daviglus, 2012). No other study assessed CVD prevalence.

Overall CVD risk: Two studies found a positive association between acculturation and CVD risk (Daviglus, 2012; Kershaw, 2012). Daviglus, 2012 found language acculturation measured using a validated multidimensional scale positively associated with CVD risk in a sample of US Hispanics from Cuba, Dominican Republic, Mexico, Puerto Rico, Central America and South America. Kershaw, 2012 found a positive association with language use at home, but not to questionnaire language in Hispanic NHANES participants.

Stroke: One study found no relationship between acculturation and self-reported stroke in Hispanic subjects (Daviglus, 2012). No other study assessed stroke outcome.

Assessment of the Body of Evidence

Quality and quantity: This review includes six cross-sectional analyses ranging in size from 904 to 15,079 subjects. The NEL BAT scores ranged from zero of 24 to four of 24. Three studies used acculturation proxies, which may not capture the complexity of the construct. Numerous studies used self-reported outcomes. Studies did not consistently adjust for healthcare access, BMI and dietary intake. A small number of studies reported fairly consistent findings related to blood lipids, blood pressure, hypertension, CHD and CVD. Only one study evaluated stroke as an outcome.

Impact: In general, studies assessed outcomes directly related to the systematic review question. When associations were found between a measure of acculturation and CVD risks, results were clinically meaningful. Studies examined predominately Latino/Hispanic origin groups who participated in national and multistate studies; one study included Puerto Rican subjects from Boston.

- Studies include Latino/Hispanic groups from Cuba, Dominican Republic, Central America, South America, Mexico, Caribbean Islands and Puerto Rico, and included both foreign-born and US-born subjects. Other ethnic groups were underrepresented. The studies focused primarily on middle-aged adults approximately 40 to 60 years of age.
- The preponderance of the evidence is from cross-sectional studies, thus causality inferences cannot be made and it is unknown whether the relationship changes over

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time
- Only one study examined immigrant groups other than Latinos/Hispanics; therefore, there is a scarcity of information on the relationship is between acculturation and CVD risk in other ethnic groups
- Variations in the combination and methods used to assess acculturation proxies and application of differing multidimensional acculturation scales made comparison of results across studies difficult. Also, different acculturation reference groups were used across studies.
- Use of self-reported outcomes (such as prevalence of cardiovascular risk factors), rather than investigator measured outcomes, increased risk for responder bias
- The studies were not consistent in their selection of variables in multivariate analysis, so adjustments could be made to account in a similar fashion for potential confounding. Confounders in the biological pathway need to be handled with methodological sophistication (e.g., performing mediation analysis).

Research recommendations

Additional research is needed in the following areas:

- Examine immigrant populations from other regions and countries throughout the world.
  Rationale: To improve understanding of the effects of acculturation on the prevalence of cardiovascular disease (CVD) and related risk factors and generalizabilty of results across immigrant groups in the United States.
- Include investigator-measured outcomes rather than self-reported chronic disease outcomes.
  Rationale: To reduce the likelihood of responder bias.
- Conduct prospective cohort studies, including those that begin during childhood and continue across the lifespan.
  Rationale: To better understand long-term effects of acculturation from early childhood, through adolescence and into adulthood.
- Explore potential effect modifiers such as gender, country of origin, urban vs.rural location of origin, education level and level of healthcare access.
  Rationale: To improve our understanding of the social-demographic variations in the association of acculturation and CVD outcomes. This information has the potential to contribute in informing public health interventions.
- Develop a standard tool to measure acculturation or validation of multidimensional acculturation scales in different immigrant groups and in different languages.
  Rationale: Use of the same or similar acculturation measurement tools will improve the ability to compare results across studies.

Search plan and results

Inclusion criteria

- Human subjects
- Studies conducted within the United States (may include subjects from country of origin)
- Human subject older than two years of age
- Subjects who were healthy or at elevated chronic disease risk
- Cohort study, cross-sectional studies, randomized or non-randomized controlled trial
- Intervention studies with a dropout rate of 20% and a differential dropout rate of 15% between groups:
  - *Intervention studies:* At least 30 subjects per study arm
  - Observational studies with more than 500 subjects.

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- The intervention or exposure was acculturation
- Multidimensional measure of acculturation used (multidimensional scale or greater than one acculturation proxy)
- The comparator was different levels of acculturation:
    - The outcome included diet quality, foods and food groups, macronutrient intakes and proportions, AND/OR obesity, overweight, body mass index (BMI), waist circumference, body weight, percent body fat change
    - *Child growth indices:* Weight-for-age, length and stature-for-age, weight for stature, BMI-for-age, BMI Z-score, AND cardiovascular disease (CVD), type 2 diabetes (T2D), cancer and pregnancy outcomes

Exclusion criteria

- Animals and *in vitro* models
- Children less than two years of age
- Studies conducted in countries outside the United States
- Subjects who were hospitalized, diagnosed with disease and receiving medical treatment
- Systematic review, meta analysis, narrative review, qualitative studies.
- In addition, articles were included if they were published in English in a peer-reviewed journal between January 2004 and January 2014. If an author is included on more than one primary research article that is similar in content, the paper with the most pertinent data and endpoints was included. If data and endpoints from both papers are appropriate, it was made clear that results are from the same intervention

Analytic framework

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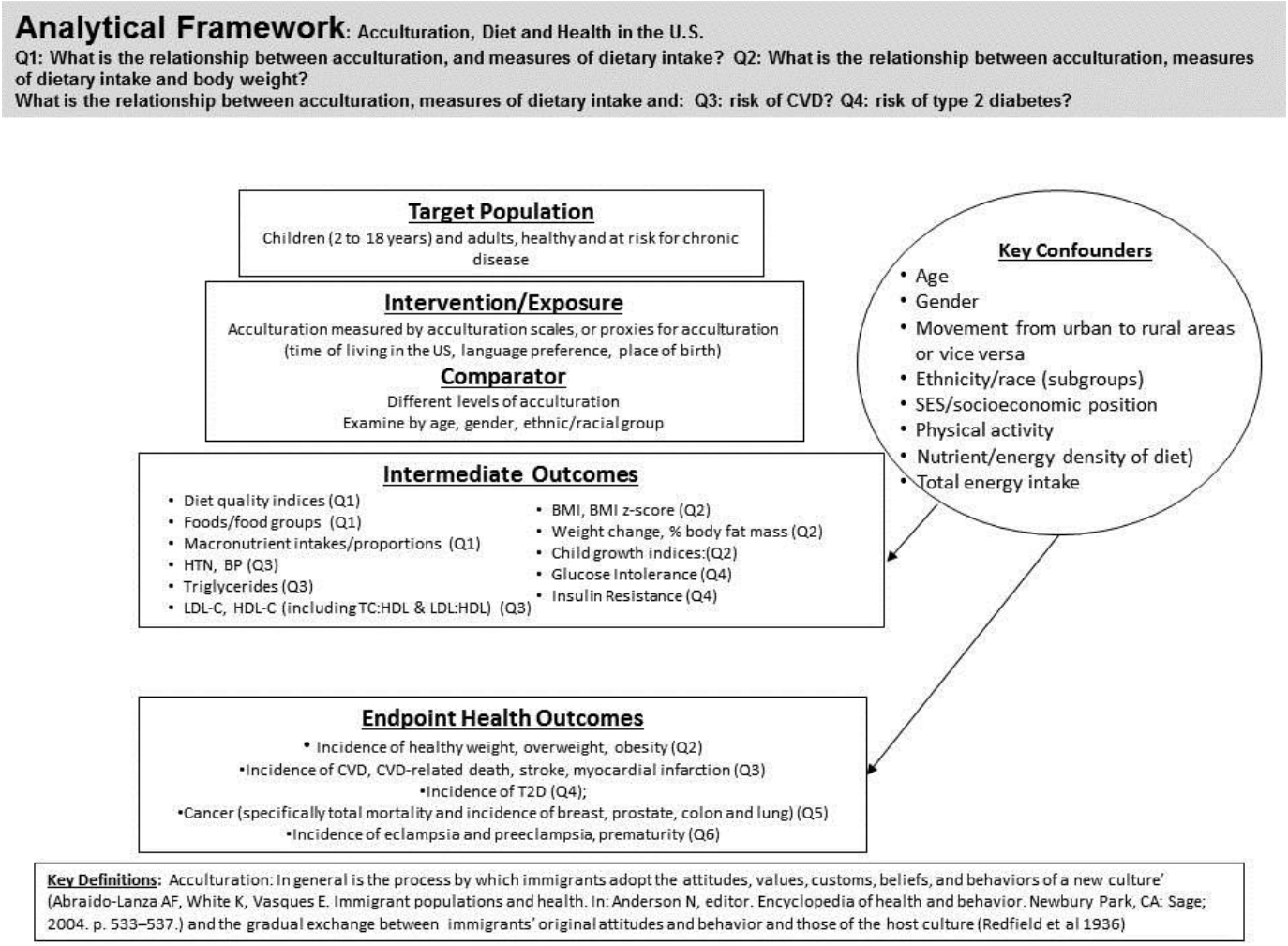

Search terms and electronic databases used

- ***PubMed/MEDLINE***
  - *Date(s) Searched:* ***January 2014***
  - *Search Terms:*

    Acculturation and Measures of Dietary Intake

    (((((nutrition[tiab] OR diet[mh] OR diet[tiab] OR dietary[tiab] OR food preferences[mh] OR feeding behavior[mh] OR nutrition surveys[mh] OR food[tiab] OR "Food and Beverages"[mh] OR "Eating"[mh] OR "caloric density"[tiab] OR "caloric intake"[tiab] OR caloric dens*[tiab] OR high calori*[tiab] OR energy dens*[tiab] OR fruit*[tiab] OR vegetable*[tiab] OR food analysis[mh] OR dietary intake*[tiab] OR food intake*[tiab] OR energy intake*[tiab] OR food habits[mh] OR dietary habit*[tiab] OR diet habit*[tiab] OR eating habit*[tiab] OR nutrient intake*[tiab] OR food choice*[tiab] OR portion size*[tiab] OR "diet quality"[tiab] OR dietary choice*[tiab] OR dietary change*[tiab] OR diet records[mh] OR nutritional status[mh] OR nutritional sciences[mh] OR dietary pattern*[tiab] OR diet pattern*[tiab] OR eating pattern*[tiab] OR food pattern*[tiab] OR eating*

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habit[tiab] OR dietary habit*[tiab] OR food habit*[tiab] OR dietary profile*[tiab] OR food profile*[tiab] OR diet profile*[tiab] OR eating profile*[tiab] OR dietary guideline*[tiab] OR dietary recommendation*[tiab] OR food intake pattern*[tiab] OR dietary intake pattern*[tiab] OR eating style*[tiab] OR ((Macronutrient*[tiab] AND (Proportion*[tiab] OR composition[tiab] OR distribution*[tiab] OR percent*[tiab] OR diet composit*[tiab])) OR dietary score*[tiab] OR adequacy index*[tiab] OR kidmed[tiab] OR Food Score*[tiab] OR Diet Score*[tiab] OR MedDietScore[tiab] OR Dietary Pattern Score*[tiab] OR "healthy eating index"[tiab] OR ((index*[ti] OR score*[ti] OR indexes[ti] OR scoring[ti] OR indices[ti]) AND (dietary[ti] OR nutrient*[ti] OR eating[tiab] OR food[ti] OR food[mh] OR diet[ti] OR diet[mh]) AND (pattern* OR habit* OR profile*)))) AND (Acculturation[mh] OR acculturation[tiab] OR assimilat*[ti] OR acculturat*[tiab] OR "dietary acculturation"[tiab] OR cultural factors*[tiab] OR hispanic american*[mh] OR hispanic*[tiab] OR latinos[tiab] OR latina[tiab] OR latino[tiab] OR mexican American*[tiab] OR puerto rican*[tiab] OR korean*[tiab] OR asian american*[tiab] OR chinese american*[tiab] OR emigration and immigration[mh] OR migrant*[tiab] OR immigrant*[tiab] OR immigration[tiab] OR filipino american*[tiab] OR transients and migrants[mh] OR Ethnic Groups[Mesh] OR "Cultural Characteristics"[Majr] OR Cross-Cultural Comparison[Mesh] OR Cultural Diversity[Mesh] OR Ethnology[mh] OR African Americans[Mesh] OR Asian Continental Ancestry Group[Mesh])) AND "last 10 years"[PDat] AND Humans[Mesh] AND English[lang])) AND ((acculturation[mh] OR acculturat* OR assimilat* OR transition[tiab]))) AND ("Epidemiologic Studies"[Mesh] OR "Support of Research"[ptyp] OR cohort[tiab] OR observational[tiab] OR observational study[ptyp] OR retrospective[tiab] OR longitudinal[tiab]) Filters: published in the last 10 years; Humans; English*

Acculturation and Body Weight

("body size"[tiab] OR body size[mh] OR obesity[tiab] OR obese[tiab] OR obesity[mh] OR overweight [tiab] OR adiposity[tiab] OR adiposity[mh]] OR "body weight"[tiab] OR body weight[mh]] OR "body-weight related"[tiab] OR "weight gain"[tiab] OR weight gain[mh] OR "weight loss"[tiab] OR Body Weights and Measures[Majr] OR overweight[tiab] OR "Body Composition[mh] OR "body fat"[tiab] OR adipos[tiab] OR weight[ti] OR waist[ti] OR "Anthropometry"[Mesh:noexp] OR "body mass index"[tiab] OR BMI[tiab] OR "weight status"[tiab] OR adipose tissue [mh] OR "healthy weight"[tiab] OR waist circumference[mh] OR "body fat mass"[tiab] OR body weight changes[mh] OR "waist circumference"[tiab])*

Acculturation and CVD

((cardiovascular diseases[majr] OR heart OR cardiac OR coronary OR hypertension[majr] OR hypertens[tiab] OR blood pressure[mh] OR "blood pressure"[tiab] OR "metabolic syndrome" OR metabolic syndrome x[majr] OR hypercholesterolemia[mh] OR dyslipidemias[mh] OR*

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cholesterol, ldl[mh] OR lipoproteins, hdl[mh] OR lipoproteins, ldl[mh]))

Acculturation and T2D

(diabetes mellitus[mh] OR diabet OR prediabetic state[mh] OR prediabet* OR hyperglycemia[mh] OR "glucose intolerance" OR insulin resistance[mh] OR "insulin resistance")*

- ***Cochrane***
  - *Date(s) Searched:* ***January 2014***
  - *Search Terms: ('acculturat* OR assimilat*) and diet* OR nutrition OR bmi OR weight OR obes* OR overweight OR adipos* OR "body mass"*
- ***EMBASE***
  - *Date(s) Searched:* ***January 2014***
  - *Search Terms:*

Acculturation and Dietary Intake

acculturation:ab, ti OR transition:ab, ti AND [humans]/lim AND [english]/lim NOT [medline]/lim AND [2000-2014]/py AND 'cultural factor'/de OR acculturation:ab, ti OR acculturate:ab, ti OR transition:ab, ti OR 'cultural characteristics':ab, ti OR 'ethnic group'/exp OR hispanic:ab, ti OR hispanics:ab, ti OR 'american indian':ab, ti OR 'asian american':ab, ti OR 'asian americans':ab, ti OR 'ethnology'/mj OR 'cultural anthropology'/mj OR 'african american':ab, ti OR 'african americans':ab, ti OR 'immigrant'/de OR immigrants:ab, ti OR migrant:ab, ti OR migrants:ab, ti OR 'chinese american':ab, ti OR 'mexican americans':ab, ti OR 'mexican american':ab, ti OR 'ethnicity'/de OR 'korean':ab, ti OR 'puerto rican':ab, ti OR latino:ab, ti OR latinos:ab, ti OR latina:ab, ti AND [humans]/lim NOT [medline]/lim AND [2000-2014]/py AND 'nutrition'/de OR nutrition:ab, ti OR 'diet'/exp OR 'diet':ab, ti OR 'dietary intake'/exp OR 'caloric intake':ab, ti OR 'caloric density':ab, ti OR 'dietary intake':ab, ti OR 'feeding behavior'/exp OR 'eating habit'/de OR 'food preference'/de OR 'child nutrition'/de OR 'food intake'/exp OR 'nutritional assessment'/de OR 'nutritional status'/de OR 'nutrition surveys':ab, ti OR 'fruit'/exp OR 'vegetable'/exp OR 'food'/exp OR 'energy density':ab, ti OR 'dietary quality':ab, ti OR 'eating pattern':ab, ti OR 'food pattern':ab, ti OR 'dietary habit':ab, ti OR 'food habit':ab, ti OR 'food intake':ab, ti OR 'portion size'/de OR 'food choice':ab, ti OR 'diet quality':ab, ti OR 'dietary profile':ab, ti OR 'food profile':ab, ti OR 'diet profile':ab, ti OR 'eating profile':ab, ti OR 'food intake pattern':ab, ti OR 'dietary intake pattern':ab, ti OR 'eating style':ab, ti OR 'macronutrient':ab, ti OR 'macronutrient'/de OR 'dietary score':ab, ti OR kidmed:ab, ti OR 'food score':ab, ti OR 'diet score':ab, ti OR 'meddietscore':ab, ti OR 'dietary pattern score':ab, ti OR 'healthy eating index':ab, ti OR (index:ab, ti OR score:ab, ti OR scoring:ab, ti OR indices:ab, ti AND (dietary:ab, ti OR nutrient:ab, ti OR eating:ab, ti OR food:ab, ti OR diet:ab, ti) AND (pattern:ab, ti OR habit:ab, ti OR profile:ab, ti)) AND [article]/lim AND [2004-2014]/py AND

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[humans]/lim AND [english]/lim NOT [medline]/lim AND [2000-2014]/py

Acculturation and Body Weight

('body size'/de OR 'obesity'/exp OR overweight:ab, ti OR adiposity:ab, ti OR 'body weight'/exp OR 'weight gain'/de OR 'weight reduction':ab, ti OR 'body composition'/exp OR 'body fat':ab, ti OR 'anthropometry'/de OR 'body mass'/de OR bmi:ab, ti OR weight:ab, ti OR 'waist circumference'/de OR 'waist circumference':ab, ti OR 'waist hip ratio'/de OR 'body fat'/de OR 'adipose tissue'/exp) AND [humans]/lim AND [english]/lim NOT [medline]/lim AND [2000-2014]/py

Acculturation and CVD

'cardiovascular disease'/exp OR heart:ab, ti OR cardiac:ab, ti OR coronary:ab, ti OR 'cardiovascular disease':ab, ti OR 'cholesterol'/exp OR cholesterol:ab, ti OR 'triglyceride':ab, ti OR 'triglycerides':ab, ti OR 'dyslipidemia'/exp OR 'low density lipoprotein cholesterol'/de OR 'high density lipoprotein cholesterol'/exp OR ldl:ab, ti OR hdl:ab, ti OR 'hypertension'/de OR 'myocardial infarction':ab, ti OR 'heart failure':ab, ti OR 'myocardial ischemia':ab, ti OR 'hypercholesterolemia':ab, ti OR 'blood pressure':ab, ti OR 'metabolic syndrome':ab, ti OR 'metabolic syndrome x'/de AND [humans]/lim AND [english]/lim NOT [medline]/lim AND [2000-2014]/py

Acculturation and Diabetes Mellitus, Type 2

'non insulin dependent diabetes mellitus'/de OR 'type ii diabetes':ab, ti OR 'type 2 diabetes':ab, ti OR diabetes:ti OR diabetic:ti OR 'prediabetic state':ab, ti OR 'impaired glucose tolerance'/de OR 'glucose intolerance':ab, ti OR 'insulin resistance'/de OR 'hemoglobin a1c'/de OR 'insulin sensitivity'/de OR 'insulin sensitivity':ab, ti OR 'onset diabetes':ab, ti OR 'adult onset diabetes':ab, ti OR 'glucose intolerance'/de AND AND [humans]/lim AND [english]/lim NOT [medline]/lim AND [2000-2014]/py

Date range: 2004 to 2014

Summary of articles identified to review

- Total hits from all electronic database searches: 580
- Total articles identified to review from electronic databases: 0
- Articles identified via handsearch or other means: 0
- Number of Primary Articles Identified: 336
- Number of Review Articles Identified: 0
- Total Number of Articles Identified: 29
- Number of Articles Reviewed but Excluded: 307

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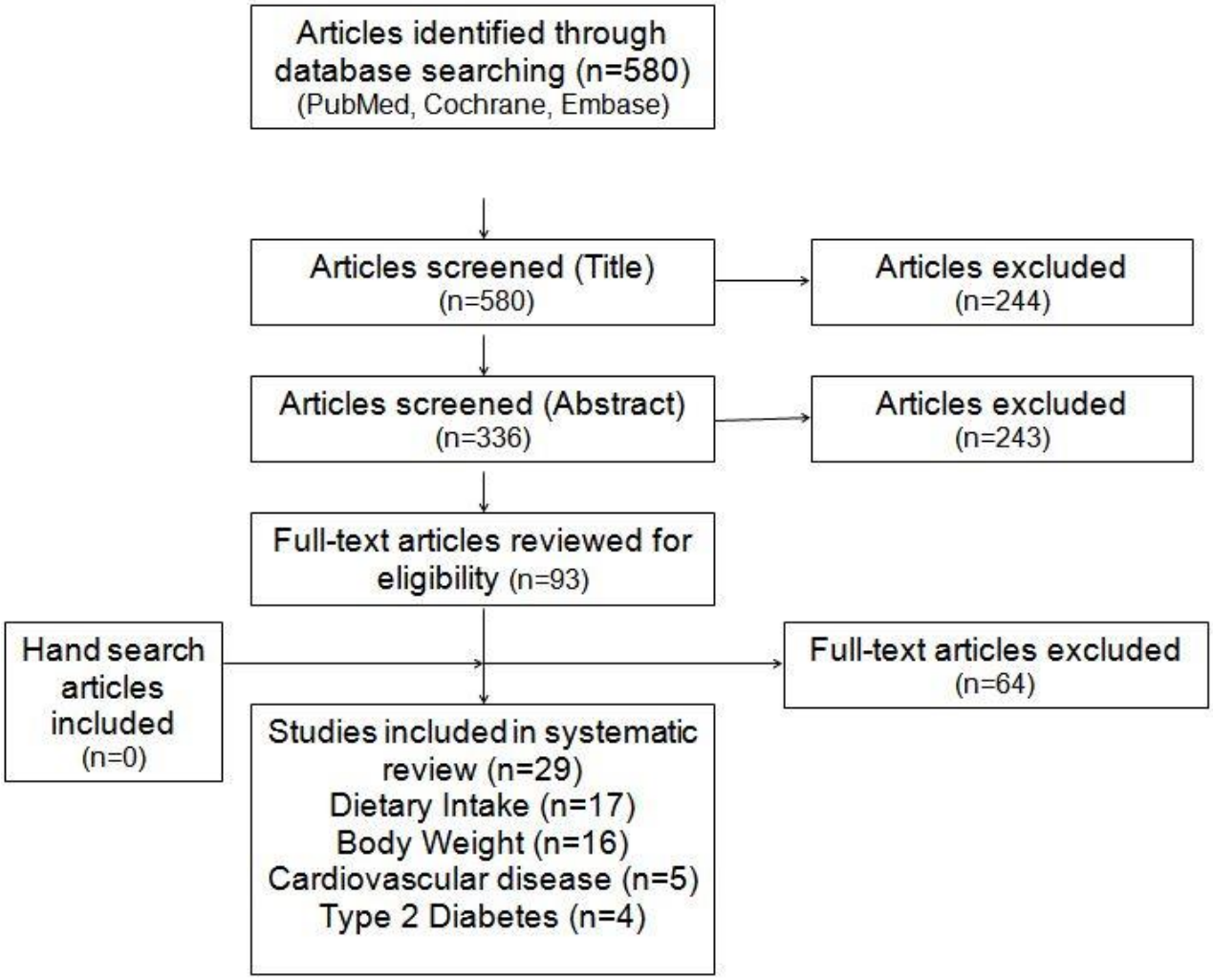

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*Q1: What is the relationship between acculturation and dietary intake? (Articles marked * were used for more than one acculuration question.)*

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California: a protective effect of biculturalism. *J Immigr Minor Health.* 2011 Apr;13(2):276-83. PMID: 21153765. http://www.ncbi.nlm.nih.gov/pubmed/21153765 *****

*Q2: What is the relationship between acculturation and body weight? (Articles marked * were used for more than one acculuration question.)*

1. Ahluwalia IB, Ford ES, Link M, Bolen JC. Acculturation, weight, and weight-related behaviors among Mexican Americans in the United States. *Ethn Dis*. 2007 Autumn;17(4):643-9. Pubmed PMID: 18072373. http://www.ncbi.nlm.nih.gov/pubmed/18072373
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*Q4: What is the relationship between acculturation, dietary intake, and risk of type 2 diabetes? (Articles marked * were used for more than one acculuration question.)*

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Excluded articles

See Appendix J for a full list of excluded articles with reason.

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CHAPTER 12. ACCULTURATION – TYPE 2 DIABETES

WHAT IS THE RELATIONSHIP BETWEEN ACCULTURATION, DIETARY INTAKE AND TYPE 2 DIABETES?

TECHNICAL ABSTRACT

Background

The goal of this systematic review was to determine whether acculturation is associated with risk of type 2 diabetes (T2D). Acculturation has been defined both as the "process by which immigrants adopt the attitudes, values, customs, belief, and behaviors of a new culture",[1] and as the "gradual exchange between immigrants' original attitudes and behavior and those of the host culture".[1] Acculturation is relevant for individual dietary behaviors because evidence suggests that the healthy lifestyles with which recent immigrants arrive deteriorate as they integrate or assimilate into mainstream American culture.[2] Moreover, evidence suggests that to be effective in helping immigrants retain their healthy lifestyles, nutrition education and food assistance programs must be tailored to their different levels of acculturation.[2]

Conclusion statement

Conclusions regarding the relationship between acculturation and type 2 diabetes cannot be drawn due to limited evidence from a very small number of cross-sectional studies and study populations, as well as limitations in acculturation assessment methodology that did not take into account potential confounders and effect modifiers and lacked standardized assessment of outcomes.

2015 DGAC Grade: **Not Assignable**

Methods

Literature searches were conducted using PubMed, Embase, and Cochrane databases to identify studies that evaluated the association between acculturation and risk of T2D. Studies that met the following criteria were included in the review: cross-sectional and cohort studies; human subjects aged two years and older who were healthy or at elevated chronic disease risk; studies conducted in the United States with participants residing within the United States and, when available, participants residing in the country of origin; and studies published in English in peer-reviewed journals January 2004 to January 2014. The exposure was acculturation measured by acculturation scales, or more than one proxy for acculturation (e.g., time living in the US, language preference, place of birth). The outcome was risk of T2D and included the following outcomes: glucose intolerance, insulin resistance and incidence of T2D.

Data from each included article were extracted and risk of bias was assessed. The evidence was qualitatively synthesized, a conclusion statement was developed and the strength of the evidence (grade) was assessed using pre-established criteria including evaluation of the quality and risk of bias, quantity, consistency, magnitude of effect and generalizability of available evidence.

Findings

- This evidence review includes six cross-sectional studies that assessed the relationship between multidimensional or multiple proxy measures of acculturation and risk of cardiovascular disease in Latino/Hispanic and Asian populations

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- The studies used different methods to assess acculturation. Four different multidimensional scales were used and one study relied on the assessment of two acculturation proxies. All measures took into consideration language usage, with some only using this proxy and others including additional proxies for acculturation

Limitations

NONE

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FULL REVIEW

Conclusion statement

Conclusions regarding the relationship between acculturation and type 2 diabetes cannot be drawn due to limited evidence from a very small number of cross-sectional studies and study populations as well as limitations in acculturation assessment methodology that did not take into account potential confounders and effect modifiers and lacked standardized assessment of outcomes.

Grade

Not assignable

Key findings

The studies used different methods to assess acculturation. Four different multidimensional scales were used and one study relied on the assessment of two acculturation proxies. All measures took into consideration language usage, with some only using this proxy and others including additional proxies for acculturation.

Evidence summary

Description of the Evidence

This evidence review includes four cross-sectional analysis (Garcia, 2012; Kandula, 2008; Mainous, 2006; van Rompay, 2012), examining the relationship between multidimensional or multiple proxy measures of acculturation and risk of type 2 diabetes (T2D). Studies ranged in size from 1,219 to 5,069 subjects. Two studies had a national sample (Garcia, 2012; Mainous, 2006), one population-based sample was derived from multiple states (Kandula, 2008), and one study recruited subjects residing in the Boston, Massachusetts area (van Rompay, 2012).

Studies focused primarily on Hispanic/Latino populations; only one study included a subgroup of Chinese subjects. Garcia, 2012 analyzed a nationally representative sample of 5,069 white non-Latino, black non-Latino and Mexican Americans who participated in the National Health and Nutrition Examination Survey (NHANES) 1999-2008. Mainous, 2006 analyzed NHANES 1999-2002 data for 2,696 Mexican American and “other” non-Mexican Hispanic/Latino participants. Kandula, 2008 included data from Mexican, non-Mexican Hispanic, and Chinese

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participants in the Multi-Ethnic Study of Atherosclerosis (MESA) study. Subjects were recruited from six field centers located in Maryland, Illinois, North Carolina, California, New York, and Minnesota. van Rompay, 2012 analyzed baseline data from the longitudinal Boston Puerto Rico Health Study.

Socioeconomic status (SES) information was reported by weight status (Garcia, 2008), acculturation measure (van Rompay, 2012), ethnic group (Kandula, 2008) or all participants (Mainous, 2006) making summation difficult. Kandula, 2008, reported Chinese subjects had slightly higher incomes and a greater level of education than both Hispanic groups ($P<0.001$). All studies adjusted for age, sex and either education, poverty status or SES. Two of four studies considered health insurance as a potential confounder (Garcia, 2008; Mainous, 2006).

Three studies used multidimensional measures of acculturation (Kandula, 2008; Mainous, 2006; van Rompay, 2012). Kandula, 2008 used a multidisciplinary approach including nativity, years living in the US, and language spoken at home. Mainous, 2006 measured language acculturation using the five-item Short Acculturation Scale based upon language use, media and ethnic social relations, and also assessed birth outside the US. van Rompay, 2012 utilized the Psychological Acculturation Scale (PAS) and the Bi-dimensional Acculturation Scale for Hispanics (BAS), along with length of stay in the United States. Garcia, 2012 used two acculturation proxies, predominate language and location of birth. Risk of bias scores on the NEL Bias Assessment Tool (BAT) ranged from 0/24 to 2/24. In general, limitations were related to the use of proxy acculturation measures and failure to control for healthcare access.

The studies assessed the relationship between acculturation and elevated blood glucose (Mainous, 2006), prevalence of pre-diabetes (Garcia, 2012) and diabetes (Garcia, 2012; Kandula, 2008; Mainous, 2006; van Rompay, 2012). All studies measured blood glucose to assess for the presence of diabetes, in addition to self reported diagnosis and/ or use of diabetic medication. **Table 1** describes the characteristics and result from each included study.

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Question: What is the relationship between acculturation, dietary intake and type 2 diabetes?

Table 1. Summary of studies examining the relationship between acculturation and type 2 diabetes (T2D)

Author, Year Data Source, Location Risk of Bias*	Race/Ethnicity Sample Size Age % Female	Acculturation Measure T2D Measures	Results
Garcia, 2012 **National Health and Nutrition Examination Survey (NHANES) 1999-2008, US** **Risk of Bias: 2/24**	Mexican American (100%) Initial N=5,069 (Cases: NR) 20-89y % female NR	**Proxies:** Predominate language, location of birth **Pre-diabetes:** Fasting blood glucose of 100-125 mg/dL **Diabetes:** Fasting blood glucose of ≥126 mg/dL or a self-reported physician diagnosis of diabetes or diabetes medication	**Pre-diabetes and diabetes (prevalence ratios by acculturation status** (ref gp: US-born, predominately English-speaking Mexican Americans with no diabetes): *US born:* Predominately Spanish-speaking: NS *Mexico-born:* - Predominately English-speaking: NS - Predominately Spanish-speaking: NS
Kandula, 2008 **Multi-Ethnic Study of Atherosclerosis (MESA), Maryland, Illinois, North Carolina, California, New York, and Minnesota** **Risk of Bias: 4/24**	Mexican (36%) non–Mexican Hispanics (27%), and Chinese (37%) N=1.992 (Cases: NR) ~61y ~50% female	Acculturation score calculated using nativity, years living in the US, and language spoken at home. Scores were summed to obtain the acculturation score, ranging from 0 (least acculturated) to 5 (most acculturated) **Diabetes:** Defined as fasting glucose ≥126 mg/dL and/or use of diabetes medications	**Diabetes prevalence:** *Mexican:* NS Non-Mexican Hispanic: NS *Chinese:* NS

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Question: What is the relationship between acculturation, dietary intake and type 2 diabetes?

Table 1. Summary of studies examining the relationship between acculturation and type 2 diabetes (T2D)

Author, Year Data Source, Location Risk of Bias*	Race/Ethnicity Sample Size Age % Female	Acculturation Measure T2D Measures	Results
Mainous, 2006 **NHANES 1999–2002, US** **Risk of Bias: 0/24**	Mexican American and Other Hispanic N=2,696 (Cases: NR) 18-64y ~50%female	Language acculturation (Short Acculturation Scale) and birth outside the US **Previously diagnosed diabetes-self-report; undetected elevated blood glucose:** Elevated HbA1c >6.1%	**Diabetes prevalence:** *Language proxy:* Low acculturation associated with increase diabetes prevalence (OR=1.90, 95% CI=1.02, 3.54) *Place of birth:* NS **Elevated blood glucose:** *Language:* NS *Place of birth:* NS
van Rompay, 2012 **Boston Puerto Rican Health Study, Massachusetts** **Risk of Bias: 2/24**	Puerto Rican Descent N=1,219; 45-75y (Cases: NR) 72% female	Psychological Acculturation Scale (PAS); Bi-dimensional Acculturation Scale (BAS); length of stay (LOS) **T2D:** Fasting plasma blood glucose ≥126mg/dL and/or use of oral diabetes medication or insulin	**T2D (%) by BAS quartiles:** P for trend NS **T2D by PAS or LOS quartiles:** NS

*Risk of Bias as determined using the Nutrition Evidence Library Bias Assessment Tool

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Study Results

Garcia, 2012 conducted a cross-sectional analysis using NHANES 1999-2008 data to examine whether level of acculturation among Mexican Americans was associated with prevalence of pre-diabetes and diabetes. Predominate language and location of birth proxies were used to create four categories of language and nativity acculturation: US-born (predominately English-speaking or predominately Spanish-speaking) and Mexico-born (predominately English-speaking or predominately Spanish-speaking). Pre-diabetes (fasting blood glucose of 100-125mg/dL) and prevalence of diabetes (fasting blood glucose ≥126mg/dL or a self-reported physician diagnosis of diabetes or taking diabetes medication) were assessed. Unadjusted models comparing pre-diabetes with no diabetes found the least acculturated Mexican Americans (Mexican-born, Spanish speakers) were more likely to have pre-diabetes, but results were not significant (NS) after adjustment for age, gender, education, family history of diabetes, and health insurance. No association was found between acculturation and diabetes in unadjusted and adjusted models.

Mainous, 2006 conducted a cross-sectional analysis using NHANES 1999-2002 data to examine the relationship between acculturation and prevalence and control of diabetes among Hispanic/Latino Americans. Language acculturation and place of birth (US vs. birth outside the US) were assessed. The Short Acculturation Scale (SAS), five-item Spanish language usage scale was used to assess language acculturation. Diabetes was assessed using self-report or laboratory assessment [hemoglobin A1c (HbA1c) >6.1%]. Low language acculturation was associated with increased prevalence of diabetes, even after controlling for demographic characteristics including health insurance and education. No association was found between language acculturation and elevated blood glucose. Place of birth was not associated with elevated blood glucose levels or prevalence of diabetes.

Kandula, 2008 conducted a cross-sectional analysis to examine the association between acculturation and diabetes in a population sample of Mexican-origin Hispanics, non–Mexican-origin Hispanics, and Chinese participants in the Multi-Ethnic Study of Atherosclerosis (MESA). An acculturation score was calculated using nativity, years living in the US, and language spoken at home (not validated). Score ranged from 0 (least acculturated) to 5 (most acculturated). Diabetes was defined as fasting glucose ≥126mg/dL and/or use of anti-diabetes medications. Acculturation was not associated with diabetes prevalence among Chinese, Mexican-origin Hispanic/Latino and non-Mexican-origin Hispanic/Latino MESA participants when adjusted for age, gender and SES, but among non-Mexican-origin Hispanics a trend toward positive association was found to be partly mediated by body mass index (BMI) or diet. Access to healthcare was not assessed.

van Rompay, 2012 used baseline data from the longitudinal Boston Puerto Rico Health Study to examine the associations among acculturation, lifestyle characteristics, health status, and carbohydrate nutrition in Puerto Rican adults. Acculturation was assessed using the Psychological Acculturation Scale (PAS), a language-based modified Bi-dimensional Acculturation Scale for Hispanics (BAS), and length of stay in the US (LOS). Analysis was controlled for age, sex, and poverty status. Diabetes was assessed by a fasting plasma blood glucose ≥126mg/dL and/or use of oral diabetes medication or insulin. No relationship was detected between T2D and acculturation measured using the Psychological Acculturation Scale, the Bi-dimensional Acculturation Scale, or length of stay. Access to healthcare was not assessed.

Evidence Synthesis

Summary of Results by Outcome

Elevated Blood Glucose: One national survey of Mexican American and Other Hispanics

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found no association between language acculturation and nativity and elevated blood glucose levels (Mainous, 2006).

Pre-diabetes: One study in a national sample of Mexican Americans found individuals with the lowest acculturation (Mexico-born, Spanish-speaking) had the highest prevalence rate for pre-diabetes in an unadjusted model, but findings were NS when adjusted for age, gender, education, family history of diabetes, and health insurance.

Diabetes: Three studies found no association between acculturation and prevalence of diabetes in Mexican American, Chinese, and Puerto Rican populations (Garcia, 2012; Kandula, 2008; van Rompay, 2012). One study found in Mexican Americans and "other Hispanic" NHANES participants, low language acculturation (measured using a validated scale) was associated with increased diabetes prevalence when adjusted for age, sex, BMI, routine place of care, health insurance, and education (Mainous, 2006).

Assessment of the Body of Evidence

Quality and Quantity: This review includes four cross-sectional studies ranging in size from 1,219 to 5,069 subjects. NEL BAT scores ranged from 0/24 to 4/24. One study used acculturation proxies, which may not capture the complexity of the construct. One study used a non-validated acculturation scoring system and two studies used validated, multidimensional tools. All studies controlled for age, gender and a measure of SES, but only two studies controlled for healthcare access.

Consistency: Three of four studies found no association between acculturation and diabetes in Hispanic/Latino populations. All studies assessed language acculturation using different indicators and one study found an inverse association. Variation in methods used to assess acculturation may partially explain this inconsistency.

Impact: Studies assessed outcomes directly related to the systematic review question. The significant finding was clinically meaningful.

Generalizability: Studies examined Mexican American, Puerto Rican, and other undefined Hispanic/Latino origin groups. One study included a subgroup of Chinese subjects. Other ethnic groups were underrepresented. Both men and women were represented.

Limitations:

- The preponderance of the evidence is from cross-sectional studies. Thus, causality inferences cannot be made and it is unknown whether the relationship changes over time.
- Limited generalizabilty, since ethnic groups other than Latinos/Hispanics are not represented
- Variation in methodology used to assess acculturation makes it difficult to compare results across studies
- In general, acculturation measures did not reflect the multidirectional (e.g., bicultural) and multiple dimensions and the range of behaviors, attitudes, norms and values of the acculturation construct. Variations in measures and scales make comparison of results across studies difficult.
- The small number of studies and diverse outcomes (both measured and self-reported) make it difficult to reach a reliable conclusion.

Research recommendations

Additional research is needed in the following areas:

- Conduct longitudinal studies that begin in the country of origin and continue across the

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lifespan, taking into account life experience including home, school and work; and control for potential demographic, socioeconomic and healthcare access and bicultural confounders are needed to better understand long-term effects of acculturation from early childhood, through adolescence and into adulthood; and the impact of different life paths in immigrant populations
- Include individuals and families from diverse national origins. Include comparison groups in countries of origin to rule out, among other things, the potential confounding by internal migration from rural to urban area within the country of origin.
- Studies should adjust for important confounders that may attenuate the association such as access to health care, dietary issues, physical activity and sedentary behavior habits. This may improve our understanding of the social-demographic variations in the association of acculturation and T2D outcomes.
- Develop a standard tool to measure acculturation or validation of multidimensional acculturation scales in different immigrant groups and in different languages. The use of improved tools will better reflect the complexity of the construct, and use of the same or similar acculturation measurement tools will improve the ability to compare results across studies.

Search plan and results

Inclusion criteria

- Human subjects
- Studies conducted within the United States (may include subjects from country of origin)
- Human subject older than two years of age
- Subjects who were healthy or at elevated chronic disease risk
- Cohort study, cross-sectional studies, randomized or non-randomized controlled trial
- Intervention studies with a dropout rate of 20% and a differential dropout rate of 15% between groups:
    - *Intervention studies:* At least 30 subjects per study arm
    - Observational studies with more than 500 subjects.
- The intervention or exposure was acculturation
- Multidimensional measure of acculturation used (multidimensional scale or greater than one acculturation proxy)
- The comparator was different levels of acculturation:
    - The outcome included diet quality, foods and food groups, macronutrient intakes and proportions, AND/OR obesity, overweight, body mass index (BMI), waist circumference, body weight, percent body fat change
    - *Child growth indices:* Weight-for-age, length and stature-for-age, weight for stature, BMI-for-age, BMI Z-score, AND cardiovascular disease (CVD), type 2 diabetes (T2D), cancer and pregnancy outcomes

Exclusion criteria

- Animals and *in vitro* models
- Children less than two years of age
- Studies conducted in countries outside the United States
- Subjects who were hospitalized, diagnosed with disease and receiving medical treatment
- Systematic review, meta analysis, narrative review, qualitative studies.
- In addition, articles were included if they were published in English in a peer-reviewed journal between January 2004 and January 2014. If an author is included on more

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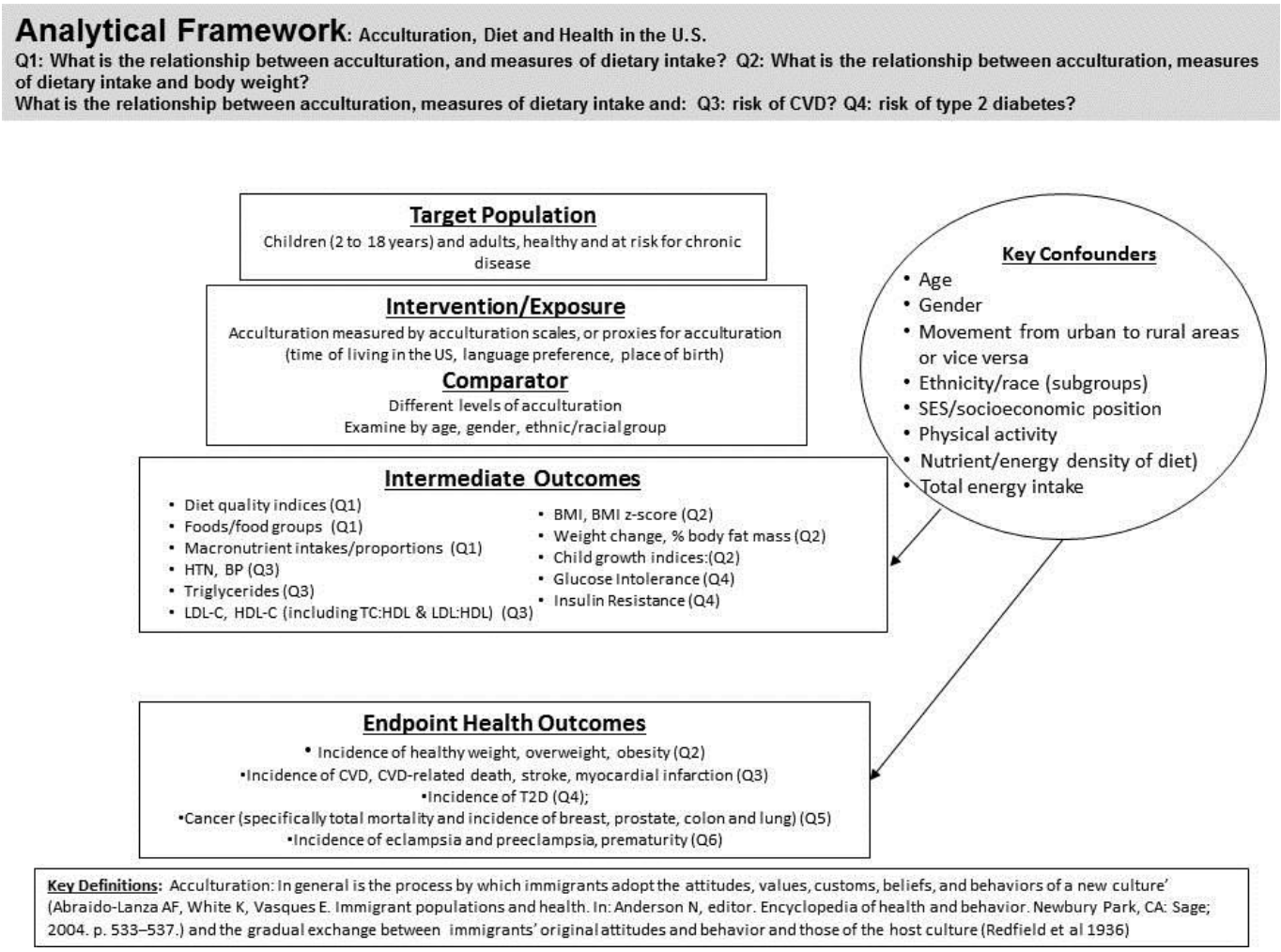
than one primary research article that is similar in content, the paper with the most pertinent data and endpoints was included. If data and endpoints from both papers are appropriate, it was made clear that results are from the same intervention

Analytic framework



Search terms and electronic databases used

- ***PubMed/MEDLINE***
  - *Date(s) Searched:* ***January 2014***
  - *Search Terms:*

    Acculturation and Measures of Dietary Intake

    (((((nutrition[tiab] OR diet[mh] OR diet[tiab] OR dietary[tiab] OR food preferences[mh] OR feeding behavior[mh] OR nutrition surveys[mh] OR food[tiab] OR "Food and Beverages"[mh] OR "Eating"[mh] OR "caloric density"[tiab] OR "caloric intake"[tiab] OR caloric dens*[tiab] OR high calori*[tiab] OR energy dens*[tiab] OR fruit*[tiab] OR vegetable*[tiab] OR food analysis[mh] OR dietary intake*[tiab] OR food intake*[tiab] OR energy intake*[tiab] OR food habits[mh] OR dietary habit*[tiab] OR diet habit*[tiab] OR eating habit*[tiab] OR nutrient intake*[tiab] OR food*

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choice[tiab] OR portion size*[tiab] OR "diet quality"[tiab] OR dietary choice*[tiab] OR dietary change*[tiab] OR diet records[mh] OR nutritional status[mh] OR nutritional sciences[mh] OR dietary pattern*[tiab] OR diet pattern*[tiab] OR eating pattern*[tiab] OR food pattern*[tiab] OR eating habit*[tiab] OR dietary habit*[tiab] OR food habit*[tiab] OR dietary profile*[tiab] OR food profile*[tiab] OR diet profile*[tiab] OR eating profile*[tiab] OR dietary guideline*[tiab] OR dietary recommendation*[tiab] OR food intake pattern*[tiab] OR dietary intake pattern*[tiab] OR eating style*[tiab] OR ((Macronutrient*[tiab] AND (Proportion*[tiab] OR composition[tiab] OR distribution*[tiab] OR percent*[tiab] OR diet composit*[tiab])) OR dietary score*[tiab] OR adequacy index*[tiab] OR kidmed[tiab] OR Food Score*[tiab] OR Diet Score*[tiab] OR MedDietScore[tiab] OR Dietary Pattern Score*[tiab] OR "healthy eating index"[tiab] OR ((index*[ti] OR score*[ti] OR indexes[ti] OR scoring[ti] OR indices[ti]) AND (dietary[ti] OR nutrient*[ti] OR eating[tiab] OR food[ti] OR food[mh] OR diet[ti] OR diet[mh]) AND (pattern* OR habit* OR profile*)))) AND (Acculturation[mh] OR acculturation[tiab] OR assimilat*[ti] OR acculturat*[tiab] OR "dietary acculturation"[tiab] OR cultural factors*[tiab] OR hispanic american*[mh] OR hispanic*[tiab] OR latinos[tiab] OR latina[tiab] OR latino[tiab] OR mexican American*[tiab] OR puerto rican*[tiab] OR korean*[tiab] OR asian american*[tiab] OR chinese american*[tiab] OR emigration and immigration[mh] OR migrant*[tiab] OR immigrant*[tiab] OR immigration[tiab] OR filipino american*[tiab] OR transients and migrants[mh] OR Ethnic Groups[Mesh] OR "Cultural Characteristics"[Majr] OR Cross-Cultural Comparison[Mesh] OR Cultural Diversity[Mesh] OR Ethnology[mh] OR African Americans[Mesh] OR Asian Continental Ancestry Group[Mesh])) AND "last 10 years"[PDat] AND Humans[Mesh] AND English[lang])) AND ((acculturation[mh] OR acculturat* OR assimilat* OR transition[tiab]))) AND ("Epidemiologic Studies"[Mesh] OR "Support of Research"[ptyp] OR cohort[tiab] OR observational[tiab] OR observational study[ptyp] OR retrospective[tiab] OR longitudinal[tiab]) Filters: published in the last 10 years; Humans; English*

Acculturation and Body Weight

("body size"[tiab] OR body size[mh] OR obesity[tiab] OR obese[tiab] OR obesity[mh] OR overweight [tiab] OR adiposity[tiab] OR adiposity[mh]] OR "body weight"[tiab] OR body weight[mh]] OR "body-weight related"[tiab] OR "weight gain"[tiab] OR weight gain[mh] OR "weight loss"[tiab] OR Body Weights and Measures[Majr] OR overweight[tiab] OR "Body Composition[mh] OR "body fat"[tiab] OR adipos[tiab] OR weight[ti] OR waist[ti] OR "Anthropometry"[Mesh:noexp] OR "body mass index"[tiab] OR BMI[tiab] OR "weight status"[tiab] OR adipose tissue [mh] OR "healthy weight"[tiab] OR waist circumference[mh] OR "body fat mass"[tiab] OR body weight changes[mh] OR "waist circumference"[tiab])*

Acculturation and CVD

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((cardiovascular diseases[majr] OR heart OR cardiac OR coronary OR hypertension[majr] OR hypertens[tiab] OR blood pressure[mh] OR "blood pressure"[tiab] OR "metabolic syndrome" OR metabolic syndrome x[majr] OR hypercholesterolemia[mh] OR dyslipidemias[mh] OR cholesterol, ldl[mh] OR lipoproteins, hdl[mh] OR lipoproteins, ldl[mh]))*

Acculturation and T2D

(diabetes mellitus[mh] OR diabet OR prediabetic state[mh] OR prediabet* OR hyperglycemia[mh] OR "glucose intolerance" OR insulin resistance[mh] OR "insulin resistance")*

- ***Cochrane***
  - *Date(s) Searched:* ***January 2014***
  - *Search Terms: ('acculturat* OR assimilat*) and diet* OR nutrition OR bmi OR weight OR obes* OR overweight OR adipos* OR "body mass"*
- ***EMBASE***
  - *Date(s) Searched:* ***January 2014***
  - *Search Terms:*

Acculturation and Dietary Intake

acculturation:ab, ti OR transition:ab, ti AND [humans]/lim AND [english]/lim NOT [medline]/lim AND [2000-2014]/py AND 'cultural factor'/de OR acculturation:ab, ti OR acculturate:ab, ti OR transition:ab, ti OR 'cultural characteristics':ab, ti OR 'ethnic group'/exp OR hispanic:ab, ti OR hispanics:ab, ti OR 'american indian':ab, ti OR 'asian american':ab, ti OR 'asian americans':ab, ti OR 'ethnology'/mj OR 'cultural anthropology'/mj OR 'african american':ab, ti OR 'african americans':ab, ti OR 'immigrant'/de OR immigrants:ab, ti OR migrant:ab, ti OR migrants:ab, ti OR 'chinese american':ab, ti OR 'mexican americans':ab, ti OR 'mexican american':ab, ti OR 'ethnicity'/de OR 'korean':ab, ti OR 'puerto rican':ab, ti OR latino:ab, ti OR latinos:ab, ti OR latina:ab, ti AND [humans]/lim NOT [medline]/lim AND [2000-2014]/py AND 'nutrition'/de OR nutrition:ab, ti OR 'diet'/exp OR 'diet':ab, ti OR 'dietary intake'/exp OR 'caloric intake':ab, ti OR 'caloric density':ab, ti OR 'dietary intake':ab, ti OR 'feeding behavior'/exp OR 'eating habit'/de OR 'food preference'/de OR 'child nutrition'/de OR 'food intake'/exp OR 'nutritional assessment'/de OR 'nutritional status'/de OR 'nutrition surveys':ab, ti OR 'fruit'/exp OR 'vegetable'/exp OR 'food'/exp OR 'energy density':ab, ti OR 'dietary quality':ab, ti OR 'eating pattern':ab, ti OR 'food pattern':ab, ti OR 'dietary habit':ab, ti OR 'food habit':ab, ti OR 'food intake':ab, ti OR 'portion size'/de OR 'food choice':ab, ti OR 'diet quality':ab, ti OR 'dietary profile':ab, ti OR 'food profile':ab, ti OR 'diet profile':ab, ti OR 'eating profile':ab, ti OR 'food intake pattern':ab, ti OR 'dietary intake pattern':ab, ti OR 'eating style':ab, ti OR 'macronutrient':ab, ti OR 'macronutrient'/de OR 'dietary score':ab, ti OR kidmed:ab, ti OR 'food score':ab, ti OR 'diet score':ab, ti OR 'meddietscore':ab, ti OR 'dietary pattern score':ab, ti OR

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'healthy eating index':ab, ti OR (index:ab, ti OR score:ab, ti OR scoring:ab, ti OR indices:ab, ti AND (dietary:ab, ti OR nutrient:ab, ti OR eating:ab, ti OR food:ab, ti OR diet:ab, ti) AND (pattern:ab, ti OR habit:ab, ti OR profile:ab, ti)) AND [article]/lim AND [2004-2014]/py AND [humans]/lim AND [english]/lim NOT [medline]/lim AND [2000-2014]/py

Acculturation and Body Weight

('body size'/de OR 'obesity'/exp OR overweight:ab, ti OR adiposity:ab, ti OR 'body weight'/exp OR 'weight gain'/de OR 'weight reduction':ab, ti OR 'body composition'/exp OR 'body fat':ab, ti OR 'anthropometry'/de OR 'body mass'/de OR bmi:ab, ti OR weight:ab, ti OR 'waist circumference'/de OR 'waist circumference':ab, ti OR 'waist hip ratio'/de OR 'body fat'/de OR 'adipose tissue'/exp) AND [humans]/lim AND [english]/lim NOT [medline]/lim AND [2000-2014]/py

Acculturation and CVD

'cardiovascular disease'/exp OR heart:ab, ti OR cardiac:ab, ti OR coronary:ab, ti OR 'cardiovascular disease':ab, ti OR 'cholesterol'/exp OR cholesterol:ab, ti OR 'triglyceride':ab, ti OR 'triglycerides':ab, ti OR 'dyslipidemia'/exp OR 'low density lipoprotein cholesterol'/de OR 'high density lipoprotein cholesterol'/exp OR ldl:ab, ti OR hdl:ab, ti OR 'hypertension'/de OR 'myocardial infarction':ab, ti OR 'heart failure':ab, ti OR 'myocardial ischemia':ab, ti OR 'hypercholesterolemia':ab, ti OR 'blood pressure':ab, ti OR 'metabolic syndrome':ab, ti OR 'metabolic syndrome x'/de AND [humans]/lim AND [english]/lim NOT [medline]/lim AND [2000-2014]/py

Acculturation and Diabetes Mellitus, Type 2

'non insulin dependent diabetes mellitus'/de OR 'type ii diabetes':ab, ti OR 'type 2 diabetes':ab, ti OR diabetes:ti OR diabetic:ti OR 'prediabetic state':ab, ti OR 'impaired glucose tolerance'/de OR 'glucose intolerance':ab, ti OR 'insulin resistance'/de OR 'hemoglobin a1c'/de OR 'insulin sensitivity'/de OR 'insulin sensitivity':ab, ti OR 'onset diabetes':ab, ti OR 'adult onset diabetes':ab, ti OR 'glucose intolerance'/de AND AND [humans]/lim AND [english]/lim NOT [medline]/lim AND [2000-2014]/py

Date range: 2004 to 2014

Summary of articles identified to review

- Total hits from all electronic database searches: 580
- Total articles identified to review from electronic databases: 0
- Articles identified via handsearch or other means: 0
- Number of Primary Articles Identified: 336
- Number of Review Articles Identified: 0
- Total Number of Articles Identified: 29
- Number of Articles Reviewed but Excluded: 307

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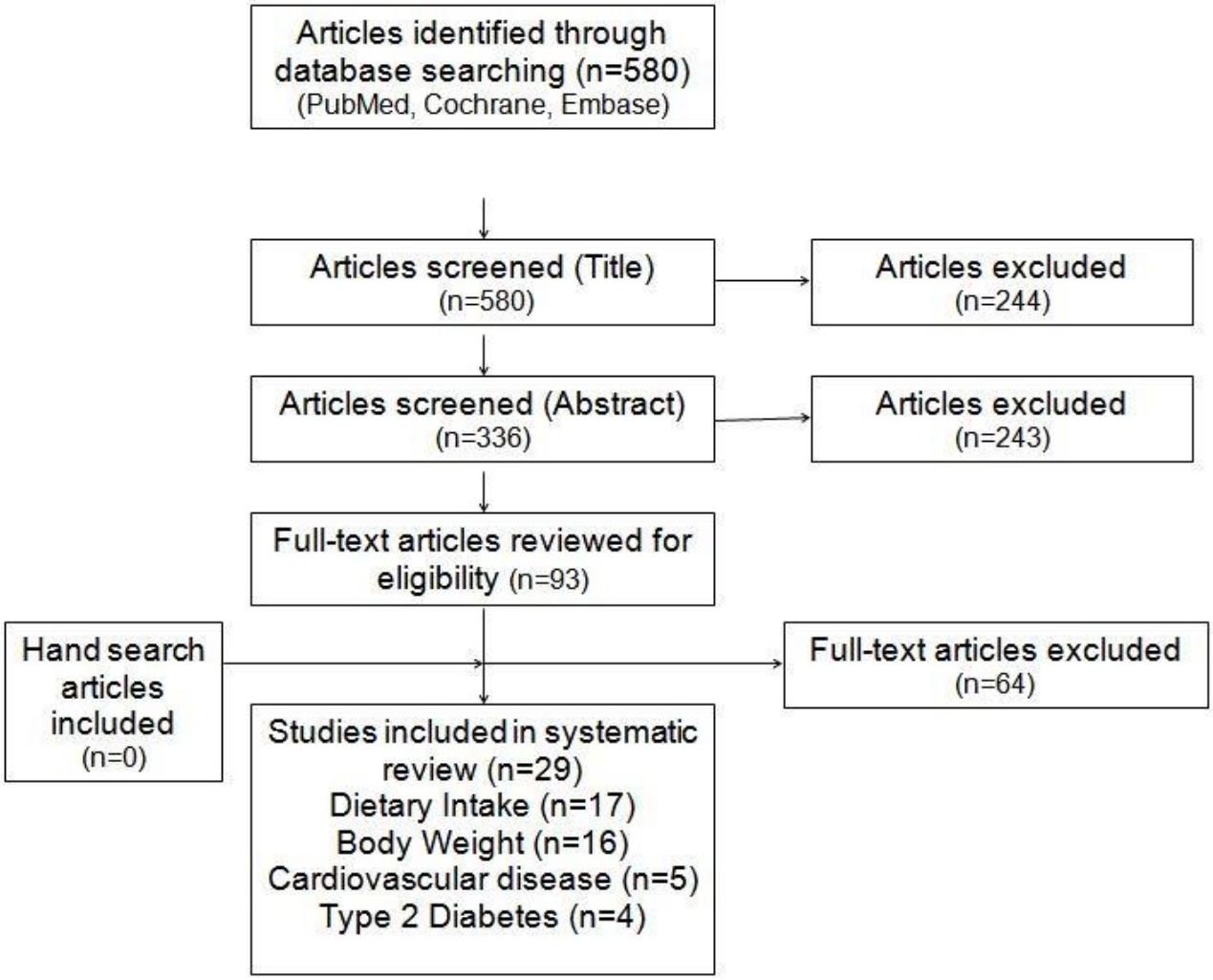

Included articles (References)

*Q1: What is the relationship between acculturation and dietary intake? (Articles marked * were used for more than one acculuration question.)*

1. Corral I, Landrine H. Acculturation and ethnic-minority health behavior: a test of the operant model. *Health Psychol.* 2008;27:737-45. PMID:19025269. http://www.ncbi.nlm.nih.gov/pubmed/19025269
2. Creighton MJ, Goldman N, Pebley AR, Chung CY. Durational and generational differences in Mexican immigrant obesity: is acculturation the explanation? *Soc Sci Med.* 2012;75:300-10. PMID:22575698. http://www.ncbi.nlm.nih.gov/pubmed/22575698
3. Dawson, E. J., Crano, W. D., & Burgoon, M. Refining the meaning and measurement of acculturation: Revisiting a novel methodological approach. *International Journal of Intercultural Relations.* 1996;20(1), 97-114.*****
4. Dubowitz T, Subramanian SV, Acevedo-Garcia D, Osypuk TL, Peterson KE. Individual and neighborhood differences in diet among low-income foreign and U.S.-born women. *Womens Health Issues.* 2008;18:181-90. PMID:18222706. http://www.ncbi.nlm.nih.gov/pubmed/18222706
5. Erinosho TO, Berrigan D, Thompson FE, Moser RP, Nebeling LC, Yaroch AL. Dietary

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intakes of preschool-aged children in relation to caregivers' race/ethnicity, acculturation, and demographic characteristics: results from the 2007 California Health Interview Survey. *Matern Child Health J.* 2012;16:1844-53. PMID:22160613. http://www.ncbi.nlm.nih.gov/pubmed/22160613

6. Ghaddar S, Brown CJ, Pagan JA, Diaz V. Acculturation and healthy lifestyle habits among Hispanics in United States-Mexico border communities. *Rev Panam Salud Publica.* 2010;28:190-7. PMID:20963266. http://www.ncbi.nlm.nih.gov/pubmed/20963266
7. Gomez SL, Kelsey JL, Glaser SL, Lee MM, Sidney S. Immigration and acculturation in relation to health and health-related risk factors among specific Asian subgroups in a health maintenance organization. *Am J Public Health.* 2004;94:1977-84. PMID:15514240. http://www.ncbi.nlm.nih.gov/pubmed/15514240
8. Kasirye OC, Walsh JA, Romano PS, Beckett LA, Garcia JA, Elvine-Kreis B, Bethel JW, Schenker MB. Acculturation and its association with health-risk behaviors in a rural Latina population. *Ethn Dis.* 2005;15:733-9. PMID:16259501. http://www.ncbi.nlm.nih.gov/pubmed/16259501
9. Matias SL, Stoecklin-Marois MT, Tancredi DJ, Schenker MB. Adherence to dietary recommendations is associated with acculturation among Latino farm workers. *J Nutr.* 2013;143:1451-8. PMID:23864507. http://www.ncbi.nlm.nih.gov/pubmed/23864507
10. Montez JK, Eschbach K. Country of birth and language are uniquely associated with intakes of fat, fiber, and fruits and vegetables among Mexican-American women in the United States. *J Am Diet Assoc.* 2008;108:473-80. PMID:18313430. http://www.ncbi.nlm.nih.gov/pubmed/18313430
11. Novotny R, Chen C, Williams AE, Albright CL, Nigg CR, Oshiro CE, Stevens VJ. US acculturation is associated with health behaviors and obesity, but not their change, with a hotel-based intervention among Asian-Pacific Islanders. *J Acad Nutr Diet.* 2012 May;112(5):649-56. PMID: 22709769. http://www.ncbi.nlm.nih.gov/pubmed/22709769
12. Parikh NS, Fahs MC, Shelley D, Yerneni R. Health behaviors of older Chinese adults living in New York City. *J Community Health.* 2009 Feb;34(1):6-15. PMID: 18830807 http://www.ncbi.nlm.nih.gov/pubmed/18830807
13. Shin CN, Lach H. Nutritional issues of Korean Americans. *Clin Nurs Res.* 2011;20:162-80. PMID:21160079. http://www.ncbi.nlm.nih.gov/pubmed/21160079
14. Song YJ, Hofstetter CR, Hovell MF, Paik HY, Park HR, Lee J, Irvin V. Acculturation and health risk behaviors among Californians of Korean descent. *Prev Med.* 2004 Jul;39(1):147-56. PMID: 15207996. http://www.ncbi.nlm.nih.gov/pubmed/15207996
15. Tropp LR, Erkut S, Coll CG, Alarcón O, García HAV. Psychological acculturation development of a new measure for Puerto Ricans on the U.S. mainland. *Educational and Psychological Measurement.* 1999;59(2):351-67.http://www.ncbi.nlm.nih.gov/pubmed/21415932
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17. Van Rompay MI, McKeown NM, Castaneda-Sceppa C, Falcon LM, Ordovas JM, Tucker KL. Acculturation and sociocultural influences on dietary intake and health status among Puerto Rican adults in Massachusetts. *J Acad Nutr Diet.* 2012;112:64-74. PMID:22389874. http://www.ncbi.nlm.nih.gov/pubmed/22389874
18. Van Wieren AJ, Roberts MB, Arellano N, Feller ER, Diaz JA. Acculturation and cardiovascular behaviors among Latinos in California by country/region of origin. *J Immigr Minor Health.* 2011;13:975-81. PMID:21626297. http://www.ncbi.nlm.nih.gov/pubmed/21626297
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California: a protective effect of biculturalism. *J Immigr Minor Health.* 2011 Apr;13(2):276-83. PMID: 21153765. http://www.ncbi.nlm.nih.gov/pubmed/21153765 *****

*Q2: What is the relationship between acculturation and body weight? (Articles marked * were used for more than one acculuration question.)*

1. Ahluwalia IB, Ford ES, Link M, Bolen JC. Acculturation, weight, and weight-related behaviors among Mexican Americans in the United States. *Ethn Dis*. 2007 Autumn;17(4):643-9. Pubmed PMID: 18072373. http://www.ncbi.nlm.nih.gov/pubmed/18072373
2. Chen L, Juon HS, Lee S. Acculturation and BMI among Chinese, Korean and Vietnamese adults. *J Community Health.* 2012 Jun;37(3):539-46. Pubmed PMID: 21922164. http://www.ncbi.nlm.nih.gov/pubmed/21922164
3. Creighton MJ, Goldman N, Pebley AR, Chung CY. Durational and generational differences in Mexican immigrant obesity: is acculturation the explanation? *Soc Sci Med.* 2012. 75:300-10. PMID:22575698. http://www.ncbi.nlm.nih.gov/pubmed/22575698 *****
4. Fu H, VanLandingham MJ. Disentangling the effects of migration, selection and acculturation on weight and body fat distribution: results from a natural experiment involving Vietnamese Americans, returnees, and never-leavers. *J Immigr Minor Health.* 2012 Oct;14(5):786-96. Pubmed PMID: 22427069. http://www.ncbi.nlm.nih.gov/pubmed/22427069
5. Garcia L, Gold EB, Wang L, Yang X, Mao M, Schwartz AV. The relation of acculturation to overweight, obesity, pre-diabetes and diabetes among U.S. Mexican-American women and men. *Ethn Dis.* 2012 Winter;22(1):58-64. Pubmed PMID: 22774310. http://www.ncbi.nlm.nih.gov/pubmed/22774310
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7. Hubert HB, Snider J, Winkleby MA. Health status, health behaviors, and acculturation factors associated with overweight and obesity in Latinos from a community and agricultural labor camp survey. *Prev Med.* 2005 Jun;40(6):642-51. Pubmed PMID: 15850860. http://www.ncbi.nlm.nih.gov/pubmed/15850860
8. Koya DL, Egede LE. Association between length of residence and cardiovascular disease risk factors among an ethnically diverse group of United States immigrants. *J Gen Intern Med.* 2007 Jun;22(6):841-6. Pubmed PMID: 17503110. http://www.ncbi.nlm.nih.gov/pubmed/17503110
9. Novotny R, Chen C, Williams AE, Albright CL, Nigg CR, Oshiro CE, Stevens VJ. US acculturation is associated with health behaviors and obesity, but not their change, with a hotel-based intervention among Asian-Pacific Islanders. *J Acad Nutr Diet.* 2012 May;112(5):649-56. PMID: 22709769. http://www.ncbi.nlm.nih.gov/pubmed/22709769 *****
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13. Wang S, Quan J, Kanaya AM, Fernandez A. Asian Americans and obesity in

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California: a protective effect of biculturalism. *J Immigr Minor Health.* 2011 Apr;13(2):276-83. PMID: 21153765. http://www.ncbi.nlm.nih.gov/pubmed/21153765 *****

*Q3: What is the relationship between acculturation, dietary intake, and cardiovascular disease? (Articles marked * were used for more than one acculuration question.)*

1. Daviglus ML, Talavera GA, Avilés-Santa ML, Allison M, Cai J, Criqui MH, Gellman M, Giachello AL, Gouskova N, Kaplan RC, LaVange L, Penedo F, Perreira K, Pirzada A, Schneiderman N, Wassertheil-Smoller S, Sorlie PD, Stamler J. Prevalence of major cardiovascular risk factors and cardiovascular diseases among Hispanic/Latino individuals of diverse backgrounds in the United States. *JAMA.* 2012 Nov 7;308(17):1775-84. Pubmed PMID: 23117778. http://www.ncbi.nlm.nih.gov/pubmed/23117778
2. Eamranond PP, Legedza AT, Diez-Roux AV, Kandula NR, Palmas W, Siscovick DS, Mukamal KJ. Association between language and risk factor levels among Hispanic adults with hypertension, hypercholesterolemia, or diabetes. *Am Heart J.* 2009 Jan;157(1):53-9. Pubmed PMID: 19081396. http://www.ncbi.nlm.nih.gov/pubmed/19081396
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*Q4: What is the relationship between acculturation, dietary intake, and risk of type 2 diabetes? (Articles marked * were used for more than one acculuration question.)*

1. Garcia L, Gold EB, Wang L, Yang X, Mao M, Schwartz AV. The relation of acculturation to overweight, obesity, pre-diabetes and diabetes among U.S. Mexican-American women and men. *Ethn Dis.* 2012 Winter;22(1):58-64. PMID: 22774310. http://www.ncbi.nlm.nih.gov/pubmed/22774310 *****
2. Kandula NR, Diez-Roux AV, Chan C, Daviglus ML, Jackson SA, Ni H, Schreiner PJ. Association of acculturation levels and prevalence of diabetes in the multi-ethnic study of atherosclerosis (MESA). *Diabetes Care.* 2008 Aug;31(8):1621-8. PMID: 18458142. http://www.ncbi.nlm.nih.gov/pubmed/18458142
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status among Puerto Rican adults in Massachusetts. *J Acad Nutr Diet.* 2012. 112:64-74. Pubmed PMID:22389874. http://www.ncbi.nlm.nih.gov/pubmed/22389874*

Excluded articles

See Appendix K for a full list of excluded articles with reason.

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APPENDIX A: EATING OUT – EXCLUDED ARTICLES LIST

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Excluded Articles: Eating Out & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
1	Adjorlolo LK,Amaning-Kwarteng K,Fianu FK. Preference of sheep for three forms of mucuna forage and the effect of supplementation with mucuna forage on the performance of sheep. Trop Anim Health Prod. 2004;36(2):145-56. PMID:14998313.	Study Design
2	Akyol A,McMullen S,Langley-Evans SC. Glucose intolerance associated with early-life exposure to maternal cafeteria feeding is dependent upon post-weaning diet. Br J Nutr. 2012;107(7):964-78. PMID:21861941.	Study Design
3	Aller R,de Luis DA,Izaola O,La Calle F,del Olmo L,Fernandez L,Arranz T,Hernandez JM. Effect of soluble fiber intake in lipid and glucose levels in healthy subjects: a randomized clinical trial. Diabetes Res Clin Pract. 2004;65(1):7-11. PMID:15163472.	Study Design, Outcome
4	Allirot X,Seyssel K,Saulais L,Roth H,Charrie A,Drai J,Goudable J,Blond E,Disse E,Laville M. Effects of a breakfast spread out over time on the food intake at lunch and the hormonal responses in obese men. Physiol Behav. 2014;127:37-44. PMID:24472321.	Outcome
5	Arredondo EM,Elder JP,Ayala GX,Slymen D,Campbell NR. Association of a traditional vs shared meal decision-making and preparation style with eating behavior of Hispanic women in San Diego County. J Am Diet Assoc. 2006;106(1):38-45. PMID:16390665.	Study Design
6	Baxter SD,Paxton-Aiken AE,Royer JA,Hitchcock DB,Guinn CH,Finney CJ. Misclassification of Fourth-Grade Children's Participation in School-Provided Meals Based on Parental Responses Relative to Administrative Daily Records. J Acad Nutr Diet. 2014; PMID:24973169.	Study Design
7	Bellisle F,Rolland-Cachera MF. Three consecutive (1993, 1995, 1997) surveys of food intake, nutritional attitudes and knowledge, and lifestyle in 1000 French children, aged 9-11 years. J Hum Nutr Diet. 2007;20(3):241-51. PMID:17539877.	Independent Variable
8	Berenson GS. Cardiovascular health promotion for children: a model for a Parish (County)-wide program (implementation and preliminary results). Prev Cardiol. 2010;13(1):23-8. PMID:20021623.	Independent Variable
9	Bereswill S,Plickert R,Fischer A,Kuhl AA,Loddenkemper C,Batra A,Siegmund B,Gobel UB,Heimesaat MM. What you eat is what you get: Novel Campylobacter models in the quadrangle relationship between nutrition, obesity, microbiota and susceptibility to infection. Eur J Microbiol Immunol (Bp). 2011;1(3):237-48. PMID:24516730.	Independent Variable
10	Berraondo B,Martinez JA. Free fatty acids are involved in the inverse relationship between hormone-sensitive lipase (HSL) activity and expression in adipose tissue after high-fat feeding or beta3-adrenergic stimulation. Obes Res. 2000;8(3):255-61. PMID:10832769.	Independent Variable

Excluded Articles: Eating Out & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
11	Bleich SN,Wolfson JA. Weight loss strategies: Association with consumption of sugary beverages, snacks and values about food purchases. Patient Education and Counseling. 2014;96(1):128-134.	Independent Variable
12	Bo S,De Carli L,Venco E,Fanzola I,Maiandi M,De Michieli F,Durazzo M,Beccuti G,Cavallo-Perin P,Ghigo E,Ganzit GP. Impact of snacking pattern on overweight and obesity risk in a cohort of 11-13-y adolescents. Journal of Pediatric Gastroenterology and Nutrition. 2014;	Independent Variable
13	Boque N,Campion J,Milagro FI,Moreno-Aliaga MJ,Martinez JA. Some cyclin-dependent kinase inhibitors-related genes are regulated by vitamin C in a model of diet-induced obesity. Biol Pharm Bull. 2009;32(8):1462-8. PMID:19652391.	Independent Variable
14	Bouanane S,Merzouk H,Benkalfat NB,Soulimane N,Merzouk SA,Gresti J,Tessier C,Narce M. Hepatic and very low-density lipoprotein fatty acids in obese offspring of overfed dams. Metabolism. 2010;59(12):1701-9. PMID:20494379.	Study Design
15	Brandimarti P,Costa-Junior JM,Ferreira SM,Protzek AO,Santos GJ,Carneiro EM,Boschero AC,Rezende LF. Cafeteria diet inhibits insulin clearance by reduced insulin-degrading enzyme expression and mRNA splicing. J Endocrinol. 2013;219(2):173-82. PMID:23959080.	Study Design
16	Brazeau AS,Leong A,Meltzer SJ,Cruz R,DaCosta D,Hendrickson-Nelson M,Joseph L,Dasgupta K. Group-based activities with on-site childcare and online support improve glucose tolerance in women within 5 years of gestational diabetes pregnancy. Cardiovasc Diabetol. 2014;13:104. PMID:24981579.	Study Design, Outcome
17	Breck A,Cantor J,Martinez O,Elbel B. Who reports noticing and using calorie information posted on fast food restaurant menus?. Appetite. 2014;81:30-36.	Independent Variable
18	Briefel RR,Wilson A,Cabili C,Hedley Dodd A. Reducing calories and added sugars by improving children's beverage choices. J Acad Nutr Diet. 2013;113(2):269-75. PMID:23351631.	Study Design
19	Buchholz U,Mermin J,Rios R,Casagrande TL,Galey F,Lee M,Quattrone A,Farrar J,Nagelkerke N,Werner SB. An outbreak of food-borne illness associated with methomyl-contaminated salt. Jama. 2002;288(5):604-10. PMID:12150672.	Study Design
20	Burdette HL,Whitaker RC. Neighborhood playgrounds, fast food restaurants, and crime: Relationships to overweight in low-income preschool children. Preventive Medicine. 2004;38(1):57-63.	Study Design
21	Burke V,Mori TA,Giangiulio N,Gillam HF,Beilin LJ,Houghton S,Cutt HE,Mansour J,Wilson A. An innovative program for changing health behaviours. Asia Pac J Clin Nutr. 2002;11 Suppl 3:S586-97. PMID:12492652.	Independent Variable
22	Caimari A,Oliver P,Rodenburg W,Keijer J,Palou A. Slc27a2 expression in peripheral blood mononuclear cells as a	Study Design,

Excluded Articles: Eating Out & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	molecular marker for overweight development. Int J Obes (Lond). 2010;34(5):831-9. PMID:20142826.	Outcome
23	Campion J,Milagro FI,Fernandez D,Martinez JA. Diferential gene expression and adiposity reduction induced by ascorbic acid supplementation in a cafeteria model of obesity. J Physiol Biochem. 2006;62(2):71-80. PMID:17217161.	Independent Variable
24	Carillon J,Knabe L,Montalban A,Stevant M,Keophiphath M,Lacan D,Cristol JP,Rouanet JM. Curative diet supplementation with a melon superoxide dismutase reduces adipose tissue in obese hamsters by improving insulin sensitivity. Mol Nutr Food Res. 2014;58(4):842-50. PMID:24255021.	Study Design, Outcome
25	Carillon J,Romain C,Bardy G,Fouret G,Feillet-Coudray C,Gaillet S,Lacan D,Cristol JP,Rouanet JM. Cafeteria diet induces obesity and insulin resistance associated with oxidative stress but not with inflammation: improvement by dietary supplementation with a melon superoxide dismutase. Free Radic Biol Med. 2013;65:254-61. PMID:23792771.	Study Design, Outcome
26	Carroll C,Andreyeva T. Access to SNAP-Authorized Food Stores and Nutrition Outcomes of SNAP-Participating Adolescents. Journal of Hunger and Environmental Nutrition. 2013;8(4):445-457.	Independent Variable
27	Carruth BR,Skinner JD. Revisiting the picky eater phenomenon: neophobic behaviors of young children. J Am Coll Nutr. 2000;19(6):771-80. PMID:11194531.	Independent Variable
28	Cetateanu A,Jones A. Understanding the relationship between food environments, deprivation and childhood overweight and obesity: evidence from a cross sectional England-wide study. Health Place. 2014;27:68-76. PMID:24561918.	Study Design
29	Chadha PS,Haddock RE,Howitt L,Morris MJ,Murphy TV,Grayson TH,Sandow SL. Obesity up-regulates intermediate conductance calcium-activated potassium channels and myoendothelial gap junctions to maintain endothelial vasodilator function. J Pharmacol Exp Ther. 2010;335(2):284-93. PMID:20671071.	Study Design
30	Chen H,Morris MJ. Differential responses of orexigenic neuropeptides to fasting in offspring of obese mothers. Obesity (Silver Spring). 2009;17(7):1356-62. PMID:19282828.	Study Design, Independent Variable
31	Chugh R,Puri S. Affluent adolescent girls of Delhi: eating and weight concerns. Br J Nutr. 2001;86(4):535-42. PMID:11591242.	Study Design, Independent Variable
32	Chung S,Popkin BM,Domino ME,Stearns SC. Effect of retirement on eating out and weight change: an analysis of gender differences. Obesity. 2007;15(4):1053-1060.	Independent Variable
33	Coatmellec-Taglioni G,Dausse JP,Giudicelli Y,Ribiere C. Gender difference in diet-induced obesity hypertension: implication of renal alpha2-adrenergic receptors. Am J Hypertens. 2002;15(2 Pt 1):143-9. PMID:11863249.	Independent Variable

Excluded Articles: Eating Out & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
34	Coatmellec-Taglioni G,Dausse JP,Giudicelli Y,Ribiere C. Sexual dimorphism in cafeteria diet-induced hypertension is associated with gender-related difference in renal leptin receptor down-regulation. J Pharmacol Exp Ther. 2003;305(1):362-7. PMID:12649390.	Independent Variable, Outcome
35	Cohen DA,Story M. Mitigating the health risks of dining out: the need for standardized portion sizes in restaurants. Am J Public Health. 2014;104(4):586-90. PMID:24524513.	Independent Variable, Outcome
36	Contento IR,Koch PA,Lee H,Sauberli W,Calabrese-Barton A. Enhancing personal agency and competence in eating and moving: formative evaluation of a middle school curriculum--Choice, Control, and Change. J Nutr Educ Behav. 2007;39(5 Suppl):S179-86. PMID:17826699.	Independent Variable
37	Cook C,Simmons G,Swinburn B,Stewart J. Changing risk behaviours for non-communicable disease in New Zealand working men--is workplace intervention effective?. N Z Med J. 2001;114(1130):175-8. PMID:11396664.	Study Design
38	Cornwell TB,McAlister AR,Polmear-Swendris N. Children's knowledge of packaged and fast food brands and their BMI. Why the relationship matters for policy makers. Appetite. 2014;81c:277-283. PMID:24972133.	Study Design
39	Crowley JP,Arnold SH,McEwen IR,James S. Treadmill training in a child with cerebral palsy: a case report. Phys Occup Ther Pediatr. 2009;29(1):60-70. PMID:19197759.	Study Design, Independent Variable
40	Cruz ML,Evans K,Frayn KN. Postprandial lipid metabolism and insulin sensitivity in young Northern Europeans, South Asians and Latin Americans in the UK. Atherosclerosis. 2001;159(2):441-9. PMID:11730825.	Study Design
41	Cullen KW,Hartstein J,Reynolds KD,Vu M,Resnicow K,Greene N,White MA. Improving the school food environment: results from a pilot study in middle schools. J Am Diet Assoc. 2007;107(3):484-9. PMID:17324667.	Study Design, Independent Variable
42	Dabbaghian V,Mago VK,Wu T,Fritz C,Alimadad A. Social interactions of eating behaviour among high school students: a cellular automata approach. BMC Med Res Methodol. 2012;12:155. PMID:23046793.	Study Design
43	Darimont C,Turini M,Epitaux M,Zbinden I,Richelle M,Montell E,Ferrer-Martinez A,Mace K. beta3-adrenoceptor agonist prevents alterations of muscle diacylglycerol and adipose tissue phospholipids induced by a cafeteria diet. Nutr Metab (Lond). 2004;1(1):4. PMID:15507149.	Independent Variable
44	Darsania T,Zarnadze S. Features and problems of nutrition among Georgian population. Georgian Med News. 2011;(194):56-9. PMID:21685524.	Study Design
45	Das M,Rath CC,Mohapatra UB. Bacteriology of a most popular street food (Panipuri) and inhibitory effect of essential oils on bacterial growth. J Food Sci Technol. 2012;49(5):564-71. PMID:24082267.	Study Design
46	de Castro JM,King GA,Duarte-Gardea M,Gonzalez-Ayala S,Kooshian CH. Overweight and obese humans overeat away from home. Appetite. 2012;59(2):204-211.	Study Design, Independent Variable

Excluded Articles: Eating Out & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
47	De Vogli R,Kouvonen A,Gimeno D. The influence of market deregulation on fast food consumption and body mass index: a cross-national time series analysis. Bull World Health Organ. 2014;92(2):99-107, 107a. PMID:24623903.	Study Design
48	Deliens T,Clarys P,De Bourdeaudhuij I,Deforche B. Weight, socio-demographics, and health behaviour related correlates of academic performance in first year university students. Nutr J. 2013;12:162. PMID:24344995.	Outcome
49	Devaraj S,Wang-Polagruto J,Polagruto J,Keen CL,Jialal I. High-fat, energy-dense, fast-food-style breakfast results in an increase in oxidative stress in metabolic syndrome. Metabolism: Clinical and Experimental. 2008;57(6):867-870.	Outcome
50	Dixon J,Omwega AM,Friel S,Burns C,Donati K,Carlisle R. The health equity dimensions of urban food systems. J Urban Health. 2007;84(3 Suppl):i118-29. PMID:17401697.	Study Design
51	Donnelly JE,Kirk EP,Jacobsen DJ,Hill JO,Sullivan DK,Johnson SL. Effects of 16 mo of verified, supervised aerobic exercise on macronutrient intake in overweight men and women: the Midwest Exercise Trial. Am J Clin Nutr. 2003;78(5):950-6. PMID:14594781.	Independent Variable
52	Dorresteijn JA,van der Graaf Y,Zheng K,Spiering W,Visseren FL. The daily 10 kcal expenditure deficit: a before-and-after study on low-cost interventions in the work environment. BMJ Open. 2013;3(1). PMID:23355669.	Outcome
53	Escoffery C,Kegler MC,Alcantara I,Wilson M,Glanz K. A qualitative examination of the role of small, rural worksites in obesity prevention. Prev Chronic Dis. 2011;8(4):A75. PMID:21672399.	Independent Variable
54	Factors influencing restaurant portion sizes and subsequent energy intake. Nature Clinical Practice Endocrinology and Metabolism. 2007;3(12):792.	Independent Variable
55	Fidan F,Cimrin AH,Ergor G,Sevinc C. Airway disease risk from environmental tobacco smoke among coffeehouse workers in Turkey. Tob Control. 2004;13(2):161-6. PMID:15175534.	Independent Variable
56	Field AE,Austin SB,Gillman MW,Rosner B,Rockett HR,Colditz GA. Snack food intake does not predict weight change among children and adolescents. International Journal of Obesity. 2004;28(10):1210-1216.	Independent Variable
57	Finch M,Sutherland R,Harrison M,Collins C. Canteen purchasing practices of year 1-6 primary school children and association with SES and weight status. Australian and New Zealand Journal of Public Health. 2006;30(3):247-251.	Study Design
58	Folta SC,Goldberg JP,Economos C,Bell R,Landers S,Hyatt R. Assessing the use of school public address systems to deliver nutrition messages to children: Shape up Somerville--audio adventures. J Sch Health. 2006;76(9):459-64; quiz 482-4. PMID:17026639.	Study Design

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The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
59	Fulkerson JA,French SA,Story M. Adolescents' attitudes about and consumption of low-fat foods: associations with sex and weight-control behaviors. J Am Diet Assoc. 2004;104(2):233-7. PMID:14760572.	Independent Variable
60	Garcia-Diaz D,Campion J,Milagro FI,Martinez JA. Adiposity dependent apelin gene expression: relationships with oxidative and inflammation markers. Mol Cell Biochem. 2007;305(1-2):87-94. PMID:17594060.	Independent Variable
61	George VA,Morganstein A. Effect of moderate intensity exercise on acute energy intake in normal and overweight females. Appetite. 2003;40(1):43-6. PMID:12631503.	Study Design
62	Gillis B,Mobley C,Stadler DD,Hartstein J,Virus A,Volpe SL,El ghormli L,Staten MA,Bridgman J,McCormick S. Rationale, design and methods of the HEALTHY study nutrition intervention component. Int J Obes (Lond). 2009;33 Suppl 4:S29-36. PMID:19623185.	Study Design, Outcome
63	Gollub EA,Kennedy BM,Bourgeois BF,Broyles ST,Katzmarzyk PT. Engaging communities to develop and sustain comprehensive wellness policies: louisiana's schools putting prevention to work. Prev Chronic Dis. 2014;11:E34. PMID:24602588.	Study Design, Independent Variable
64	Grafova IB. Overweight children: assessing the contribution of the built environment. Prev Med. 2008;47(3):304-8. PMID:18539318.	Study Design
65	Guo X,Pan W,Connett JE,Hannan PJ,French SA. Small-sample performance of the robust score test and its modifications in generalized estimating equations. Stat Med. 2005;24(22):3479-95. PMID:15977302.	Study Design, Independent Variable
66	Gustafson AA,Sharkey J,Samuel-Hodge CD,Jones-Smith JC,Cai J,Ammerman AS. Food Store Environment Modifies Intervention Effect on Fruit and Vegetable Intake among Low-Income Women in North Carolina. J Nutr Metab. 2012;2012:932653. PMID:22315676.	Independent Variable, Outcome
67	Haddock RE,Grayson TH,Morris MJ,Howitt L,Chadha PS,Sandow SL. Diet-induced obesity impairs endothelium-derived hyperpolarization via altered potassium channel signaling mechanisms. PLoS One. 2011;6(1):e16423. PMID:21283658.	Independent Variable
68	Hamilton J,Fawson S,May J,Andrade J,Kavanagh DJ. Brief guided imagery and body scanning interventions reduce food cravings. Appetite. 2013;71:158-62. PMID:23962401.	Independent Variable, Outcome
69	Han E,Powell LM,Isgor Z. Supplemental nutrition assistance program and body weight outcomes: the role of economic contextual factors. Soc Sci Med. 2012;74(12):1874-81. PMID:22486839.	Independent Variable
70	Hanibuchi T,Kondo K,Nakaya T,Nakade M,Ojima T,Hirai H,Kawachi I. Neighborhood food environment and body mass index among Japanese older adults: results from the Aichi Gerontological Evaluation Study (AGES). Int J Health Geogr. 2011;10:43. PMID:21777439.	Independent Variable

Excluded Articles: Eating Out & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
71	Hanks AS,Just DR,Smith LE,Wansink B. Healthy convenience: nudging students toward healthier choices in the lunchroom. J Public Health (Oxf). 2012;34(3):370-6. PMID:22294661.	Independent Variable, Outcome
72	Hanni KD,Garcia E,Ellemberg C,Winkleby M. Targeting the taqueria: implementing healthy food options at Mexican American restaurants. Health Promot Pract. 2009;10(2 Suppl):91s-99s. PMID:19454755.	Study Design
73	Hanratty B,Milton B,Ashton M,Whitehead M. 'McDonalds and KFC, it's never going to happen': the challenges of working with food outlets to tackle the obesogenic environment. J Public Health (Oxf). 2012;34(4):548-54. PMID:22611262.	Study Design
74	Hansen MJ,Schioth HB,Morris MJ. Feeding responses to a melanocortin agonist and antagonist in obesity induced by a palatable high-fat diet. Brain Res. 2005;1039(1-2):137-45. PMID:15781055.	Independent Variable, Outcome
75	Harris DE,Blum JW,Bampton M,O'Brien LM,Beaudoin CM,Polacsek M,O'Rourke KA. Location of food stores near schools does not predict the weight status of Maine high school students. J Nutr Educ Behav. 2011;43(4):274-8. PMID:21683275.	Study Design, Independent Variable
76	Harrison F,Jones AP,van Sluijs EM,Cassidy A,Bentham G,Griffin SJ. Environmental correlates of adiposity in 9-10 year old children: considering home and school neighbourhoods and routes to school. Soc Sci Med. 2011;72(9):1411-9. PMID:21481505.	Study Design
77	Hastert TA,Babey SH. School lunch source and adolescent dietary behavior. Prev Chronic Dis. 2009;6(4):A117. PMID:19754993.	Study Design
78	Hattori A,An R,Sturm R. Neighborhood food outlets, diet, and obesity among California adults, 2007 and 2009. Prev Chronic Dis. 2013;10:E35. PMID:23489640.	Study Design
79	Hayashi Y,Ohara N,Ganno T,Yamaguchi K,Ishizaki T,Nakamura T,Sato M. Chewing chitosan-containing gum effectively inhibits the growth of cariogenic bacteria. Arch Oral Biol. 2007;52(3):290-4. PMID:17112460.	Independent Variable
80	He M,Tucker P,Gilliland J,Irwin JD,Larsen K,Hess P. The influence of local food environments on adolescents' food purchasing behaviors. International Journal of Environmental Research and Public Health. 2012;9(4):1458-1471.	Study Design, Independent Variable
81	He M,Tucker P,Irwin JD,Gilliland J,Larsen K,Hess P. Obesogenic neighbourhoods: the impact of neighbourhood restaurants and convenience stores on adolescents' food consumption behaviours. Public Health Nutr. 2012;15(12):2331-9. PMID:22390896.	Study Design
82	Hearst MO,Pasch KE,Fulkerson JA,Lytle LA. Does weight status influence weight-related beliefs and the consumption of sugar-sweetened beverages and fast food purchases in adolescents?. Health Educ J. 2009;68(4):284-295. PMID:21278806.	Study Design

Excluded Articles: Eating Out & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
83	Hearst MO,Pasch KE,Laska MN. Urban v. suburban perceptions of the neighbourhood food environment as correlates of adolescent food purchasing. Public Health Nutr. 2012;15(2):299-306. PMID:21859510.	Study Design
84	Heinrich KM,Li D,Regan GR,Howard HH,Ahluwalia JS,Lee RE. Store and restaurant advertising and health of public housing residents. Am J Health Behav. 2012;36(1):66-74. PMID:22251784.	Study Design, Independent Variable
85	Hendriksen MAH,Boer JMA,Du H,Feskens EJM,Van Der A DL. No consistent association between consumption of energy-dense snack foods and annual weight and waist circumference changes in Dutch adults. American Journal of Clinical Nutrition. 2011;94(1):19-25.	Independent Variable
86	Hermstad AK,Swan DW,Kegler MC,Barnette JK,Glanz K. Individual and environmental correlates of dietary fat intake in rural communities: a structural equation model analysis. Soc Sci Med. 2010;71(1):93-101. PMID:20462682.	Study Design, Outcome
87	Heyne A,Kiesselbach C,Sahun I,McDonald J,Gaiffi M,Dierssen M,Wolffgramm J. An animal model of compulsive food-taking behaviour. Addict Biol. 2009;14(4):373-83. PMID:19740365.	Study Design
88	Hickson DA,Diez Roux AV,Smith AE,Tucker KL,Gore LD,Zhang L,Wyatt SB. Associations of fast food restaurant availability with dietary intake and weight among African Americans in the Jackson Heart Study, 2000-2004. Am J Public Health. 2011;101 Suppl 1:S301-9. PMID:21551382.	Study Design
89	Hill JL,Chau C,Luebbering CR,Kolivras KK,Zoellner J. Does availability of physical activity and food outlets differ by race and income? Findings from an enumeration study in a health disparate region. Int J Behav Nutr Phys Act. 2012;9:105. PMID:22954386.	Study Design
90	Hise ME,Sullivan DK,Jacobsen DJ,Johnson SL,Donnelly JE. Validation of energy intake measurements determined from observer-recorded food records and recall methods compared with the doubly labeled water method in overweight and obese individuals. Am J Clin Nutr. 2002;75(2):263-7. PMID:11815316.	Study Design, Independent Variable
91	Hoefkens C,Lachat C,Kolsteren P,Van Camp J,Verbeke W. Posting point-of-purchase nutrition information in university canteens does not influence meal choice and nutrient intake. Am J Clin Nutr. 2011;94(2):562-70. PMID:21677060.	Independent Variable, Outcome
92	Hoffman VA,Lee SH,Bleich SN,Goedkoop S,Gittelsohn J. Relationship Between BMI and Food Purchases in Low-Income, Urban African American Adult Carry-Out Customers. Journal of Hunger and Environmental Nutrition. 2013;8(4):533-545.	Study Design
93	Hollands S,Campbell MK,Gilliland J,Sarma S. A spatial analysis of the association between restaurant density and body mass index in Canadian adults. Prev Med. 2013;57(4):258-64. PMID:23859930.	Independent Variable

Excluded Articles: Eating Out & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
94	Holsten JE,Compher CW. Children's food store, restaurant, and home food environments and their relationship with body mass index: a pilot study. Ecol Food Nutr. 2012;51(1):58-78. PMID:22292712.	Study Design
95	Horacek TM,Erdman MB,Byrd-Bredbenner C,Carey G,Colby SM,Greene GW,Guo W,Kattelmann KK,Olfert M,Walsh J,White AB. Assessment of the dining environment on and near the campuses of fifteen post-secondary institutions. Public Health Nutr. 2013;16(7):1186-96. PMID:23174458.	Independent Variable, Outcome
96	Hosler AS. Retail food availability, obesity, and cigarette smoking in rural communities. J Rural Health. 2009;25(2):203-10. PMID:19785588.	Study Design, Independent Variable
97	Howard PH,Fitzpatrick M,Fulfrost B. Proximity of food retailers to schools and rates of overweight ninth grade students: an ecological study in California. BMC Public Health. 2011;11:68. PMID:21281492.	Study Design, Independent Variable
98	Hsieh S,Klassen AC,Curriero FC,Caulfield LE,Cheskin LJ,Davis JN,Goran MI,Weigensberg MJ,Spruijt-Metz D. Fast-food restaurants, park access, and insulin resistance among Hispanic youth. Am J Prev Med. 2014;46(4):378-87. PMID:24650840.	Independent Variable, Outcome
99	Huerta S,Li Z,Li HC,Hu MS,Yu CA,Heber D. Feasibility of a partial meal replacement plan for weight loss in low-income patients. International Journal of Obesity. 2004;28(12):1575-1579.	Study Design, Independent Variable
100	Iriyama Y,Murayama N. Effects of a worksite weight-control programme in obese male workers: A randomized controlled crossover trial. Health Education Journal. 2014;73(3):247-261.	Independent Variable
101	Ishihara J,Sobue T,Yamamoto S,Sasaki S,Tsugane S. Demographics, lifestyles, health characteristics, and dietary intake among dietary supplement users in Japan. Int J Epidemiol. 2003;32(4):546-53. PMID:12913027.	Study Design
102	Janevic T,Borrell LN,Savitz DA,Herring AH,Rundle A. Neighbourhood food environment and gestational diabetes in New York City. Paediatr Perinat Epidemiol. 2010;24(3):249-54. PMID:20415754.	Study Design, Independent Variable
103	Jeffery RW,Baxter J,McGuire M,Linde J. Are fast food restaurants an environmental risk factor for obesity?. Int J Behav Nutr Phys Act. 2006;3:2. PMID:16436207.	Independent Variable, Outcome
104	Jennings A,Welch A,Jones AP,Harrison F,Bentham G,van Sluijs EM,Griffin SJ,Cassidy A. Local food outlets, weight status, and dietary intake: associations in children aged 9-10 years. Am J Prev Med. 2011;40(4):405-10. PMID:21406273.	Study Design
105	Jilcott SB,Keyserling TC,Samuel-Hodge CD,Rosamond W,Garcia B,Will JC,Farris RP,Ammerman AS. Linking clinical care to community resources for cardiovascular disease prevention: the North Carolina Enhanced WISEWOMAN project. J Womens Health (Larchmt). 2006;15(5):569-83. PMID:16796484.	Independent Variable, Outcome
106	Jilcott SB,Liu H,Dubose KD,Chen S,Kranz S. Food stamp participation is associated with fewer meals away from	Study Design

Excluded Articles: Eating Out & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	home, yet higher body mass index and waist circumference in a nationally representative sample. J Nutr Educ Behav. 2011;43(2):110-5. PMID:21392714.	
107	Jilcott SB,Wade S,McGuirt JT,Wu Q,Lazorick S,Moore JB. The association between the food environment and weight status among eastern North Carolina youth. Public Health Nutr. 2011;14(9):1610-7. PMID:21486525.	Study Design
108	Jones T,Strickfaden M,Kumar S. Physical demands analysis of occupational tasks in neighborhood pubs. Appl Ergon. 2005;36(5):535-45. PMID:15927141.	Independent Variable, Outcome
109	Jones-Smith JC,Karter AJ,Warton EM,Kelly M,Kersten E,Moffet HH,Adler N,Schillinger D,Laraia BA. Obesity and the food environment: income and ethnicity differences among people with diabetes: the Diabetes Study of Northern California (DISTANCE). Diabetes Care. 2013;36(9):2697-705. PMID:23637355.	Independent Variable, Unhealthy Subjects
110	Kaiser de Souza D,de Souza FA,de Fraga LS,Peres Konrad S,Bello-Klein A,Martins da Silva RS,Kucharski LC. Visceral adiposity influences glucose and glycogen metabolism in control and hyperlipidic-fed animals. Nutr Hosp. 2013;28(2):545-52. PMID:23822710.	Study Design, Location
111	Karim SA,Santra A,Sharma VK. Pre-weaning growth response of lambs fed creep mixtures with varying levels of energy and protein. Small Rumin Res. 2001;39(2):137-144. PMID:11182306.	Independent Variable
112	Kaya MS,Bayiroglu F,Mis L,Kilinc D,Comba B. In case of obesity, longevity-related mechanisms lead to anti-inflammation. Age (Dordr). 2014;36(2):677-87. PMID:24306820.	Independent Variable
113	Kestens Y,Lebel A,Chaix B,Clary C,Daniel M,Pampalon R,Theriault M,SV PS. Association between activity space exposure to food establishments and individual risk of overweight. PLoS One. 2012;7(8):e41418. PMID:22936974.	Study Design, Independent Variable
114	Kimura AC,Mead P,Walsh B,Alfano E,Gray SK,Durso L,Humphrey C,Monroe SS,Visvesvera G,Puhr N,Shieh WJ,Eberhard M,Hoekstra RM,Mintz ED. A large outbreak of Brainerd diarrhea associated with a restaurant in the Red River Valley, Texas. Clin Infect Dis. 2006;43(1):55-61. PMID:16758418.	Independent Variable, Outcome
115	Kjollesdal MR,Holmboe-Ottesen G,Wandel M. Frequent use of staff canteens is associated with unhealthy dietary habits and obesity in a Norwegian adult population. Public Health Nutr. 2011;14(1):133-41. PMID:20529403.	Study Design
116	Koleilat M,Whaley SE,Afifi AA,Estrada L,Harrison GG. Understanding the Relationship Between the Retail Food Environment Index and Early Childhood Obesity Among WIC Participants in Los Angeles County Using GeoDa. Online J Public Health Inform. 2012;4(1). PMID:23569623.	Study Design, Independent Variable
117	Kolodinsky J,Reynolds T. Segmentation of overweight Americans and opportunities for social marketing. Int J Behav Nutr Phys Act. 2009;6:13. PMID:19267936.	Study Design

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The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
118	Krishnan S,Coogan PF,Boggs DA,Rosenberg L,Palmer JR. Consumption of restaurant foods and incidence of type 2 diabetes in African American women. Am J Clin Nutr. 2010;91(2):465-71. PMID:20016014.	Study Design, Outcome
119	Kruger DJ,Greenberg E,Murphy JB,DiFazio LA,Youra KR. Local concentration of fast-food outlets is associated with poor nutrition and obesity. Am J Health Promot. 2014;28(5):340-3. PMID:23941104.	Study Design, Outcome
120	Kruger J,Blanck HM,Gillespie C. Dietary and physical activity behaviors among adults successful at weight loss maintenance. International Journal of Behavioral Nutrition and Physical Activity. 2006;3.	Independent Variable
121	Lamas O,Martinez JA,Marti A. Effects of a beta3-adrenergic agonist on the immune response in diet-induced (cafeteria) obese animals. J Physiol Biochem. 2003;59(3):183-91. PMID:15000449.	Study Design, Independent Variable
122	Lamichhane AP,Puett R,Porter DE,Bottai M,Mayer-Davis EJ,Liese AD. Associations of built food environment with body mass index and waist circumference among youth with diabetes. Int J Behav Nutr Phys Act. 2012;9:81. PMID:22747523.	Independent Variable, Unhealthy Subjects
123	Lane SD,Keefe RH,Rubinstein R,Levandowski BA,Webster N,Cibula DA,Boahene AK,Dele-Michael O,Carter D,Jones T,Wojtowycz M,Brill J. Structural violence, urban retail food markets, and low birth weight. Health Place. 2008;14(3):415-23. PMID:17928255.	Independent Variable
124	Langellier BA. The food environment and student weight status, Los Angeles County, 2008-2009. Prev Chronic Dis. 2012;9:E61. PMID:22360872.	Study Design
125	Larson N,Hannan PJ,Fulkerson JA,Laska MN,Eisenberg ME,Neumark-Sztainer D. Secular trends in fast-food restaurant use among adolescents and maternal caregivers from 1999 to 2010. Am J Public Health. 2014;104(5):e62-9. PMID:24625157.	Independent Variable
126	Larson N,Neumark-Sztainer D,Laska MN,Story M. Young adults and eating away from home: associations with dietary intake patterns and weight status differ by choice of restaurant. J Am Diet Assoc. 2011;111(11):1696-703. PMID:22027052.	Study Design
127	Larson NI,Nelson MC,Neumark-Sztainer D,Story M,Hannan PJ. Making time for meals: meal structure and associations with dietary intake in young adults. J Am Diet Assoc. 2009;109(1):72-9. PMID:19103325.	Study Design
128	Larson NI,Neumark-Sztainer D,Story M. Weight control behaviors and dietary intake among adolescents and young adults: longitudinal findings from Project EAT. J Am Diet Assoc. 2009;109(11):1869-77. PMID:19857628.	Outcome
129	Laska MN,Graham DJ,Moe SG,Van Riper D. Young adult eating and food-purchasing patterns food store location and residential proximity. Am J Prev Med. 2010;39(5):464-7. PMID:20965385.	Study Design, Outcome
130	Laska MN,Hearst MO,Forsyth A,Pasch KE,Lytle L. Neighbourhood food environments: are they associated with	Study Design

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	Excluded Citations	Reason for Exclusion
	adolescent dietary intake, food purchases and weight status?. Public Health Nutr. 2010;13(11):1757-63. PMID:20529405.	
131	Lebel A,Kestens Y,Pampalon R,Theriault M,Daniel M,Subramanian SV. Local context influence, activity space, and foodscape exposure in two canadian metropolitan settings: is daily mobility exposure associated with overweight?. J Obes. 2012;2012:912645. PMID:22254135.	Study Design
132	Ledoux T,Adamus-Leach H,O'Connor DP,Mama S,Lee RE. The association of binge eating and neighbourhood fast-food restaurant availability on diet and weight status. Public Health Nutr. 2014;:1-9. PMID:24476972.	Independent Variable
133	Lee H. The role of local food availability in explaining obesity risk among young school-aged children. Soc Sci Med. 2012;74(8):1193-203. PMID:22381683.	Study Design, Independent Variable
134	Lee SK. Acculturation, meal frequency, eating-out, and body weight in Korean Americans. Nutr Res Pract. 2008;2(4):269-74. PMID:20016729.	Independent Variable
135	Levitsky DA,Pacanowski C. Losing weight without dieting. Use of commercial foods as meal replacements for lunch produces an extended energy deficit. Appetite. 2011;57(2):311-317.	Independent Variable
136	Levy DE,Riis J,Sonnenberg LM,Barraclough SJ,Thorndike AN. Food choices of minority and low-income employees: a cafeteria intervention. Am J Prev Med. 2012;43(3):240-8. PMID:22898116.	Independent Variable, Outcome
137	Li F,Harmer P,Cardinal BJ,Bosworth M,Johnson-Shelton D,Moore JM,Acock A,Vongjaturapat N. Built environment and 1-year change in weight and waist circumference in middle-aged and older adults: Portland Neighborhood Environment and Health Study. Am J Epidemiol. 2009;169(4):401-8. PMID:19153214.	Independent Variable
138	Liebman M,Pelican S,Moore SA,Holmes B,Wardlaw MK,Melcher LM,Raidl M,Wheeler B,Haynes GW. Dietary intake-, eating behavior-, and physical activity-related determinants of high body mass index in the 2003 Wellness IN the Rockies cross-sectional study. Nutrition Research. 2006;26(3):111-117.	Study Design
139	Lin BH,Huang CL,French SA. Factors associated with women's and children's body mass indices by income status. Int J Obes Relat Metab Disord. 2004;28(4):536-42. PMID:14770199.	Study Design
140	Lopez NV,Ayala GX,Corder K,Eisenberg CM,Zive MM,Wood C,Elder JP. Parent support and parent-mediated behaviors are associated with children's sugary beverage consumption. J Acad Nutr Diet. 2012;112(4):541-7. PMID:22709703.	Independent Variable, Outcome
141	Lucan SC,Karpyn A,Sherman S. Storing empty calories and chronic disease risk: snack-food products, nutritive content, and manufacturers in Philadelphia corner stores. J Urban Health. 2010;87(3):394-409. PMID:20405225.	Study Design, Outcome
142	Luszczynska A,de Wit JB,de Vet E,Januszewicz A,Liszewska N,Johnson F,Pratt M,Gaspar T,de Matos MG,Stok FM.	Study Design,

Excluded Articles: Eating Out & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	At-home environment, out-of-home environment, snacks and sweetened beverages intake in preadolescence, early and mid-adolescence: the interplay between environment and self-regulation. J Youth Adolesc. 2013;42(12):1873-83. PMID:23354418.	Independent Variable
143	Macdonald L,Ellaway A,Ball K,Macintyre S. Is proximity to a food retail store associated with diet and BMI in Glasgow, Scotland?. BMC Public Health. 2011;11:464. PMID:21663674.	Study Design, Independent Variable
144	Macedo IC,Medeiros LF,Oliveira C,Oliveira CM,Rozisky JR,Scarabelot VL,Souza A,Silva FR,Santos VS,Cioato SG,Caumo W,Torres IL. Cafeteria diet-induced obesity plus chronic stress alter serum leptin levels. Peptides. 2012;38(1):189-96. PMID:22940203.	Study Design, Outcome
145	Macintyre S,McKay L,Cummins S,Burns C. Out-of-home food outlets and area deprivation: case study in Glasgow, UK. Int J Behav Nutr Phys Act. 2005;2:16. PMID:16248898.	Study Design, Outcome
146	Martin CK, Jr. Newton RL,Anton SD,Allen HR,Alfonso A,Han H,Stewart T,Sothern M,Williamson DA. Measurement of children's food intake with digital photography and the effects of second servings upon food intake. Eat Behav. 2007;8(2):148-56. PMID:17336784.	Independent Variable, Outcome
147	Martin CK,Nicklas T,Gunturk B,Correa JB,Allen HR,Champagne C. Measuring food intake with digital photography. J Hum Nutr Diet. 2014;27 Suppl 1:72-81. PMID:23848588.	Study Design, Location
148	Masala G,Assedi M,Saieva C,Salvini S,Cordopatri G,Ermini I,Martinez Mdel C,Tanzini D,Zacchi S,Ceroti M,Palli D. The Florence city sample: dietary and life-style habits of a representative sample of adult residents. a comparison with the EPIC-Florence volunteers. Tumori. 2003;89(6):636-45. PMID:14870828.	Independent Variable
149	Masse LC,Blanck HM,Valente M,Atienza AA,Agurs-Collins T,Weber D,Yaroch AL. Association between self-reported household practices and body mass index of US children and adolescents, 2005. Prev Chronic Dis. 2012;9:E174. PMID:23237244.	Study Design, Independent Variable
150	McCarty CA,McCarty DJ,Wetter AC. Calories from newspaper dessert recipes are associated with community obesity rates. Wisconsin Medical Journal. 2007;106(2):68-70.	Independent Variable
151	McClure AC,Tanski SE,Gilbert-Diamond D,Adachi-Mejia AM,Li Z,Li Z,Sargent JD. Receptivity to television fast-food restaurant marketing and obesity among U.S. youth. Am J Prev Med. 2013;45(5):560-8. PMID:24139768.	Independent Variable
152	McIntosh A,Kubena KS,Tolle G,Dean W,Kim MJ,Jan JS,Anding J. Determinants of children's use of and time spent in fast-food and full-service restaurants. J Nutr Educ Behav. 2011;43(3):142-9. PMID:21550531.	Study Design, Outcome
153	McLaren L,Godley J,MacNairn IA. Social class, gender, and time use: implications for the social determinants of body weight?. Health Rep. 2009;20(4):65-73. PMID:20108607.	Study Design, Outcome

Excluded Articles: Eating Out & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
154	McPhail D,Chapman GE,Beagan BL. "Too much of that stuff can't be good": Canadian teens, morality, and fast food consumption. Soc Sci Med. 2011;73(2):301-7. PMID:21689876.	Study Design, Independent Variable
155	Mellor JM,Dolan CB,Rapoport RB. Child body mass index, obesity, and proximity to fast food restaurants. Int J Pediatr Obes. 2011;6(1):60-8. PMID:20429736.	Study Design, Independent Variable
156	Mergler B,Jasti S. Use of calorie labeling on menus in New York City fast food restaurants among college students. FASEB Journal. 2011;25.	Independent Variable
157	Mesas AE,Guallar-Castillon P,Leon-Munoz LM,Graciani A,Lopez-Garcia E,Gutierrez-Fisac JL,Banegas JR,Rodriguez-Artalejo F. Obesity-related eating behaviors are associated with low physical activity and poor diet quality in Spain. J Nutr. 2012;142(7):1321-8. PMID:22623382.	Study Design
158	Mesas AE,Leon-Munoz LM,Guallar-Castillon P,Graciani A,Gutierrez-Fisac JL,Lopez-Garcia E,Aguilera MT,Banegas JR,Rodriguez-Artalejo F. Obesity-related eating behaviours in the adult population of Spain, 2008-2010. Obes Rev. 2012;13(10):858-67. PMID:22577840.	Study Design
159	Miller DP. Associations between the home and school environments and child body mass index. Soc Sci Med. 2011;72(5):677-84. PMID:21227558.	Study Design
160	Miller LJ,Joyce S,Carter S,Yun G. Associations Between Childhood Obesity and the Availability of Food Outlets in the Local Environment: A Retrospective Cross-Sectional Study. Am J Health Promot. 2013; PMID:24200247.	Study Design, Outcome
161	Millstein RA,Yeh HC,Brancati FL,Batts-Turner M,Gary TL. Food availability, neighborhood socioeconomic status, and dietary patterns among blacks with type 2 diabetes mellitus. Medscape J Med. 2009;11(1):15. PMID:19295936.	Independent Variable, Unhealthy Subjects
162	Minaker LM,Raine KD,Wild TC,Nykiforuk CI,Thompson ME,Frank LD. Objective food environments and health outcomes. Am J Prev Med. 2013;45(3):289-96. PMID:23953355.	Study Design, Independent Variable
163	Mindru DE,Moraru E. Risk factors and their implications in the epidemiology of pediatric obesity. Rev Med Chir Soc Med Nat Iasi. 2012;116(3):739-45. PMID:23272520.	Independent Variable
164	Miura K,Giskes K,Turrell G. Socio-economic differences in takeaway food consumption among adults. Public Health Nutr. 2012;15(2):218-26. PMID:21740620.	Study Design
165	Miura K,Giskes K,Turrell G. Socioeconomic differences in takeaway food consumption and their contribution to inequalities in dietary intakes. J Epidemiol Community Health. 2009;63(10):820-6. PMID:19605368.	Study Design
166	Miura K,Turrell G. Reported consumption of takeaway food and its contribution to socioeconomic inequalities in body mass index. Appetite. 2014;74:116-24. PMID:24355907.	Study Design

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The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
167	Molaodi OR,Leyland AH,Ellaway A,Kearns A,Harding S. Neighbourhood food and physical activity environments in England, UK: does ethnic density matter?. Int J Behav Nutr Phys Act. 2012;9:75. PMID:22709527.	Study Design, Independent Variable
168	Monsivais P,Drewnowski A. The rising cost of low-energy-density foods. J Am Diet Assoc. 2007;107(12):2071-6. PMID:18060892.	Independent Variable, Outcome
169	Moore LV,Diez Roux AV,Nettleton JA,Jacobs DR,Franco M. Fast-food consumption, diet quality, and neighborhood exposure to fast food: the multi-ethnic study of atherosclerosis. Am J Epidemiol. 2009;170(1):29-36. PMID:19429879.	Study Design, Outcome
170	Morse KL,Driskell JA. Observed sex differences in fast-food consumption and nutrition self-assessments and beliefs of college students. Nutr Res. 2009;29(3):173-9. PMID:19358931.	Study Design, Outcome
171	Muleta D,Ashenafi M. Salmonella, Shigella and growth potential of other food-borne pathogens in Ethiopian street vended foods. East Afr Med J. 2001;78(11):576-80. PMID:12219962.	Independent Variable, Unhealthy Subjects
172	Murakami K,Sasaki S,Takahashi Y,Uenishi K. Neighborhood restaurant availability and frequency of eating out in relation to dietary intake in young Japanese women. J Nutr Sci Vitaminol (Tokyo). 2011;57(1):87-94. PMID:21512296.	Study Design
173	Nagler EM,Viswanath K,Ebbeling CB,Stoddard AM,Sorensen G. Correlates of fruit and vegetable consumption among construction laborers and motor freight workers. Cancer Causes and Control. 2013;24(4):637-647.	Study Design, Independent Variable
174	Naska A,Orfanos P,Trichopoulou A,May AM,Overvad K,Jakobsen MU,Tjonneland A,Halkjaer J,Fagherazzi G,Clavel-Chapelon F,Boutron-Ruault MC,Rohrmann S,Hermann S,Steffen A,Haubrock J,Oikonomou E,Dilis V,Katsoulis M,Sacerdote C,Sieri S,Masala G,Tumino R,Mattiello A,Bueno-de-Mesquita HB,Skeie G,Engeset D,Barricarte A,Rodriguez L,Dorronsoro M,Sanchez MJ,Chirlaque MD,Agudo A,Manjer J,Wirfalt E,Hellstrom V,Shungin D,Khaw KT,Wareham NJ,Spencer EA,Freisling H,Slimani N,Vergnaud AC,Mouw T,Romaguera D,Odysseos A,Peeters PH. Eating out, weight and weight gain. A cross-sectional and prospective analysis in the context of the EPIC-PANACEA study. Int J Obes (Lond). 2011;35(3):416-26. PMID:20661252.	Study Design
175	Nederkoorn C. Effects of sales promotions, weight status, and impulsivity on purchases in a supermarket. Obesity. 2014;22(5):E2-E5.	Independent Variable
176	Nelson ML,Marks DJ,Busboom JR,Cronrath JD,Falen L. Effects of supplemental fat on growth performance and quality of beef from steers fed barley-potato product finishing diets: I. Feedlot performance, carcass traits, appearance, water binding, retail storage, and palatability attributes. J Anim Sci. 2004;82(12):3600-10.	Study Design

Excluded Articles: Eating Out & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	PMID:15537781.	
177	Newton RL,Thomson JL,Rau KK,Ragusa SA,Sample AD,Singleton NN,Anton SD,Webber LS,Williamson DA. Psychometric characteristics of process evaluation measures for a rural school-based childhood obesity prevention study: Louisiana Health. Am J Health Promot. 2011;25(6):417-21. PMID:21721969.	Study Design, Independent Variable
178	Ni Mhurchu C,Vandevijvere S,Waterlander W,Thornton LE,Kelly B,Cameron AJ,Snowdon W,Swinburn B. Monitoring the availability of healthy and unhealthy foods and non-alcoholic beverages in community and consumer retail food environments globally. Obes Rev. 2013;14 Suppl 1:108-19. PMID:24074215.	Study Design, Independent Variable
179	Nicklaus S,Boggio V,Issanchou S. Food choices at lunch during the third year of life: high selection of animal and starchy foods but avoidance of vegetables. Acta Paediatr. 2005;94(7):943-51. PMID:16188819.	Study Design, Independent Variable
180	Nigg CR,Albright C,Williams R,Nichols C,Renda G,Stevens VJ,Vogt TM. Are physical activity and nutrition indicators of the checklist of health promotion environments at worksites (CHEW) associated with employee obesity among hotel workers?. J Occup Environ Med. 2010;52 Suppl 1:S4-7. PMID:20061886.	Outcome
181	Nollen NL,Befort CA,Snow P,Daley CM,Ellerbeck EF,Ahluwalia JS. The school food environment and adolescent obesity: qualitative insights from high school principals and food service personnel. Int J Behav Nutr Phys Act. 2007;4:18. PMID:17511873.	Study Design
182	Obbagy JE,Condrasky MD,Roe LS,Sharp JL,Rolls BJ. Chefs' opinions about reducing the calorie content of menu items in restaurants. Obesity (Silver Spring). 2011;19(2):332-7. PMID:20814414.	Independent Variable
183	Odegaard AO,Koh WP,Yuan JM,Gross MD,Pereira MA. Western-style fast food intake and cardiometabolic risk in an Eastern country. Circulation. 2012;126(2):182-8. PMID:22753304.	Outcome
184	Offer A,Pechey R,Ulijaszek S. Obesity under affluence varies by welfare regimes: the effect of fast food, insecurity, and inequality. Econ Hum Biol. 2010;8(3):297-308. PMID:20801725.	Study Design, Outcome
185	Ohri-Vachaspati P,Lloyd K,Delia D,Tulloch D,Yedidia MJ. A closer examination of the relationship between children's weight status and the food and physical activity environment. Prev Med. 2013;57(3):162-7. PMID:23726897.	Study Design, Independent Variable
186	Oliver P,Caimari A,Diaz-Rua R,Palou A. Diet-induced obesity affects expression of adiponutrin/PNPLA3 and adipose triglyceride lipase, two members of the same family. Int J Obes (Lond). 2012;36(2):225-32. PMID:21556044.	Study Design
187	Oliver P,Reynes B,Caimari A,Palou A. Peripheral blood mononuclear cells: a potential source of homeostatic imbalance markers associated with obesity development. Pflugers Arch. 2013;465(4):459-68. PMID:23423323.	Study Design, Outcome

Excluded Articles: Eating Out & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
188	Oreskovic NM,Kuhlthau KA,Romm D,Perrin JM. Built environment and weight disparities among children in high- and low-income towns. Acad Pediatr. 2009;9(5):315-21. PMID:19477705.	Study Design
189	Oreskovic NM,Winickoff JP,Kuhlthau KA,Romm D,Perrin JM. Obesity and the built environment among Massachusetts children. Clin Pediatr (Phila). 2009;48(9):904-12. PMID:19487763.	Study Design, Independent Variable
190	Pala V,Lissner L,Hebestreit A,Lanfer A,Sieri S,Siani A,Huybrechts I,Kambek L,Molnar D,Tornaritis M,Moreno L,Ahrens W,Krogh V. Dietary patterns and longitudinal change in body mass in European children: A follow-up study on the IDEFICS multicenter cohort. European Journal of Clinical Nutrition. 2013;67(10):1042-1049.	Independent Variable
191	Papies EK,Potjes I,Keesman M,Schwinghammer S,Van Koningsbruggen GM. Using health primes to reduce unhealthy snack purchases among overweight consumers in a grocery store. International Journal of Obesity. 2014;38(4):597-602.	Independent Variable
192	Papies EK,Veling H. Healthy dining. Subtle diet reminders at the point of purchase increase low-calorie food choices among both chronic and current dieters. Appetite. 2013;61:1-7.	Independent Variable, Outcome
193	Paquet C,Daniel M,Knauper B,Gauvin L,Kestens Y,Dube L. Interactive effects of reward sensitivity and residential fast-food restaurant exposure on fast-food consumption. Am J Clin Nutr. 2010;91(3):771-6. PMID:20089726.	Independent Variable, Outcome
194	Park S,Blanck HM,Sherry B,Brener N,O'Toole T. Factors associated with sugar-sweetened beverage intake among United States high school students. J Nutr. 2012;142(2):306-12. PMID:22223568.	Study Design, Independent Variable
195	Park S,Sherry B,O'Toole T,Huang Y. Factors associated with low drinking water intake among adolescents: the Florida Youth Physical Activity and Nutrition Survey, 2007. J Am Diet Assoc. 2011;111(8):1211-7. PMID:21802569.	Study Design, Outcome
196	Park Y,Quinn J,Florez K,Jacobson J,Neckerman K,Rundle A. Hispanic immigrant women's perspective on healthy foods and the New York City retail food environment: A mixed-method study. Soc Sci Med. 2011;73(1):13-21. PMID:21658831.	Study Design, Independent Variable
197	Patel AI,Bogart LM,Elliott MN,Lamb S,Uyeda KE,Hawes-Dawson J,Klein DJ,Schuster MA. Increasing the availability and consumption of drinking water in middle schools: a pilot study. Prev Chronic Dis. 2011;8(3):A60. PMID:21477500.	Independent Variable
198	Patel AI,Bogart LM,Uyeda KE,Martinez H,Knizewski R,Ryan GW,Schuster MA. School site visits for community-based participatory research on healthy eating. Am J Prev Med. 2009;37(6 Suppl 1):S300-6. PMID:19896033.	Outcome
199	Patterson R,Risby A,Chan MY. Consumption of takeaway and fast food in a deprived inner London Borough: Are they associated with childhood obesity?. BMJ Open. 2012;2(3).	Study Design
200	Pediatric obesity in Texas: does the Texas Public School Nutrition Policy affect child nutrition?. Tex Med.	Study Design

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	Excluded Citations	Reason for Exclusion
	2006;102(10):47-57. PMID:17628963.	
201	Pittman DW,Parker JS,Getz BR,Jackson CM,Le TA,Riggs SB,Shay JM. Cost-free and sustainable incentive increases healthy eating decisions during elementary school lunch. Int J Obes (Lond). 2012;36(1):76-9. PMID:22041982.	Independent Variable
202	Plut C,Ribiere C,Giudicelli Y,Dausse JP. Gender differences in hypothalamic tyrosine hydroxylase and alpha(2)-adrenoceptor subtype gene expression in cafeteria diet-induced hypertension and consequences of neonatal androgenization. J Pharmacol Exp Ther. 2002;302(2):525-31. PMID:12130711.	Study Design
203	Poti JM,Duffey KJ,Popkin BM. The association of fast food consumption with poor dietary outcomes and obesity among children: is it the fast food or the remainder of the diet?. Am J Clin Nutr. 2014;99(1):162-71. PMID:24153348.	Study Design
204	Poti JM,Popkin BM. Trends in energy intake among US children by eating location and food source, 1977-2006. J Am Diet Assoc. 2011;111(8):1156-64. PMID:21802561.	Outcome
205	Powell LM,Bao Y. Food prices, access to food outlets and child weight. Econ Hum Biol. 2009;7(1):64-72. PMID:19231301.	Independent Variable
206	Powell LM,Chaloupka FJ,Bao Y. The availability of fast-food and full-service restaurants in the United States: associations with neighborhood characteristics. Am J Prev Med. 2007;33(4 Suppl):S240-5. PMID:17884571.	Study Design, Independent Variable
207	Powell LM. Fast food costs and adolescent body mass index: evidence from panel data. J Health Econ. 2009;28(5):963-70. PMID:19732982.	Study Design, Independent Variable
208	Prince SA,Kristjansson EA,Russell K,Billette JM,Sawada MC,Ali A,Tremblay MS,Prud'homme D. Relationships between neighborhoods, physical activity, and obesity: a multilevel analysis of a large Canadian city. Obesity (Silver Spring). 2012;20(10):2093-100. PMID:22262164.	Study Design, Independent Variable
209	Probart C,McDonnell E,Bailey-Davis L,Weirich JE. Existence and predictors of soft drink advertisements in Pennsylvania high schools. J Am Diet Assoc. 2006;106(12):2052-6. PMID:17126637.	Study Design
210	Pruchno R,Wilson-Genderson M,Gupta AK. Neighborhood food environment and obesity in community-dwelling older adults: individual and neighborhood effects. American journal of public health. 2014;104(5):924-929.	Independent Variable
211	Puhl RM,Luedicke J,Heuer C. Weight-based victimization toward overweight adolescents: observations and reactions of peers. J Sch Health. 2011;81(11):696-703. PMID:21972990.	Study Design, Independent Variable
212	Racine EF,Mueffelmann R. Adolescents purchasing food away from home. FASEB Journal. 2013;27.	Study Design
213	Ramel A,Gudmundsdottir FD,Thorsdottir I. Effects of two different types of fast food on postprandial metabolism in normal and overweight subjects. Eur J Clin Nutr. 2012;66(11):1193-8. PMID:22968100.	Outcome

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The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
214	Rashid M,Cranney A,Zarkadas M,Graham ID,Switzer C,Case S,Molloy M,Warren RE,Burrows V,Butzner JD. Celiac disease: evaluation of the diagnosis and dietary compliance in Canadian children. Pediatrics. 2005;116(6):e754-9. PMID:16322131.	Study Design, Independent Variable
215	Rehman R,ullah Shaikh S,Syed S,Shakeel N. Relationship of life style choices on body fat mass in young adults. J Ayub Med Coll Abbottabad. 2010;22(4):146-9. PMID:22455284.	Study Design
216	Reidpath DD,Burns C,Garrard J,Mahoney M,Townsend M. An ecological study of the relationship between social and environmental determinants of obesity. Health and Place. 2002;8(2):141-145.	Study Design, Independent Variable
217	Reitzel LR,Regan SD,Nguyen N,Cromley EK,Strong LL,Wetter DW,McNeill LH. Density and proximity of fast food restaurants and body mass index among African Americans. Am J Public Health. 2014;104(1):110-6. PMID:23678913.	Study Design, Independent Variable
218	Richardson AS,Boone-Heinonen J,Popkin BM,Gordon-Larsen P. Neighborhood fast food restaurants and fast food consumption: a national study. BMC Public Health. 2011;11:543. PMID:21740571.	Outcome
219	Richmond TK,Spadano-Gasbarro JL,Walls CE,Austin SB,Greaney ML,Wang ML,Mezegebu S,Peterson KE. Middle school food environments and racial/ethnic differences in sugar-sweetened beverage consumption: findings from the Healthy Choices study. Prev Med. 2013;57(5):735-8. PMID:24036015.	Study Design, Independent Variable
220	Richter A,Heidemann C,Schulze MB,Roosen J,Thiele S,Mensink GB. Dietary patterns of adolescents in Germany--associations with nutrient intake and other health related lifestyle characteristics. BMC Pediatr. 2012;12:35. PMID:22439777.	Study Design, Independent Variable
221	Robinson E,Harris E,Thomas J,Aveyard P,Higgs S. Reducing high calorie snack food in young adults: A role for social norms and health based messages. International Journal of Behavioral Nutrition and Physical Activity. 2013;10.	Independent Variable
222	Rodrigues AG,Proenca RP,Calvo MC,Fiates GM. Overweight/obesity is associated with food choices related to rice and beans, colors of salads, and portion size among consumers at a restaurant serving buffet-by-weight in Brazil. Appetite. 2012;59(2):305-11. PMID:22634196.	Study Design
223	Rodriguez AB,Bodas R,Fernandez B,Lopez-Campos O,Mantecon AR,Giraldez FJ. Feed intake and performance of growing lambs raised on concentrate-based diets under cafeteria feeding systems. Animal. 2007;1(3):459-66. PMID:22444344.	Study Design, Independent Variable, Outcome
224	Rodriguez AM,Roca P,Palou A. Synergic effect of overweight and cold on uncoupling proteins expression, a role of alpha(2)/beta(3) adrenergic receptor balance?. Pflugers Arch. 2002;444(4):484-90. PMID:12136267.	Study Design

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The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
225	Rodriguez E,Ribot J,Rodriguez AM,Palou A. PPAR-gamma2 expression in response to cafeteria diet: gender- and depot-specific effects. Obes Res. 2004;12(9):1455-63. PMID:15483210.	Sample Size
226	Rollins BY,Loken E,Savage JS,Birch LL. Measurement of food reinforcement in preschool children: Associations with food intake, BMI, and reward sensitivity. Appetite. 2014;72:21-27.	Independent Variable
227	Rose D,Hutchinson PL,Bodor JN,Swalm CM,Farley TA,Cohen DA,Rice JC. Neighborhood food environments and Body Mass Index: the importance of in-store contents. Am J Prev Med. 2009;37(3):214-9. PMID:19666158.	Independent Variable
228	Rossen LM,Curriero FC,Cooley-Strickland M,Pollack KM. Food availability en route to school and anthropometric change in urban children. J Urban Health. 2013;90(4):653-66. PMID:23392564.	Independent Variable
229	Rouhani MH,Mirseifinezhad M,Omrani N,Esmaillzadeh A,Azadbakht L. Fast Food Consumption, Quality of Diet, and Obesity among Isfahanian Adolescent Girls. J Obes. 2012;2012:597924. PMID:22619703.	Study Design
230	Rundle A,Neckerman KM,Freeman L,Lovasi GS,Purciel M,Quinn J,Richards C,Sircar N,Weiss C. Neighborhood food environment and walkability predict obesity in New York City. Environ Health Perspect. 2009;117(3):442-7. PMID:19337520.	Study Design, Independent Variable
231	Sabench Pereferrer F,Vives Espelta M,Cabrera Vilanova A,Hernandez Gonzalez M,Feliu Rovira A,Blanco Blasco S,Molina Lopez A,Beltran Nebot R,Joven Maried J,Del Castillo Dejardin D. Duodeno-Jejunal Tube Placement in an Experimental Model of Obesity: Effects on Food Behaviour and Basal Energy Expenditure. Obes Surg. 2014; PMID:24968744.	Study Design
232	Sadler RC,Gilliland JA,Arku G. A food retail-based intervention on food security and consumption. Int J Environ Res Public Health. 2013;10(8):3325-46. PMID:23921626.	Independent Variable, Outcome
233	Saelens BE,Glanz K,Sallis JF,Frank LD. Nutrition Environment Measures Study in restaurants (NEMS-R): development and evaluation. Am J Prev Med. 2007;32(4):273-81. PMID:17383558.	Independent Variable
234	Sakai R. Relationship between prevalence of childhood obesity in 17-year-olds and socioeconomic and environmental factors: prefecture-level analysis in Japan. Asia Pac J Public Health. 2013;25(2):159-69. PMID:21807624.	Study Design
235	Saldiva SRDM,Venancio SI,De Santana AC,Da Silva Castro AL,Escuder MML,Giugliani ERJ. The consumption of unhealthy foods by Brazilian children is influenced by their mother's educational level. Nutrition Journal. 2014;13(1).	Independent Variable, Age
236	Sallis JF,McKenzie TL,Conway TL,Elder JP,Prochaska JJ,Brown M,Zive MM,Marshall SJ,Alcaraz JE. Environmental interventions for eating and physical activity: a randomized controlled trial in middle schools. Am J Prev Med.	Independent Variable, Outcome

Excluded Articles: Eating Out & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	2003;24(3):209-17. PMID:12657338.	
237	Sampey BP,Vanhoose AM,Winfield HM,Freemerman AJ,Muehlbauer MJ,Fueger PT,Newgard CB,Makowski L. Cafeteria diet is a robust model of human metabolic syndrome with liver and adipose inflammation: comparison to high-fat diet. Obesity (Silver Spring). 2011;19(6):1109-17. PMID:21331068.	Independent Variable, Non-Human Subjects
238	Sanchez BN,Sanchez-Vaznaugh EV,Uscilka A,Baek J,Zhang L. Differential associations between the food environment near schools and childhood overweight across race/ethnicity, gender, and grade. Am J Epidemiol. 2012;175(12):1284-93. PMID:22510276.	Study Design, Independent Variable
239	Santana A,Ferrao MM,De Freitas FG,Gama A,Mourao I,Marques V,Nogueira H,Padez C. Association between neighborhood fast-food restaurants and childhood obesity in Coimbra. European Journal of Epidemiology. 2012;27(1):S151-S152.	Study Design
240	Santiago S,Zazpe I,Marti A,Cuervo M,Martinez JA. Gender differences in lifestyle determinants of overweight prevalence in a sample of Southern European children. Obes Res Clin Pract. 2013;7(5):e391-400. PMID:24304481.	Study Design
241	Schindler J,Kiszko K,Abrams C,Islam N,Elbel B. Environmental and individual factors affecting menu labeling utilization: a qualitative research study. J Acad Nutr Diet. 2013;113(5):667-72. PMID:23402695.	Study Design, Independent Variable
242	Scholten EWM,Schrijvers CTM,Nederkoorn C,Kremers SPJ,Rodenburg G. Relationship between impulsivity, snack consumption and children's weight. PLoS ONE. 2014;9(2).	Independent Variable
243	Sea MM,Woo J. The correlation of eating out with obesity. Diabetes. 2012;61:A717.	Study Design
244	Selimoglu MA,Kelles M,Erdem T,Ertekin V,Karabiber H,Selimoglu E. Craniofacial features of children with celiac disease. Eur J Gastroenterol Hepatol. 2013;25(10):1206-11. PMID:23799417.	Unhealthy Subjects
245	Seliske L,Pickett W,Rosu A,Janssen I. The number and type of food retailers surrounding schools and their association with lunchtime eating behaviours in students. Int J Behav Nutr Phys Act. 2013;10:19. PMID:23391296.	Independent Variable
246	Serrano EL,Jedda VB. Comparison of Fast-Food and Non-Fast-Food Children's Menu Items. Journal of Nutrition Education and Behavior. 2009;41(2):132-137.	Independent Variable, Outcome
247	Seubsman SA,Kelly M,Yuthapornpinit P,Sleigh A. Cultural resistance to fast-food consumption? A study of youth in North Eastern Thailand. Int J Consum Stud. 2009;33(6):669-675. PMID:21547247.	Study Design
248	Sevick MA,Stone RA,Novak M,Piraino B,Snetselaar L,Marsh RM,Hall B,Lash H,Bernardini J,Burke LE. A PDA-based dietary self-monitoring intervention to reduce sodium intake in an in-center hemodialysis patient. Patient Prefer	Study Design, Independent Variable

Excluded Articles: Eating Out & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	Adherence. 2008;2:177-84. PMID:19920960.	
249	Shah T,Purohit G,Nair SP,Patel B,Rawal Y,Shah RM. Assessment of obesity, overweight and its association with the fast food consumption in medical students. J Clin Diagn Res. 2014;8(5):Cc05-7. PMID:24995170.	Study Design
250	Shang L,O'Loughlin J,Tremblay A,Gray-Donald K. The association between food patterns and adiposity among Canadian children at risk of overweight. Appl Physiol Nutr Metab. 2014;39(2):195-201. PMID:24476475.	Study Design
251	Shannon C,Story M,Fulkerson JA,French SA. Factors in the school cafeteria influencing food choices by high school students. The Journal of school health. 2002;72(6):229-234.	Study Design, Independent Variable
252	Sharkey JR,Johnson CM,Dean WR. Nativity is associated with sugar-sweetened beverage and fast-food meal consumption among Mexican-origin women in Texas border colonias. Nutr J. 2011;10:101. PMID:21962014.	Study Design, Independent Variable
253	Sheldon M,Gans KM,Tai R,George T,Lawson E,Pearlman DN. Availability, affordability, and accessibility of a healthful diet in a low-income community, Central Falls, Rhode Island, 2007-2008. Prev Chronic Dis. 2010;7(2):A43. PMID:20158971.	Independent Variable
254	Shier V,An R,Sturm R. Is there a robust relationship between neighbourhood food environment and childhood obesity in the USA?. Public Health. 2012;126(9):723-30. PMID:22898435.	Study Design, Independent Variable
255	Singh AS,Chinapaw MJM,Brug J,Kremers SPJ,Visscher TLS,van Mechelen W. Ethnic differences in BMI among Dutch adolescents: What is the role of screen-viewing, active commuting to school, and consumption of soft drinks and high-caloric snacks?. International Journal of Behavioral Nutrition and Physical Activity. 2009;6.	Study Design, Independent Variable
256	Skelton JA,Irby MB,Guzman MA,Beech BM. Children's Perceptions of Obesity and Health: A Focus Group Study With Hispanic Boys. Infant Child Adolesc Nutr. 2012;4(5):289-296. PMID:24723991.	Study Design, Independent Variable
257	Skidmore P,Welch A,van Sluijs E,Jones A,Harvey I,Harrison F,Griffin S,Cassidy A. Impact of neighbourhood food environment on food consumption in children aged 9-10 years in the UK SPEEDY (Sport, Physical Activity and Eating behaviour: Environmental Determinants in Young people) study. Public Health Nutr. 2010;13(7):1022-30. PMID:20082745.	Study Design, Independent Variable
258	Smith KJ,Blizzard L,McNaughton SA,Gall SL,Dwyer T,Venn AJ. Takeaway food consumption and cardio-metabolic risk factors in young adults. Eur J Clin Nutr. 2012;66(5):577-84. PMID:22146886.	Study Design
259	Smith KJ,McNaughton SA,Gall SL,Blizzard L,Dwyer T,Venn AJ. Takeaway food consumption and its associations with diet quality and abdominal obesity: A cross-sectional study of young adults. International Journal of Behavioral Nutrition and Physical Activity. 2009;6.	Study Design
260	Smoyer-Tomic KE,Spence JC,Raine KD,Amrhein C,Cameron N,Yasenovskiy V,Cutumisu N,Hemphill E,Healy J. The	Independent

Excluded Articles: Eating Out & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	association between neighborhood socioeconomic status and exposure to supermarkets and fast food outlets. Health and Place. 2008;14(4):740-754.	Variable, Outcome
261	Solh Z,Adamo KB,Platt JL,Ambler K,Boyd E,Orrbine E,Cummings E,Leblanc CM. Practising what we preach: A look at healthy active living policy and practice in Canadian paediatric hospitals. Paediatr Child Health. 2010;15(10):e42-8. PMID:22131867.	Study Design, Location
262	Sonneville KR,Rifas-Shiman SL,Kleinman KP,Gortmaker SL,Gillman MW,Taveras EM. Associations of obesogenic behaviors in mothers and obese children participating in a randomized trial. Obesity (Silver Spring). 2012;20(7):1449-54. PMID:22349735.	Study Design, Outcome
263	Sorkin DH,Billimek J. Dietary behaviors of a racially and ethnically diverse sample of overweight and obese Californians. Health Educ Behav. 2012;39(6):737-44. PMID:22467636.	Study Design
264	Spanos D,Hankey CR. The habitual meal and snacking patterns of university students in two countries and their use of vending machines. J Hum Nutr Diet. 2010;23(1):102-7. PMID:19943844.	Study Design, Outcome
265	Spence JC,Cutumisu N,Edwards J,Raine KD,Smoyer-Tomic K. Relation between local food environments and obesity among adults. BMC Public Health. 2009;9:192. PMID:19538709.	Study Design, Independent Variable
266	Stark JH,Neckerman K,Lovasi GS,Konty K,Quinn J,Arno P,Viola D,Harris TG,Weiss CC,Bader MD,Rundle A. Neighbourhood food environments and body mass index among New York City adults. J Epidemiol Community Health. 2013;67(9):736-42. PMID:23851151.	Study Design, Independent Variable
267	Steckler A,Ethelbah B,Martin CJ,Stewart D,Pardilla M,Gittelsohn J,Stone E,Fenn D,Smyth M,Vu M. Pathways process evaluation results: a school-based prevention trial to promote healthful diet and physical activity in American Indian third, fourth, and fifth grade students. Prev Med. 2003;37(6 Pt 2):S80-90. PMID:14636812.	Study Design, Outcome
268	Stein AD,Shakour SK,Zuidema RA. Financial incentives, participation in employer-sponsored health promotion, and changes in employee health and productivity: HealthPlus Health Quotient Program. J Occup Environ Med. 2000;42(12):1148-55. PMID:11125677.	Study Design, Independent Variable
269	Stubenitsky K,Aaron JI,Catta SL,Mela DJ. The influence of recipe modification and nutritional information on restaurant food acceptance and macronutrient intakes. Public Health Nutrition. 2000;3(2):201-209.	Independent Variable
270	Syafwan S,Wermink GJ,Kwakkel RP,Verstegen MW. Dietary self-selection by broilers at normal and high temperature changes feed intake behavior, nutrient intake, and performance. Poult Sci. 2012;91(3):537-49. PMID:22334728.	Study Design, Independent Variable
271	Tandon PS,Wright J,Zhou C,Rogers CB,Christakis DA. Nutrition menu labeling may lead to lower-calorie	Independent

Excluded Articles: Eating Out & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	restaurant meal choices for children. Pediatrics. 2010;125(2):244-8. PMID:20100765.	Variable, Outcome
272	Tavares LF,Fonseca SC,Garcia Rosa ML,Yokoo EM. Relationship between ultra-processed foods and metabolic syndrome in adolescents from a Brazilian Family Doctor Program. Public Health Nutr. 2012;15(1):82-7. PMID:21752314.	Study Design, Independent Variable
273	Teevale T,Scragg R,Faeamani G,Utter J. Pacific parents' rationale for purchased school lunches and implications for obesity prevention. Asia Pac J Clin Nutr. 2012;21(2):282-90. PMID:22507616.	Independent Variable, Outcome
274	Templeton SB,Marlette MA,Panemangalore M. Competitive foods increase the intake of energy and decrease the intake of certain nutrients by adolescents consuming school lunch. Journal of the American Dietetic Association. 2005;105(2):215-220.	Independent Variable
275	Tester JM,Yen IH,Laraia B. Mobile food vending and the after-school food environment. Am J Prev Med. 2010;38(1):70-3. PMID:20117559.	Independent Variable, Outcome
276	Thornton LE,Cameron AJ,McNaughton SA,Worsley A,Crawford DA. The availability of snack food displays that may trigger impulse purchases in Melbourne supermarkets. BMC Public Health. 2012;12:194. PMID:22420759.	Independent Variable, Outcome
277	Timmerman GM,Brown A. The effect of a mindful restaurant eating intervention on weight management in women. J Nutr Educ Behav. 2012;44(1):22-8. PMID:22243980.	Independent Variable
278	Timmerman GM,Earvolino-Ramirez M. Strategies for and barriers to managing weight when eating at restaurants. Prev Chronic Dis. 2010;7(3):A60. PMID:20394699.	Study Design, Outcome
279	Tin SP,Ho SY,Mak KH,Wan KL,Lam TH. Location of breakfast consumption predicts body mass index change in young Hong Kong children. Int J Obes (Lond). 2012;36(7):925-30. PMID:22234278.	Location
280	Turconi G,Bazzano R,Roggi C,Cena H. Helping consumers make a more conscious nutritional choice: acceptability of nutrition information at a cafeteria. Public Health Nutr. 2012;15(5):792-801. PMID:22122811.	Study Design, Independent Variable
281	Turconi G,Guarcello M,Berzolari FG,Carolei A,Bazzano R,Roggi C. An evaluation of a colour food photography atlas as a tool for quantifying food portion size in epidemiological dietary surveys. Eur J Clin Nutr. 2005;59(8):923-31. PMID:15928683.	Study Design, Outcome
282	Urban LE,Lichtenstein AH,Gary CE,Fierstein JL,Equi A,Kussmaul C,Dallal GE,Roberts SB. The energy content of restaurant foods without stated calorie information. JAMA Intern Med. 2013;173(14):1292-9. PMID:23700076.	Independent Variable, Outcome
283	Urban LE,McCrory MA,Dallal GE,Das SK,Saltzman E,Weber JL,Roberts SB. Accuracy of stated energy contents of restaurant foods. Jama. 2011;306(3):287-93. PMID:21771989.	Independent Variable, Outcome
284	Vadiveloo MK,Dixon LB,Elbel B. Consumer purchasing patterns in response to calorie labeling legislation in New	Outcome

Excluded Articles: Eating Out & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	York City. Int J Behav Nutr Phys Act. 2011;8:51. PMID:21619632.	
285	Van Ansem WJC,Van Lenthe FJ,Schrijvers CTM,Rodenburg G,Van De Mheen D. Socio-economic inequalities in children's snack consumption and sugar-sweetened beverage consumption: The contribution of home environmental factors. British Journal of Nutrition. 2014;112(3):467-476.	Independent Variable
286	van den Hazel P,Zuurbier M,Babisch W,Bartonova A,Bistrup ML,Bolte G,Busby C,Butter M,Ceccatelli S,Fucic A,Hanke W,Johansson C,Kohlhuber M,Leijs M,Lundqvist C,Moshammer H,Naginiene R,Preece A,Ronchetti R,Salines G,Saunders M,Schoeters G,Stilianakis N,ten Tusscher G,Koppe JG. Today's epidemics in children: possible relations to environmental pollution and suggested preventive measures. Acta Paediatr Suppl. 2006;95(453):18-25. PMID:17000565.	Independent Variable
287	van der Horst K,Brunner TA,Siegrist M. Ready-meal consumption: associations with weight status and cooking skills. Public Health Nutr. 2011;14(2):239-45. PMID:20923598.	Study Design
288	van der Horst K,Timperio A,Crawford D,Roberts R,Brug J,Oenema A. The School Food Environment. Associations with Adolescent Soft Drink and Snack Consumption. American Journal of Preventive Medicine. 2008;35(3):217-223.	Study Design, Independent Variable
289	Vera-Becerra LE,Lopez ML,Kaiser LL. Child Feeding Practices and Overweight Status Among Mexican Immigrant Families. J Immigr Minor Health. 2013; PMID:23996642.	Study Design
290	Vergnaud AC,Norat T,Romaguera D,Mouw T,May AM,Romieu I,Freisling H,Slimani N,Boutron-Ruault MC,Clavel-Chapelon F,Morois S,Kaaks R,Teucher B,Boeing H,Buijsse B,Tjonneland A,Halkjaer J,Overvad K,Jakobsen MU,Rodriguez L,Agudo A,Sanchez MJ,Amiano P,Huerta JM,Gurrea AB,Wareham N,Khaw KT,Crowe F,Orfanos P,Naska A,Trichopoulou A,Masala G,Pala V,Tumino R,Sacerdote C,Mattiello A,Bueno-de-Mesquita HB,van Duijnhoven FJ,Drake I,Wirfalt E,Johansson I,Hallmans G,Engeset D,Braaten T,Parr CL,Odysseos A,Riboli E,Peeters PH. Fruit and vegetable consumption and prospective weight change in participants of the European Prospective Investigation into Cancer and Nutrition-Physical Activity, Nutrition, Alcohol, Cessation of Smoking, Eating Out of Home, and Obesity study. Am J Clin Nutr. 2012;95(1):184-93. PMID:22170373.	Study Design, Independent Variable
291	Vergnaud AC,Norat T,Romaguera D,Mouw T,May AM,Travier N,Luan J,Wareham N,Slimani N,Rinaldi S,Couto E,Clavel-Chapelon F,Boutron-Ruault MC,Cottet V,Palli D,Agnoli C,Panico S,Tumino R,Vineis P,Agudo A,Rodriguez L,Sanchez MJ,Amiano P,Barricarte A,Huerta JM,Key TJ,Spencer EA,Bueno-de-Mesquita B,Buchner FL,Orfanos P,Naska A,Trichopoulou A,Rohrmann S,Hermann S,Boeing H,Buijsse B,Johansson I,Hellstrom V,Manjer J,Wirfalt E,Jakobsen MU,Overvad K,Tjonneland A,Halkjaer J,Lund E,Braaten T,Engeset D,Odysseos A,Riboli E,Peeters PH.	Independent Variable

Excluded Articles: Eating Out & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	Meat consumption and prospective weight change in participants of the EPIC-PANACEA study. Am J Clin Nutr. 2010;92(2):398-407. PMID:20592131.	
292	Vermeer WM,Alting E,Steenhuis IH,Seidell JC. Value for money or making the healthy choice: the impact of proportional pricing on consumers' portion size choices. Eur J Public Health. 2010;20(1):65-9. PMID:19587232.	Independent Variable
293	Vermeer WM,Steenhuis IH,Leeuwis FH,Heymans MW,Seidell JC. Small portion sizes in worksite cafeterias: do they help consumers to reduce their food intake?. Int J Obes (Lond). 2011;35(9):1200-7. PMID:21224829.	Independent Variable, Outcome
294	Veugelers PJ,Fitzgerald AL,Johnston E. Dietary intake and risk factors for poor diet quality among children in Nova Scotia. Can J Public Health. 2005;96(3):212-6. PMID:15913088.	Independent Variable
295	Vicari RM,Bramlet D,Olivera B,Barber L,Alexander L,Parker L,Howard M. Atherosclerosis and teen eating study. J Clin Lipidol. 2007;1(3):194-7. PMID:21291681.	Study Design, Independent Variable
296	Viskaal-Van Dongen M,Kok FJ,De Graaf C. Effects of snack consumption for 8 weeks on energy intake and body weight. International Journal of Obesity. 2010;34(2):319-326.	Independent Variable
297	Wall MM,Larson NI,Forsyth A,Van Riper DC,Graham DJ,Story MT,Neumark-Sztainer D. Patterns of obesogenic neighborhood features and adolescent weight: a comparison of statistical approaches. Am J Prev Med. 2012;42(5):e65-75. PMID:22516505.	Independent Variable
298	Walton M,Pearce J,Day P. Examining the interaction between food outlets and outdoor food advertisements with primary school food environments. Health Place. 2009;15(3):811-8. PMID:19297234.	Independent Variable
299	Wang MC,Gonzalez AA,Ritchie LD,Winkleby MA. The neighborhood food environment: sources of historical data on retail food stores. Int J Behav Nutr Phys Act. 2006;3:15. PMID:16846518.	Study Design
300	Wang YC,Vine SM. Caloric effect of a 16-ounce (473-mL) portion-size cap on sugar-sweetened beverages served in restaurants. Am J Clin Nutr. 2013;98(2):430-5. PMID:23761485.	Study Design, Independent Variable
301	Wang Z,Xiang X,Li X,He Y,Yang X,Yang Y. Survey for diet and nutrition intake of beijing people in out-home table service restaurants. Annals of Nutrition and Metabolism. 2013;63:485.	Outcome
302	Wansink B,Hanks AS. Calorie reductions and within-meal calorie compensation in children's meal combos. Obesity. 2014;22(3):630-632.	Independent Variable
303	Wansink B,Painter JE,North J. Bottomless bowls: why visual cues of portion size may influence intake. Obes Res. 2005;13(1):93-100. PMID:15761167.	Independent Variable
304	Wansink B,Shimizu M,Brumberg A. Association of nutrient-dense snack combinations with calories and vegetable intake. Pediatrics. 2013;131(1):22-29.	Independent Variable, Outcome

Excluded Articles: Eating Out & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
305	Wansink B,Shimizu M. Eating behaviors and the number of buffet trips: An observational study at all-you-can-eat chinese restaurants. American Journal of Preventive Medicine. 2013;44(4):e49-e50.	Outcome
306	Wasserman JA,Suminski R,Xi J,Mayfield C,Glaros A,Magie R. A multi-level analysis showing associations between school neighborhood and child body mass index. Int J Obes (Lond). 2014;38(7):912-8. PMID:24732146.	Independent Variable
307	Wellard L,Glasson C,Chapman K. Sales of healthy choices at fast food restaurants in Australia. Health Promot J Austr. 2012;23(1):37-41. PMID:22730936.	Outcome
308	Wijngaarden MA,Van Buchem MA,Van Der Grond J,Van Dijk KW,Pijl H. Hypercaloric high fat fast food feeding for 5 days does not affect oral glucose tolerance or gut hormone levels in healthy young men. Diabetes. 2011;60:A688.	Outcome
309	Wilcox S,Sharpe PA,Turner-McGrievy G,Granner M,Baruth M. Frequency of consumption at fast-food restaurants is associated with dietary intake in overweight and obese women recruited from financially disadvantaged neighborhoods. Nutr Res. 2013;33(8):636-46. PMID:23890353.	Study Design
310	Woodruff SJ,Hanning RM. Associations between family dinner frequency and specific food behaviors among grade six, seven, and eight students from Ontario and Nova Scotia. J Adolesc Health. 2009;44(5):431-6. PMID:19380089.	Study Design
311	Xu H,Short SE,Liu T. Dynamic relations between fast-food restaurant and body weight status: a longitudinal and multilevel analysis of Chinese adults. J Epidemiol Community Health. 2013;67(3):271-9. PMID:22923769.	Location, Independent Variable
312	Yip W,Wiessing KR,Budgett S,Poppitt SD. Using a smaller dining plate does not suppress food intake from a buffet lunch meal in overweight, unrestrained women. Appetite. 2013;69:102-7. PMID:CN-00963612.	Independent Variable, Outcome
313	Yoon J,Deutsch BJ,Keller K. Can fast food brand logos be used to improve children's dietary choices? Pilot study findings. Obesity. 2011;19:S105.	Independent Variable
314	Zenitani S,Nishiuchi H,Kiuchi T. Smart-card-based automatic meal record system intervention tool for analysis using data mining approach. Nutr Res. 2010;30(4):261-70. PMID:20534329.	Independent Variable, Outcome
315	Zhang X,van der Lans I,Dagevos H. Impacts of fast food and the food retail environment on overweight and obesity in China: a multilevel latent class cluster approach. Public Health Nutr. 2012;15(1):88-96. PMID:21896233.	Location, Independent Variable
316	Zick CD,Smith KR,Fan JX,Brown BB,Yamada I,Kowaleski-Jones L. Running to the store? The relationship between neighborhood environments and the risk of obesity. Soc Sci Med. 2009;69(10):1493-500. PMID:19766372.	Study Design, Independent Variable
317	Zubkov MV,Sleigh MA. Comparison of growth efficiencies of protozoa growing on bacteria deposited on surfaces	Independent Variable

Excluded Articles: Eating Out & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	and in suspension. J Eukaryot Microbiol. 2000;47(1):62-9. PMID:10651298.	

APPENDIX B: FAMILY SHARED MEALS – DIETARY INTAKE – EXCLUDED ARTICLES LIST

Archived from www.NEL.gov on March 21, 2017

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
1	Aboud FE,Shafique S,Akhter S. A responsive feeding intervention increases children's self-feeding and maternal responsiveness but not weight gain. J Nutr. 2009;139(9):1738-43. PMID:19587124.	Independent Variable
2	Abraczinskas M, Jr. Fisak B,Barnes RD. The relation between parental influence, body image, and eating behaviors in a nonclinical female sample. Body Image. 2012;9(1):93-100. PMID:22104125.	Study Design , Independent Variable
3	Adamson M,Morawska A,Sanders MR. Childhood feeding difficulties: a randomized controlled trial of a group-based parenting intervention. J Dev Behav Pediatr. 2013;34(5):293-302. PMID:23751884.	Location, Independent Variable
4	Admiraal WM,Vlaar EM,Nierkens V,Holleman F,Middelkoop BJ,Stronks K,van Valkengoed IG. Intensive lifestyle intervention in general practice to prevent type 2 diabetes among 18 to 60-year-old South Asians: 1-year effects on the weight status and metabolic profile of participants in a randomized controlled trial. PLoS One. 2013;8(7):e68605. PMID:23894322.	Independent Variable
5	Affenito SG,Thompson DR,Barton BA,Franko DL,Daniels SR,Obarzanek E,Schreiber GB,Striegel-Moore RH. Breakfast consumption by African-American and white adolescent girls correlates positively with calcium and fiber intake and negatively with body mass index. J Am Diet Assoc. 2005;105(6):938-45. PMID:15942545.	Independent Variable
6	Alexander AG,Grant WL,Pedrino KJ,Lyons PE. A prospective multifactorial intervention on subpopulations of predominately Hispanic children at high risk for obesity. Obesity (Silver Spring). 2014;22(1):249-53. PMID:23836698.	Independent Variable
7	Alexander KE,Ventura EE,Spruijt-Metz D,Weigensberg MJ,Goran MI,Davis JN. Association of breakfast skipping with visceral fat and insulin indices in overweight Latino youth. Obesity (Silver Spring). 2009;17(8):1528-33. PMID:19424166.	Independent Variable
8	Alexy U,Freese J,Kersting M,Clausen K. Lunch habits of German children and adolescents: composition and dietary quality. Ann Nutr Metab. 2013;62(1):75-9. PMID:23257471.	Independent Variable
9	Allen JO,Griffith DM,Gaines HC. "She looks out for the meals, period": African American men's perceptions of how their wives influence their eating behavior and dietary health. Health Psychol. 2013;32(4):447-55. PMID:22563755.	Study Design
10	Allen KL,Gibson LY,McLean NJ,Davis EA,Byrne SM. Maternal and family factors and child eating pathology: Risk and protective relationships. Journal of Eating Disorders. 2014;2(1).	Outcome
11	Ambrosini GL,Emmett PM,Northstone K,Jebb SA. Tracking a dietary pattern associated with increased adiposity in childhood and adolescence. Obesity (Silver Spring). 2014;22(2):458-65. PMID:23804590.	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
12	Amirrood MM,Taghdisi MH,Shidfar F,Gohari MR. The impact of training on women's capabilities in modifying their obesity-related dietary behaviors: Applying family-centered empowerment model. Journal of Research in Health Sciences. 2014;14(1):76-81.	Study Design
13	Andaya AA,Arredondo EM,Alcaraz JE,Lindsay SP,Elder JP. The association between family meals, TV viewing during meals, and fruit, vegetables, soda, and chips intake among Latino children. J Nutr Educ Behav. 2011;43(5):308-15. PMID:20965787.	Study Design
14	Anderson PM. Parental employment, family routines and childhood obesity. Econ Hum Biol. 2012;10(4):340-51. PMID:22622096.	Study Design
15	Anderson SE,Must A,Curtin C,Bandini LG. Meals in Our Household: reliability and initial validation of a questionnaire to assess child mealtime behaviors and family mealtime environments. J Acad Nutr Diet. 2012;112(2):276-84. PMID:22741169.	Study Design
16	Anderson SE,Whitaker RC. Household routines and obesity in US preschool-aged children. Pediatrics. 2010;125(3):420-8. PMID:20142280.	Study Design
17	Appelhans BM,Waring ME,Schneider KL,Pagoto SL. Food preparation supplies predict children's family meal and home-prepared dinner consumption in low-income households. Appetite. 2014;76:1-8. PMID:24462491.	Study Design , Independent Variable
18	Arcan C,Neumark-Sztainer D,Hannan P,van den Berg P,Story M,Larson N. Parental eating behaviours, home food environment and adolescent intakes of fruits, vegetables and dairy foods: longitudinal findings from Project EAT. Public Health Nutr. 2007;10(11):1257-65. PMID:17391551.	Independent Variable
19	Arredondo EM,Elder JP,Ayala GX,Slymen D,Campbell NR. Association of a traditional vs shared meal decision-making and preparation style with eating behavior of Hispanic women in San Diego County. J Am Diet Assoc. 2006;106(1):38-45. PMID:16390665.	Study Design , Independent Variable
20	Attorp A,Scott JE,Yew AC,Rhodes RE,Barr SI,Naylor PJ. Associations between socioeconomic, parental and home environment factors and fruit and vegetable consumption of children in grades five and six in British Columbia, Canada. BMC Public Health. 2014;14:150. PMID:24517088.	Study Design
21	Averett SL,Sikora A,Argys LM. For better or worse: relationship status and body mass index. Econ Hum Biol. 2008;6(3):330-49. PMID:18753018.	Independent Variable
22	Ayala GX,Baquero B,Arredondo EM,Campbell N,Larios S,Elder JP. Association between family variables and Mexican American children's dietary behaviors. J Nutr Educ Behav. 2007;39(2):62-9. PMID:17346653.	Study Design
23	Babajafari S,Marks GC,Mamun AA,O'Callaghan MJ,Najman JM. Family food behaviours and adolescents'	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	overweight status: a mother-offspring link study. Iran Red Crescent Med J. 2011;13(11):783-94. PMID:22737418.	
24	Backlund C,Sundelin G,Larsson C. Effect of a 1-year lifestyle intervention on physical activity in overweight and obese children. Advances in Physiotherapy. 2011;13(3):87-96.	Independent Variable
25	Bae HO,Kim M,Hong SM. Meal skipping children in low-income families and community practice implications. Nutr Res Pract. 2008;2(2):100-6. PMID:20126373.	Study Design , Outcome
26	Baker E,Balistreri KS,Van Hook J. Maternal employment and overweight among Hispanic children of immigrants and children of natives. J Immigr Minor Health. 2009;11(3):158-67. PMID:17963041.	Independent Variable
27	Banks J,Williams J,Cumberlidge T,Cimonetti T,Sharp DJ,Shield JP. Is healthy eating for obese children necessarily more costly for families?. Br J Gen Pract. 2012;62(594):e1-5. PMID:22520655.	Independent Variable, Outcome
28	Bargiota A,Pelekanou M,Tsitouras A,Koukoulis GN. Eating habits and factors affecting food choice of adolescents living in rural areas. Hormones (Athens). 2013;12(2):246-53. PMID:23933693.	Study Design
29	Bau AM,Krull S,Ernert A,Babitsch B. Eating behaviour and its association with social living conditions and weight status among adolescent girls: results of the cross-sectional Berlin School Children's Cohort study. Public Health Nutr. 2011;14(10):1759-67. PMID:21466744.	Study Design , Location
30	Bauer KW,Hearst MO,Escoto K,Berge JM,Neumark-Sztainer D. Parental employment and work-family stress: associations with family food environments. Soc Sci Med. 2012;75(3):496-504. PMID:22591825.	Study Design
31	Bauer KW,Neumark-Sztainer D,Fulkerson JA,Hannan PJ,Story M. Familial correlates of adolescent girls' physical activity, television use, dietary intake, weight, and body composition. Int J Behav Nutr Phys Act. 2011;8:25. PMID:21453516.	Study Design
32	Bauer KW,Neumark-Sztainer D,Fulkerson JA,Story M. Adolescent girls' weight-related family environments, Minnesota. Prev Chronic Dis. 2011;8(3):A68. PMID:21477508.	Study Design
33	Bayer O,Nehring I,Bolte G,Von Kries R. Fruit and vegetable consumption and BMI change in primary school-age children: A cohort study. European Journal of Clinical Nutrition. 2014;68(2):265-270.	Independent Variable
34	Bean MK,Jeffers AJ,Tully CB,Thornton LM,Mazzeo SE. Motivational interviewing with parents of overweight children: Study design and methods for the NOURISH+MI study. Contemporary Clinical Trials. 2014;37(2):312-321.	Independent Variable
35	Befort C,Kaur H,Nollen N,Sullivan DK,Nazir N,Choi WS,Hornberger L,Ahluwalia JS. Fruit, vegetable, and fat intake among non-Hispanic black and non-Hispanic white adolescents: associations with home availability and food consumption settings. J Am Diet Assoc. 2006;106(3):367-73. PMID:16503225.	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
36	Bellisle F,Rolland-Cachera MF. Three consecutive (1993, 1995, 1997) surveys of food intake, nutritional attitudes and knowledge, and lifestyle in 1000 French children, aged 9-11 years. J Hum Nutr Diet. 2007;20(3):241-51. PMID:17539877.	Study Design , Outcome
37	Benedet J,de Assis MAA,Calvo MCM,de Andrade DF. Overweight in adolescents: Exploring potential risk factors. Revista Paulista de Pediatria. 2013;31(2):172-181.	Study Design , Location
38	Berge JM,Arikian A,Doherty WJ,Neumark-Sztainer D. Healthful eating and physical activity in the home environment: results from multifamily focus groups. J Nutr Educ Behav. 2012;44(2):123-31. PMID:22192951.	Study Design , Independent Variable
39	Berge JM,Hoppmann C,Hanson C,Neumark-Sztainer D. Perspectives about family meals from single-headed and dual-headed households: a qualitative analysis. J Acad Nutr Diet. 2013;113(12):1632-9. PMID:24238144.	Study Design
40	Berge JM,Jin SW,Hannan P,Neumark-Sztainer D. Structural and interpersonal characteristics of family meals: associations with adolescent body mass index and dietary patterns. J Acad Nutr Diet. 2013;113(6):816-22. PMID:23567247.	Study Design
41	Berge JM,MacLehose RF,Loth KA,Eisenberg ME,Fulkerson JA,Neumark-Sztainer D. Family meals. Associations with weight and eating behaviors among mothers and fathers. Appetite. 2012;58(3):1128-35. PMID:22425759.	Study Design
42	Berge JM,Wall M,Larson N,Eisenberg ME,Loth KA,Neumark-Sztainer D. The unique and additive associations of family functioning and parenting practices with disordered eating behaviors in diverse adolescents. J Behav Med. 2014;37(2):205-17. PMID:23196919.	Independent Variable, Unhealthy Subjects
43	Berge JM,Wall M,Larson N,Forsyth A,Bauer KW,Neumark-Sztainer D. Youth dietary intake and weight status: healthful neighborhood food environments enhance the protective role of supportive family home environments. Health Place. 2014;26:69-77. PMID:24378461.	Study Design , Independent Variable
44	Berge JM,Wall M,Larson N,Loth KA,Neumark-Sztainer D. Family functioning: associations with weight status, eating behaviors, and physical activity in adolescents. J Adolesc Health. 2013;52(3):351-7. PMID:23299010.	Study Design , Independent Variable
45	Berge JM,Wall M,Neumark-Sztainer D,Larson N,Story M. Parenting style and family meals: cross-sectional and 5-year longitudinal associations. J Am Diet Assoc. 2010;110(7):1036-42. PMID:20630160.	Independent Variable, Outcome
46	Berge JM,Wickel K,Doherty WJ. The individual and combined influence of the "quality" and "quantity" of family meals on adult body mass index. Fam Syst Health. 2012;30(4):344-51. PMID:23148980.	Study Design
47	Bernardi JR,Cezaro CD,Fisberg RM,Fisberg M,Vitolo MR. Estimation of energy and macronutrient intake at home and in the kindergarten programs in preschool children. J Pediatr (Rio J). 2010;86(1):59-64. PMID:20151091.	Study Design , Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
48	Bernardo Cde O,Vasconcelos Fde A. Association of parents' nutritional status, and sociodemographic and dietary factors with overweight/obesity in schoolchildren 7 to 14 years old. Cad Saude Publica. 2012;28(2):291-304. PMID:22331155.	Study Design , Location
49	Berry DC,Schwartz TA,McMurray RG,Skelly AH,Neal M,Hall EG,Aimyong N,Amatuli DJ,Melkus G. The family partners for health study: A cluster randomized controlled trial for child and parent weight management. Nutrition and Diabetes. 2014;4(JANUARY) .	Independent Variable
50	Bes-Rastrollo M,Basterra-Gortari FJ,Sanchez-Villegas A,Marti A,Martinez JA,Martinez-Gonzalez MA. A prospective study of eating away-from-home meals and weight gain in a Mediterranean population: the SUN (Seguimiento Universidad de Navarra) cohort. Public Health Nutr. 2010;13(9):1356-63. PMID:19954575.	Location, Independent Variable
51	Bjornara HB,Vik FN,Brug J,Manios Y,De Bourdeaudhuij I,Jan N,Maes L,Moreno LA,Dossegger A,Bere E. The association of breakfast skipping and television viewing at breakfast with weight status among parents of 10-12-year-olds in eight European countries; the ENERGY (EuropeaN Energy balance Research to prevent excessive weight Gain among Youth) cross-sectional study. Public Health Nutr. 2014;17(4):906-14. PMID:23472903.	Study Design
52	Boles RE,Reiter-Purtill J,Zeller MH. Persistently obese youth: interactions between parenting styles and feeding practices with child temperament. Clin Pediatr (Phila). 2013;52(12):1098-106. PMID:23884967.	Independent Variable, Outcome
53	Bost KK,Wiley AR,Fiese B,Hammons A,McBride B. Associations between adult attachment style, emotion regulation, and preschool children's food consumption. J Dev Behav Pediatr. 2014;35(1):50-61. PMID:24356497.	Independent Variable
54	Boutelle KN,Birkeland RW,Hannan PJ,Story M,Neumark-Sztainer D. Associations between maternal concern for healthful eating and maternal eating behaviors, home food availability, and adolescent eating behaviors. J Nutr Educ Behav. 2007;39(5):248-56. PMID:17826344.	Study Design , Independent Variable
55	Boutelle KN,Fulkerson JA,Neumark-Sztainer D,Story M,French SA. Fast food for family meals: relationships with parent and adolescent food intake, home food availability and weight status. Public Health Nutr. 2007;10(1):16-23. PMID:17212838.	Study Design
56	Bova A,Arcidiacono F. "You must eat the salad because it is nutritious". Argumentative strategies adopted by parents and children in food-related discussions at mealtimes. Appetite. 2014;73:81-94. PMID:24216487.	Independent Variable
57	Bowen RL,Devine CM. "Watching a person who knows how to cook, you'll learn a lot". Linked lives, cultural transmission, and the food choices of Puerto Rican girls. Appetite. 2011;56(2):290-8. PMID:21172395.	Study Design , Independent Variable
58	Brennan L,Walkley J,Wilks R,Fraser SF,Greenway K. Physiological and behavioural outcomes of a randomised	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	controlled trial of a cognitive behavioural lifestyle intervention for overweight and obese adolescents. Obesity Research and Clinical Practice. 2013;7(1):e23-e41.	
59	Briggs L,Lake AA. Exploring school and home food environments: perceptions of 8-10-year-olds and their parents in Newcastle upon Tyne, UK. Public Health Nutr. 2011;14(12):2227-35. PMID:21859512.	Study Design
60	Brophy S,Cooksey R,Gravenor MB,Mistry R,Thomas N,Lyons RA,Williams R. Risk factors for childhood obesity at age 5: analysis of the millennium cohort study. BMC Public Health. 2009;9:467. PMID:20015353.	Independent Variable
61	Brown JL,Wenrich TR. Intra-family role expectations and reluctance to change identified as key barriers to expanding vegetable consumption patterns during interactive family-based program for Appalachian low-income food preparers. J Acad Nutr Diet. 2012;112(8):1188-200. PMID:22818727.	Independent Variable
62	Brown KA,Ogden J,Vogele C,Gibson EL. The role of parental control practices in explaining children's diet and BMI. Appetite. 2008;50(2-3):252-9. PMID:17804116.	Study Design
63	Bruening M,MacLehose R,Loth K,Story M,Neumark-Sztainer D. Feeding a family in a recession: food insecurity among Minnesota parents. Am J Public Health. 2012;102(3):520-6. PMID:22390517.	Independent Variable
64	Brug J,Uijtdewilligen L,van Stralen MM,Singh AS,Chin AMJ,De Bourdeaudhuij I,Lien N,Bere E,Maes L,Fernandez-Alvira JM,Jan N,Kovacs E,Dossegger A,Manios Y,Te Velde SJ. Differences in beliefs and home environments regarding energy balance behaviors according to parental education and ethnicity among schoolchildren in Europe: the ENERGY cross sectional study. BMC Public Health. 2014;14:610. PMID:24934085.	Study Design
65	Bryant MJ,Ward DS,Hales D,Vaughn A,Tabak RG,Stevens J. Reliability and validity of the Healthy Home Survey: A tool to measure factors within homes hypothesized to relate to overweight in children. International Journal of Behavioral Nutrition and Physical Activity. 2008;5 .	Study Design , Independent Variable
66	Burgess-Champoux TL,Chan HW,Rosen R,Marquart L,Reicks M. Healthy whole-grain choices for children and parents: a multi-component school-based pilot intervention. Public Health Nutr. 2008;11(8):849-59. PMID:18062842.	Independent Variable
67	Burnier D,Dubois L,Girard M. Arguments at mealtime and child energy intake. J Nutr Educ Behav. 2011;43(6):473-81. PMID:21852197.	Study Design
68	Burrows T,Warren JM,Baur LA,Collins CE. Impact of a child obesity intervention on dietary intake and behaviors. Int J Obes (Lond). 2008;32(10):1481-8. PMID:18607380.	Independent Variable
69	Buttigieg SC,Rocchiccioli JT,Ellul ML. Maternal awareness of health promotion, parental and preschool childhood obesity. Malta Medical Journal. 2012;24(1):9-15.	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
70	Byrd-Bredbenner C,Abbot JM,Cussler E. Mothers of young children cluster into 4 groups based on psychographic food decision influencers. Nutr Res. 2008;28(8):506-16. PMID:19083453.	Study Design , Independent Variable
71	Campbell KJ,Crawford DA,Salmon J,Carver A,Garnett SP,Baur LA. Associations between the home food environment and obesity-promoting eating behaviors in adolescence. Obesity (Silver Spring). 2007;15(3):719-30. PMID:17372323.	Study Design
72	Cardel M,Willig AL,Dulin-Keita A,Casazza K,Cherrington A,Gunnarsdottir T,Johnson SL,Peters JC,Hill JO,Allison DB,Fernandez JR. Home-schooled children are thinner, leaner, and report better diets relative to traditionally schooled children. Obesity (Silver Spring). 2014;22(2):497-503. PMID:24039204.	Independent Variable
73	Cardoso Chaves O,Franceschini Sdo C,Machado Rocha Ribeiro S,Ferreira Rocha Sant Ana L,Garcon de Faria C,Priore SE. Anthropometric and biochemical parameters in adolescents and their relationship with eating habits and household food availability. Nutr Hosp. 2013;28(4):1352-6. PMID:23889666.	Independent Variable
74	Carnell S,Benson L,Driggin E,Kolbe L. Parent feeding behavior and child appetite: Associations depend on feeding style. International Journal of Eating Disorders. 2014.	Independent Variable
75	Carney PA,Hamada JL,Rdesinski R,Sprager L,Nichols KR,Liu BY,Pelayo J,Sanchez MA,Shannon J. Impact of a community gardening project on vegetable intake, food security and family relationships: a community-based participatory research study. J Community Health. 2012;37(4):874-81. PMID:22194063.	Study Design , Independent Variable
76	Carriere C,Langevin C,Lamireau T,Maurice S,Thibault H. Dietary behaviors as associated factors for overweight and obesity in a sample of adolescents from Aquitaine, France. J Physiol Biochem. 2013;69(1):111-8. PMID:22773296.	Location, Independent Variable
77	Cawley J,Liu F. Maternal employment and childhood obesity: a search for mechanisms in time use data. Econ Hum Biol. 2012;10(4):352-64. PMID:22790446.	Study Design , Independent Variable
78	Chan JC,Sobal J. Family meals and body weight. Analysis of multiple family members in family units. Appetite. 2011;57(2):517-24. PMID:21763740.	Study Design
79	Chang Y,Gable S. Predicting weight status stability and change from fifth grade to eighth grade: the significant role of adolescents' social-emotional well-being. J Adolesc Health. 2013;52(4):448-55. PMID:23298991.	Independent Variable
80	Chen Q,Goto K,Wolff C,Bianco-Simeral S,Gruneisen K,Gray K. Cooking up diversity. Impact of a multicomponent, multicultural, experiential intervention on food and cooking behaviors among elementary-school students from low-income ethnically diverse families. Appetite. 2014;80:114-22. PMID:24845782.	Independent Variable
81	Christian MS,Evans CE,Hancock N,Nykjaer C,Cade JE. Family meals can help children reach their 5 a day: a cross-	Location,

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	sectional survey of children's dietary intake from London primary schools. J Epidemiol Community Health. 2013;67(4):332-8. PMID:23254183.	Independent Variable
82	Christiansen KM,Qureshi F,Schaible A,Park S,Gittelsohn J. Environmental factors that impact the eating behaviors of low-income African American adolescents in Baltimore City. J Nutr Educ Behav. 2013;45(6):652-60. PMID:23916684.	Study Design
83	Chu YL,Farmer A,Fung C,Kuhle S,Storey KE,Veugelers PJ. Involvement in home meal preparation is associated with food preference and self-efficacy among Canadian children. Public Health Nutr. 2013;16(1):108-12. PMID:22578854.	Study Design
84	Cluskey M,Edlefsen M,Olson B,Reicks M,Auld G,Bock MA,Boushey CJ,Bruhn C,Goldberg D,Misner S,Wang C,Zaghloul S. At-home and away-from-home eating patterns influencing preadolescents' intake of calcium-rich food as perceived by Asian, Hispanic and Non-Hispanic white parents. J Nutr Educ Behav. 2008;40(2):72-9. PMID:18314082.	Study Design
85	Contento IR,Williams SS,Michela JL,Franklin AB. Understanding the food choice process of adolescents in the context of family and friends. J Adolesc Health. 2006;38(5):575-82. PMID:16635770.	Study Design , Independent Variable
86	Cooke LJ,Wardle J,Gibson EL,Sapochnik M,Sheiham A,Lawson M. Demographic, familial and trait predictors of fruit and vegetable consumption by pre-school children. Public Health Nutr. 2004;7(2):295-302. PMID:15003137.	Study Design
87	Costa SM,Horta PM,dos Santos LC. Food advertising and television exposure: influence on eating behavior and nutritional status of children and adolescents. Arch Latinoam Nutr. 2012;62(1):53-9. PMID:23477208.	Study Design
88	Cowgill BO,Chung PJ,Thompson LR,Elijah J,Lamb S,Garcia VP,Bastani R. Parents' views on engaging families of middle school students in obesity prevention and control in a multiethnic population. Prev Chronic Dis. 2014;11:E54. PMID:24698532.	Study Design , Independent Variable
89	Crossman A,Anne Sullivan D,Benin M. The family environment and American adolescents' risk of obesity as young adults. Soc Sci Med. 2006;63(9):2255-67. PMID:16828216.	Independent Variable
90	Cullen KW,Thompson D. Feasibility of an 8-week African American web-based pilot program promoting healthy eating behaviors: Family Eats. Am J Health Behav. 2008;32(1):40-51. PMID:18021032.	Study Design , Independent Variable
91	Curtis PJ,Adamson AJ,Mathers JC. Effects on nutrient intake of a family-based intervention to promote increased consumption of low-fat starchy foods through education, cooking skills and personalised goal setting: the Family Food and Health Project. Br J Nutr. 2012;107(12):1833-44. PMID:22017999.	Independent Variable
92	Custers K,Van den Bulck J. Television viewing, computer game play and book reading during meals are predictors	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

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	Excluded Citations	Reason for Exclusion
	of meal skipping in a cross-sectional sample of 12-, 14- and 16-year-olds. Public Health Nutr. 2010;13(4):537-43. PMID:19772688.	
93	Czaja J,Hartmann AS,Rief W,Hilbert A. Mealtime family interactions in home environments of children with loss of control eating. Appetite. 2011;56(3):587-93. PMID:21291929.	Independent Variable
94	Dammann K,Smith C. Food-related attitudes and behaviors at home, school, and restaurants: perspectives from racially diverse, urban, low-income 9- to 13-year-old children in Minnesota. J Nutr Educ Behav. 2010;42(6):389-97. PMID:20702141.	Study Design , Independent Variable
95	Daniels LA,Mallan KM,Battistutta D,Nicholson JM,Meedeniya JE,Bayer JK,Magarey A. Child eating behavior outcomes of an early feeding intervention to reduce risk indicators for child obesity: the NOURISH RCT. Obesity (Silver Spring). 2014;22(5):E104-11. PMID:24415390.	Independent Variable, Age
96	Datar A,Nicosia N,Shier V. Maternal work and children's diet, activity, and obesity. Soc Sci Med. 2014;107:196-204. PMID:24491828.	Study Design , Independent Variable
97	De Backer CJ. Family meal traditions. Comparing reported childhood food habits to current food habits among university students. Appetite. 2013;69:64-70. PMID:23707416.	Study Design
98	De Bourdeaudhuij I,te Velde S,Brug J,Due P,Wind M,Sandvik C,Maes L,Wolf A,Perez Rodrigo C,Yngve A,Thorsdottir I,Rasmussen M,Elmadfa I,Franchini B,Klepp KI. Personal, social and environmental predictors of daily fruit and vegetable intake in 11-year-old children in nine European countries. Eur J Clin Nutr. 2008;62(7):834-41. PMID:17522608.	Independent Variable
99	De Bourdeaudhuij I,Yngve A,te Velde SJ,Klepp KI,Rasmussen M,Thorsdottir I,Wolf A,Brug J. Personal, social and environmental correlates of vegetable intake in normal weight and overweight 9 to 13-year old boys. International Journal of Behavioral Nutrition and Physical Activity. 2006;3 .	Study Design
100	de Jong E,Visscher TL,HiraSing RA,Seidell JC,Renders CM. Home environmental determinants of children's fruit and vegetable consumption across different SES backgrounds. Pediatr Obes. 2014;PMID:24903612.	Study Design
101	de Lauzon-Guillain B,Musher-Eizenman D,Leporc E,Holub S,Charles MA. Parental feeding practices in the United States and in France: relationships with child's characteristics and parent's eating behavior. J Am Diet Assoc. 2009;109(6):1064-9. PMID:19465189.	Study Design
102	De Lepeleere S,DeSmet A,Verloigne M,Cardon G,De Bourdeaudhuij I. What practices do parents perceive as effective or ineffective in promoting a healthy diet, physical activity, and less sitting in children: parent focus groups. BMC Public Health. 2013;13:1067. PMID:24219513.	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
103	de Moraes AC,Adami F,Falcao MC. Understanding the correlates of adolescents' dietary intake patterns. A multivariate analysis. Appetite. 2012;58(3):1057-62. PMID:22326882.	Study Design , Location
104	de Sousa A. Maternal, child and family factors in childhood obesity. International Journal of Diabetes and Metabolism. 2009;18(3):111-112.	Study Design
105	DeBar LL,Stevens VJ,Perrin N,Wu P,Pearson J,Yarborough BJ,Dickerson J,Lynch F. A primary care-based, multicomponent lifestyle intervention for overweight adolescent females. Pediatrics. 2012;129(3):e611-20. PMID:22331335.	Independent Variable
106	DeLong AJ,Larson NI,Story M,Neumark-Sztainer D,Weber-Main AM,Ireland M. Factors associated with overweight among urban American Indian adolescents: findings from Project EAT. Ethn Dis. 2008;18(3):317-23. PMID:18785446.	Study Design , Independent Variable
107	Devine CM,Jastran M,Jabs J,Wethington E,Farell TJ,Bisogni CA. "A lot of sacrifices:" work-family spillover and the food choice coping strategies of low-wage employed parents. Soc Sci Med. 2006;63(10):2591-603. PMID:16889881.	Independent Variable
108	Devine CM,Stoddard AM,Barbeau EM,Naishadham D,Sorensen G. Work-to-family spillover and fruit and vegetable consumption among construction laborers. American Journal of Health Promotion. 2007;21(3):175-182.	Study Design , Independent Variable
109	Dickens E,Ogden J. The role of parental control and modelling in predicting a child's diet and relationship with food after they leave home. A prospective study. Appetite. 2014;76:23-29.	Independent Variable
110	Dickin KL,Seim G. Adapting the Trials of Improved Practices (TIPs) approach to explore the acceptability and feasibility of nutrition and parenting recommendations: What works for low-income families?. Maternal and Child Nutrition. 2013;.	Study Design
111	Dodd AH,Briefel R,Cabili C,Wilson A,Crepinsek MK. Disparities in consumption of sugar-sweetened and other beverages by race/ethnicity and obesity status among United States schoolchildren. J Nutr Educ Behav. 2013;45(3):240-9. PMID:23414783.	Independent Variable
112	Draxten M,Fulkerson JA,Friend S,Flattum CF,Schow R. Parental role modeling of fruits and vegetables at meals and snacks is associated with children's adequate consumption. Appetite. 2014;78:1-7. PMID:24630934.	Study Design , Independent Variable
113	Drenowatz C,Kobel S,Kettner S,Kesztyus D,Wirt T,Dreyhaupt J,Steinacker JM. Correlates of weight gain in German children attending elementary school. Prev Med. 2013;57(4):310-4. PMID:23769901.	Independent Variable
114	Dubois L,Farmer A,Girard M,Peterson K,Tatone-Tokuda F. Problem eating behaviors related to social factors and	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	body weight in preschool children: A longitudinal study. International Journal of Behavioral Nutrition and Physical Activity. 2007;4 .	
115	Dubois L,Farmer A,Girard M,Peterson K. Social factors and television use during meals and snacks is associated with higher BMI among pre-school children. Public Health Nutr. 2008;11(12):1267-79. PMID:18547454.	Independent Variable
116	Dubois L,Farmer AP,Girard M,Peterson K. Preschool children's eating behaviours are related to dietary adequacy and body weight. Eur J Clin Nutr. 2007;61(7):846-55. PMID:17180152.	Independent Variable
117	Dubois L,Girard M,Potvin Kent M,Farmer A,Tatone-Tokuda F. Breakfast skipping is associated with differences in meal patterns, macronutrient intakes and overweight among pre-school children. Public Health Nutr. 2009;12(1):19-28. PMID:18346309.	Study Design
118	Dubois L,Girard M,Potvin Kent M. Breakfast eating and overweight in a pre-school population: is there a link?. Public Health Nutr. 2006;9(4):436-42. PMID:16870015.	Location, Independent Variable
119	Duncanson K,Burrows T,Collins C. Effect of a low-intensity parent-focused nutrition intervention on dietary intake of 2- to 5-year olds. Journal of Pediatric Gastroenterology and Nutrition. 2013;57(6):728-734.	Independent Variable
120	Dupuy M,Godeau E,Vignes C,Ahluwalia N. Socio-demographic and lifestyle factors associated with overweight in a representative sample of 11-15 year olds in France: results from the WHO-Collaborative Health Behaviour in School-aged Children (HBSC) cross-sectional study. BMC Public Health. 2011;11:442. PMID:21649892.	Study Design , Independent Variable
121	Eidner MB,Lund AS,Harboe BS,Clemmensen IH. Calories and portion sizes in recipes throughout 100 years: an overlooked factor in the development of overweight and obesity?. Scand J Public Health. 2013;41(8):839-45. PMID:23885112.	Independent Variable
122	Eisenberg ME,Neumark-Sztainer D,Feldman S. Does TV viewing during family meals make a difference in adolescent substance use?. Prev Med. 2009;48(6):585-7. PMID:19371761.	Study Design , Independent Variable
123	Elder JP,Crespo NC,Corder K,Ayala GX,Slymen DJ,Lopez NV,Moody JS,McKenzie TL. Childhood obesity prevention and control in city recreation centres and family homes: The MOVE/me Muevo Project. Pediatric Obesity. 2014;9(3):218-231.	Independent Variable
124	Elfhag K,Rasmussen F. Food consumption, eating behaviour and self-esteem among single v. married and cohabiting mothers and their 12-year-old children. Public Health Nutr. 2008;11(9):934-9. PMID:18489812.	Study Design , Independent Variable
125	Elfhag K,Tholin S,Rasmussen F. Consumption of fruit, vegetables, sweets and soft drinks are associated with psychological dimensions of eating behaviour in parents and their 12-year-old children. Public Health Nutr. 2008;11(9):914-23. PMID:18498675.	Study Design , Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
126	Elfhag K,Tynelius P,Rasmussen F. Family links of eating behaviour in normal weight and overweight children. Int J Pediatr Obes. 2010;5(6):491-500. PMID:20233161.	Location, Independent Variable
127	Elgar FJ,Craig W,Trites SJ. Family dinners, communication, and mental health in Canadian adolescents. J Adolesc Health. 2013;52(4):433-8. PMID:23299005.	Study Design , Outcome
128	Elizondo-Montemayor L,Gutierrez NG,Moreno DM,Martinez U,Tamargo D,Trevino M. School-based individualised lifestyle intervention decreases obesity and the metabolic syndrome in Mexican children. J Hum Nutr Diet. 2013;26 Suppl 1:82-9. PMID:23600808.	Independent Variable
129	Engler-Stringer R. The domestic foodscapes of young low-income women in Montreal: cooking practices in the context of an increasingly processed food supply. Health Educ Behav. 2010;37(2):211-26. PMID:19690290.	Study Design , Independent Variable
130	Erinosho TO,Beth Dixon L,Young C,Brotman LM,Hayman LL. Caregiver food behaviours are associated with dietary intakes of children outside the child-care setting. Public Health Nutr. 2013;16(7):1263-72. PMID:22883539.	Study Design
131	Erkorkmaz U,Yilmaz R,Demir O,Sanisoglu SY,Etikan I,Ozcetin M. Analysis of the correlation between children's eating behavior and parent's feeding style using canonical correlation analysis. Turkiye Klinikleri Journal of Medical Sciences. 2013;33(1):138-148.	Study Design
132	Esfarjani F,Khalafi M,Mohammadi F,Mansour A,Roustaee R,Zamani-Nour N,Kelishadi R. Family-based intervention for controlling childhood obesity: An experience among iranian children. International Journal of Preventive Medicine. 2013;4(3):358-365.	Location, Independent Variable
133	Estima CC,Bruening M,Hannan PJ,Alvarenga MS,Leal GV,Philippi ST,Neumark-Sztainer D. A Cross-Cultural Comparison of Eating Behaviors and Home Food Environmental Factors in Adolescents From Sao Paulo (Brazil) and Saint Paul-Minneapolis (US). J Nutr Educ Behav. 2014;PMID:24656651.	Study Design , Outcome
134	Evans A,Chow S,Jennings R,Dave J,Scoblick K,Sterba KR,Loyo J. Traditional foods and practices of Spanish-speaking Latina mothers influence the home food environment: implications for future interventions. J Am Diet Assoc. 2011;111(7):1031-8. PMID:21703381.	Study Design
135	Farajian P,Panagiotakos DB,Risvas G,Malisova O,Zampelas A. Hierarchical analysis of dietary, lifestyle and family environment risk factors for childhood obesity: the GRECO study. European Journal of Clinical Nutrition. 2014;.	Study Design
136	Farrow C. A comparison between the feeding practices of parents and grandparents. Eating Behaviors. 2014;15(3):339-342.	Independent Variable, Outcome
137	Feeley AB,Musenge E,Pettifor JM,Norris SA. Investigation into longitudinal dietary behaviours and household	Location

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	socio-economic indicators and their association with BMI Z-score and fat mass in South African adolescents: the Birth to Twenty (Bt20) cohort. Public Health Nutr. 2013;16(4):693-703. PMID:22801035.	
138	Feldman S,Eisenberg ME,Neumark-Sztainer D,Story M. Associations between watching TV during family meals and dietary intake among adolescents. J Nutr Educ Behav. 2007;39(5):257-63. PMID:17826345.	Study Design
139	Fernandez-Aranda F,Krug I,Granero R,Ramon JM,Badia A,Gimenez L,Solano R,Collier D,Karwautz A,Treasure J. Individual and family eating patterns during childhood and early adolescence: an analysis of associated eating disorder factors. Appetite. 2007;49(2):476-85. PMID:17467116.	Outcome
140	Fiese BH,Foley KP,Spagnola M. Routine and ritual elements in family mealtimes: contexts for child well-being and family identity. New Dir Child Adolesc Dev. 2006;#volume#(111):67-89. PMID:16646500.	Study Design
141	Fiese BH,Hammons A,Grigsby-Toussaint D. Family mealtimes: a contextual approach to understanding childhood obesity. Econ Hum Biol. 2012;10(4):365-74. PMID:22652025.	Study Design
142	Fiese BH,Jones BL. Food and family: a socio-ecological perspective for child development. Adv Child Dev Behav. 2012;42:307-37. PMID:22675910.	Study Design
143	Fiese BH,Winter MA,Botti JC. The ABCs of Family Mealtimes: Observational Lessons for Promoting Healthy Outcomes for Children With Persistent Asthma. Child Development. 2011;82(1):133-145.	Independent Variable, Outcome
144	Fink SK,Racine EF,Mueffelmann RE,Dean MN,Herman-Smith R. Family Meals and Diet Quality Among Children and Adolescents in North Carolina. J Nutr Educ Behav. 2014;PMID:24974356.	Study Design
145	Fish CA,Brown JR,Quandt SA. African American and Latino Low Income Families' Food Shopping Behaviors: Promoting Fruit and Vegetable Consumption and Use of Alternative Healthy Food Options. J Immigr Minor Health. 2013;PMID:24293075.	Independent Variable
146	Fisher JO,Birch LL,Zhang J,Grusak MA,Hughes SO. External influences on children's self-served portions at meals. Int J Obes (Lond). 2013;37(7):954-60. PMID:23295501.	Independent Variable
147	Fismen AS,Samdal O,Torsheim T. Family affluence and cultural capital as indicators of social inequalities in adolescent's eating behaviours: a population-based survey. BMC Public Health. 2012;12:1036. PMID:23190697.	Independent Variable
148	Fitzpatrick E,Edmunds LS,Dennison BA. Positive effects of family dinner are undone by television viewing. J Am Diet Assoc. 2007;107(4):666-71. PMID:17383273.	Study Design
149	Flores G,Lin H. Factors predicting severe childhood obesity in kindergarteners. Int J Obes (Lond). 2013;37(1):31-9. PMID:23147114.	Study Design , Independent Variable
150	Flores G,Maldonado J,Duran P. Making tortillas without lard: Latino parents' perspectives on healthy eating,	Study Design ,

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	physical activity, and weight-management strategies for overweight Latino children. J Acad Nutr Diet. 2012;112(1):81-9. PMID:22717179.	Independent Variable
151	Folta SC,Kuder JF,Goldberg JP,Hyatt RR,Must A,Naumova EN,Nelson ME,Economos CD. Changes in diet and physical activity resulting from the Shape Up Somerville community intervention. BMC Pediatr. 2013;13:157. PMID:24093936.	Study Design , Independent Variable
152	Fonseca H,Palmeira AL,Martins SC,Falcato L,Quaresma A. Managing paediatric obesity: A multidisciplinary intervention including peers in the therapeutic process. BMC Pediatrics. 2014;14(1) .	Study Design , Independent Variable
153	Francis LA,Birch LL. Does eating during television viewing affect preschool children's intake?. J Am Diet Assoc. 2006;106(4):598-600. PMID:16567158.	Independent Variable
154	Franko DL,Thompson D,Affenito SG,Barton BA,Striegel-Moore RH. What mediates the relationship between family meals and adolescent health issues. Health Psychol. 2008;27(2 Suppl):S109-17. PMID:18377152.	Outcome
155	Franko DL,Thompson D,Bauserman R,Affenito SG,Striegel-Moore RH. What's love got to do with it? Family cohesion and healthy eating behaviors in adolescent girls. Int J Eat Disord. 2008;41(4):360-7. PMID:18318040.	Study Design
156	Fraser K,Wallis M,St John W. Improving children's problem eating and mealtime behaviours: An evaluative study of a single session parent education programme. Health Education Journal. 2004;63(3):229-241.	Study Design , Independent Variable
157	Frongillo EA,Wolfe WS. Impact of participation in Home-Delivered Meals on nutrient intake, dietary patterns, and food insecurity of older persons in New York state. J Nutr Elder. 2010;29(3):293-310. PMID:20711924.	Independent Variable
158	Fugas V,Berta E,Walz F,Fortino MA,Martinelli MJ. Breakfast habit and quality in students from two public primary schools in the city of Santa Fe. Arch Argent Pediatr. 2013;111(6):502-7. PMID:24196763.	Study Design , Independent Variable
159	Fuglestad PT,Jeffery RW,Sherwood NE. Lifestyle patterns associated with diet, physical activity, body mass index and amount of recent weight loss in a sample of successful weight losers. Int J Behav Nutr Phys Act. 2012;9:79. PMID:22734914.	Study Design , Independent Variable
160	Fulkerson JA,Farbakhsh K,Lytle L,Hearst MO,Dengel DR,Pasch KE,Kubik MY. Away-from-home family dinner sources and associations with weight status, body composition, and related biomarkers of chronic disease among adolescents and their parents. J Am Diet Assoc. 2011;111(12):1892-7. PMID:22117665.	Study Design , Independent Variable
161	Fulkerson JA,Kubik MY,Rydell S,Boutelle KN,Garwick A,Story M,Neumark-Sztainer D,Dudovitz B. Focus groups with working parents of school-aged children: what's needed to improve family meals?. J Nutr Educ Behav. 2011;43(3):189-93. PMID:21367663.	Study Design
162	Fulkerson JA,Kubik MY,Story M,Lytle L,Arcan C. Are there nutritional and other benefits associated with family	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	meals among at-risk youth?. J Adolesc Health. 2009;45(4):389-95. PMID:19766944.	
163	Fulkerson JA,Loth K,Bruening M,Berge J,Eisenberg ME,Neumark-Sztainer D. Time 2 tlk 2nite: Use of Electronic Media by Adolescents during Family Meals and Associations with Demographic Characteristics, Family Characteristics, and Foods Served. J Acad Nutr Diet. 2014;114(7):1053-8. PMID:24361006.	Study Design
164	Fulkerson JA,Lytle L,Story M,Moe S,Samuelson A,Weymiller A. Development and validation of a screening instrument to assess the types and quality of foods served at home meals. Int J Behav Nutr Phys Act. 2012;9:10. PMID:22313614.	Study Design , Independent Variable
165	Fulkerson JA,Neumark-Sztainer D,Story M,Gurvich O,Kubik MY,Garwick A,Dudovitz B. The Healthy Home Offerings via the Mealtime Environment (HOME) Plus study: design and methods. Contemp Clin Trials. 2014;38(1):59-68. PMID:24480729.	Study Design
166	Fulkerson JA,Pasch KE,Stigler MH,Farbakhsh K,Perry CL,Komro KA. Longitudinal associations between family dinner and adolescent perceptions of parent-child communication among racially diverse urban youth. J Fam Psychol. 2010;24(3):261-70. PMID:20545399.	Outcome
167	Fulkerson JA,Rydell S,Kubik MY,Lytle L,Boutelle K,Story M,Neumark-Sztainer D,Dudovitz B,Garwick A. Healthy Home Offerings via the Mealtime Environment (HOME): feasibility, acceptability, and outcomes of a pilot study. Obesity (Silver Spring). 2010;18 Suppl 1:S69-74. PMID:20107464.	Independent Variable
168	Fulkerson JA,Story M,Neumark-Sztainer D,Rydell S. Family meals: perceptions of benefits and challenges among parents of 8- to 10-year-old children. J Am Diet Assoc. 2008;108(4):706-9. PMID:18375230.	Study Design
169	Fulkerson JA,Strauss J,Neumark-Sztainer D,Story M,Boutelle K. Correlates of psychosocial well-being among overweight adolescents: The role of the family. Journal of Consulting and Clinical Psychology. 2007;75(1):181-186.	Study Design , Outcome
170	Fuster M,Houser RF,Messer E,Palma de Fulladolsa P,Deman H,Bermudez OI. Perceived access and actual intake of healthy diets among households in vulnerable Salvadoran communities. J Nutr Educ Behav. 2013;45(6):713-7. PMID:23877053.	Location, Independent Variable
171	Gable S,Chang Y,Krull JL. Television Watching and Frequency of Family Meals Are Predictive of Overweight Onset and Persistence in a National Sample of School-Aged Children{A figure is presented}. Journal of the American Dietetic Association. 2007;107(1):53-61.	Duplicate Study
172	Gage H,Egan B,Williams P,Gyorei E,Brands B,Lopez-Robles JC,Campoy C,Koletzko B,Decsi T,Raats M. Views of parents in four European countries about the effect of food on the mental performance of primary school	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	children. #Secondary title#. 2014;68(1):32-7. PMID:24281310.	
173	Gallant AR,Tremblay A,Perusse L,Despres JP,Bouchard C,Drapeau V. Parental eating behavior traits are related to offspring BMI in the Quebec Family Study. Int J Obes (Lond). 2013;37(11):1422-6. PMID:23399776.	Study Design , Location
174	Galloway AT,Farrow CV,Martz DM. Retrospective reports of child feeding practices, current eating behaviors, and BMI in college students. Obesity (Silver Spring). 2010;18(7):1330-5. PMID:19876005.	Study Design , Independent Variable
175	Gao Y,Huang Y,Zhang Y,Liu F,Feng CX,Liu T,Li C,Ling DD,Mu Y,Tarver SL,Wang M,Sun W. Evaluation of fast food behavior in pre-school children and parents following a one-year intervention with nutrition education. Int J Environ Res Public Health. 2014;11(7):6780-90. PMID:24983391.	Independent Variable
176	Garcia AL,Vargas E,Lam PS,Shennan DB,Smith F,Parrett A. Evaluation of a cooking skills programme in parents of young children--a longitudinal study. Public Health Nutr. 2014;17(5):1013-21. PMID:23402548.	Independent Variable
177	Ghoneim EH,Hassan MH,Amine EK. An intervention programme for improving the nutritional status of children aged 2-5 years in Alexandria. East Mediterr Health J. 2004;10(6):828-43. PMID:16335771.	Independent Variable
178	Giannisi F,Pervanidou P,Michalaki E,Papanikolaou K,Chrousos G,Yannakoulia M. Parental readiness to implement life-style behaviour changes in relation to children's excess weight. J Paediatr Child Health. 2014;50(6):476-81. PMID:24612057.	Study Design
179	Goldfarb S,Tarver WL,Sen B. Family structure and risk behaviors: the role of the family meal in assessing likelihood of adolescent risk behaviors. Psychol Res Behav Manag. 2014;7:53-66. PMID:24627645.	Study Design
180	Goldfield GS,Murray MA,Buchholz A,Henderson K,Obeid N,Kukaswadia A,Flament MF. Family meals and body mass index among adolescents: effects of gender. Appl Physiol Nutr Metab. 2011;36(4):539-46. PMID:21851205.	Study Design
181	Goncalves VSS,Chaves OC,Ribeiro SMR,Sant'Ana LFR,Franceschini SCC,Priore SE. Household availability of lipids for consumption and its relationship with serum lipids in adolescents. Revista Paulista de Pediatria. 2012;30(2):229-236.	Study Design
182	Gooze RA,Hughes CC,Finkelstein DM,Whitaker RC. Obesity and food insecurity at the same table: how head start programs respond. Prev Chronic Dis. 2012;9:E132. PMID:22840884.	Study Design , Independent Variable
183	Gorin AA,Raynor HA,Niemeier HM,Wing RR. Home grocery delivery improves the household food environments of behavioral weight loss participants: Results of an 8-week pilot study. International Journal of Behavioral Nutrition and Physical Activity. 2007;4 .	Independent Variable
184	Graham DJ,Pelletier JE,Neumark-Sztainer D,Lust K,Laska MN. Perceived social-ecological factors associated with fruit and vegetable purchasing, preparation, and consumption among young adults. J Acad Nutr Diet.	Study Design , Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	2013;113(10):1366-74. PMID:23958116.	
185	Gray VB,Byrd SH,Cossman JS,Chromiak JA,Cheek W,Jackson G. Parental attitudes toward child nutrition and weight have a limited relationship with child's weight status. Nutrition Research. 2007;27(9):548-558.	Independent Variable
186	Gregory JE,Paxton SJ,Brozovic AM. Maternal feeding practices, child eating behaviour and body mass index in preschool-aged children: A prospective analysis. International Journal of Behavioral Nutrition and Physical Activity. 2010;7 .	Location, Independent Variable
187	Gross SM,Pollock ED,Braun B. Family influence: key to fruit and vegetable consumption among fourth- and fifth-grade students. J Nutr Educ Behav. 2010;42(4):235-41. PMID:20452287.	Independent Variable
188	Grosso G,Mistretta A,Turconi G,Cena H,Roggi C,Galvano F. Nutrition knowledge and other determinants of food intake and lifestyle habits in children and young adolescents living in a rural area of Sicily, South Italy. Public Health Nutr. 2013;16(10):1827-36. PMID:22931967.	Study Design
189	Grydeland M,Bergh IH,Bjelland M,Lien N,Andersen LF,Ommundsen Y,Klepp KI,Anderssen SA. Correlates of weight status among Norwegian 11-year-olds: The HEIA study. BMC Public Health. 2012;12:1053. PMID:23216675.	Location, Independent Variable
190	Gubbels JS,Kremers SP,Goldbohm RA,Stafleu A,Thijs C. Energy balance-related behavioural patterns in 5-year-old children and the longitudinal association with weight status development in early childhood. Public Health Nutr. 2012;15(8):1402-10. PMID:22124196.	Location, Independent Variable
191	Gubbels JS,Kremers SP,Stafleu A,Goldbohm RA,de Vries NK,Thijs C. Clustering of energy balance-related behaviors in 5-year-old children: lifestyle patterns and their longitudinal association with weight status development in early childhood. Int J Behav Nutr Phys Act. 2012;9:77. PMID:22721567.	Location, Independent Variable
192	Guo X,Zheng L,Li Y,Yu S,Sun G,Yang H,Zhou X,Zhang X,Sun Z,Sun Y. Differences in lifestyle behaviors, dietary habits, and familial factors among normal-weight, overweight, and obese Chinese children and adolescents. Int J Behav Nutr Phys Act. 2012;9:120. PMID:23031205.	Study Design , Location
193	Haerens L,Craeynest M,Deforche B,Maes L,Cardon G,De Bourdeaudhuij I. The contribution of psychosocial and home environmental factors in explaining eating behaviours in adolescents. Eur J Clin Nutr. 2008;62(1):51-9. PMID:17299461.	Study Design
194	Haines J,Gillman MW,Rifas-Shiman S,Field AE,Austin SB. Family dinner and disordered eating behaviors in a large cohort of adolescents. Eat Disord. 2010;18(1):10-24. PMID:20390605.	Outcome
195	Haines J,Neumark-Sztainer D,Wall M,Story M. Personal, behavioral, and environmental risk and protective factors for adolescent overweight. Obesity (Silver Spring). 2007;15(11):2748-60. PMID:18070766.	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
196	Haire-Joshu D,Schwarz C,Budd E,Yount BW,Lapka C. Postpartum teens' breakfast consumption is associated with snack and beverage intake and body mass index. J Am Diet Assoc. 2011;111(1):124-30. PMID:21185974.	Study Design , Independent Variable
197	Hajna S,Leblanc PJ,Faught BE,Merchant AT,Cairney J,Hay J,Liu J. Associations between family eating behaviours and body composition measures in peri-adolescents: results from a community-based study of school-aged children. Can J Public Health. 2014;105(1):e15-21. PMID:24735691.	Study Design
198	Hallstrom L,Vereecken CA,Labayen I,Ruiz JR,Le Donne C,Garcia MC,Gilbert CC,Martinez SG,Grammatikaki E,Huybrechts I,Kafatos A,Kersting M,Manios Y,Molnar D,Patterson E,Widhalm K,De Vriendt T,Moreno LA,Sjostrom M. Breakfast habits among European adolescents and their association with sociodemographic factors: the HELENA (Healthy Lifestyle in Europe by Nutrition in Adolescence) study. Public Health Nutr. 2012;15(10):1879-89. PMID:22348273.	Study Design
199	Hallstrom L,Vereecken CA,Ruiz JR,Patterson E,Gilbert CC,Catasta G,Diaz LE,Gomez-Martinez S,Gonzalez Gross M,Gottrand F,Hegyi A,Lehoux C,Mouratidou T,Widham K,Astrom A,Moreno LA,Sjostrom M. Breakfast habits and factors influencing food choices at breakfast in relation to socio-demographic and family factors among European adolescents. The HELENA Study. Appetite. 2011;56(3):649-57. PMID:21376767.	Study Design , Independent Variable
200	Hanson KL,Olson CM. School meals participation and weekday dietary quality were associated after controlling for weekend eating among U.S. school children aged 6 to 17 years. J Nutr. 2013;143(5):714-21. PMID:23486981.	Independent Variable
201	Hanson NI,Neumark-Sztainer D,Eisenberg ME,Story M,Wall M. Associations between parental report of the home food environment and adolescent intakes of fruits, vegetables and dairy foods. Public Health Nutr. 2005;8(1):77-85. PMID:15705248.	Study Design
202	Hardy LL,King L,Hector D,Lloyd B. Weight status and weight-related behaviors of children commencing school. Prev Med. 2012;55(5):433-7. PMID:22995371.	Study Design , Location
203	Harnack LJ,Oakes JM,French SA,Rydell SA,Farah FM,Taylor GL. Results from an experimental trial at a Head Start center to evaluate two meal service approaches to increase fruit and vegetable intake of preschool aged children. Int J Behav Nutr Phys Act. 2012;9:51. PMID:22546262.	Independent Variable
204	Harrington KF,Franklin FA,Davies SL,Shewchuk RM,Binns MB. Implementation of a family intervention to increase fruit and vegetable intake: the Hi5+ experience. Health Promot Pract. 2005;6(2):180-9. PMID:15855288.	Study Design , Independent Variable
205	Hasenboehler K,Munsch S,Meyer AH,Kappler C,Vogele C. Family structure, body mass index, and eating behavior. Int J Eat Disord. 2009;42(4):332-8. PMID:19107830.	Study Design , Independent Variable
206	Hastert TA,Babey SH. School lunch source and adolescent dietary behavior. Prev Chronic Dis. 2009;6(4):A117.	Study Design ,

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	PMID:19754993.	Outcome
207	Hauser SI,Economos CD,Nelson ME,Goldberg JP,Hyatt RR,Naumova EN,Anderson SE,Must A. Household and family factors related to weight status in first through third graders: a cross-sectional study in Eastern Massachusetts. BMC Pediatr. 2014;14(1):167. PMID:24984590.	Study Design
208	Hendy HM,Seiverling L,Lukens CT,Williams KE. Brief assessment of mealtime behavior in children: Psychometrics and association with child characteristics and parent responses. Children's Health Care. 2013;42(1):1-14.	Independent Variable
209	Hendy HM,Williams KE,Camise TS,Eckman N,Hedemann A. The Parent Mealtime Action Scale (PMAS). Development and association with children's diet and weight. Appetite. 2009;52(2):328-39. PMID:19059292.	Study Design , Independent Variable
210	Hendy HM,Williams KE,Camise TS. Kid's Choice Program improves weight management behaviors and weight status in school children. Appetite. 2011;56(2):484-94. PMID:21277924.	Independent Variable
211	Hendy HM,Williams KE,Riegel K,Paul C. Parent mealtime actions that mediate associations between children's fussy-eating and their weight and diet. Appetite. 2010;54(1):191-195.	Study Design , Independent Variable
212	Hendy HM,Williams KE. Mother's feeding practices for children 3-10 years of age and their associations with child demographics. Appetite. 2012;58(2):710-6. PMID:22269792.	Study Design
213	Herman AN,Malhotra K,Wright G,Fisher JO,Whitaker RC. A qualitative study of the aspirations and challenges of low-income mothers in feeding their preschool-aged children. Int J Behav Nutr Phys Act. 2012;9:132. PMID:23157723.	Study Design , Independent Variable
214	Hermans RC,Larsen JK,Herman CP,Engels RC. How much should I eat? Situational norms affect young women's food intake during meal time. Br J Nutr. 2012;107(4):588-94. PMID:21733296.	Independent Variable
215	Hilbert A,Tuschen-Caffier B,Czaja J. Eating behavior and familial interactions of children with loss of control eating: a laboratory test meal study. Am J Clin Nutr. 2010;91(3):510-8. PMID:20089727.	Independent Variable, Outcome
216	Hildebrand DA,Shriver LH. A quantitative and qualitative approach to understanding fruit and vegetable availability in low-income african-american families with children enrolled in an urban head start program. J Am Diet Assoc. 2010;110(5):710-8. PMID:20430132.	Study Design , Independent Variable
217	Hoare A,Virgo-Milton M,Boak R,Gold L,Waters E,Gussy M,Calache H,Smith M,de Silva AM. A qualitative study of the factors that influence mothers when choosing drinks for their young children. BMC Res Notes. 2014;7(1):430. PMID:24997015.	Study Design
218	Hoerr S,Utech AE,Ruth E. Child control of food choices in Head Start families. J Nutr Educ Behav. 2005;37(4):185-90. PMID:16029688.	Study Design , Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
219	Hoffmann JP,Warnick E. Do family dinners reduce the risk for early adolescent substance use? A propensity score analysis. J Health Soc Behav. 2013;54(3):335-52. PMID:23956358.	Outcome
220	Holland JC,Kolko RP,Stein RI,Welch RR,Perri MG,Schechtman KB,Saelens BE,Epstein LH,Wilfley DE. Modifications in parent feeding practices and child diet during family-based behavioral treatment improve child zBMI. Obesity. 2014;22(5):E119-E126.	Independent Variable
221	Holmes AS,Serrano EL,Machin JE,Duetsch T,Davis GC. Effect of different children's menu labeling designs on family purchases. Appetite. 2013;62:198-202. PMID:22664301.	Independent Variable
222	Hong S,Bae HC,Kim HS,Park EC. Variation in meal-skipping rates of Korean adolescents according to socio-economic status: Results of the Korea Youth Risk Behavior Web-based Survey. Journal of Preventive Medicine and Public Health. 2014;47(3):158-168.	Study Design , Independent Variable
223	Hoppu U,Lehtisalo J,Tapanainen H,Pietinen P. Dietary habits and nutrient intake of Finnish adolescents. Public Health Nutr. 2010;13(6a):965-72. PMID:20513267.	Study Design
224	Horne PJ,Hardman CA,Lowe CF,Tapper K,Le Noury J,Madden P,Patel P,Doody M. Increasing parental provision and children's consumption of lunchbox fruit and vegetables in Ireland: the Food Dudes intervention. Eur J Clin Nutr. 2009;63(5):613-8. PMID:18493261.	Independent Variable
225	Horodynski MA,Stommel M,Brophy-Herb H,Xie Y,Weatherspoon L. Low-income African American and non-Hispanic White mothers' self-efficacy, "picky eater" perception, and toddler fruit and vegetable consumption. Public Health Nurs. 2010;27(5):408-17. PMID:20840710.	Study Design
226	Horodynski MA,Stommel M,Brophy-Herb HE,Weatherspoon L. Mealtime television viewing and dietary quality in low-income African American and Caucasian mother-toddler dyads. Matern Child Health J. 2010;14(4):548-56. PMID:19629662.	Study Design , Independent Variable
227	Hsueh J,Yoshikawa H. Working nonstandard schedules and variable shifts in low-income families: Associations with parental psychological well-being, family functioning, and child well-being. Developmental Psychology. 2007;43(3):620-632.	Study Design , Outcome
228	Hughes SO,Power TG,Papaioannou MA,Cross MB,Nicklas TA,Hall SK,Shewchuk RM. Emotional climate, feeding practices, and feeding styles: an observational analysis of the dinner meal in Head Start families. Int J Behav Nutr Phys Act. 2011;8:60. PMID:21663653.	Independent Variable
229	Hyland R,Stacy R,Adamson A,Moynihan P. Nutrition-related health promotion through an after-school project: the responses of children and their families. Soc Sci Med. 2006;62(3):758-68. PMID:16039768.	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
230	Irwin C,Irwin R,Richey P,Miller M,Boddie J,Dickerson T. Get fit with the Grizzlies: a community-school-home initiative to fight childhood obesity led by a professional sports organization. Stud Health Technol Inform. 2012;172:163-7. PMID:22910518.	Independent Variable
231	Jaaskelainen A,Schwab U,Kolehmainen M,Pirkola J,Jarvelin MR,Laitinen J. Associations of meal frequency and breakfast with obesity and metabolic syndrome traits in adolescents of Northern Finland Birth Cohort 1986. Nutr Metab Cardiovasc Dis. 2013;23(10):1002-9. PMID:22901841.	Independent Variable
232	Jabs J,Devine CM,Bisogni CA,Farrell TJ,Jastran M,Wethington E. Trying to find the quickest way: employed mothers' constructions of time for food. J Nutr Educ Behav. 2007;39(1):18-25. PMID:17276323.	Study Design
233	Jacobs MP,Fiese BH. Family mealtime interactions and overweight children with asthma: potential for compounded risks?. J Pediatr Psychol. 2007;32(1):64-8. PMID:16951307.	Study Design
234	Jaeger SR,Meiselman HL. Perceptions of meal convenience: the case of at-home evening meals. Appetite. 2004;42(3):317-25. PMID:15183923.	Study Design , Independent Variable
235	Jahnke DL,Warschburger PA. Familial transmission of eating behaviors in preschool-aged children. Obesity (Silver Spring). 2008;16(8):1821-5. PMID:18483480.	Independent Variable
236	Jansen E,Mallan KM,Nicholson JM,Daniels LA. The feeding practices and structure questionnaire: construction and initial validation in a sample of Australian first-time mothers and their 2-year olds. Int J Behav Nutr Phys Act. 2014;11:72. PMID:24898364.	Study Design
237	Jansen PW,Roza SJ,Jaddoe VW,Mackenbach JD,Raat H,Hofman A,Verhulst FC,Tiemeier H. Children's eating behavior, feeding practices of parents and weight problems in early childhood: results from the population-based Generation R Study. Int J Behav Nutr Phys Act. 2012;9:130. PMID:23110748.	Study Design , Location
238	Jarman M,Fisk CM,Ntani G,Crozier SR,Godfrey KM,Inskip HM,Cooper C,Robinson SM. Assessing diets of 3-year-old children: evaluation of an FFQ. Public Health Nutr. 2014;17(5):1069-77. PMID:23635946.	Study Design , Independent Variable
239	Jelastopulu E,Kallianezos P,Merekoulias G,Alexopoulos EC,Sapountzi-Krepia D. Prevalence and risk factors of excess weight in school children in West Greece. Nurs Health Sci. 2012;14(3):372-80. PMID:22631878.	Study Design
240	Jilcott SB,Liu H,Dubose KD,Chen S,Kranz S. Food stamp participation is associated with fewer meals away from home, yet higher body mass index and waist circumference in a nationally representative sample. J Nutr Educ Behav. 2011;43(2):110-5. PMID:21392714.	Study Design
241	Jodkowska M,Oblacinska A,Tabak I,Radiukiewicz K. Differences in dietary patterns between overweight and normal-weight adolescents. Med Wieku Rozwoj. 2011;15(3):266-73. PMID:22006481.	Study Design , Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
242	Johannsen DL,Johannsen NM,Specker BL. Influence of parents' eating behaviors and child feeding practices on children's weight status. Obesity (Silver Spring). 2006;14(3):431-9. PMID:16648614.	Independent Variable
243	Johnson BA,Kremer PJ,Swinburn BA,de Silva-Sanigorski AM. Multilevel analysis of the Be Active Eat Well intervention: environmental and behavioural influences on reductions in child obesity risk. Int J Obes (Lond). 2012;36(7):901-7. PMID:22531087.	Independent Variable
244	Johnson DB,Birkett D,Evens C,Pickering S. Promoting family meals in WIC: lessons learned from a statewide initiative. J Nutr Educ Behav. 2006;38(3):177-82. PMID:16731453.	Study Design , Outcome
245	Johnson JS,Nobmann ED,Asay E. Factors related to fruit, vegetable and traditional food consumption which may affect health among Alaska Native People in Western Alaska. Int J Circumpolar Health. 2012;71:17345. PMID:22456043.	Independent Variable
246	Johnson SL,Hughes SO,Cui X,Li X,Allison DB,Liu Y,Goodell LS,Nicklas T,Power TG,Vollrath K. Portion sizes for children are predicted by parental characteristics and the amounts parents serve themselves. Am J Clin Nutr. 2014;99(4):763-70. PMID:24477036.	Study Design , Independent Variable
247	Johnson SL,Ramsay S,Shultz JA,Branen LJ,Fletcher JW. Creating potential for common ground and communication between early childhood program staff and parents about young children's eating. J Nutr Educ Behav. 2013;45(6):558-70. PMID:23769298.	Study Design , Independent Variable
248	Johnston CA,Moreno JP,El-Mubasher A,Woehler D. School lunches and lunches brought from home: a comparative analysis. Child Obes. 2012;8(4):364-8. PMID:22867076.	Independent Variable
249	Jones BL,Fiese BH. Parent routines, child routines, and family demographics associated with obesity in parents and preschool-aged children. Front Psychol. 2014;5:374. PMID:24808883.	Study Design
250	Jorgensen A,Pedersen TP,Meilstrup CR,Rasmussen M. The influence of family structure on breakfast habits among adolescents. Dan Med Bull. 2011;58(5):A4262. PMID:21535982.	Location, Independent Variable
251	Kant AK,Graubard BI. Family income and education were related with 30-year time trends in dietary and meal behaviors of American children and adolescents. J Nutr. 2013;143(5):690-700. PMID:23514763.	Independent Variable
252	Karatzi K,Moschonis G,Barouti AA,Lionis C,Chrousos GP,Manios Y. Dietary patterns and breakfast consumption in relation to insulin resistance in children. The Healthy Growth Study. Public Health Nutr. 2014;#volume#:1-8. PMID:24477051.	Study Design , Independent Variable
253	Karp SM,Barry KM,Gesell SB,Po EEK,Dietrich MS,Barkin SL. Parental feeding patterns and child weight status for Latino preschoolers. Obesity Research and Clinical Practice. 2014;8(1):e88-e97.	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
254	Kegler MC,Alcantara I,Haardorfer R,Gazmararian JA,Ballard D,Sabbs D. The influence of home food environments on eating behaviors of overweight and obese women. J Nutr Educ Behav. 2014;46(3):188-96. PMID:24809866.	Study Design
255	Kegler MC,Alcantara I,Veluswamy JK,Haardorfer R,Hotz JA,Glanz K. Results from an intervention to improve rural home food and physical activity environments. Prog Community Health Partnersh. 2012;6(3):265-77. PMID:22982840.	Independent Variable
256	Khandpur N,Blaine RE,Fisher JO,Davison KK. Fathers' child feeding practices: a review of the evidence. Appetite. 2014;78:110-21. PMID:24667152.	Study Design
257	Kiefner-Burmeister AE,Hoffmann DA,Meers MR,Koball AM,Musher-Eizenman DR. Food consumption by young children: A function of parental feeding goals and practices. Appetite. 2014;74:6-11.	Independent Variable
258	Kim J,Shim JE,Wiley AR,Kim K,McBride BA. Is there a difference between center and home care providers' training, perceptions, and practices related to obesity prevention?. Matern Child Health J. 2012;16(8):1559-66. PMID:21877239.	Study Design , Independent Variable
259	Kim YS,Lee MJ,Suh YS,Kim DH. Relationship between Family Meals and Depressive Symptoms in Children. Korean J Fam Med. 2013;34(3):206-12. PMID:23730488.	Location, Outcome
260	Klohe-Lehman DM,Freeland-Graves J,Clarke KK,Cai G,Voruganti VS,Milani TJ,Nuss HJ,Proffitt JM,Bohman TM. Low-income, overweight and obese mothers as agents of change to improve food choices, fat habits, and physical activity in their 1-to-3-year-old children. J Am Coll Nutr. 2007;26(3):196-208. PMID:17634164.	Independent Variable
261	Kong A,Jones BL,Fiese BH,Schiffer LA,Odoms-Young A,Kim Y,Bailey L,Fitzgibbon ML. Parent-child mealtime interactions in racially/ethnically diverse families with preschool-age children. Eat Behav. 2013;14(4):451-5. PMID:24183134.	Study Design
262	Kornides ML,Nansel TR,Quick V,Haynie DL,Lipsky LM,Laffel LM,Mehta SN. Associations of family meal frequency with family meal habits and meal preparation characteristics among families of youth with type 1 diabetes. Child Care Health Dev. 2014;40(3):405-11. PMID:23731337.	Study Design , Unhealthy Subjects
263	Kral TV,Heo M,Whiteford LM,Faith MS. Effects on cognitive performance of eating compared with omitting breakfast in elementary schoolchildren. J Dev Behav Pediatr. 2012;33(1):9-16. PMID:22218013.	Independent Variable, Outcome
264	Kral TV,Whiteford LM,Heo M,Faith MS. Effects of eating breakfast compared with skipping breakfast on ratings of appetite and intake at subsequent meals in 8- to 10-y-old children. Am J Clin Nutr. 2011;93(2):284-91. PMID:21084650.	Independent Variable
265	Kramer RF,Coutinho AJ,Vaeth E,Christiansen K,Suratkar S,Gittelsohn J. Healthier home food preparation methods	Study Design ,

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	and youth and caregiver psychosocial factors are associated with lower BMI in African American youth. J Nutr. 2012;142(5):948-54. PMID:22457390.	Independent Variable
266	Kristiansen AL,Lande B,Sexton JA,Andersen LF. Dietary patterns among Norwegian 2-year-olds in 1999 and in 2007 and associations with child and parent characteristics. Br J Nutr. 2013;110(1):135-44. PMID:23192009.	Study Design , Location
267	Kristiansen H,Juliusson PB,Eide GE,Roelants M,Bjerknes R. TV viewing and obesity among Norwegian children: the importance of parental education. Acta Paediatr. 2013;102(2):199-205. PMID:23121043.	Independent Variable
268	Kristjansdottir AG,Thorsdottir I,De Bourdeaudhuij I,Due P,Wind M,Klepp KI. Determinants of fruit and vegetable intake among 11-year-old schoolchildren in a country of traditionally low fruit and vegetable consumption. International Journal of Behavioral Nutrition and Physical Activity. 2006;3 .	Study Design
269	Kroller K,Warschburger P. Maternal feeding strategies and child's food intake: Considering weight and demographic influences using structural equation modeling. International Journal of Behavioral Nutrition and Physical Activity. 2009;6 .	Study Design , Independent Variable
270	Krug I,Treasure J,Anderluh M,Bellodi L,Cellini E,Collier D,Bernardo M,Granero R,Karwautz A,Nacmias B,Penelo E,Ricca V,Sorbi S,Tchanturia K,Wagner G,Fernandez-Aranda F. Associations of individual and family eating patterns during childhood and early adolescence: a multicentre European study of associated eating disorder factors. Br J Nutr. 2009;101(6):909-18. PMID:18752723.	Outcome
271	Kruger J,Blanck HM,Gillespie C. Dietary and physical activity behaviors among adults successful at weight loss maintenance. International Journal of Behavioral Nutrition and Physical Activity. 2006;3 .	Study Design
272	Kudlova E,Schneidrova D. Dietary patterns and their changes in early childhood. Cent Eur J Public Health. 2012;20(2):126-34. PMID:22966737.	Study Design , Location
273	Kuhl ES,Clifford LM,Bandstra NF,Filigno SS,Yeomans-Maldonado G,Rausch JR,Stark LJ. Examination of the association between lifestyle behavior changes and weight outcomes in preschoolers receiving treatment for obesity. Health Psychol. 2014;33(1):95-8. PMID:23815763.	Independent Variable
274	Kukulu K,Sarvan S,Muslu L,Yirmibesoglu SG. Dietary habits, economic status, academic performance and body mass index in school children: a comparative study. J Child Health Care. 2010;14(4):355-66. PMID:21078697.	Study Design , Independent Variable
275	Kupers LK,de Pijper JJ,Sauer PJ,Stolk RP,Corpeleijn E. Skipping breakfast and overweight in 2- and 5-year-old Dutch children-the GECKO Drenthe cohort. Int J Obes (Lond). 2014;38(4):569-71. PMID:24158122.	Independent Variable
276	Kuznesof S,Brownlee IA,Moore C,Richardson DP,Jebb SA,Seal CJ. WHOLEheart study participant acceptance of wholegrain foods. Appetite. 2012;59(1):187-93. PMID:22546716.	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
277	Lallukka T,Chandola T,Roos E,Cable N,Sekine M,Kagamimori S,Tatsuse T,Marmot M,Lahelma E. Work-family conflicts and health behaviors among British, Finnish, and Japanese employees. Int J Behav Med. 2010;17(2):134-42. PMID:19507039.	Location, Independent Variable
278	Lallukka T,Laaksonen M,Rahkonen O,Roos E,Lahelma E. Multiple socio-economic circumstances and healthy food habits. Eur J Clin Nutr. 2007;61(6):701-10. PMID:17180154.	Study Design , Independent Variable
279	Lally P,Cooke L,McGowan L,Croker H,Bartle N,Wardle J. Parents' misperceptions of social norms for pre-school children's snacking behaviour. Public Health Nutr. 2012;15(9):1678-82. PMID:22414799.	Study Design
280	Larson N,Hannan PJ,Fulkerson JA,Laska MN,Eisenberg ME,Neumark-Sztainer D. Secular trends in fast-food restaurant use among adolescents and maternal caregivers from 1999 to 2010. Am J Public Health. 2014;104(5):e62-9. PMID:24625157.	Study Design , Independent Variable
281	Larson N,Laska MN,Story M,Neumark-Sztainer D. Predictors of fruit and vegetable intake in young adulthood. J Acad Nutr Diet. 2012;112(8):1216-22. PMID:22698924.	Independent Variable
282	Larson N,MacLehose R,Fulkerson JA,Berge JM,Story M,Neumark-Sztainer D. Eating breakfast and dinner together as a family: associations with sociodemographic characteristics and implications for diet quality and weight status. J Acad Nutr Diet. 2013;113(12):1601-9. PMID:24139290.	Study Design
283	Larson NI,Nelson MC,Neumark-Sztainer D,Story M,Hannan PJ. Making time for meals: meal structure and associations with dietary intake in young adults. J Am Diet Assoc. 2009;109(1):72-9. PMID:19103325.	Study Design
284	Larson NI,Neumark-Sztainer D,Hannan PJ,Story M. Family meals during adolescence are associated with higher diet quality and healthful meal patterns during young adulthood. J Am Diet Assoc. 2007;107(9):1502-10. PMID:17761227.	Duplicate Study
285	Larson NI,Wall MM,Story MT,Neumark-Sztainer DR. Home/family, peer, school, and neighborhood correlates of obesity in adolescents. Obesity (Silver Spring). 2013;21(9):1858-69. PMID:23512596.	Study Design , Independent Variable
286	Laska MN,Larson NI,Neumark-Sztainer D,Story M. Does involvement in food preparation track from adolescence to young adulthood and is it associated with better dietary quality? Findings from a 10-year longitudinal study. Public Health Nutr. 2012;15(7):1150-8. PMID:22124458.	Independent Variable
287	Lawman HG,Polonsky HM,Vander Veur SS,Abel ML,Sherman S,Bauer KW,Sanders T,Fisher JO,Bailey-Davis L,Ng J,Van Wye G,Foster GD. Breakfast patterns among low-income, ethnically-diverse 4th-6th grade children in an urban area. BMC Public Health. 2014;14:604. PMID:24928474.	Study Design , Independent Variable
288	Lazzeri G,Giacchi MV,Spinelli A,Pammolli A,Dalmasso P,Nardone P,Lamberti A,Cavallo F. Overweight among	Study Design ,

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	students aged 11-15 years and its relationship with breakfast, area of residence and parents' education: results from the Italian HBSC 2010 cross-sectional study. Nutr J. 2014;13(1):69. PMID:24997676.	Independent Variable
289	Lazzeri G,Giallombardo D,Guidoni C,Zani A,Casorelli A,Grasso A,Pozzi T,Rossi S,Giacchi M. Nutritional surveillance in Tuscany: eating habits at breakfast, mid-morning and afternoon snacks among 8-9 y-old children. J Prev Med Hyg. 2006;47(3):91-9. PMID:17217185.	Study Design , Independent Variable
290	Lee H,Keller KL. Children who are pressured to eat at home consume fewer high-fat foods in laboratory test meals. J Acad Nutr Diet. 2012;112(2):271-5. PMID:22732461.	Study Design
291	Lee HA,Lee WK,Kong KA,Chang N,Ha EH,Hong YS,Park H. The effect of eating behavior on being overweight or obese during preadolescence. J Prev Med Public Health. 2011;44(5):226-33. PMID:22020188.	Study Design , Independent Variable
292	Lee S,Young DR,Pratt CA,Jobe JB,Chae SE,McMurray RG,Johnson CC,Going SB,Elder JP,Stevens J. Effects of parents' employment status on changes in body mass index and percent body fat in adolescent girls. Child Obes. 2012;8(6):526-32. PMID:23181918.	Independent Variable
293	Leech RM,McNaughton SA,Crawford DA,Campbell KJ,Pearson N,Timperio A. Family food involvement and frequency of family dinner meals among Australian children aged 10-12years. Cross-sectional and longitudinal associations with dietary patterns. Appetite. 2014;75:64-70. PMID:24389242.	Location, Independent Variable
294	Lehto R,Ray C,Lahti-Koski M,Roos E. Meal pattern and BMI in 9-11-year-old children in Finland. Public Health Nutr. 2011;14(7):1245-50. PMID:21129237.	Study Design
295	Lehto R,Ray C,Roos E. Longitudinal associations between family characteristics and measures of childhood obesity. Int J Public Health. 2012;57(3):495-503. PMID:21814847.	Location
296	Lesser IA,Gasevic D,Lear SA. The association between acculturation and dietary patterns of South Asian immigrants. PLoS One. 2014;9(2):e88495. PMID:24558396.	Independent Variable
297	Leung CY,Lumeng JC,Kaciroti NA,Chen YP,Rosenblum K,Miller AL. Surgency and negative affectivity, but not effortful control, are uniquely associated with obesogenic eating behaviors among low-income preschoolers. Appetite. 2014;78:139-46. PMID:24685763.	Independent Variable, Outcome
298	Levin KA,Kirby J,Currie C,Inchley J. Trends in adolescent eating behaviour: a multilevel cross-sectional study of 11-15 year olds in Scotland, 2002-2010. J Public Health (Oxf). 2012;34(4):523-31. PMID:22431257.	Independent Variable
299	Levin KA,Kirby J,Currie C. Adolescent risk behaviours and mealtime routines: does family meal frequency alter the association between family structure and risk behaviour?. Health Educ Res. 2012;27(1):24-35. PMID:21900407.	Study Design , Outcome

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
300	Levin KA,Kirby J,Currie C. Family structure and breakfast consumption of 11-15 year old boys and girls in Scotland, 1994-2010: a repeated cross-sectional study. BMC Public Health. 2012;12:228. PMID:22440153.	Location, Outcome
301	Levin KA,Kirby J. Irregular breakfast consumption in adolescence and the family environment: underlying causes by family structure. Appetite. 2012;59(1):63-70. PMID:22446725.	Location, Outcome
302	Lewis M,Worobey J. Mothers and toddlers lunch together. The relation between observed and reported behavior. Appetite. 2011;56(3):732-6. PMID:21349305.	Study Design
303	Lhuissier A,Tichit C,Caillavet F,Cardon P,Masullo A,Martin-Fernandez J,Parizot I,Chauvin P. Who still eats three meals a day? Findings from a quantitative survey in the Paris area. Appetite. 2013;63:59-69. PMID:23274963.	Study Design , Location
304	Liang T,Kuhle S,Veugelers PJ. Nutrition and body weights of Canadian children watching television and eating while watching television. Public Health Nutr. 2009;12(12):2457-63. PMID:19405988.	Study Design , Independent Variable
305	Lillico HG,Hammond D,Manske S,Murnaghan D. The prevalence of eating behaviors among Canadian youth using cross-sectional school-based surveys. BMC Public Health. 2014;14:323. PMID:24708863.	Study Design
306	Lindsay AC,Sussner KM,Greaney ML,Peterson KE. Influence of social context on eating, physical activity, and sedentary behaviors of Latina mothers and their preschool-age children. Health Educ Behav. 2009;36(1):81-96. PMID:18689491.	Study Design
307	Lissner L,Lanfer A,Gwozdz W,Olafsdottir S,Eiben G,Moreno LA,Santaliestra-Pasias AM,Kovacs E,Barba G,Loit HM,Kourides Y,Pala V,Pohlabeln H,De Henauw S,Buchecker K,Ahrens W,Reisch L. Television habits in relation to overweight, diet and taste preferences in European children: the IDEFICS study. Eur J Epidemiol. 2012;27(9):705-15. PMID:22911022.	Location, Independent Variable
308	Liu J,Hwang WT,Dickerman B,Compher C. Regular breakfast consumption is associated with increased IQ in kindergarten children. Early Hum Dev. 2013;89(4):257-62. PMID:23395328.	Study Design , Independent Variable
309	Lockner DW,Crowe TK,Skipper BJ. Dietary intake and parents' perception of mealtime behaviors in preschool-age children with autism spectrum disorder and in typically developing children. J Am Diet Assoc. 2008;108(8):1360-3. PMID:18656577.	Study Design
310	Lohse B,Cunningham-Sabo L. Eating competence of Hispanic parents is associated with attitudes and behaviors that may mediate fruit and vegetable-related behaviors of 4th grade youth. J Nutr. 2012;142(10):1903-9. PMID:22933747.	Study Design , Independent Variable
311	Lohse B,Rifkin R,Arnold K,Least C. A digital program informs low-income caregivers of preschool-age children about family meals. J Nutr Educ Behav. 2012;44(3):256-61. PMID:22386387.	Study Design , Outcome

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
312	Lora KR,Sisson SB,DeGrace BW,Morris AS. Frequency of Family Meals and 6-11-year-old Children's Social Behaviors. J Fam Psychol. 2014;PMID:25000133.	Study Design , Outcome
313	Loth KA,MacLehose RF,Fulkerson JA,Crow S,Neumark-Sztainer D. Are food restriction and pressure-to-eat parenting practices associated with adolescent disordered eating behaviors?. Int J Eat Disord. 2014;47(3):310-4. PMID:24105668.	Independent Variable
314	Lovelace S,Rabiee-Khan F. Food choices made by low-income households when feeding their pre-school children: a qualitative study. Matern Child Nutr. 2013;PMID:23320519.	Study Design , Location
315	Lubans DR,Morgan PJ,Okely AD,Dewar D,Collins CE,Batterham M,Callister R,Plotnikoff RC. Preventing obesity among adolescent girls: One-year outcomes of the nutrition and enjoyable activity for teen girls (NEAT Girls) cluster randomized controlled trial. Archives of Pediatrics and Adolescent Medicine. 2012;166(9):821-827.	Independent Variable
316	Luszczynska A,de Wit JB,de Vet E,Januszewicz A,Liszewska N,Johnson F,Pratt M,Gaspar T,de Matos MG,Stok FM. At-home environment, out-of-home environment, snacks and sweetened beverages intake in preadolescence, early and mid-adolescence: the interplay between environment and self-regulation. J Youth Adolesc. 2013;42(12):1873-83. PMID:23354418.	Study Design , Location
317	Lyerly JE,Huber LR,Warren-Findlow J,Racine EF,Dmochowski J. Is breakfast skipping associated with physical activity among U.S. adolescents? A cross-sectional study of adolescents aged 12-19 years, National Health and Nutrition Examination Survey (NHANES). Public Health Nutr. 2014;17(4):896-905. PMID:23534672.	Study Design
318	Lytle LA,Kubik MY,Perry C,Story M,Birnbaum AS,Murray DM. Influencing healthful food choices in school and home environments: results from the TEENS study. Prev Med. 2006;43(1):8-13. PMID:16697452.	Independent Variable
319	M AH,Arndt MJ. "Eating-together" mealtimes with African-American fathers and their toddlers. Appl Nurs Res. 2005;18(2):106-9. PMID:15991109.	Study Design
320	MacFarlane A,Abbott G,Crawford D,Ball K. Personal, social and environmental correlates of healthy weight status amongst mothers from socioeconomically disadvantaged neighborhoods: Findings from the READI study. International Journal of Behavioral Nutrition and Physical Activity. 2010;7 .	Location, Independent Variable
321	MacFarlane A,Cleland V,Crawford D,Campbell K,Timperio A. Longitudinal examination of the family food environment and weight status among children. Int J Pediatr Obes. 2009;4(4):343-52. PMID:19922051.	Location, Independent Variable
322	MacFarlane A,Crawford D,Worsley A. Associations between parental concern for adolescent weight and the home food environment and dietary intake. J Nutr Educ Behav. 2010;42(3):152-60. PMID:20097613.	Study Design
323	Maddah M,Nikooyeh B. Factors associated with overweight in children in Rasht, Iran: gender, maternal	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	education, skipping breakfast and parental obesity. Public Health Nutr. 2010;13(2):196-200. PMID:19545473.	
324	Madowitz J,Liang J,Peterson CB,Rydell S,Zucker NL,Tanofsky-Kraff M,Harnack L,Boutelle KN. Concurrent and convergent validity of the eating in the absence of hunger questionnaire and behavioral paradigm in overweight children. Int J Eat Disord. 2014;47(3):287-95. PMID:24186043.	Study Design , Independent Variable
325	Mahadevan M,Hartwell HJ,Feldman CH,Ruzsilla JA,Raines ER. Assisted-living elderly and the mealtime experience. J Hum Nutr Diet. 2014;27(2):152-61. PMID:23489649.	Study Design , Independent Variable
326	Mak TN,Prynne CJ,Cole D,Fitt E,Bates B,Stephen AM. Patterns of sociodemographic and food practice characteristics in relation to fruit and vegetable consumption in children: results from the U.K. National Diet and Nutrition Survey Rolling Programme (2008-2010). Public Health Nutr. 2013;16(11):1912-23. PMID:23920151.	Study Design , Location
327	Makela J,Vaarno J,Kaljonen A,Niinikoski H,Lagstrom H. Maternal overweight impacts infant feeding patterns - The STEPS Study. European Journal of Clinical Nutrition. 2014;68(1):43-49.	Independent Variable, Age
328	Malhotra K,Herman AN,Wright G,Bruton Y,Fisher JO,Whitaker RC. Perceived benefits and challenges for low-income mothers of having family meals with preschool-aged children: childhood memories matter. J Acad Nutr Diet. 2013;113(11):1484-93. PMID:24144074.	Study Design , Independent Variable
329	Mallan KM,Daniels LA,Nothard M,Nicholson JM,Wilson A,Cameron CM,Scuffham PA,Thorpe K. Dads at the dinner table. A cross-sectional study of Australian fathers' child feeding perceptions and practices. Appetite. 2014;73:40-44.	Study Design
330	Mallan KM,Liu WH,Mehta RJ,Daniels LA,Magarey A,Battistutta D. Maternal report of young children's eating styles. Validation of the Children's Eating Behaviour Questionnaire in three ethnically diverse Australian samples. Appetite. 2013;64:48-55. PMID:23333562.	Location, Independent Variable
331	Mandal B,Powell LM. Child care choices, food intake, and children's obesity status in the United States. Economics and Human Biology. 2014;14(1):50-61.	Study Design , Independent Variable
332	Manios Y,Moschonis G,Androutsos O,Filippou C,Van Lippevelde W,Vik FN,Te Velde SJ,Jan N,Dossegger A,Bere E,Molnar D,Moreno LA,Chinapaw MJ,De Bourdeaudhuij I,Brug J. Family sociodemographic characteristics as correlates of children's breakfast habits and weight status in eight European countries. The ENERGY (EuropeaN Energy balance Research to prevent excessive weight Gain among Youth) project. Public Health Nutr. 2014;#volume#:1-10. PMID:25017807.	Study Design
333	Marquis M,Shatenstein B. Food choice motives and the importance of family meals among immigrant mothers. Can J Diet Pract Res. 2005;66(2):77-82. PMID:15975196.	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
334	Martin-Biggers J,Spaccarotella K,Berhaupt-Glickstein A,Hongu N,Worobey J,Byrd-Bredbenner C. Come and get it! A discussion of family mealtime literature and factors affecting obesity risk. Adv Nutr. 2014;5(3):235-47. PMID:24829470.	Study Design
335	Martinez SM,Rhee K,Blanco E,Boutelle K. Maternal attitudes and behaviors regarding feeding practices in elementary school-aged Latino children: a pilot qualitative study on the impact of the cultural role of mothers in the US-Mexican border region of San Diego, California. J Acad Nutr Diet. 2014;114(2):230-7. PMID:24315129.	Study Design
336	Masse LC,Blanck HM,Valente M,Atienza AA,Agurs-Collins T,Weber D,Yaroch AL. Association between self-reported household practices and body mass index of US children and adolescents, 2005. Prev Chronic Dis. 2012;9:E174. PMID:23237244.	Independent Variable
337	Masters MA,Stanek Krogstrand KL,Eskridge KM,Albrecht JA. Race/Ethnicity and Income in Relation to the Home Food Environment in US Youth Aged 6 to 19 Years. J Acad Nutr Diet. 2014;PMID:24935611.	Study Design
338	Mata J,Scheibehenne B,Todd PM. Predicting children's meal preferences: how much do parents know?. Appetite. 2008;50(2-3):367-75. PMID:17950951.	Independent Variable
339	Mazzeo SE,Kelly NR,Stern M,Gow RW,Cotter EW,Thornton LM,Evans RK,Bulik CM. Parent skills training to enhance weight loss in overweight children: Evaluation of NOURISH. Eating Behaviors. 2014;15(2):225-229.	Independent Variable, Attrition
340	McBride CM,Persky S,Wagner LK,Faith MS,Ward DS. Effects of providing personalized feedback of child's obesity risk on mothers' food choices using a virtual reality buffet. Int J Obes (Lond). 2013;37(10):1322-7. PMID:23736369.	Independent Variable
341	McCurdy K,Gorman KS,Kisler T,Metallinos-Katsaras E. Associations between family food behaviors, maternal depression, and child weight among low-income children. Appetite. 2014;79:97-105. PMID:24768937.	Study Design , Independent Variable
342	McEwen C,Flouri E. Fathers' parenting, adverse life events, and adolescents' emotional and eating disorder symptoms: the role of emotion regulation. Eur Child Adolesc Psychiatry. 2009;18(4):206-16. PMID:18810309.	Location, Independent Variable
343	McGowan L,Cooke LJ,Gardner B,Beeken RJ,Croker H,Wardle J. Healthy feeding habits: efficacy results from a cluster-randomized, controlled exploratory trial of a novel, habit-based intervention with parents. Am J Clin Nutr. 2013;98(3):769-77. PMID:23864536.	Location, Independent Variable
344	McIntosh WA,Kubena KS,Tolle G,Dean WR,Jan JS,Anding J. Mothers and meals. The effects of mothers' meal planning and shopping motivations on children's participation in family meals. Appetite. 2010;55(3):623-8. PMID:20870001.	Study Design , Independent Variable, Outcome
345	McPhie S,Skouteris H,McCabe M,Ricciardelli LA,Milgrom J,Baur LA,Aksan N,Dell'aquila D. Maternal correlates of	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	preschool child eating behaviours and body mass index: a cross-sectional study. Int J Pediatr Obes. 2011;6(5-6):476-80. PMID:21780868.	
346	Meier A,Musick K. Variation in Associations Between Family Dinners and Adolescent Well-Being. J Marriage Fam. 2014;76(1):13-23. PMID:24511154.	Outcome
347	Melbye EL,Ogaard T,Overby NC,Hansen H. Parental food-related behaviors and family meal frequencies: associations in Norwegian dyads of parents and preadolescent children. BMC Public Health. 2013;13:820. PMID:24015833.	Study Design
348	Melgar-Quinonez HR,Kaiser LL. Relationship of child-feeding practices to overweight in low-income Mexican-American preschool-aged children. J Am Diet Assoc. 2004;104(7):1110-9. PMID:15215770.	Study Design
349	Mellin AE,Neumark-Sztainer D,Patterson J,Sockalosky J. Unhealthy weight management behavior among adolescent girls with type 1 diabetes mellitus: the role of familial eating patterns and weight-related concerns. J Adolesc Health. 2004;35(4):278-89. PMID:15450541.	Unhealthy Subjects
350	Merten MJ,Williams AL,Shriver LH. Breakfast consumption in adolescence and young adulthood: parental presence, community context, and obesity. J Am Diet Assoc. 2009;109(8):1384-91. PMID:19631044.	Independent Variable
351	Mesas AE,Leon-Munoz LM,Guallar-Castillon P,Graciani A,Gutierrez-Fisac JL,Lopez-Garcia E,Aguilera MT,Banegas JR,Rodriguez-Artalejo F. Obesity-related eating behaviours in the adult population of Spain, 2008-2010. Obes Rev. 2012;13(10):858-67. PMID:22577840.	Study Design
352	Miller DP,Waldfogel J,Han WJ. Family meals and child academic and behavioral outcomes. Child Dev. 2012;83(6):2104-20. PMID:22880815.	Outcome
353	Mitchell M,Piazza-Waggoner C,Modi A,Janicke D. Examining short-term stability of the Mealtime Interaction Coding System (MICS). Journal of Pediatric Psychology. 2009;34(1):63-68.	Independent Variable
354	Moens E,Braet C,Soetens B. Observation of family functioning at mealtime: a comparison between families of children with and without overweight. J Pediatr Psychol. 2007;32(1):52-63. PMID:16801324.	Independent Variable
355	Mohd Nasir MT,Norimah AK,Hazizi AS,Nurliyana AR,Loh SH,Suraya I. Child feeding practices, food habits, anthropometric indicators and cognitive performance among preschoolers in Peninsular Malaysia. Appetite. 2012;58(2):525-30. PMID:22265752.	Location, Outcome
356	Moller LM,de Hoog ML,van Eijsden M,Gemke RJ,Vrijkotte TG. Infant nutrition in relation to eating behaviour and fruit and vegetable intake at age 5 years. Br J Nutr. 2013;109(3):564-71. PMID:22717117.	Location, Independent Variable
357	Monteiro SM,Jancey J,Howat P,Burns S,Jones C,Dhaliwal SS,McManus A,Hills AP,Anderson AS. The protocol of a	Location,

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	randomized controlled trial for playgroup mothers: Reminder on Food, Relaxation, Exercise, and Support for Health (REFRESH) Program. BMC Public Health. 2011;11:648. PMID:21843366.	Independent Variable
358	Montgomery-Reagan K,Bianco JA,Heh V,Rettos J,Huston RS. Prevalence and correlates of high body mass index in rural Appalachian children aged 6-11 years. Rural Remote Health. 2009;9(4):1234. PMID:19848443.	Study Design , Independent Variable
359	Moore GF,Murphy S,Chaplin K,Lyons RA,Atkinson M,Moore L. Impacts of the Primary School Free Breakfast Initiative on socio-economic inequalities in breakfast consumption among 9-11-year-old schoolchildren in Wales. Public Health Nutr. 2014;17(6):1280-9. PMID:24476560.	Independent Variable
360	Moore J,Harre N. Eating and activity: the importance of family and environment. Health Promot J Austr. 2007;18(2):143-8. PMID:17663650.	Study Design , Independent Variable
361	Morawska A,Adamson M,Hinchliffe K,Adams T. Hassle Free Mealtimes Triple P: a randomised controlled trial of a brief parenting group for childhood mealtime difficulties. Behav Res Ther. 2014;53:1-9. PMID:24362359.	Independent Variable, Outcome
362	Moreira I,Severo M,Oliveira A,Durao C,Moreira P,Barros H,Lopes C. Social and health behavioural determinants of maternal child-feeding patterns in preschool-aged children. Maternal and Child Nutrition. 2014;.	Study Design , Independent Variable
363	Morin P,Roy MA. Perceptions of employed parents about early childhood obesity and the need for prevention strategies. Health Promot Pract. 2013;14(1):113-21. PMID:22193255.	Study Design
364	Moschonis G,Kalliora AC,Costarelli V,Papandreou C,Koutoukidis D,Lionis C,Chrousos GP,Manios Y. Identification of lifestyle patterns associated with obesity and fat mass in children: the Healthy Growth Study. Public Health Nutr. 2014;17(3):614-24. PMID:23531449.	Study Design
365	Moschonis G,Mavrogianni C,Karatzi K,Iatridi V,Chrousos GP,Lionis C,Manios Y. Increased physical activity combined with more eating occasions is beneficial against dyslipidemias in children. The Healthy Growth Study. Eur J Nutr. 2013;52(3):1135-44. PMID:22868822.	Study Design , Independent Variable
366	Moser A,Chen SE,Jilcott SB,Nayga RM. Associations between maternal employment and time spent in nutrition-related behaviours among German children and mothers. Public Health Nutr. 2012;15(7):1256-61. PMID:22189559.	Study Design
367	Mossavar-Rahmani Y,Tinker LF,Huang Y,Neuhouser ML,McCann SE,Seguin RA,Vitolins MZ,Curb JD,Prentice RL. Factors relating to eating style, social desirability, body image and eating meals at home increase the precision of calibration equations correcting self-report measures of diet using recovery biomarkers: findings from the Women's Health Initiative. Nutr J. 2013;12:63. PMID:23679960.	Outcome
368	Muhammad NA,Omar K,Shah SA,Muthupalaniappen LA,Arshad F. Parental perception of their children's weight	Study Design ,

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	status, and its association with their nutrition and obesity knowledge. Asia Pac J Clin Nutr. 2008;17(4):597-602. PMID:19114396.	Independent Variable
369	Muller K,Libuda L,Diethelm K,Huybrechts I,Moreno LA,Manios Y,Mistura L,Dallongeville J,Kafatos A,Gonzalez-Gross M,Cuenca-Garcia M,Sjostrom M,Hallstrom L,Widhalm K,Kersting M. Lunch at school, at home or elsewhere. Where do adolescents usually get it and what do they eat? Results of the HELENA Study. Appetite. 2013;71:332-9. PMID:24055659.	Study Design
370	Munoz DJ,Israel AC,Anderson DA. The relationship of family stability and family mealtime frequency with bulimia symptomatology. Eat Disord. 2007;15(3):261-71. PMID:17520457.	Outcome
371	Musaiger AO,Al-Roomi K,Bader Z. Social, dietary and lifestyle factors associated with obesity among Bahraini adolescents. Appetite. 2014;73:197-204.	Independent Variable
372	Musick K,Meier A. ASSESSING CAUSALITY AND PERSISTENCE IN ASSOCIATIONS BETWEEN FAMILY DINNERS AND ADOLESCENT WELL-BEING. J Marriage Fam. 2012;74(3):476-493. PMID:23794750.	Outcome
373	Myhre JB,Loken EB,Wandel M,Andersen LF. Eating location is associated with the nutritional quality of the diet in Norwegian adults. Public Health Nutr. 2014;17(4):915-23. PMID:23481490.	Study Design
374	Nagel G,Wabitsch M,Galm C,Berg S,Brandstetter S,Fritz M,Klenk J,Peter R,Prokopchuk D,Steiner R,Stroth S,Wartha O,Weiland SK,Steinacker J. Determinants of obesity in the Ulm Research on Metabolism, Exercise and Lifestyle in Children (URMEL-ICE). Eur J Pediatr. 2009;168(10):1259-67. PMID:19562371.	Study Design
375	Natale RA,Messiah SE,Asfour L,Uhlhorn SB,Delamater A,Arheart KL. Role Modeling as an Early Childhood Obesity Prevention Strategy: Effect of Parents and Teachers on Preschool Children's Healthy Lifestyle Habits. J Dev Behav Pediatr. 2014;35(6):378-87. PMID:25007060.	Independent Variable
376	Nelson Laska M,Larson NI,Neumark-Sztainer D,Story M. Dietary patterns and home food availability during emerging adulthood: do they differ by living situation?. Public Health Nutr. 2010;13(2):222-8. PMID:19691902.	Study Design
377	Nelson MC,Larson NI,Barr-Anderson D,Neumark-Sztainer D,Story M. Disparities in dietary intake, meal patterning, and home food environments among young adult nonstudents and 2- and 4-year college students. Am J Public Health. 2009;99(7):1216-9. PMID:19443824.	Independent Variable
378	Ness M,Barradas DT,Irving J,Manning SE. Correlates of overweight and obesity among American Indian/Alaska Native and Non-Hispanic White children and adolescents: National Survey of Children's Health, 2007. Matern Child Health J. 2012;16 Suppl 2:268-77. PMID:23229132.	Independent Variable
379	Neumark-Sztainer D,Eisenberg ME,Fulkerson JA,Story M,Larson NI. Family meals and disordered eating in	Outcome

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	adolescents: longitudinal findings from project EAT. Arch Pediatr Adolesc Med. 2008;162(1):17-22. PMID:18180407.	
380	Neumark-Sztainer D,Larson NI,Fulkerson JA,Eisenberg ME,Story M. Family meals and adolescents: what have we learned from Project EAT (Eating Among Teens)?. Public Health Nutr. 2010;13(7):1113-21. PMID:20144257.	Study Design
381	Neumark-Sztainer D,MacLehose R,Loth K,Fulkerson JA,Eisenberg ME,Berge J. What's for dinner? Types of food served at family dinner differ across parent and family characteristics. Public Health Nutr. 2014;17(1):145-55. PMID:23083836.	Study Design
382	Neumark-Sztainer D,Wall M,Fulkerson JA,Larson N. Changes in the frequency of family meals from 1999 to 2010 in the homes of adolescents: trends by sociodemographic characteristics. J Adolesc Health. 2013;52(2):201-6. PMID:23332485.	Study Design
383	Neumark-Sztainer D,Wall M,Story M,Fulkerson JA. Are family meal patterns associated with disordered eating behaviors among adolescents?. J Adolesc Health. 2004;35(5):350-9. PMID:15488428.	Outcome
384	Neumark-Sztainer D,Wall M,Story M,Sherwood NE. Five-year longitudinal predictive factors for disordered eating in a population-based sample of overweight adolescents: implications for prevention and treatment. Int J Eat Disord. 2009;42(7):664-72. PMID:19642214.	Outcome
385	Nicklas TA,O'Neil CE,Stuff JE,Hughes SO,Liu Y. Characterizing dinner meals served and consumed by low-income preschool children. Child Obes. 2012;8(6):561-71. PMID:23181922.	Independent Variable
386	Nielsen A,Krasnik A,Vassard D,Holm L. Opportunities for healthier child feeding. Does ethnic position matter? - Self-reported evaluation of family diet and impediments to change among parents with majority and minority status in Denmark. Appetite. 2014;78:122-128.	Study Design , Independent Variable
387	Niermann C,Krapf F,Renner B,Reiner M,Woll A. Family health climate scale (FHC-scale): Development and validation. International Journal of Behavioral Nutrition and Physical Activity. 2014;11(1) .	Study Design , Independent Variable
388	Nieuwesteeg A,Hartman E,Pouwer F,Emons W,Aanstoot HJ,Van Mil E,Van Bakel H. Qualitative observation instrument to measure the quality of parent-child interactions in young children with type 1 diabetes mellitus. BMC Pediatrics. 2014;14(1) .	Independent Variable, Unhealthy Subjects
389	Nijs KA,de Graaf C,Kok FJ,van Staveren WA. Effect of family style mealtimes on quality of life, physical performance, and body weight of nursing home residents: cluster randomised controlled trial. Bmj. 2006;332(7551):1180-4. PMID:16679331.	Location, Independent Variable
390	Nijs KA,de Graaf C,Siebelink E,Blauw YH,Vanneste V,Kok FJ,van Staveren WA. Effect of family-style meals on	Location,

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	Excluded Citations	Reason for Exclusion
	energy intake and risk of malnutrition in dutch nursing home residents: a randomized controlled trial. J Gerontol A Biol Sci Med Sci. 2006;61(9):935-42. PMID:16960024.	Independent Variable
391	Nishiyama M,Suzuki E,Hashimoto M,Takaoka N,Inaba M,Tadokoro N,Kumakura M,Furuichi T,Kamikawa Y. Skipping breakfast is associated with academic achievement, unhealthy behaviors, and sense of coherence among medical students. Dokkyo Journal of Medical Sciences. 2013;40(1):47-54.	Independent Variable
392	Nurul-Fadhilah A,Teo PS,Huybrechts I,Foo LH. Infrequent breakfast consumption is associated with higher body adiposity and abdominal obesity in Malaysian school-aged adolescents. PLoS One. 2013;8(3):e59297. PMID:23520556.	Independent Variable
393	O'Dea JA,Amy NK. Perceived and desired weight, weight related eating and exercising behaviours, and advice received from parents among thin, overweight, obese or normal weight Australian children and adolescents. Int J Behav Nutr Phys Act. 2011;8:68. PMID:21703026.	Study Design , Independent Variable
394	O'Dea JA,Mugridge AC. Nutritional quality of breakfast and physical activity independently predict the literacy and numeracy scores of children after adjusting for socioeconomic status. Health Educ Res. 2012;27(6):975-85. PMID:22798563.	Independent Variable, Outcome
395	O'Dougherty M,Story M,Lytle L. Food choices of young African-American and Latino adolescents: where do parents fit in?. J Am Diet Assoc. 2006;106(11):1846-50. PMID:17081835.	Study Design , Independent Variable
396	Oellingrath IM,Hersleth M,Svendsen MV. Association between parental motives for food choice and eating patterns of 12- to 13-year-old Norwegian children. Public Health Nutr. 2013;16(11):2023-31. PMID:23034288.	Study Design
397	Oellingrath IM,Svendsen MV,Brantsaeter AL. Tracking of eating patterns and overweight - a follow-up study of Norwegian schoolchildren from middle childhood to early adolescence. Nutr J. 2011;10:106. PMID:21978299.	Location, Independent Variable
398	Offer S. Assessing the relationship between family mealtime communication and adolescent emotional well-being using the experience sampling method. Journal of Adolescence. 2013;36(3):577-585.	Study Design , Outcome
399	Offer S. Time with children and employed parents' emotional well-being. Soc Sci Res. 2014;47:192-203. PMID:24913954.	Independent Variable, Outcome
400	Okubo H,Miyake Y,Sasaki S,Tanaka K,Murakami K,Hirota Y. Dietary patterns in infancy and their associations with maternal socio-economic and lifestyle factors among 758 Japanese mother-child pairs: The Osaka Maternal and Child Health Study. Maternal and Child Nutrition. 2014;10(2):213-225.	Study Design , Independent Variable
401	Olsen NJ,Buch-Andersen T,Handel MN,Ostergaard LM,Pedersen J,Seeger C,Stougaard M,Traerup M,Livemore K,Mortensen EL,Holst C,Heitmann BL. The Healthy Start project: a randomized, controlled intervention to	Study Design , Location

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The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	prevent overweight among normal weight, preschool children at high risk of future overweight. BMC Public Health. 2012;12:590. PMID:22852799.	
402	Olsen SO,Ruiz S. Adolescents' influence in family meal decisions. Appetite. 2008;51(3):646-53. PMID:18599156.	Study Design , Independent Variable
403	Opipari-Arrigan L,Powers SW,Quittner AL,Stark LJ. Mealtime problems predict outcome in clinical trial to improve nutrition in children with CF. Pediatr Pulmonol. 2010;45(1):78-82. PMID:19953660.	Unhealthy Subjects
404	Orrell-Valente JK,Hill LG,Brechwald WA,Dodge KA,Pettit GS,Bates JE. "Just three more bites": an observational analysis of parents' socialization of children's eating at mealtime. Appetite. 2007;48(1):37-45. PMID:17000028.	Study Design , Independent Variable
405	Ortiz-Hernandez L,Rodriguez-Magallanes M,Melgar-Quinonez H. Obesity, eating behavior, and food insecurity among adolescents in Mexico city. Boletin Medico del Hospital Infantil de Mexico. 2012;69(6):431-441.	Study Design
406	Ostbye T,Krause KM,Stroo M,Lovelady CA,Evenson KR,Peterson BL,Bastian LA,Swamy GK,West DG,Brouwer RJ,Zucker NL. Parent-focused change to prevent obesity in preschoolers: results from the KAN-DO study. Prev Med. 2012;55(3):188-95. PMID:22705016.	Independent Variable
407	Ostbye T,Malhotra R,Stroo M,Lovelady C,Brouwer R,Zucker N,Fuemmeler B. The effect of the home environment on physical activity and dietary intake in preschool children. Int J Obes (Lond). 2013;37(10):1314-21. PMID:23736357.	Independent Variable
408	Overby N,Stea TH,Vik FN,Klepp KI,Bere E. Changes in meal pattern among Norwegian children from 2001 to 2008. Public Health Nutr. 2011;14(9):1549-54. PMID:21241534.	Study Design
409	Oyama M,Nakamura K,Tsuchiya Y,Yamamoto M. Unhealthy maternal lifestyle leads to rapid infant weight gain: prevention of future chronic diseases. Tohoku J Exp Med. 2009;217(1):67-72. PMID:19155610.	Location, Independent Variable
410	Palenzuela Paniagua SM,Perez Milena A,Perula de Torres LA,Fernandez Garcia JA,Maldonado Alconada J. Food consumption patterns among adolescents. Anales del Sistema Sanitario de Navarra. 2014;37(1):47-58.	Study Design
411	Papoutsou S,Briassoulis G,Hadjigeorgiou C,Savva SC,Solea T,Hebestreit A,Pala V,Sieri S,Kourides Y,Kafatos A,Tornaritis M. The combination of daily breakfast consumption and optimal breakfast choices in childhood is an important public health message. Int J Food Sci Nutr. 2014;65(3):273-9. PMID:24512299.	Independent Variable
412	Papoutsou S,Briassoulis G,Wolters M,Peplies J,Iacoviello L,Eiben G,Veidebaum T,Molnar D,Russo P,Michels N,Moreno LA,Tornaritis M. No breakfast at home: association with cardiovascular disease risk factors in childhood. Eur J Clin Nutr. 2014;68(7):829-34. PMID:24848628.	Study Design , Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
413	Park S,Kang JH,Lawrence R,Gittelsohn J. Environmental influences on youth eating habits: insights from parents and teachers in South Korea. Ecol Food Nutr. 2014;53(4):347-62. PMID:24884552.	Study Design
414	Patton SR,Clements MA,Fridlington A,Cohoon C,Turpin AL,Delurgio SA. Frequency of mealtime insulin bolus as a proxy measure of adherence for children and youths with type 1 diabetes mellitus. Diabetes Technol Ther. 2013;15(2):124-8. PMID:23317372.	Outcome, Unhealthy Subjects
415	Patton SR,Dolan LM,Chen M,Powers SW. Dietary adherence and mealtime behaviors in young children with type 1 diabetes on intensive insulin therapy. J Acad Nutr Diet. 2013;113(2):258-62. PMID:23351629.	Study Design , Unhealthy Subjects
416	Patton SR,Dolan LM,Mitchell MJ,Byars KC,Standiford D,Powers SW. Mealtime interactions in families of pre-schoolers with type 1 diabetes. Pediatr Diabetes. 2004;5(4):190-8. PMID:15601361.	Study Design , Unhealthy Subjects
417	Patton SR,Dolan LM,Powers SW. Differences in family mealtime interactions between young children with type 1 diabetes and controls: implications for behavioral intervention. J Pediatr Psychol. 2008;33(8):885-93. PMID:18356184.	Study Design , Unhealthy Subjects
418	Patton SR,Dolan LM,Powers SW. Does eating during television viewing affect mealtimes in young children with type 1 diabetes mellitus?. J Pediatr Nurs. 2013;28(4):364-8. PMID:23273663.	Independent Variable, Unhealthy Subjects
419	Patton SR,Dolan LM,Smith LB,Brown MB,Powers SW. Examining mealtime behaviors in families of young children with type 1 diabetes on intensive insulin therapy. Eat Behav. 2013;14(4):464-7. PMID:24183137.	Independent Variable, Unhealthy Subjects
420	Patton SR,Piazza-Waggoner C,Modi AC,Dolan LM,Powers SW. Family functioning at meals relates to adherence in young children with type 1 diabetes. J Paediatr Child Health. 2009;45(12):736-41. PMID:19863707.	Independent Variable, Unhealthy Subjects
421	Pearson N,Atkin AJ,Biddle SJ,Gorely T,Edwardson C. Parenting styles, family structure and adolescent dietary behaviour. Public Health Nutr. 2010;13(8):1245-53. PMID:19954574.	Study Design
422	Pearson N,MacFarlane A,Crawford D,Biddle SJ. Family circumstance and adolescent dietary behaviours. Appetite. 2009;52(3):668-74. PMID:19501765.	Location, Independent Variable
423	Pearson N,Timperio A,Salmon J,Crawford D,Biddle SJH. Family influences on children's physical activity and fruit and vegetable consumption. International Journal of Behavioral Nutrition and Physical Activity. 2009;6 .	Independent Variable
424	Pearson N,Williams L,Crawford D,Ball K. Maternal and best friends' influences on meal-skipping behaviours. Br J Nutr. 2012;108(5):932-8. PMID:22289518.	Location, Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
425	Pedersen TP,Holstein BE,Flachs EM,Rasmussen M. Meal frequencies in early adolescence predict meal frequencies in late adolescence and early adulthood. BMC Public Health. 2013;13:445. PMID:23642295.	Location, Independent Variable
426	Pelletier JE,Laska MN. Balancing healthy meals and busy lives: associations between work, school, and family responsibilities and perceived time constraints among young adults. J Nutr Educ Behav. 2012;44(6):481-9. PMID:23017891.	Study Design
427	Perez LM,Garcia K,Herrera R. Psychological, behavioral and familial factors in obese Cuban children and adolescents. MEDICC Review. 2013;15(4):24-28.	Study Design
428	Perez-Rodriguez M,Melendez G,Nieto C,Aranda M,Pfeffer F. Dietary and physical activity/inactivity factors associated with obesity in school-aged children. Adv Nutr. 2012;3(4):622s-628s. PMID:22798003.	Study Design
429	Persaud N,Maguire JL,Lebovic G,Carsley S,Khovratovich M,Randall Simpson JA,McCrindle BW,Parkin PC,Birken C. Association between serum cholesterol and eating behaviours during early childhood: a cross-sectional study. Cmaj. 2013;185(11):E531-6. PMID:23775611.	Study Design
430	Pescud M,Pettigrew S,Henley N. Nutrition beliefs of disadvantaged parents of overweight children. Health Education Journal. 2014;73(2):201-208.	Independent Variable
431	Peters J,Dollman J,Petkov J,Parletta N. Associations between parenting styles and nutrition knowledge and 2-5-year-old children's fruit, vegetable and non-core food consumption. Public Health Nutr. 2013;16(11):1979-87. PMID:23089340.	Study Design
432	Peters J,Parletta N,Lynch J,Campbell K. A comparison of parental views of their pre-school children's 'healthy' versus 'unhealthy' diets. A qualitative study. Appetite. 2014;76:129-36. PMID:24524974.	Study Design , Independent Variable
433	Pettinger C,Holdsworth M,Gerber M. Meal patterns and cooking practices in Southern France and Central England. Public Health Nutr. 2006;9(8):1020-6. PMID:17125566.	Study Design
434	Petty ML,Escrivao MA,Souza AA. Preliminary validation of the Parent Mealtime Action Scale and its association with food intake in children from Sao Paulo, Brazil. Appetite. 2013;62:166-72. PMID:23219990.	Location, Independent Variable
435	Piazza-Waggoner C,Modi AC,Ingerski LM,Wu YP,Zeller MH. Distress at the Dinner Table? Observed Mealtime Interactions among Treatment-Seeking Families of Obese Children. Child Obes. 2011;7(5):385-391. PMID:23275861.	Study Design , Independent Variable
436	Picarelli A,Tola M,Tabacco F,Marino M,Borghini R,D'Amico T,Lubrano C,Gargiulo P. Enhancing treatment of obesity by using a distracting mini-meal: a new approach to an old problem. Hormones (Athens, Greece). 2013;12(1):101-10. PMID:CN-00881625.	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
437	Pilecki MW,Kowal M,Woronkowicz A,Kryst L,Sobiecki J. The socioeconomic status and family context of eating attitudes and dietary behaviours of children in Polish primary schools. Archives of Psychiatry and Psychotherapy. 2014;16(1):5-13.	Independent Variable
438	Pinhas-Hamiel O,Bar-Zvi E,Boyko V,Reichman B,Lerner-Geva L. Prevalence of overweight in kindergarten children in the centre of Israel - association with lifestyle habits. Child Care Health Dev. 2009;35(2):147-52. PMID:18991982.	Study Design
439	Porter EJ. Problems with preparing food reported by frail older women living alone at home. ANS Adv Nurs Sci. 2007;30(2):159-74. PMID:17510573.	Independent Variable
440	Poulos NS,Pasch KE,Springer AE,Hoelscher DM,Kelder SH. Is frequency of family meals associated with parental encouragement of healthy eating among ethnically diverse eighth graders?. Public Health Nutr. 2014;17(5):998-1003. PMID:23651952.	Study Design , Independent Variable, Outcome
441	Pourshahidi LK,Kerr MA,McCaffrey TA,Livingstone MB. Influencing and modifying children's energy intake: the role of portion size and energy density. Proc Nutr Soc. 2014;73(3):397-406. PMID:24886909.	Independent Variable
442	Powers SW,Chamberlin LA,van Schaick KB,Sherman SN,Whitaker RC. Maternal feeding strategies, child eating behaviors, and child BMI in low-income African-American preschoolers. Obesity (Silver Spring). 2006;14(11):2026-33. PMID:17135620.	Independent Variable
443	Prichard I,Hodder K,Hutchinson A,Wilson C. Predictors of mother-daughter resemblance in dietary intake. The role of eating styles, mothers' consumption, and closeness. Appetite. 2012;58(1):271-6. PMID:22056488.	Location, Independent Variable
444	Provencher V,Drapeau V,Tremblay A,Despres JP,Bouchard C,Lemieux S. Eating behaviours, dietary profile and body composition according to dieting history in men and women of the Quebec Family Study. Br J Nutr. 2004;91(6):997-1004. PMID:15182403.	Study Design
445	Provencher V,Perusse L,Bouchard L,Drapeau V,Bouchard C,Rice T,Rao DC,Tremblay A,Despres JP,Lemieux S. Familial resemblance in eating behaviors in men and women from the Quebec Family Study. Obes Res. 2005;13(9):1624-9. PMID:16222066.	Location, Independent Variable
446	Pula K,Parks CD,Ross CF. Regulatory focus and food choice motives. Prevention orientation associated with mood, convenience, and familiarity. Appetite. 2014;78:15-22.	Independent Variable
447	Quick BL,Fiese BH,Anderson B,Koester BD,Marlin DW. A formative evaluation of shared family mealtime for parents of toddlers and young children. Health Commun. 2011;26(7):656-66. PMID:21598152.	Study Design , Independent Variable
448	Quick V,Wall M,Larson N,Haines J,Neumark-Sztainer D. Personal, behavioral and socio-environmental predictors	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	of overweight incidence in young adults: 10-yr longitudinal findings. Int J Behav Nutr Phys Act. 2013;10:37. PMID:23531253.	
449	Quintiliani LM,Bishop HL,Greaney ML,Whiteley JA. Factors across home, work, and school domains influence nutrition and physical activity behaviors of nontraditional college students. Nutr Res. 2012;32(10):757-63. PMID:23146772.	Study Design
450	Raaijmakers LG,Gevers DW,Teuscher D,Kremers SP,van Assema P. Emotional and instrumental feeding practices of Dutch mothers regarding foods eaten between main meals. BMC Public Health. 2014;14:171. PMID:24533574.	Study Design
451	Raat H,Struijk MK,Remmers T,Vlasblom E,van Grieken A,Broeren SM,te Velde SJ,Beltman M,Boere-Boonekamp MM,L'Hoir MP. Primary prevention of overweight in preschool children, the BeeBOFT study (breastfeeding, breakfast daily, outside playing, few sweet drinks, less TV viewing): design of a cluster randomized controlled trial. BMC Public Health. 2013;13:974. PMID:24138805.	Independent Variable
452	Racine EF,Lyerly J,Troyer JL,Warren-Findlow J,McAuley WJ. The influence of home-delivered dietary approaches to stop hypertension meals on body mass index, energy intake, and percent of energy needs consumed among older adults with hypertension and/or hyperlipidemia. J Acad Nutr Diet. 2012;112(11):1755-62. PMID:23102175.	Independent Variable
453	Rahmawaty S,Lyons-Wall P,Batterham M,Charlton K,Meyer BJ. Food patterns of Australian children ages 9 to 13 y in relation to (omega)-3 long chain polyunsaturated intake. Nutrition. 2014;30(2):169-176.	Study Design , Independent Variable
454	Ramos E,Barros H. Family and school determinants of overweight in 13-year-old Portuguese adolescents. Acta Paediatr. 2007;96(2):281-6. PMID:17429921.	Independent Variable
455	Ray C,Roos E,Brug J,Behrendt I,Ehrenblad B,Yngve A,te Velde SJ. Role of free school lunch in the associations between family-environmental factors and children's fruit and vegetable intake in four European countries. Public Health Nutr. 2013;16(6):1109-17. PMID:22974579.	Study Design
456	Ray C,Roos E. Family characteristics predicting favourable changes in 10 and 11-year-old children's lifestyle-related health behaviours during an 18-month follow-up. Appetite. 2012;58(1):326-32. PMID:22056489.	Study Design , Independent Variable
457	Ray C,Suominen S,Roos E. The role of parents' sense of coherence in irregular meal pattern and food intake pattern of children aged 10-11 in Finland. J Epidemiol Community Health. 2009;63(12):1005-9. PMID:19525244.	Study Design , Independent Variable
458	Reicks M,Degeneffe D,Ghosh K,Bruhn C,Goodell LS,Gunther C,Auld G,Ballejos M,Boushey C,Cluskey M,Misner S,Olson B,Wong S,Zaghloul S. Parent calcium-rich-food practices/perceptions are associated with calcium intake among parents and their early adolescent children. Public Health Nutr. 2012;15(2):331-40. PMID:21729479.	Study Design , Independent Variable
459	Reicks M,Trofholz AC,Stang JS,Laska MN. Impact of Cooking and Home Food Preparation Interventions Among	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	Adults: Outcomes and Implications for Future Programs. J Nutr Educ Behav. 2014;46(4):259-76. PMID:24703245.	
460	Remmers T,van Grieken A,Renders CM,Hirasing RA,Broeren SM,Raat H. Correlates of parental misperception of their child's weight status: the 'be active, eat right' study. PLoS One. 2014;9(2):e88931. PMID:24551191.	Independent Variable
461	Rezaeian S,Ahmadzadeh J. Assessment of food habits and their association with cardiovascular risk factors in employees. International Journal of Collaborative Research on Internal Medicine and Public Health. 2012;4(4):339-343.	Location, Independent Variable
462	Reznar MM,Carlson JS,Hughes SO,Pavangadkar AS,Scott MK,Hoerr SL. An interactive parents' guide for feeding preschool-aged children: pilot studies for improvement. J Acad Nutr Diet. 2014;114(5):788-95. PMID:24512951.	Independent Variable
463	Richter SL,Vandervet LM,Macaskill LA,Salvadori MI,Seabrook JA,Dworatzek PD. Accuracy and reliability of direct observations of home-packed lunches in elementary schools by trained nutrition students. J Acad Nutr Diet. 2012;112(10):1603-7. PMID:23017569.	Location, Independent Variable
464	Ritchie LD,Raman A,Sharma S,Fitch MD,Fleming SE. Dietary intakes of urban, high body mass index, African American children: family and child dietary attributes predict child intakes. J Nutr Educ Behav. 2011;43(4):236-43. PMID:21530411.	Study Design , Independent Variable
465	Ritchie LD. Less frequent eating predicts greater BMI and waist circumference in female adolescents. Am J Clin Nutr. 2012;95(2):290-6. PMID:22218154.	Independent Variable
466	Rito AI,Carvalho MA,Ramos C,Breda J. Program Obesity Zero (POZ)--a community-based intervention to address overweight primary-school children from five Portuguese municipalities. Public Health Nutr. 2013;16(6):1043-51. PMID:23462320.	Independent Variable
467	Robinson TN,Matheson D,Desai M,Wilson DM,Weintraub DL,Haskell WL,McClain A,McClure S,J AB,Sanders LM,Haydel KF,Killen JD. Family, community and clinic collaboration to treat overweight and obese children: Stanford GOALS-A randomized controlled trial of a three-year, multi-component, multi-level, multi-setting intervention. Contemporary Clinical Trials. 2013;36(2):421-435.	Independent Variable
468	Robinson-O'Brien R,Neumark-Sztainer D,Hannan PJ,Burgess-Champoux T,Haines J. Fruits and vegetables at home: child and parent perceptions. J Nutr Educ Behav. 2009;41(5):360-4. PMID:19717120.	Study Design
469	Rockell JE,Skidmore PM,Parnell WR,Wilson N. What children eat during afternoons and evenings: is it important?. Public Health Nutr. 2011;14(3):557-62. PMID:21138613.	Location, Independent Variable
470	Rodearmel SJ,Wyatt HR,Barry MJ,Dong F,Pan D,Israel RG,Cho SS,McBurney MI,Hill JO. A family-based approach to preventing excessive weight gain. Obesity (Silver Spring). 2006;14(8):1392-401. PMID:16988082.	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
471	Rodgers RF,Paxton SJ,Massey R,Campbell KJ,Wertheim EH,Skouteris H,Gibbons K. Maternal feeding practices predict weight gain and obesogenic eating behaviors in young children: a prospective study. Int J Behav Nutr Phys Act. 2013;10:24. PMID:23414332.	Independent Variable
472	Rodgers RF,Paxton SJ,McLean SA,Campbell KJ,Wertheim EH,Skouteris H,Gibbons K. Maternal negative affect is associated with emotional feeding practices and emotional eating in young children. Appetite. 2014;80:242-247.	Study Design , Independent Variable
473	Roe LS,Meengs JS,Birch LL,Rolls BJ. Serving a variety of vegetables and fruit as a snack increased intake in preschool children. Am J Clin Nutr. 2013;98(3):693-9. PMID:23902783.	Independent Variable
474	Roemmich JN,White TM,Paluch R,Epstein LH. Energy intake, parental control of children's eating, and physical activity in siblings discordant for adiposity. Appetite. 2010;55(2):325-31. PMID:20633585.	Study Design , Independent Variable
475	Rollins BY,Belue RZ,Francis LA. The beneficial effect of family meals on obesity differs by race, sex, and household education: the national survey of children's health, 2003-2004. J Am Diet Assoc. 2010;110(9):1335-9. PMID:20800125.	Study Design
476	Rollins BY,Loken E,Savage JS,Birch LL. Maternal controlling feeding practices and girls' inhibitory control interact to predict changes in BMI and eating in the absence of hunger from 5 to 7 y. Am J Clin Nutr. 2014;99(2):249-57. PMID:24284443.	Independent Variable
477	Rollins BY,Loken E,Savage JS,Birch LL. Measurement of food reinforcement in preschool children. Associations with food intake, BMI, and reward sensitivity. Appetite. 2014;72:21-7. PMID:24090537.	Independent Variable
478	Roos E,Pajunen T,Ray C,Lynch C,Kristiansdottir AG,Halldorsson TI,Thorsdottir I,Te Velde SJ,Krawinkel M,Behrendt I,de Almeida MD,Franchini B,Papadaki A,Moschandreas J,Ribic CH,Petrova S,Duleva V,Simcic I,Yngve A. Does eating family meals and having the television on during dinner correlate with overweight? A sub-study of the PRO GREENS project, looking at children from nine European countries. Public Health Nutr. 2014;#volume#:1-9. PMID:24642340.	Study Design
479	Roos E,Sarlio-Lahteenkorva S,Lallukka T,Lahelma E. Associations of work-family conflicts with food habits and physical activity. Public Health Nutr. 2007;10(3):222-9. PMID:17288618.	Study Design
480	Rosenkranz RR,Dzewaltowski DA. Promoting better family meals for girls attending summer programs. J Nutr Educ Behav. 2009;41(1):65-7. PMID:19161923.	Study Design , Outcome
481	Rosenthal MS,Crowley AA,Curry L. Family child care providers' self-perceived role in obesity prevention: working with children, parents, and external influences. J Nutr Educ Behav. 2013;45(6):595-601. PMID:23860100.	Study Design
482	Roshita A,Schubert E,Whittaker M. Child feeding practices in families of working and nonworking mothers of	Study Design ,

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	Indonesian middle class urban families: what are the problems?. Ecol Food Nutr. 2013;52(4):344-70. PMID:23802915.	Independent Variable
483	Rosno EA,Steele RG,Johnston CA,Aylward BS. Parental locus of control: Associations to adherence and outcomes in the treatment of pediatric overweight. Children's Health Care. 2008;37(2):126-144.	Independent Variable
484	Rovner AJ,Mehta SN,Haynie DL,Robinson EM,Pound HJ,Butler DA,Laffel LM,Nansel TR. Perceived benefits, barriers, and strategies of family meals among children with type 1 diabetes mellitus and their parents: focus-group findings. J Am Diet Assoc. 2010;110(9):1302-6. PMID:20800121.	Study Design
485	Salvy SJ,Elmo A,Nitecki LA,Kluczynski MA,Roemmich JN. Influence of parents and friends on children's and adolescents' food intake and food selection. Am J Clin Nutr. 2011;93(1):87-92. PMID:21048059.	Independent Variable
486	Sanchez-Cruz JJ,de Ruiter I,Jimenez-Moleon JJ. Individual, family and environmental factors associated with pediatric excess weight in Spain: a cross-sectional study. BMC Pediatr. 2014;14:3. PMID:24400645.	Study Design
487	Santos JL,Kain J,Dominguez-Vasquez P,Lera L,Galvan M,Corvalan C,Uauy R. Maternal anthropometry and feeding behavior toward preschool children: Association with childhood body mass index in an observational study of Chilean families. International Journal of Behavioral Nutrition and Physical Activity. 2009;6 .	Independent Variable
488	Savoca MR,Martine TL,Morton TB,Johnson LT,Bell NM,Aronson RE,Wallace DC. Meal patterns and food choices of young African-American men: understanding eating within the context of daily life. J Am Diet Assoc. 2011;111(9):1335-42. PMID:21872697.	Study Design
489	Scholten EWM,Schrijvers CTM,Nederkoorn C,Kremers SPJ,Rodenburg G. Relationship between impulsivity, snack consumption and children's weight. PLoS ONE. 2014;9(2) .	Independent Variable
490	Schuetzmann M,Richter-Appelt H,Schulte-Markwort M,Schimmelmann BG. Associations among the perceived parent-child relationship, eating behavior, and body weight in preadolescents: results from a community-based sample. J Pediatr Psychol. 2008;33(7):772-82. PMID:18238800.	Study Design , Independent Variable
491	Sen B. The relationship between frequency of family dinner and adolescent problem behaviors after adjusting for other family characteristics. Journal of Adolescence. 2010;33(1):187-196.	Outcome
492	Serrano M,Torres R,Perez CM,Palacios C. Social environment factors, diet quality, and body weight in 12-year-old children from four public schools in Puerto Rico. P R Health Sci J. 2014;33(2):80-7. PMID:24964643.	Study Design
493	Simmons SF,Levy-Storms L. The effect of dining location on nutritional care quality in nursing homes. J Nutr Health Aging. 2005;9(6):434-9. PMID:16395515.	Study Design
494	Sisson SB,Sheffield-Morris A,Spicer P,Lora K,Latorre C. Influence of family structure on obesogenic behaviors and	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	placement of bedroom TVs of American children: National Survey of Children's Health 2007. Prev Med. 2014;61:48-53. PMID:24440163.	
495	Skafida V. The family meal panacea: exploring how different aspects of family meal occurrence, meal habits and meal enjoyment relate to young children's diets. Sociol Health Illn. 2013;35(6):906-23. PMID:23551143.	Study Design , Location
496	Skala K,Chuang RJ,Evans A,Hedberg AM,Dave J,Sharma S. Ethnic differences in the home food environment and parental food practices among families of low-income Hispanic and African-American preschoolers. J Immigr Minor Health. 2012;14(6):1014-22. PMID:22262411.	Study Design
497	Slane JD,Klump KL,McGue M,Iacono WG. Developmental trajectories of disordered eating from early adolescence to young adulthood: A longitudinal study. International Journal of Eating Disorders. 2014;.	Independent Variable
498	Slater J,Sevenhuysen G,Edginton B,O'Neil J. 'Trying to make it all come together': structuration and employed mothers' experience of family food provisioning in Canada. Health Promot Int. 2012;27(3):405-15. PMID:21693474.	Independent Variable
499	Sleddens EF,Kremers SP,De Vries NK,Thijs C. Relationship between parental feeding styles and eating behaviours of Dutch children aged 6-7. Appetite. 2010;54(1):30-6. PMID:19747513.	Study Design
500	Sleddens EFC,Kremers SPJ,Stafleu A,Dagnelie PC,De Vries NK,Thijs C. Food parenting practices and child dietary behavior. Prospective relations and the moderating role of general parenting. Appetite. 2014;79:42-50.	Independent Variable
501	Smart CE,Ross K,Edge JA,King BR,McElduff P,Collins CE. Can children with Type 1 diabetes and their caregivers estimate the carbohydrate content of meals and snacks?. Diabet Med. 2010;27(3):348-53. PMID:20536499.	Independent Variable
502	Smith KJ,McNaughton SA,Cleland VJ,Crawford D,Ball K. Health, behavioral, cognitive, and social correlates of breakfast skipping among women living in socioeconomically disadvantaged neighborhoods. J Nutr. 2013;143(11):1774-84. PMID:23986365.	Independent Variable, Outcome
503	Smith LP,Ng SW,Popkin BM. Resistant to the recession: low-income adults' maintenance of cooking and away-from-home eating behaviors during times of economic turbulence. Am J Public Health. 2014;104(5):840-6. PMID:24625145.	Study Design
504	Smith LP,Ng SW,Popkin BM. Trends in US home food preparation and consumption: analysis of national nutrition surveys and time use studies from 1965-1966 to 2007-2008. Nutr J. 2013;12:45. PMID:23577692.	Study Design
505	So HK,Nelson EA,Li AM,Guldan GS,Yin J,Ng PC,Sung RY. Breakfast frequency inversely associated with BMI and body fatness in Hong Kong Chinese children aged 9-18 years. Br J Nutr. 2011;106(5):742-51. PMID:21535905.	Independent Variable
506	Sobal J,Hanson K. Family dinner frequency, settings and sources, and body weight in US adults. Appetite.	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	2014;78:81-8. PMID:24681105.	
507	Sobal J,Hanson K. Family meals and body weight in US adults. Public Health Nutr. 2011;14(9):1555-62. PMID:21356147.	Study Design
508	Song YM,Lee K,Sung J,Yang YJ. Changes in eating behaviors and body weight in Koreans: the Healthy Twin Study. Nutrition. 2013;29(1):66-70. PMID:22858202.	Location
509	Song YM,Lee K,Sung J. Eating behaviors and weight over time in a prospective study: the Healthy Twin Study. Asia Pac J Clin Nutr. 2014;23(1):76-83. PMID:24561975.	Independent Variable
510	Sotos-Prieto M,Santos-Beneit G,Pocock S,Redondo J,Fuster V,Penalvo JL. Parental and self-reported dietary and physical activity habits in pre-school children and their socio-economic determinants. Public Health Nutr. 2014;#volume#:1-11. PMID:24698168.	Study Design
511	Spence JC,Carson V,Casey L,Boule N. Examining behavioural susceptibility to obesity among Canadian pre-school children: the role of eating behaviours. Int J Pediatr Obes. 2011;6(2-2):e501-7. PMID:20831463.	Study Design , Independent Variable
512	Spurrier NJ,Magarey AA,Golley R,Curnow F,Sawyer MG. Relationships between the home environment and physical activity and dietary patterns of preschool children: A cross-sectional study. International Journal of Behavioral Nutrition and Physical Activity. 2008;5 .	Study Design , Independent Variable
513	Staser KW,Zollinger TW, Jr. Saywell RM,Kunapareddy S,Gibson PJ,Caine VA. Dietary behaviors associated with fruit and vegetable consumption, Marion County, Indiana, 2005. Prev Chronic Dis. 2011;8(3):A66. PMID:21477506.	Study Design
514	Stephens LD,McNaughton SA,Crawford D,Ball K. Longitudinal predictors of frequent vegetable and fruit consumption among socio-economically disadvantaged Australian adolescents. Appetite. 2014;78:165-71. PMID:24685764.	Independent Variable
515	Stephens LD,McNaughton SA,Crawford D,Ball K. Predictors of high-energy foods and beverages: a longitudinal study among socio-economically disadvantaged adolescents. Public Health Nutr. 2014;17(2):324-37. PMID:23122445.	Location
516	Stewart SD,Menning CL. Family structure, nonresident father involvement, and adolescent eating patterns. J Adolesc Health. 2009;45(2):193-201. PMID:19628147.	Independent Variable
517	Storey KE,Hanning RM,Lambraki IA,Driezen P,Fraser SN,McCargar LJ. Determinants of diet quality among Canadian adolescents. Can J Diet Pract Res. 2009;70(2):58-65. PMID:19515268.	Study Design
518	Story M,Hannan PJ,Fulkerson JA,Rock BH,Smyth M,Arcan C,Himes JH. Bright Start: Description and main	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	outcomes from a group-randomized obesity prevention trial in American Indian children. Obesity (Silver Spring). 2012;20(11):2241-9. PMID:22513491.	
519	Sugiyama S,Okuda M,Sasaki S,Kunitsugu I,Hobara T. Breakfast habits among adolescents and their association with daily energy and fish, vegetable, and fruit intake: a community-based cross-sectional study. Environ Health Prev Med. 2012;17(5):408-14. PMID:22351508.	Location, Independent Variable
520	Swanson V,Power KG,Crombie IK,Irvine L,Kiezebrink K,Wrieden W,Slane PW. Maternal feeding behaviour and young children's dietary quality: a cross-sectional study of socially disadvantaged mothers of two-year old children using the Theory of Planned Behaviour. Int J Behav Nutr Phys Act. 2011;8:65. PMID:21699714.	Study Design
521	Sweeney NM,Horishita N. The breakfast-eating habits of inner city high school students. J Sch Nurs. 2005;21(2):100-5. PMID:15801876.	Study Design
522	Sweeting H,West P. Dietary habits and children's family lives. J Hum Nutr Diet. 2005;18(2):93-7. PMID:15788018.	Study Design
523	Sweetman C,McGowan L,Croker H,Cooke L. Characteristics of family mealtimes affecting children's vegetable consumption and liking. J Am Diet Assoc. 2011;111(2):269-73. PMID:21272701.	Study Design
524	Sweitzer SJ,Briley ME,Roberts-Gray C,Hoelscher DM,Harrist RB,Staskel DM,Almansour FD. Psychosocial outcomes of Lunch is in the Bag, a parent program for packing healthful lunches for preschool children. J Nutr Educ Behav. 2011;43(6):536-42. PMID:21852196.	Study Design , Independent Variable
525	Sweitzer SJ,Briley ME,Roberts-Gray C,Hoelscher DM,Staskel DM,Almansour FD. How to help parents pack better preschool sack lunches: advice from parents for educators. J Nutr Educ Behav. 2011;43(3):194-8. PMID:21550534.	Study Design , Independent Variable
526	Tak NI,te Velde SJ,Brug J. Are positive changes in potential determinants associated with increased fruit and vegetable intakes among primary schoolchildren? Results of two intervention studies in the Netherlands: The Schoolgruiten Project and the Pro Children Study. International Journal of Behavioral Nutrition and Physical Activity. 2008;5 .	Independent Variable
527	Taveras EM,McDonald J,O'Brien A,Haines J,Sherry B,Bottino CJ,Troncoso K,Schmidt ME,Koziol R. Healthy Habits, Happy Homes: methods and baseline data of a randomized controlled trial to improve household routines for obesity prevention. Prev Med. 2012;55(5):418-26. PMID:22960162.	Outcome
528	Taylor JP,Hernandez KJ,Caiger JM,Giberson D,MacLellan D,Sweeney-Nixon M,Veugelers P. Nutritional quality of children's school lunches: differences according to food source. Public Health Nutr. 2012;15(12):2259-64. PMID:22463765.	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
529	Te Velde SJ,Chin AMJ,De Bourdeaudhuij I,Bere E,Maes L,Moreno L,Jan N,Kovacs E,Manios Y,Brug J. Parents and friends both matter: simultaneous and interactive influences of parents and friends on European schoolchildren's energy balance-related behaviours - the ENERGY cross-sectional study. Int J Behav Nutr Phys Act. 2014;11(1):82. PMID:25001090.	Study Design
530	Thibault H,Carriere C,Langevin C,Kossi Deti E,Barberger-Gateau P,Maurice S. Prevalence and factors associated with overweight and obesity in French primary-school children. Public Health Nutr. 2013;16(2):193-201. PMID:22953729.	Study Design
531	Tin SP,Ho SY,Mak KH,Wan KL,Lam TH. Lifestyle and socioeconomic correlates of breakfast skipping in Hong Kong primary 4 schoolchildren. Prev Med. 2011;52(3-4):250-3. PMID:21215276.	Independent Variable
532	Tin SP,Ho SY,Mak KH,Wan KL,Lam TH. Location of breakfast consumption predicts body mass index change in young Hong Kong children. Int J Obes (Lond). 2012;36(7):925-30. PMID:22234278.	Location, Independent Variable
533	Todd MK,Reis-Bergan MJ,Sidman CL,Flohr JA,Jameson-Walker K,Spicer-Bartolau T,Wildeman K. Effect of a family-based intervention on electronic media use and body composition among boys aged 8--11 years: a pilot study. J Child Health Care. 2008;12(4):344-58. PMID:19052191.	Independent Variable
534	Torres R,Serrano M,Perez CM,Palacios C. Physical environment, diet quality, and body weight in a group of 12-year-old children from four public schools in Puerto Rico. P R Health Sci J. 2014;33(1):14-21. PMID:24665604.	Study Design , Independent Variable
535	Toschke AM,Kuchenhoff H,Koletzko B,von Kries R. Meal frequency and childhood obesity. Obes Res. 2005;13(11):1932-8. PMID:16339125.	Independent Variable
536	Toschke AM,Thorsteinsdottir KH,von Kries R. Meal frequency, breakfast consumption and childhood obesity. Int J Pediatr Obes. 2009;4(4):242-8. PMID:19922038.	Independent Variable
537	Tovar A,Hennessy E,Must A,Hughes SO,Gute DM,Sliwa S,Boulos RJ,Vikre EK,Kamins CL,Tofuri K,Pirie A,Economos CD. Feeding styles and evening family meals among recent immigrants. Int J Behav Nutr Phys Act. 2013;10(1):84. PMID:23803223.	Study Design
538	Tremblay L,Rinaldi CM. The prediction of preschool children's weight from family environment factors: gender-linked differences. Eat Behav. 2010;11(4):266-75. PMID:20850062.	Study Design , Independent Variable
539	Turer CB,Stroo M,Brouwer RJ,Krause KM,Lovelady CA,Bastian LA,Peterson B,Ostbye T. Do high-risk preschoolers or overweight mothers meet AAP-recommended behavioral goals for reducing obesity?. Acad Pediatr. 2013;13(3):243-50. PMID:23491583.	Study Design , Independent Variable
540	Tylka TL,Eneli IU,Kroon Van Diest AM,Lumeng JC. Which adaptive maternal eating behaviors predict child feeding	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	practices? An examination with mothers of 2- to 5-year-old children. Eat Behav. 2013;14(1):57-63. PMID:23265403.	
541	Upton D,Upton P,Taylor C. Increasing children's lunchtime consumption of fruit and vegetables: an evaluation of the Food Dudes programme. Public Health Nutr. 2013;16(6):1066-72. PMID:23067425.	Independent Variable
542	Upton P,Taylor C,Upton D. The effects of the Food Dudes Programme on children's intake of unhealthy foods at lunchtime. Perspect Public Health. 2014;PMID:24651758.	Independent Variable
543	Utter J,Denny S,Robinson E,Fleming T,Ameratunga S,Grant S. Family meals among New Zealand young people: relationships with eating behaviors and body mass index. J Nutr Educ Behav. 2013;45(1):3-11. PMID:23110750.	Study Design
544	Utter J,Denny S,Robinson E,Fleming T,Ameratunga S,Grant S. Family meals and the well-being of adolescents. J Paediatr Child Health. 2013;49(11):906-11. PMID:24251656.	Study Design
545	Utter J,Scragg R,Mhurchu CN,Schaaf D. At-home breakfast consumption among New Zealand children: associations with body mass index and related nutrition behaviors. J Am Diet Assoc. 2007;107(4):570-6. PMID:17383261.	Study Design
546	Utter J,Scragg R,Mhurchu CN,Schaaf D. At-Home Breakfast Consumption among New Zealand Children: Associations with Body Mass Index and Related Nutrition Behaviors{A figure is presented}. Journal of the American Dietetic Association. 2007;107(4):570-576.	Study Design
547	Utter J,Scragg R,Schaaf D,Fitzgerald E,Wilson N. Correlates of body mass index among a nationally representative sample of New Zealand children. Int J Pediatr Obes. 2007;2(2):104-13. PMID:17763017.	Study Design , Independent Variable
548	Van Ansem WJC,Van Lenthe FJ,Schrijvers CTM,Rodenburg G,Van De Mheen D. Socio-economic inequalities in children's snack consumption and sugar-sweetened beverage consumption: The contribution of home environmental factors. British Journal of Nutrition. 2014;112(3):467-476.	Independent Variable
549	Van den Bulck J,Eggermont S. Media use as a reason for meal skipping and fast eating in secondary school children. J Hum Nutr Diet. 2006;19(2):91-100. PMID:16533371.	Independent Variable
550	van der Horst K,Ferrage A,Rytz A. Involving children in meal preparation. Effects on food intake. Appetite. 2014;79:18-24. PMID:24709485.	Independent Variable
551	Van Lippevelde W,Te Velde SJ,Verloigne M,Van Stralen MM,De Bourdeaudhuij I,Manios Y,Bere E,Vik FN,Jan N,Fernandez Alvira JM,Chinapaw MJ,Bringolf-Isler B,Kovacs E,Brug J,Maes L. Associations between family-related factors, breakfast consumption and BMI among 10- to 12-year-old European children: the cross-sectional ENERGY-study. PLoS One. 2013;8(11):e79550. PMID:24282508.	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
552	Vejrup K,Lien N,Klepp KI,Bere E. Consumption of vegetables at dinner in a cohort of Norwegian adolescents. Appetite. 2008;51(1):90-6. PMID:18243413.	Independent Variable
553	Veldhuis L,Vogel I,van Rossem L,Renders CM,Hirasing RA,Mackenbach JP,Raat H. Influence of maternal and child lifestyle-related characteristics on the socioeconomic inequality in overweight and obesity among 5-year-old children; the "Be Active, Eat Right" Study. Int J Environ Res Public Health. 2013;10(6):2336-47. PMID:23743794.	Study Design
554	Veltsista A,Laitinen J,Sovio U,Roma E,Jarvelin MR,Bakoula C. Relationship between eating behavior, breakfast consumption, and obesity among Finnish and Greek adolescents. J Nutr Educ Behav. 2010;42(6):417-21. PMID:20729150.	Location, Independent Variable
555	Vereecken C,Dupuy M,Rasmussen M,Kelly C,Nansel TR,Al Sabbah H,Baldassari D,Jordan MD,Maes L,Niclasen BV,Ahluwalia N. Breakfast consumption and its socio-demographic and lifestyle correlates in schoolchildren in 41 countries participating in the HBSC study. Int J Public Health. 2009;54 Suppl 2:180-90. PMID:19639257.	Study Design , Independent Variable
556	Vereecken C,Legiest E,De Bourdeaudhuij I,Maes L. Associations between general parenting styles and specific food-related parenting practices and children's food consumption. Am J Health Promot. 2009;23(4):233-40. PMID:19288844.	Study Design
557	Verloigne M,Van Lippevelde W,Maes L,Brug J,De Bourdeaudhuij I. Family- and school-based predictors of energy balance-related behaviours in children: a 6-year longitudinal study. Public Health Nutr. 2013;16(2):202-11. PMID:22995020.	Location, Independent Variable, Outcome
558	Verzeletti C,Maes L,Santinello M,Baldassari D,Vereecken CA. Food-related family lifestyle associated with fruit and vegetable consumption among young adolescents in Belgium Flanders and the Veneto Region of Italy. Appetite. 2010;54(2):394-7. PMID:20026139.	Study Design , Location
559	Verzeletti C,Maes L,Santinello M,Vereecken CA. Soft drink consumption in adolescence: associations with food-related lifestyles and family rules in Belgium Flanders and the Veneto Region of Italy. Eur J Public Health. 2010;20(3):312-7. PMID:19805507.	Study Design
560	Veugelers PJ,Fitzgerald AL,Johnston E. Dietary intake and risk factors for poor diet quality among children in Nova Scotia. Can J Public Health. 2005;96(3):212-6. PMID:15913088.	Study Design , Independent Variable
561	Veugelers PJ,Fitzgerald AL. Prevalence of and risk factors for childhood overweight and obesity. Cmaj. 2005;173(6):607-13. PMID:16157724.	Study Design , Independent Variable
562	Virudachalam S,Long JA,Harhay MO,Polsky DE,Feudtner C. Prevalence and patterns of cooking dinner at home in	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	the USA: National Health and Nutrition Examination Survey (NHANES) 2007-2008. Public Health Nutr. 2014;17(5):1022-30. PMID:24107577.	
563	Wadolowska L,Slowinska MA,Pabjan-Adach K,Niedzwiedzka E. Food eating of mothers and their daughters in relation to mothers' body mass index. Pakistan Journal of Nutrition. 2007;6(2):183-187.	Location, Independent Variable
564	Wan Abdul Manan WM,Nur Firdaus I,Safiah MY,Siti Haslinda MD,Poh BK,Norimah AK,Azmi MY,Tahir A,Mirnalini K,Zalilah MS,Fatimah S,Siti Norazlin MM,Fasiah W. Meal patterns of malaysian adults: findings from the Malaysian adults nutrition survey (MANS). Malays J Nutr. 2012;18(2):221-30. PMID:24575668.	Study Design , Location
565	Wang ML,Peterson KE,Richmond TK,Spadano-Gasbarro J,Greaney ML,Mezgebu S,McCormick M,Austin SB. Family physical activity and meal practices associated with disordered weight control behaviors in a multiethnic sample of middle-school youth. Acad Pediatr. 2013;13(4):379-85. PMID:23830023.	Outcome
566	Wansink B,Hanks AS. Calorie reductions and within-meal calorie compensation in children's meal combos. Obesity (Silver Spring). 2014;22(3):630-2. PMID:24376232.	Independent Variable
567	Wansink B,van Kleef E. Dinner rituals that correlate with child and adult BMI. Obesity (Silver Spring). 2014;22(5):E91-5. PMID:24123987.	Study Design
568	Watanabe E,Lee JS,Kawakubo K. Associations of maternal employment and three-generation families with pre-school children's overweight and obesity in Japan. Int J Obes (Lond). 2011;35(7):945-52. PMID:21522125.	Location, Independent Variable
569	Weatherspoon LJ,Venkatesh S,Horodynski MA,Stommel M,Brophy-Herb HE. Food patterns and mealtime behaviors in low-income mothers and toddlers. J Community Health Nurs. 2013;30(1):1-15. PMID:23384063.	Study Design , Independent Variable
570	Webber L,Hill C,Saxton J,Van Jaarsveld CH,Wardle J. Eating behaviour and weight in children. Int J Obes (Lond). 2009;33(1):21-8. PMID:19002146.	Study Design
571	Welsh EM,French SA,Wall M. Examining the relationship between family meal frequency and individual dietary intake: does family cohesion play a role?. J Nutr Educ Behav. 2011;43(4):229-35. PMID:21536496.	Study Design
572	Wenrich TR,Brown JL,Miller-Day M,Kelley KJ,Lengerich EJ. Family members' influence on family meal vegetable choices. J Nutr Educ Behav. 2010;42(4):225-34. PMID:20452288.	Study Design
573	Wenrich TR,Brown JL,Wilson RT,Lengerich EJ. Impact of a community-based intervention on serving and intake of vegetables among low-income, rural Appalachian families. J Nutr Educ Behav. 2012;44(1):36-45. PMID:22023910.	Independent Variable
574	White HJ,Haycraft E,Meyer C. Family mealtimes and eating psychopathology: The role of anxiety and depression among adolescent girls and boys. Appetite. 2014;75:173-179.	Study Design , Independent Variable
575	Widome R,Neumark-Sztainer D,Hannan PJ,Haines J,Story M. Eating when there is not enough to eat: eating	Study Design ,

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	behaviors and perceptions of food among food-insecure youths. Am J Public Health. 2009;99(5):822-8. PMID:19299675.	Independent Variable
576	Wiggins S. Adult and child use of love, like, don't like and hate during family mealtimes. Subjective category assessments as food preference talk. Appetite. 2014;80:7-15. PMID:24793063.	Study Design
577	Wijtzes AI,Jansen W,Jansen PW,Jaddoe VW,Hofman A,Raat H. Maternal educational level and preschool children's consumption of high-calorie snacks and sugar-containing beverages: mediation by the family food environment. Prev Med. 2013;57(5):607-12. PMID:23988496.	Independent Variable
578	Willis TA,George J,Hunt C,Roberts KP,Evans CE,Brown RE,Rudolf MC. Combating child obesity: impact of HENRY on parenting and family lifestyle. Pediatr Obes. 2013;PMID:23818487.	Location
579	Wojcicki JM,Schwartz N,Jimenez-Cruz A,Bacardi-Gascon M,Heyman MB. Acculturation, dietary practices and risk for childhood obesity in an ethnically heterogeneous population of Latino school children in the San Francisco bay area. J Immigr Minor Health. 2012;14(4):533-9. PMID:22101726.	Independent Variable
580	Woodruff SJ,Fryer K,Campbell T,Cole M. The associations of meals and snacks on family meals among a sample of grade 7 students from southwestern ontario. Appetite. 2014;PMID:25038406.	Study Design
581	Woodruff SJ,Hanning RM,McGoldrick K,Brown KS. Healthy eating index-C is positively associated with family dinner frequency among students in grades 6-8 from Southern Ontario, Canada. Eur J Clin Nutr. 2010;64(5):454-60. PMID:20197788.	Study Design , Location
582	Woodruff SJ,Hanning RM. Associations between family dinner frequency and specific food behaviors among grade six, seven, and eight students from Ontario and Nova Scotia. J Adolesc Health. 2009;44(5):431-6. PMID:19380089.	Study Design , Location
583	Woodruff SJ,Hanning RM. Effect of meal environment on diet quality rating. Can J Diet Pract Res. 2009;70(3):118-24. PMID:19709467.	Location, Independent Variable
584	Woodruff SJ,Kirby AR. The associations among family meal frequency, food preparation frequency, self-efficacy for cooking, and food preparation techniques in children and adolescents. J Nutr Educ Behav. 2013;45(4):296-303. PMID:23481894.	Study Design
585	Wroten KC,O'Neil CE,Stuff JE,Liu Y,Nicklas TA. Resemblance of dietary intakes of snacks, sweets, fruit, and vegetables among mother-child dyads from low income families. Appetite. 2012;59(2):316-23. PMID:22634195.	Independent Variable
586	Wurbach A,Zellner K,Kromeyer-Hauschild K. Meal patterns among children and adolescents and their associations with weight status and parental characteristics. Public Health Nutr. 2009;12(8):1115-21.	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	PMID:19243677.	
587	Wyse R,Campbell E,Nathan N,Wolfenden L. Associations between characteristics of the home food environment and fruit and vegetable intake in preschool children: a cross-sectional study. BMC Public Health. 2011;11:938. PMID:22177136.	Study Design
588	Yang RJ,Wang EK,Hsieh YS,Chen MY. Irregular breakfast eating and health status among adolescents in Taiwan. BMC Public Health. 2006;6:295. PMID:17150112.	Study Design
589	Yannakoulia M,Papanikolaou K,Hatzopoulou I,Efstathiou E,Papoutsakis C,Dedoussis GV. Association between family divorce and children's BMI and meal patterns: the GENDAI Study. Obesity (Silver Spring). 2008;16(6):1382-7. PMID:18369339.	Study Design
590	Yorulmaz H,Percin Pacal F. Assessment of nutritional habits and obesity satuations of adolescents in 16-18 age groups. Turkiye Klinikleri Journal of Medical Sciences. 2012;32(2):364-370.	Location, Independent Variable
591	Yoshinaga M,Hatake S,Tachikawa T,Shinomiya M,Miyazaki A,Takahashi H. Impact of lifestyles of adolescents and their parents on cardiovascular risk factors in adolescents. J Atheroscler Thromb. 2011;18(11):981-90. PMID:21836372.	Study Design , Independent Variable
592	Yuasa K,Sei M,Takeda E,Ewis AA,Munakata H,Onishi C,Nakahori Y. Effects of lifestyle habits and eating meals together with the family on the prevalence of obesity among school children in Tokushima, Japan: a cross-sectional questionnaire-based survey. J Med Invest. 2008;55(1-2):71-7. PMID:18319548.	Study Design
593	Zeller MH,Reiter-Purtill J,Modi AC,Gutzwiller J,Vannatta K,Davies WH. Controlled study of critical parent and family factors in the obesigenic environment. Obesity (Silver Spring). 2007;15(1):126-36. PMID:17228040.	Study Design , Independent Variable
594	Ziebarth D,Healy-Haney N,Gnadt B,Cronin L,Jones B,Jensen E,Viscuso M. A community-based family intervention program to improve obesity in Hispanic families. Wmj. 2012;111(6):261-6. PMID:23362702.	Study Design , Independent Variable
595	Ziegler P,Briefel R,Ponza M,Novak T,Hendricks K. Nutrient intakes and food patterns of toddlers' lunches and snacks: influence of location. J Am Diet Assoc. 2006;106(1 Suppl 1):S124-34. PMID:16376636.	Study Design
596	Ziegler P,Hanson C,Ponza M,Novak T,Hendricks K. Feeding Infants and Toddlers Study: meal and snack intakes of Hispanic and non-Hispanic infants and toddlers. J Am Diet Assoc. 2006;106(1 Suppl 1):S107-23. PMID:16376635.	Study Design
597	Zuercher JL,Wagstaff DA,Kranz S. Associations of food group and nutrient intake, diet quality, and meal sizes between adults and children in the same household: a cross-sectional analysis of U.S. households. Nutr J. 2011;10:131. PMID:22123043.	Study Design , Independent Variable
598	Zugravu CA. Eating habits and influential factors for mothers and children in Romania. International Journal of	Study Design ,

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	Collaborative Research on Internal Medicine and Public Health. 2012;4(4):362-374.	Location

APPENDIX C: FAMILY SHARED MEALS – BODY WEIGHT – EXCLUDED ARTICLES LIST

Archived from www.NEL.gov on March 21, 2017

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
1	Aboud FE,Shafique S,Akhter S. A responsive feeding intervention increases children's self-feeding and maternal responsiveness but not weight gain. J Nutr. 2009;139(9):1738-43. PMID:19587124.	Independent Variable
2	Abraczinskas M, Jr. Fisak B,Barnes RD. The relation between parental influence, body image, and eating behaviors in a nonclinical female sample. Body Image. 2012;9(1):93-100. PMID:22104125.	Study Design , Independent Variable
3	Adamson M,Morawska A,Sanders MR. Childhood feeding difficulties: a randomized controlled trial of a group-based parenting intervention. J Dev Behav Pediatr. 2013;34(5):293-302. PMID:23751884.	Location, Independent Variable
4	Admiraal WM,Vlaar EM,Nierkens V,Holleman F,Middelkoop BJ,Stronks K,van Valkengoed IG. Intensive lifestyle intervention in general practice to prevent type 2 diabetes among 18 to 60-year-old South Asians: 1-year effects on the weight status and metabolic profile of participants in a randomized controlled trial. PLoS One. 2013;8(7):e68605. PMID:23894322.	Independent Variable
5	Affenito SG,Thompson DR,Barton BA,Franko DL,Daniels SR,Obarzanek E,Schreiber GB,Striegel-Moore RH. Breakfast consumption by African-American and white adolescent girls correlates positively with calcium and fiber intake and negatively with body mass index. J Am Diet Assoc. 2005;105(6):938-45. PMID:15942545.	Independent Variable
6	Alexander AG,Grant WL,Pedrino KJ,Lyons PE. A prospective multifactorial intervention on subpopulations of predominately Hispanic children at high risk for obesity. Obesity (Silver Spring). 2014;22(1):249-53. PMID:23836698.	Independent Variable
7	Alexander KE,Ventura EE,Spruijt-Metz D,Weigensberg MJ,Goran MI,Davis JN. Association of breakfast skipping with visceral fat and insulin indices in overweight Latino youth. Obesity (Silver Spring). 2009;17(8):1528-33. PMID:19424166.	Independent Variable
8	Alexy U,Freese J,Kersting M,Clausen K. Lunch habits of German children and adolescents: composition and dietary quality. Ann Nutr Metab. 2013;62(1):75-9. PMID:23257471.	Independent Variable
9	Allen JO,Griffith DM,Gaines HC. "She looks out for the meals, period": African American men's perceptions of how their wives influence their eating behavior and dietary health. Health Psychol. 2013;32(4):447-55. PMID:22563755.	Study Design
10	Allen KL,Gibson LY,McLean NJ,Davis EA,Byrne SM. Maternal and family factors and child eating pathology: Risk and protective relationships. Journal of Eating Disorders. 2014;2(1).	Outcome
11	Ambrosini GL,Emmett PM,Northstone K,Jebb SA. Tracking a dietary pattern associated with increased adiposity in childhood and adolescence. Obesity (Silver Spring). 2014;22(2):458-65. PMID:23804590.	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
12	Amirrood MM,Taghdisi MH,Shidfar F,Gohari MR. The impact of training on women's capabilities in modifying their obesity-related dietary behaviors: Applying family-centered empowerment model. Journal of Research in Health Sciences. 2014;14(1):76-81.	Study Design
13	Andaya AA,Arredondo EM,Alcaraz JE,Lindsay SP,Elder JP. The association between family meals, TV viewing during meals, and fruit, vegetables, soda, and chips intake among Latino children. J Nutr Educ Behav. 2011;43(5):308-15. PMID:20965787.	Study Design
14	Anderson PM. Parental employment, family routines and childhood obesity. Econ Hum Biol. 2012;10(4):340-51. PMID:22622096.	Study Design
15	Anderson SE,Must A,Curtin C,Bandini LG. Meals in Our Household: reliability and initial validation of a questionnaire to assess child mealtime behaviors and family mealtime environments. J Acad Nutr Diet. 2012;112(2):276-84. PMID:22741169.	Study Design
16	Anderson SE,Whitaker RC. Household routines and obesity in US preschool-aged children. Pediatrics. 2010;125(3):420-8. PMID:20142280.	Study Design
17	Appelhans BM,Waring ME,Schneider KL,Pagoto SL. Food preparation supplies predict children's family meal and home-prepared dinner consumption in low-income households. Appetite. 2014;76:1-8. PMID:24462491.	Study Design , Independent Variable
18	Arcan C,Neumark-Sztainer D,Hannan P,van den Berg P,Story M,Larson N. Parental eating behaviours, home food environment and adolescent intakes of fruits, vegetables and dairy foods: longitudinal findings from Project EAT. Public Health Nutr. 2007;10(11):1257-65. PMID:17391551.	Independent Variable
19	Arredondo EM,Elder JP,Ayala GX,Slymen D,Campbell NR. Association of a traditional vs shared meal decision-making and preparation style with eating behavior of Hispanic women in San Diego County. J Am Diet Assoc. 2006;106(1):38-45. PMID:16390665.	Study Design , Independent Variable
20	Attorp A,Scott JE,Yew AC,Rhodes RE,Barr SI,Naylor PJ. Associations between socioeconomic, parental and home environment factors and fruit and vegetable consumption of children in grades five and six in British Columbia, Canada. BMC Public Health. 2014;14:150. PMID:24517088.	Study Design
21	Averett SL,Sikora A,Argys LM. For better or worse: relationship status and body mass index. Econ Hum Biol. 2008;6(3):330-49. PMID:18753018.	Independent Variable
22	Ayala GX,Baquero B,Arredondo EM,Campbell N,Larios S,Elder JP. Association between family variables and Mexican American children's dietary behaviors. J Nutr Educ Behav. 2007;39(2):62-9. PMID:17346653.	Study Design
23	Babajafari S,Marks GC,Mamun AA,O'Callaghan MJ,Najman JM. Family food behaviours and adolescents'	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	overweight status: a mother-offspring link study. Iran Red Crescent Med J. 2011;13(11):783-94. PMID:22737418.	
24	Backlund C,Sundelin G,Larsson C. Effect of a 1-year lifestyle intervention on physical activity in overweight and obese children. Advances in Physiotherapy. 2011;13(3):87-96.	Independent Variable
25	Bae HO,Kim M,Hong SM. Meal skipping children in low-income families and community practice implications. Nutr Res Pract. 2008;2(2):100-6. PMID:20126373.	Study Design , Outcome
26	Baker E,Balistreri KS,Van Hook J. Maternal employment and overweight among Hispanic children of immigrants and children of natives. J Immigr Minor Health. 2009;11(3):158-67. PMID:17963041.	Independent Variable
27	Banks J,Williams J,Cumberlidge T,Cimonetti T,Sharp DJ,Shield JP. Is healthy eating for obese children necessarily more costly for families?. Br J Gen Pract. 2012;62(594):e1-5. PMID:22520655.	Independent Variable, Outcome
28	Bargiota A,Pelekanou M,Tsitouras A,Koukoulis GN. Eating habits and factors affecting food choice of adolescents living in rural areas. Hormones (Athens). 2013;12(2):246-53. PMID:23933693.	Study Design
29	Bau AM,Krull S,Ernert A,Babitsch B. Eating behaviour and its association with social living conditions and weight status among adolescent girls: results of the cross-sectional Berlin School Children's Cohort study. Public Health Nutr. 2011;14(10):1759-67. PMID:21466744.	Study Design , Location
30	Bauer KW,Hearst MO,Escoto K,Berge JM,Neumark-Sztainer D. Parental employment and work-family stress: associations with family food environments. Soc Sci Med. 2012;75(3):496-504. PMID:22591825.	Study Design
31	Bauer KW,Neumark-Sztainer D,Fulkerson JA,Hannan PJ,Story M. Familial correlates of adolescent girls' physical activity, television use, dietary intake, weight, and body composition. Int J Behav Nutr Phys Act. 2011;8:25. PMID:21453516.	Study Design
32	Bauer KW,Neumark-Sztainer D,Fulkerson JA,Story M. Adolescent girls' weight-related family environments, Minnesota. Prev Chronic Dis. 2011;8(3):A68. PMID:21477508.	Study Design
33	Bayer O,Nehring I,Bolte G,Von Kries R. Fruit and vegetable consumption and BMI change in primary school-age children: A cohort study. European Journal of Clinical Nutrition. 2014;68(2):265-270.	Independent Variable
34	Bean MK,Jeffers AJ,Tully CB,Thornton LM,Mazzeo SE. Motivational interviewing with parents of overweight children: Study design and methods for the NOURISH+MI study. Contemporary Clinical Trials. 2014;37(2):312-321.	Independent Variable
35	Befort C,Kaur H,Nollen N,Sullivan DK,Nazir N,Choi WS,Hornberger L,Ahluwalia JS. Fruit, vegetable, and fat intake among non-Hispanic black and non-Hispanic white adolescents: associations with home availability and food consumption settings. J Am Diet Assoc. 2006;106(3):367-73. PMID:16503225.	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
36	Bellisle F,Rolland-Cachera MF. Three consecutive (1993, 1995, 1997) surveys of food intake, nutritional attitudes and knowledge, and lifestyle in 1000 French children, aged 9-11 years. J Hum Nutr Diet. 2007;20(3):241-51. PMID:17539877.	Study Design , Outcome
37	Benedet J,de Assis MAA,Calvo MCM,de Andrade DF. Overweight in adolescents: Exploring potential risk factors. Revista Paulista de Pediatria. 2013;31(2):172-181.	Study Design , Location
38	Berge JM,Arikian A,Doherty WJ,Neumark-Sztainer D. Healthful eating and physical activity in the home environment: results from multifamily focus groups. J Nutr Educ Behav. 2012;44(2):123-31. PMID:22192951.	Study Design , Independent Variable
39	Berge JM,Hoppmann C,Hanson C,Neumark-Sztainer D. Perspectives about family meals from single-headed and dual-headed households: a qualitative analysis. J Acad Nutr Diet. 2013;113(12):1632-9. PMID:24238144.	Study Design
40	Berge JM,Jin SW,Hannan P,Neumark-Sztainer D. Structural and interpersonal characteristics of family meals: associations with adolescent body mass index and dietary patterns. J Acad Nutr Diet. 2013;113(6):816-22. PMID:23567247.	Study Design
41	Berge JM,MacLehose RF,Loth KA,Eisenberg ME,Fulkerson JA,Neumark-Sztainer D. Family meals. Associations with weight and eating behaviors among mothers and fathers. Appetite. 2012;58(3):1128-35. PMID:22425759.	Study Design
42	Berge JM,Wall M,Larson N,Eisenberg ME,Loth KA,Neumark-Sztainer D. The unique and additive associations of family functioning and parenting practices with disordered eating behaviors in diverse adolescents. J Behav Med. 2014;37(2):205-17. PMID:23196919.	Independent Variable, Unhealthy Subjects
43	Berge JM,Wall M,Larson N,Forsyth A,Bauer KW,Neumark-Sztainer D. Youth dietary intake and weight status: healthful neighborhood food environments enhance the protective role of supportive family home environments. Health Place. 2014;26:69-77. PMID:24378461.	Study Design , Independent Variable
44	Berge JM,Wall M,Larson N,Loth KA,Neumark-Sztainer D. Family functioning: associations with weight status, eating behaviors, and physical activity in adolescents. J Adolesc Health. 2013;52(3):351-7. PMID:23299010.	Study Design , Independent Variable
45	Berge JM,Wall M,Neumark-Sztainer D,Larson N,Story M. Parenting style and family meals: cross-sectional and 5-year longitudinal associations. J Am Diet Assoc. 2010;110(7):1036-42. PMID:20630160.	Independent Variable, Outcome
46	Berge JM,Wickel K,Doherty WJ. The individual and combined influence of the "quality" and "quantity" of family meals on adult body mass index. Fam Syst Health. 2012;30(4):344-51. PMID:23148980.	Study Design
47	Bernardi JR,Cezaro CD,Fisberg RM,Fisberg M,Vitolo MR. Estimation of energy and macronutrient intake at home and in the kindergarten programs in preschool children. J Pediatr (Rio J). 2010;86(1):59-64. PMID:20151091.	Study Design , Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
48	Bernardo Cde O,Vasconcelos Fde A. Association of parents' nutritional status, and sociodemographic and dietary factors with overweight/obesity in schoolchildren 7 to 14 years old. Cad Saude Publica. 2012;28(2):291-304. PMID:22331155.	Study Design , Location
49	Berry DC,Schwartz TA,McMurray RG,Skelly AH,Neal M,Hall EG,Aimyong N,Amatuli DJ,Melkus G. The family partners for health study: A cluster randomized controlled trial for child and parent weight management. Nutrition and Diabetes. 2014;4(JANUARY) .	Independent Variable
50	Bes-Rastrollo M,Basterra-Gortari FJ,Sanchez-Villegas A,Marti A,Martinez JA,Martinez-Gonzalez MA. A prospective study of eating away-from-home meals and weight gain in a Mediterranean population: the SUN (Seguimiento Universidad de Navarra) cohort. Public Health Nutr. 2010;13(9):1356-63. PMID:19954575.	Location, Independent Variable
51	Bjornara HB,Vik FN,Brug J,Manios Y,De Bourdeaudhuij I,Jan N,Maes L,Moreno LA,Dossegger A,Bere E. The association of breakfast skipping and television viewing at breakfast with weight status among parents of 10-12-year-olds in eight European countries; the ENERGY (EuropeaN Energy balance Research to prevent excessive weight Gain among Youth) cross-sectional study. Public Health Nutr. 2014;17(4):906-14. PMID:23472903.	Study Design
52	Boles RE,Reiter-Purtill J,Zeller MH. Persistently obese youth: interactions between parenting styles and feeding practices with child temperament. Clin Pediatr (Phila). 2013;52(12):1098-106. PMID:23884967.	Independent Variable, Outcome
53	Bost KK,Wiley AR,Fiese B,Hammons A,McBride B. Associations between adult attachment style, emotion regulation, and preschool children's food consumption. J Dev Behav Pediatr. 2014;35(1):50-61. PMID:24356497.	Independent Variable
54	Boutelle KN,Birkeland RW,Hannan PJ,Story M,Neumark-Sztainer D. Associations between maternal concern for healthful eating and maternal eating behaviors, home food availability, and adolescent eating behaviors. J Nutr Educ Behav. 2007;39(5):248-56. PMID:17826344.	Study Design , Independent Variable
55	Boutelle KN,Fulkerson JA,Neumark-Sztainer D,Story M,French SA. Fast food for family meals: relationships with parent and adolescent food intake, home food availability and weight status. Public Health Nutr. 2007;10(1):16-23. PMID:17212838.	Study Design
56	Bova A,Arcidiacono F. "You must eat the salad because it is nutritious". Argumentative strategies adopted by parents and children in food-related discussions at mealtimes. Appetite. 2014;73:81-94. PMID:24216487.	Independent Variable
57	Bowen RL,Devine CM. "Watching a person who knows how to cook, you'll learn a lot". Linked lives, cultural transmission, and the food choices of Puerto Rican girls. Appetite. 2011;56(2):290-8. PMID:21172395.	Study Design , Independent Variable
58	Brennan L,Walkley J,Wilks R,Fraser SF,Greenway K. Physiological and behavioural outcomes of a randomised	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	controlled trial of a cognitive behavioural lifestyle intervention for overweight and obese adolescents. Obesity Research and Clinical Practice. 2013;7(1):e23-e41.	
59	Briggs L,Lake AA. Exploring school and home food environments: perceptions of 8-10-year-olds and their parents in Newcastle upon Tyne, UK. Public Health Nutr. 2011;14(12):2227-35. PMID:21859512.	Study Design
60	Brophy S,Cooksey R,Gravenor MB,Mistry R,Thomas N,Lyons RA,Williams R. Risk factors for childhood obesity at age 5: analysis of the millennium cohort study. BMC Public Health. 2009;9:467. PMID:20015353.	Independent Variable
61	Brown JL,Wenrich TR. Intra-family role expectations and reluctance to change identified as key barriers to expanding vegetable consumption patterns during interactive family-based program for Appalachian low-income food preparers. J Acad Nutr Diet. 2012;112(8):1188-200. PMID:22818727.	Independent Variable
62	Brown KA,Ogden J,Vogele C,Gibson EL. The role of parental control practices in explaining children's diet and BMI. Appetite. 2008;50(2-3):252-9. PMID:17804116.	Study Design
63	Bruening M,MacLehose R,Loth K,Story M,Neumark-Sztainer D. Feeding a family in a recession: food insecurity among Minnesota parents. Am J Public Health. 2012;102(3):520-6. PMID:22390517.	Independent Variable
64	Brug J,Uijtdewilligen L,van Stralen MM,Singh AS,Chin AMJ,De Bourdeaudhuij I,Lien N,Bere E,Maes L,Fernandez-Alvira JM,Jan N,Kovacs E,Dossegger A,Manios Y,Te Velde SJ. Differences in beliefs and home environments regarding energy balance behaviors according to parental education and ethnicity among schoolchildren in Europe: the ENERGY cross sectional study. BMC Public Health. 2014;14:610. PMID:24934085.	Study Design
65	Bryant MJ,Ward DS,Hales D,Vaughn A,Tabak RG,Stevens J. Reliability and validity of the Healthy Home Survey: A tool to measure factors within homes hypothesized to relate to overweight in children. International Journal of Behavioral Nutrition and Physical Activity. 2008;5 .	Study Design , Independent Variable
66	Burgess-Champoux TL,Chan HW,Rosen R,Marquart L,Reicks M. Healthy whole-grain choices for children and parents: a multi-component school-based pilot intervention. Public Health Nutr. 2008;11(8):849-59. PMID:18062842.	Independent Variable
67	Burnier D,Dubois L,Girard M. Arguments at mealtime and child energy intake. J Nutr Educ Behav. 2011;43(6):473-81. PMID:21852197.	Study Design
68	Burrows T,Warren JM,Baur LA,Collins CE. Impact of a child obesity intervention on dietary intake and behaviors. Int J Obes (Lond). 2008;32(10):1481-8. PMID:18607380.	Independent Variable
69	Buttigieg SC,Rocchiccioli JT,Ellul ML. Maternal awareness of health promotion, parental and preschool childhood obesity. Malta Medical Journal. 2012;24(1):9-15.	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
70	Byrd-Bredbenner C,Abbot JM,Cussler E. Mothers of young children cluster into 4 groups based on psychographic food decision influencers. Nutr Res. 2008;28(8):506-16. PMID:19083453.	Study Design , Independent Variable
71	Campbell KJ,Crawford DA,Salmon J,Carver A,Garnett SP,Baur LA. Associations between the home food environment and obesity-promoting eating behaviors in adolescence. Obesity (Silver Spring). 2007;15(3):719-30. PMID:17372323.	Study Design
72	Cardel M,Willig AL,Dulin-Keita A,Casazza K,Cherrington A,Gunnarsdottir T,Johnson SL,Peters JC,Hill JO,Allison DB,Fernandez JR. Home-schooled children are thinner, leaner, and report better diets relative to traditionally schooled children. Obesity (Silver Spring). 2014;22(2):497-503. PMID:24039204.	Independent Variable
73	Cardoso Chaves O,Franceschini Sdo C,Machado Rocha Ribeiro S,Ferreira Rocha Sant Ana L,Garcon de Faria C,Priore SE. Anthropometric and biochemical parameters in adolescents and their relationship with eating habits and household food availability. Nutr Hosp. 2013;28(4):1352-6. PMID:23889666.	Independent Variable
74	Carnell S,Benson L,Driggin E,Kolbe L. Parent feeding behavior and child appetite: Associations depend on feeding style. International Journal of Eating Disorders. 2014.	Independent Variable
75	Carney PA,Hamada JL,Rdesinski R,Sprager L,Nichols KR,Liu BY,Pelayo J,Sanchez MA,Shannon J. Impact of a community gardening project on vegetable intake, food security and family relationships: a community-based participatory research study. J Community Health. 2012;37(4):874-81. PMID:22194063.	Study Design , Independent Variable
76	Carriere C,Langevin C,Lamireau T,Maurice S,Thibault H. Dietary behaviors as associated factors for overweight and obesity in a sample of adolescents from Aquitaine, France. J Physiol Biochem. 2013;69(1):111-8. PMID:22773296.	Location, Independent Variable
77	Cawley J,Liu F. Maternal employment and childhood obesity: a search for mechanisms in time use data. Econ Hum Biol. 2012;10(4):352-64. PMID:22790446.	Study Design , Independent Variable
78	Chan JC,Sobal J. Family meals and body weight. Analysis of multiple family members in family units. Appetite. 2011;57(2):517-24. PMID:21763740.	Study Design
79	Chang Y,Gable S. Predicting weight status stability and change from fifth grade to eighth grade: the significant role of adolescents' social-emotional well-being. J Adolesc Health. 2013;52(4):448-55. PMID:23298991.	Independent Variable
80	Chen Q,Goto K,Wolff C,Bianco-Simeral S,Gruneisen K,Gray K. Cooking up diversity. Impact of a multicomponent, multicultural, experiential intervention on food and cooking behaviors among elementary-school students from low-income ethnically diverse families. Appetite. 2014;80:114-22. PMID:24845782.	Independent Variable
81	Christian MS,Evans CE,Hancock N,Nykjaer C,Cade JE. Family meals can help children reach their 5 a day: a cross-	Location,

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	sectional survey of children's dietary intake from London primary schools. J Epidemiol Community Health. 2013;67(4):332-8. PMID:23254183.	Independent Variable
82	Christiansen KM,Qureshi F,Schaible A,Park S,Gittelsohn J. Environmental factors that impact the eating behaviors of low-income African American adolescents in Baltimore City. J Nutr Educ Behav. 2013;45(6):652-60. PMID:23916684.	Study Design
83	Chu YL,Farmer A,Fung C,Kuhle S,Storey KE,Veugelers PJ. Involvement in home meal preparation is associated with food preference and self-efficacy among Canadian children. Public Health Nutr. 2013;16(1):108-12. PMID:22578854.	Study Design
84	Cluskey M,Edlefsen M,Olson B,Reicks M,Auld G,Bock MA,Boushey CJ,Bruhn C,Goldberg D,Misner S,Wang C,Zaghloul S. At-home and away-from-home eating patterns influencing preadolescents' intake of calcium-rich food as perceived by Asian, Hispanic and Non-Hispanic white parents. J Nutr Educ Behav. 2008;40(2):72-9. PMID:18314082.	Study Design
85	Contento IR,Williams SS,Michela JL,Franklin AB. Understanding the food choice process of adolescents in the context of family and friends. J Adolesc Health. 2006;38(5):575-82. PMID:16635770.	Study Design , Independent Variable
86	Cooke LJ,Wardle J,Gibson EL,Sapochnik M,Sheiham A,Lawson M. Demographic, familial and trait predictors of fruit and vegetable consumption by pre-school children. Public Health Nutr. 2004;7(2):295-302. PMID:15003137.	Study Design
87	Costa SM,Horta PM,dos Santos LC. Food advertising and television exposure: influence on eating behavior and nutritional status of children and adolescents. Arch Latinoam Nutr. 2012;62(1):53-9. PMID:23477208.	Study Design
88	Cowgill BO,Chung PJ,Thompson LR,Elijah J,Lamb S,Garcia VP,Bastani R. Parents' views on engaging families of middle school students in obesity prevention and control in a multiethnic population. Prev Chronic Dis. 2014;11:E54. PMID:24698532.	Study Design , Independent Variable
89	Crossman A,Anne Sullivan D,Benin M. The family environment and American adolescents' risk of obesity as young adults. Soc Sci Med. 2006;63(9):2255-67. PMID:16828216.	Independent Variable
90	Cullen KW,Thompson D. Feasibility of an 8-week African American web-based pilot program promoting healthy eating behaviors: Family Eats. Am J Health Behav. 2008;32(1):40-51. PMID:18021032.	Study Design , Independent Variable
91	Curtis PJ,Adamson AJ,Mathers JC. Effects on nutrient intake of a family-based intervention to promote increased consumption of low-fat starchy foods through education, cooking skills and personalised goal setting: the Family Food and Health Project. Br J Nutr. 2012;107(12):1833-44. PMID:22017999.	Independent Variable
92	Custers K,Van den Bulck J. Television viewing, computer game play and book reading during meals are predictors	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	of meal skipping in a cross-sectional sample of 12-, 14- and 16-year-olds. Public Health Nutr. 2010;13(4):537-43. PMID:19772688.	
93	Czaja J,Hartmann AS,Rief W,Hilbert A. Mealtime family interactions in home environments of children with loss of control eating. Appetite. 2011;56(3):587-93. PMID:21291929.	Independent Variable
94	Dammann K,Smith C. Food-related attitudes and behaviors at home, school, and restaurants: perspectives from racially diverse, urban, low-income 9- to 13-year-old children in Minnesota. J Nutr Educ Behav. 2010;42(6):389-97. PMID:20702141.	Study Design , Independent Variable
95	Daniels LA,Mallan KM,Battistutta D,Nicholson JM,Meedeniya JE,Bayer JK,Magarey A. Child eating behavior outcomes of an early feeding intervention to reduce risk indicators for child obesity: the NOURISH RCT. Obesity (Silver Spring). 2014;22(5):E104-11. PMID:24415390.	Independent Variable, Age
96	Datar A,Nicosia N,Shier V. Maternal work and children's diet, activity, and obesity. Soc Sci Med. 2014;107:196-204. PMID:24491828.	Study Design , Independent Variable
97	De Backer CJ. Family meal traditions. Comparing reported childhood food habits to current food habits among university students. Appetite. 2013;69:64-70. PMID:23707416.	Study Design
98	De Bourdeaudhuij I,te Velde S,Brug J,Due P,Wind M,Sandvik C,Maes L,Wolf A,Perez Rodrigo C,Yngve A,Thorsdottir I,Rasmussen M,Elmadfa I,Franchini B,Klepp KI. Personal, social and environmental predictors of daily fruit and vegetable intake in 11-year-old children in nine European countries. Eur J Clin Nutr. 2008;62(7):834-41. PMID:17522608.	Independent Variable
99	De Bourdeaudhuij I,Yngve A,te Velde SJ,Klepp KI,Rasmussen M,Thorsdottir I,Wolf A,Brug J. Personal, social and environmental correlates of vegetable intake in normal weight and overweight 9 to 13-year old boys. International Journal of Behavioral Nutrition and Physical Activity. 2006;3 .	Study Design
100	de Jong E,Visscher TL,HiraSing RA,Seidell JC,Renders CM. Home environmental determinants of children's fruit and vegetable consumption across different SES backgrounds. Pediatr Obes. 2014;PMID:24903612.	Study Design
101	de Lauzon-Guillain B,Musher-Eizenman D,Leporc E,Holub S,Charles MA. Parental feeding practices in the United States and in France: relationships with child's characteristics and parent's eating behavior. J Am Diet Assoc. 2009;109(6):1064-9. PMID:19465189.	Study Design
102	De Lepeleere S,DeSmet A,Verloigne M,Cardon G,De Bourdeaudhuij I. What practices do parents perceive as effective or ineffective in promoting a healthy diet, physical activity, and less sitting in children: parent focus groups. BMC Public Health. 2013;13:1067. PMID:24219513.	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
103	de Moraes AC,Adami F,Falcao MC. Understanding the correlates of adolescents' dietary intake patterns. A multivariate analysis. Appetite. 2012;58(3):1057-62. PMID:22326882.	Study Design , Location
104	de Sousa A. Maternal, child and family factors in childhood obesity. International Journal of Diabetes and Metabolism. 2009;18(3):111-112.	Study Design
105	DeBar LL,Stevens VJ,Perrin N,Wu P,Pearson J,Yarborough BJ,Dickerson J,Lynch F. A primary care-based, multicomponent lifestyle intervention for overweight adolescent females. Pediatrics. 2012;129(3):e611-20. PMID:22331335.	Independent Variable
106	DeLong AJ,Larson NI,Story M,Neumark-Sztainer D,Weber-Main AM,Ireland M. Factors associated with overweight among urban American Indian adolescents: findings from Project EAT. Ethn Dis. 2008;18(3):317-23. PMID:18785446.	Study Design , Independent Variable
107	Devine CM,Jastran M,Jabs J,Wethington E,Farell TJ,Bisogni CA. "A lot of sacrifices:" work-family spillover and the food choice coping strategies of low-wage employed parents. Soc Sci Med. 2006;63(10):2591-603. PMID:16889881.	Independent Variable
108	Devine CM,Stoddard AM,Barbeau EM,Naishadham D,Sorensen G. Work-to-family spillover and fruit and vegetable consumption among construction laborers. American Journal of Health Promotion. 2007;21(3):175-182.	Study Design , Independent Variable
109	Dickens E,Ogden J. The role of parental control and modelling in predicting a child's diet and relationship with food after they leave home. A prospective study. Appetite. 2014;76:23-29.	Independent Variable
110	Dickin KL,Seim G. Adapting the Trials of Improved Practices (TIPs) approach to explore the acceptability and feasibility of nutrition and parenting recommendations: What works for low-income families?. Maternal and Child Nutrition. 2013;.	Study Design
111	Dodd AH,Briefel R,Cabili C,Wilson A,Crepinsek MK. Disparities in consumption of sugar-sweetened and other beverages by race/ethnicity and obesity status among United States schoolchildren. J Nutr Educ Behav. 2013;45(3):240-9. PMID:23414783.	Independent Variable
112	Draxten M,Fulkerson JA,Friend S,Flattum CF,Schow R. Parental role modeling of fruits and vegetables at meals and snacks is associated with children's adequate consumption. Appetite. 2014;78:1-7. PMID:24630934.	Study Design , Independent Variable
113	Drenowatz C,Kobel S,Kettner S,Kesztyus D,Wirt T,Dreyhaupt J,Steinacker JM. Correlates of weight gain in German children attending elementary school. Prev Med. 2013;57(4):310-4. PMID:23769901.	Independent Variable
114	Dubois L,Farmer A,Girard M,Peterson K,Tatone-Tokuda F. Problem eating behaviors related to social factors and	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	body weight in preschool children: A longitudinal study. International Journal of Behavioral Nutrition and Physical Activity. 2007;4 .	
115	Dubois L,Farmer A,Girard M,Peterson K. Social factors and television use during meals and snacks is associated with higher BMI among pre-school children. Public Health Nutr. 2008;11(12):1267-79. PMID:18547454.	Independent Variable
116	Dubois L,Farmer AP,Girard M,Peterson K. Preschool children's eating behaviours are related to dietary adequacy and body weight. Eur J Clin Nutr. 2007;61(7):846-55. PMID:17180152.	Independent Variable
117	Dubois L,Girard M,Potvin Kent M,Farmer A,Tatone-Tokuda F. Breakfast skipping is associated with differences in meal patterns, macronutrient intakes and overweight among pre-school children. Public Health Nutr. 2009;12(1):19-28. PMID:18346309.	Study Design
118	Dubois L,Girard M,Potvin Kent M. Breakfast eating and overweight in a pre-school population: is there a link?. Public Health Nutr. 2006;9(4):436-42. PMID:16870015.	Location, Independent Variable
119	Duncanson K,Burrows T,Collins C. Effect of a low-intensity parent-focused nutrition intervention on dietary intake of 2- to 5-year olds. Journal of Pediatric Gastroenterology and Nutrition. 2013;57(6):728-734.	Independent Variable
120	Dupuy M,Godeau E,Vignes C,Ahluwalia N. Socio-demographic and lifestyle factors associated with overweight in a representative sample of 11-15 year olds in France: results from the WHO-Collaborative Health Behaviour in School-aged Children (HBSC) cross-sectional study. BMC Public Health. 2011;11:442. PMID:21649892.	Study Design , Independent Variable
121	Eidner MB,Lund AS,Harboe BS,Clemmensen IH. Calories and portion sizes in recipes throughout 100 years: an overlooked factor in the development of overweight and obesity?. Scand J Public Health. 2013;41(8):839-45. PMID:23885112.	Independent Variable
122	Eisenberg ME,Neumark-Sztainer D,Feldman S. Does TV viewing during family meals make a difference in adolescent substance use?. Prev Med. 2009;48(6):585-7. PMID:19371761.	Study Design , Independent Variable
123	Elder JP,Crespo NC,Corder K,Ayala GX,Slymen DJ,Lopez NV,Moody JS,McKenzie TL. Childhood obesity prevention and control in city recreation centres and family homes: The MOVE/me Muevo Project. Pediatric Obesity. 2014;9(3):218-231.	Independent Variable
124	Elfhag K,Rasmussen F. Food consumption, eating behaviour and self-esteem among single v. married and cohabiting mothers and their 12-year-old children. Public Health Nutr. 2008;11(9):934-9. PMID:18489812.	Study Design , Independent Variable
125	Elfhag K,Tholin S,Rasmussen F. Consumption of fruit, vegetables, sweets and soft drinks are associated with psychological dimensions of eating behaviour in parents and their 12-year-old children. Public Health Nutr. 2008;11(9):914-23. PMID:18498675.	Study Design , Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
126	Elfhag K,Tynelius P,Rasmussen F. Family links of eating behaviour in normal weight and overweight children. Int J Pediatr Obes. 2010;5(6):491-500. PMID:20233161.	Location, Independent Variable
127	Elgar FJ,Craig W,Trites SJ. Family dinners, communication, and mental health in Canadian adolescents. J Adolesc Health. 2013;52(4):433-8. PMID:23299005.	Study Design , Outcome
128	Elizondo-Montemayor L,Gutierrez NG,Moreno DM,Martinez U,Tamargo D,Trevino M. School-based individualised lifestyle intervention decreases obesity and the metabolic syndrome in Mexican children. J Hum Nutr Diet. 2013;26 Suppl 1:82-9. PMID:23600808.	Independent Variable
129	Engler-Stringer R. The domestic foodscapes of young low-income women in Montreal: cooking practices in the context of an increasingly processed food supply. Health Educ Behav. 2010;37(2):211-26. PMID:19690290.	Study Design , Independent Variable
130	Erinosho TO,Beth Dixon L,Young C,Brotman LM,Hayman LL. Caregiver food behaviours are associated with dietary intakes of children outside the child-care setting. Public Health Nutr. 2013;16(7):1263-72. PMID:22883539.	Study Design
131	Erkorkmaz U,Yilmaz R,Demir O,Sanisoglu SY,Etikan I,Ozcetin M. Analysis of the correlation between children's eating behavior and parent's feeding style using canonical correlation analysis. Turkiye Klinikleri Journal of Medical Sciences. 2013;33(1):138-148.	Study Design
132	Esfarjani F,Khalafi M,Mohammadi F,Mansour A,Roustaee R,Zamani-Nour N,Kelishadi R. Family-based intervention for controlling childhood obesity: An experience among iranian children. International Journal of Preventive Medicine. 2013;4(3):358-365.	Location, Independent Variable
133	Estima CC,Bruening M,Hannan PJ,Alvarenga MS,Leal GV,Philippi ST,Neumark-Sztainer D. A Cross-Cultural Comparison of Eating Behaviors and Home Food Environmental Factors in Adolescents From Sao Paulo (Brazil) and Saint Paul-Minneapolis (US). J Nutr Educ Behav. 2014;PMID:24656651.	Study Design , Outcome
134	Evans A,Chow S,Jennings R,Dave J,Scoblick K,Sterba KR,Loyo J. Traditional foods and practices of Spanish-speaking Latina mothers influence the home food environment: implications for future interventions. J Am Diet Assoc. 2011;111(7):1031-8. PMID:21703381.	Study Design
135	Farajian P,Panagiotakos DB,Risvas G,Malisova O,Zampelas A. Hierarchical analysis of dietary, lifestyle and family environment risk factors for childhood obesity: the GRECO study. European Journal of Clinical Nutrition. 2014;.	Study Design
136	Farrow C. A comparison between the feeding practices of parents and grandparents. Eating Behaviors. 2014;15(3):339-342.	Independent Variable, Outcome
137	Feeley AB,Musenge E,Pettifor JM,Norris SA. Investigation into longitudinal dietary behaviours and household	Location

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	socio-economic indicators and their association with BMI Z-score and fat mass in South African adolescents: the Birth to Twenty (Bt20) cohort. Public Health Nutr. 2013;16(4):693-703. PMID:22801035.	
138	Feldman S,Eisenberg ME,Neumark-Sztainer D,Story M. Associations between watching TV during family meals and dietary intake among adolescents. J Nutr Educ Behav. 2007;39(5):257-63. PMID:17826345.	Study Design
139	Fernandez-Aranda F,Krug I,Granero R,Ramon JM,Badia A,Gimenez L,Solano R,Collier D,Karwautz A,Treasure J. Individual and family eating patterns during childhood and early adolescence: an analysis of associated eating disorder factors. Appetite. 2007;49(2):476-85. PMID:17467116.	Outcome
140	Fiese BH,Foley KP,Spagnola M. Routine and ritual elements in family mealtimes: contexts for child well-being and family identity. New Dir Child Adolesc Dev. 2006;#volume#(111):67-89. PMID:16646500.	Study Design
141	Fiese BH,Hammons A,Grigsby-Toussaint D. Family mealtimes: a contextual approach to understanding childhood obesity. Econ Hum Biol. 2012;10(4):365-74. PMID:22652025.	Study Design
142	Fiese BH,Jones BL. Food and family: a socio-ecological perspective for child development. Adv Child Dev Behav. 2012;42:307-37. PMID:22675910.	Study Design
143	Fiese BH,Winter MA,Botti JC. The ABCs of Family Mealtimes: Observational Lessons for Promoting Healthy Outcomes for Children With Persistent Asthma. Child Development. 2011;82(1):133-145.	Independent Variable, Outcome
144	Fink SK,Racine EF,Mueffelmann RE,Dean MN,Herman-Smith R. Family Meals and Diet Quality Among Children and Adolescents in North Carolina. J Nutr Educ Behav. 2014;PMID:24974356.	Study Design
145	Fish CA,Brown JR,Quandt SA. African American and Latino Low Income Families' Food Shopping Behaviors: Promoting Fruit and Vegetable Consumption and Use of Alternative Healthy Food Options. J Immigr Minor Health. 2013;PMID:24293075.	Independent Variable
146	Fisher JO,Birch LL,Zhang J,Grusak MA,Hughes SO. External influences on children's self-served portions at meals. Int J Obes (Lond). 2013;37(7):954-60. PMID:23295501.	Independent Variable
147	Fismen AS,Samdal O,Torsheim T. Family affluence and cultural capital as indicators of social inequalities in adolescent's eating behaviours: a population-based survey. BMC Public Health. 2012;12:1036. PMID:23190697.	Independent Variable
148	Fitzpatrick E,Edmunds LS,Dennison BA. Positive effects of family dinner are undone by television viewing. J Am Diet Assoc. 2007;107(4):666-71. PMID:17383273.	Study Design
149	Flores G,Lin H. Factors predicting severe childhood obesity in kindergarteners. Int J Obes (Lond). 2013;37(1):31-9. PMID:23147114.	Study Design , Independent Variable
150	Flores G,Maldonado J,Duran P. Making tortillas without lard: Latino parents' perspectives on healthy eating,	Study Design ,

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	physical activity, and weight-management strategies for overweight Latino children. J Acad Nutr Diet. 2012;112(1):81-9. PMID:22717179.	Independent Variable
151	Folta SC,Kuder JF,Goldberg JP,Hyatt RR,Must A,Naumova EN,Nelson ME,Economos CD. Changes in diet and physical activity resulting from the Shape Up Somerville community intervention. BMC Pediatr. 2013;13:157. PMID:24093936.	Study Design , Independent Variable
152	Fonseca H,Palmeira AL,Martins SC,Falcato L,Quaresma A. Managing paediatric obesity: A multidisciplinary intervention including peers in the therapeutic process. BMC Pediatrics. 2014;14(1) .	Study Design , Independent Variable
153	Francis LA,Birch LL. Does eating during television viewing affect preschool children's intake?. J Am Diet Assoc. 2006;106(4):598-600. PMID:16567158.	Independent Variable
154	Franko DL,Thompson D,Affenito SG,Barton BA,Striegel-Moore RH. What mediates the relationship between family meals and adolescent health issues. Health Psychol. 2008;27(2 Suppl):S109-17. PMID:18377152.	Outcome
155	Franko DL,Thompson D,Bauserman R,Affenito SG,Striegel-Moore RH. What's love got to do with it? Family cohesion and healthy eating behaviors in adolescent girls. Int J Eat Disord. 2008;41(4):360-7. PMID:18318040.	Study Design
156	Fraser K,Wallis M,St John W. Improving children's problem eating and mealtime behaviours: An evaluative study of a single session parent education programme. Health Education Journal. 2004;63(3):229-241.	Study Design , Independent Variable
157	Frongillo EA,Wolfe WS. Impact of participation in Home-Delivered Meals on nutrient intake, dietary patterns, and food insecurity of older persons in New York state. J Nutr Elder. 2010;29(3):293-310. PMID:20711924.	Independent Variable
158	Fugas V,Berta E,Walz F,Fortino MA,Martinelli MJ. Breakfast habit and quality in students from two public primary schools in the city of Santa Fe. Arch Argent Pediatr. 2013;111(6):502-7. PMID:24196763.	Study Design , Independent Variable
159	Fuglestad PT,Jeffery RW,Sherwood NE. Lifestyle patterns associated with diet, physical activity, body mass index and amount of recent weight loss in a sample of successful weight losers. Int J Behav Nutr Phys Act. 2012;9:79. PMID:22734914.	Study Design , Independent Variable
160	Fulkerson JA,Farbakhsh K,Lytle L,Hearst MO,Dengel DR,Pasch KE,Kubik MY. Away-from-home family dinner sources and associations with weight status, body composition, and related biomarkers of chronic disease among adolescents and their parents. J Am Diet Assoc. 2011;111(12):1892-7. PMID:22117665.	Study Design , Independent Variable
161	Fulkerson JA,Kubik MY,Rydell S,Boutelle KN,Garwick A,Story M,Neumark-Sztainer D,Dudovitz B. Focus groups with working parents of school-aged children: what's needed to improve family meals?. J Nutr Educ Behav. 2011;43(3):189-93. PMID:21367663.	Study Design
162	Fulkerson JA,Kubik MY,Story M,Lytle L,Arcan C. Are there nutritional and other benefits associated with family	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	meals among at-risk youth?. J Adolesc Health. 2009;45(4):389-95. PMID:19766944.	
163	Fulkerson JA,Loth K,Bruening M,Berge J,Eisenberg ME,Neumark-Sztainer D. Time 2 tlk 2nite: Use of Electronic Media by Adolescents during Family Meals and Associations with Demographic Characteristics, Family Characteristics, and Foods Served. J Acad Nutr Diet. 2014;114(7):1053-8. PMID:24361006.	Study Design
164	Fulkerson JA,Lytle L,Story M,Moe S,Samuelson A,Weymiller A. Development and validation of a screening instrument to assess the types and quality of foods served at home meals. Int J Behav Nutr Phys Act. 2012;9:10. PMID:22313614.	Study Design , Independent Variable
165	Fulkerson JA,Neumark-Sztainer D,Story M,Gurvich O,Kubik MY,Garwick A,Dudovitz B. The Healthy Home Offerings via the Mealtime Environment (HOME) Plus study: design and methods. Contemp Clin Trials. 2014;38(1):59-68. PMID:24480729.	Study Design
166	Fulkerson JA,Pasch KE,Stigler MH,Farbakhsh K,Perry CL,Komro KA. Longitudinal associations between family dinner and adolescent perceptions of parent-child communication among racially diverse urban youth. J Fam Psychol. 2010;24(3):261-70. PMID:20545399.	Outcome
167	Fulkerson JA,Rydell S,Kubik MY,Lytle L,Boutelle K,Story M,Neumark-Sztainer D,Dudovitz B,Garwick A. Healthy Home Offerings via the Mealtime Environment (HOME): feasibility, acceptability, and outcomes of a pilot study. Obesity (Silver Spring). 2010;18 Suppl 1:S69-74. PMID:20107464.	Independent Variable
168	Fulkerson JA,Story M,Neumark-Sztainer D,Rydell S. Family meals: perceptions of benefits and challenges among parents of 8- to 10-year-old children. J Am Diet Assoc. 2008;108(4):706-9. PMID:18375230.	Study Design
169	Fulkerson JA,Strauss J,Neumark-Sztainer D,Story M,Boutelle K. Correlates of psychosocial well-being among overweight adolescents: The role of the family. Journal of Consulting and Clinical Psychology. 2007;75(1):181-186.	Study Design , Outcome
170	Fuster M,Houser RF,Messer E,Palma de Fulladolsa P,Deman H,Bermudez OI. Perceived access and actual intake of healthy diets among households in vulnerable Salvadoran communities. J Nutr Educ Behav. 2013;45(6):713-7. PMID:23877053.	Location, Independent Variable
171	Gable S,Chang Y,Krull JL. Television Watching and Frequency of Family Meals Are Predictive of Overweight Onset and Persistence in a National Sample of School-Aged Children{A figure is presented}. Journal of the American Dietetic Association. 2007;107(1):53-61.	Duplicate Study
172	Gage H,Egan B,Williams P,Gyorei E,Brands B,Lopez-Robles JC,Campoy C,Koletzko B,Decsi T,Raats M. Views of parents in four European countries about the effect of food on the mental performance of primary school	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	children. #Secondary title#. 2014;68(1):32-7. PMID:24281310.	
173	Gallant AR,Tremblay A,Perusse L,Despres JP,Bouchard C,Drapeau V. Parental eating behavior traits are related to offspring BMI in the Quebec Family Study. Int J Obes (Lond). 2013;37(11):1422-6. PMID:23399776.	Study Design , Location
174	Galloway AT,Farrow CV,Martz DM. Retrospective reports of child feeding practices, current eating behaviors, and BMI in college students. Obesity (Silver Spring). 2010;18(7):1330-5. PMID:19876005.	Study Design , Independent Variable
175	Gao Y,Huang Y,Zhang Y,Liu F,Feng CX,Liu T,Li C,Ling DD,Mu Y,Tarver SL,Wang M,Sun W. Evaluation of fast food behavior in pre-school children and parents following a one-year intervention with nutrition education. Int J Environ Res Public Health. 2014;11(7):6780-90. PMID:24983391.	Independent Variable
176	Garcia AL,Vargas E,Lam PS,Shennan DB,Smith F,Parrett A. Evaluation of a cooking skills programme in parents of young children--a longitudinal study. Public Health Nutr. 2014;17(5):1013-21. PMID:23402548.	Independent Variable
177	Ghoneim EH,Hassan MH,Amine EK. An intervention programme for improving the nutritional status of children aged 2-5 years in Alexandria. East Mediterr Health J. 2004;10(6):828-43. PMID:16335771.	Independent Variable
178	Giannisi F,Pervanidou P,Michalaki E,Papanikolaou K,Chrousos G,Yannakoulia M. Parental readiness to implement life-style behaviour changes in relation to children's excess weight. J Paediatr Child Health. 2014;50(6):476-81. PMID:24612057.	Study Design
179	Goldfarb S,Tarver WL,Sen B. Family structure and risk behaviors: the role of the family meal in assessing likelihood of adolescent risk behaviors. Psychol Res Behav Manag. 2014;7:53-66. PMID:24627645.	Study Design
180	Goldfield GS,Murray MA,Buchholz A,Henderson K,Obeid N,Kukaswadia A,Flament MF. Family meals and body mass index among adolescents: effects of gender. Appl Physiol Nutr Metab. 2011;36(4):539-46. PMID:21851205.	Study Design
181	Goncalves VSS,Chaves OC,Ribeiro SMR,Sant'Ana LFR,Franceschini SCC,Priore SE. Household availability of lipids for consumption and its relationship with serum lipids in adolescents. Revista Paulista de Pediatria. 2012;30(2):229-236.	Study Design
182	Gooze RA,Hughes CC,Finkelstein DM,Whitaker RC. Obesity and food insecurity at the same table: how head start programs respond. Prev Chronic Dis. 2012;9:E132. PMID:22840884.	Study Design , Independent Variable
183	Gorin AA,Raynor HA,Niemeier HM,Wing RR. Home grocery delivery improves the household food environments of behavioral weight loss participants: Results of an 8-week pilot study. International Journal of Behavioral Nutrition and Physical Activity. 2007;4 .	Independent Variable
184	Graham DJ,Pelletier JE,Neumark-Sztainer D,Lust K,Laska MN. Perceived social-ecological factors associated with fruit and vegetable purchasing, preparation, and consumption among young adults. J Acad Nutr Diet.	Study Design , Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	2013;113(10):1366-74. PMID:23958116.	
185	Gray VB,Byrd SH,Cossman JS,Chromiak JA,Cheek W,Jackson G. Parental attitudes toward child nutrition and weight have a limited relationship with child's weight status. Nutrition Research. 2007;27(9):548-558.	Independent Variable
186	Gregory JE,Paxton SJ,Brozovic AM. Maternal feeding practices, child eating behaviour and body mass index in preschool-aged children: A prospective analysis. International Journal of Behavioral Nutrition and Physical Activity. 2010;7 .	Location, Independent Variable
187	Gross SM,Pollock ED,Braun B. Family influence: key to fruit and vegetable consumption among fourth- and fifth-grade students. J Nutr Educ Behav. 2010;42(4):235-41. PMID:20452287.	Independent Variable
188	Grosso G,Mistretta A,Turconi G,Cena H,Roggi C,Galvano F. Nutrition knowledge and other determinants of food intake and lifestyle habits in children and young adolescents living in a rural area of Sicily, South Italy. Public Health Nutr. 2013;16(10):1827-36. PMID:22931967.	Study Design
189	Grydeland M,Bergh IH,Bjelland M,Lien N,Andersen LF,Ommundsen Y,Klepp KI,Anderssen SA. Correlates of weight status among Norwegian 11-year-olds: The HEIA study. BMC Public Health. 2012;12:1053. PMID:23216675.	Location, Independent Variable
190	Gubbels JS,Kremers SP,Goldbohm RA,Stafleu A,Thijs C. Energy balance-related behavioural patterns in 5-year-old children and the longitudinal association with weight status development in early childhood. Public Health Nutr. 2012;15(8):1402-10. PMID:22124196.	Location, Independent Variable
191	Gubbels JS,Kremers SP,Stafleu A,Goldbohm RA,de Vries NK,Thijs C. Clustering of energy balance-related behaviors in 5-year-old children: lifestyle patterns and their longitudinal association with weight status development in early childhood. Int J Behav Nutr Phys Act. 2012;9:77. PMID:22721567.	Location, Independent Variable
192	Guo X,Zheng L,Li Y,Yu S,Sun G,Yang H,Zhou X,Zhang X,Sun Z,Sun Y. Differences in lifestyle behaviors, dietary habits, and familial factors among normal-weight, overweight, and obese Chinese children and adolescents. Int J Behav Nutr Phys Act. 2012;9:120. PMID:23031205.	Study Design , Location
193	Haerens L,Craeynest M,Deforche B,Maes L,Cardon G,De Bourdeaudhuij I. The contribution of psychosocial and home environmental factors in explaining eating behaviours in adolescents. Eur J Clin Nutr. 2008;62(1):51-9. PMID:17299461.	Study Design
194	Haines J,Gillman MW,Rifas-Shiman S,Field AE,Austin SB. Family dinner and disordered eating behaviors in a large cohort of adolescents. Eat Disord. 2010;18(1):10-24. PMID:20390605.	Outcome
195	Haines J,Neumark-Sztainer D,Wall M,Story M. Personal, behavioral, and environmental risk and protective factors for adolescent overweight. Obesity (Silver Spring). 2007;15(11):2748-60. PMID:18070766.	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
196	Haire-Joshu D,Schwarz C,Budd E,Yount BW,Lapka C. Postpartum teens' breakfast consumption is associated with snack and beverage intake and body mass index. J Am Diet Assoc. 2011;111(1):124-30. PMID:21185974.	Study Design , Independent Variable
197	Hajna S,Leblanc PJ,Faught BE,Merchant AT,Cairney J,Hay J,Liu J. Associations between family eating behaviours and body composition measures in peri-adolescents: results from a community-based study of school-aged children. Can J Public Health. 2014;105(1):e15-21. PMID:24735691.	Study Design
198	Hallstrom L,Vereecken CA,Labayen I,Ruiz JR,Le Donne C,Garcia MC,Gilbert CC,Martinez SG,Grammatikaki E,Huybrechts I,Kafatos A,Kersting M,Manios Y,Molnar D,Patterson E,Widhalm K,De Vriendt T,Moreno LA,Sjostrom M. Breakfast habits among European adolescents and their association with sociodemographic factors: the HELENA (Healthy Lifestyle in Europe by Nutrition in Adolescence) study. Public Health Nutr. 2012;15(10):1879-89. PMID:22348273.	Study Design
199	Hallstrom L,Vereecken CA,Ruiz JR,Patterson E,Gilbert CC,Catasta G,Diaz LE,Gomez-Martinez S,Gonzalez Gross M,Gottrand F,Hegyi A,Lehoux C,Mouratidou T,Widham K,Astrom A,Moreno LA,Sjostrom M. Breakfast habits and factors influencing food choices at breakfast in relation to socio-demographic and family factors among European adolescents. The HELENA Study. Appetite. 2011;56(3):649-57. PMID:21376767.	Study Design , Independent Variable
200	Hanson KL,Olson CM. School meals participation and weekday dietary quality were associated after controlling for weekend eating among U.S. school children aged 6 to 17 years. J Nutr. 2013;143(5):714-21. PMID:23486981.	Independent Variable
201	Hanson NI,Neumark-Sztainer D,Eisenberg ME,Story M,Wall M. Associations between parental report of the home food environment and adolescent intakes of fruits, vegetables and dairy foods. Public Health Nutr. 2005;8(1):77-85. PMID:15705248.	Study Design
202	Hardy LL,King L,Hector D,Lloyd B. Weight status and weight-related behaviors of children commencing school. Prev Med. 2012;55(5):433-7. PMID:22995371.	Study Design , Location
203	Harnack LJ,Oakes JM,French SA,Rydell SA,Farah FM,Taylor GL. Results from an experimental trial at a Head Start center to evaluate two meal service approaches to increase fruit and vegetable intake of preschool aged children. Int J Behav Nutr Phys Act. 2012;9:51. PMID:22546262.	Independent Variable
204	Harrington KF,Franklin FA,Davies SL,Shewchuk RM,Binns MB. Implementation of a family intervention to increase fruit and vegetable intake: the Hi5+ experience. Health Promot Pract. 2005;6(2):180-9. PMID:15855288.	Study Design , Independent Variable
205	Hasenboehler K,Munsch S,Meyer AH,Kappler C,Vogele C. Family structure, body mass index, and eating behavior. Int J Eat Disord. 2009;42(4):332-8. PMID:19107830.	Study Design , Independent Variable
206	Hastert TA,Babey SH. School lunch source and adolescent dietary behavior. Prev Chronic Dis. 2009;6(4):A117.	Study Design ,

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	PMID:19754993.	Outcome
207	Hauser SI,Economos CD,Nelson ME,Goldberg JP,Hyatt RR,Naumova EN,Anderson SE,Must A. Household and family factors related to weight status in first through third graders: a cross-sectional study in Eastern Massachusetts. BMC Pediatr. 2014;14(1):167. PMID:24984590.	Study Design
208	Hendy HM,Seiverling L,Lukens CT,Williams KE. Brief assessment of mealtime behavior in children: Psychometrics and association with child characteristics and parent responses. Children's Health Care. 2013;42(1):1-14.	Independent Variable
209	Hendy HM,Williams KE,Camise TS,Eckman N,Hedemann A. The Parent Mealtime Action Scale (PMAS). Development and association with children's diet and weight. Appetite. 2009;52(2):328-39. PMID:19059292.	Study Design , Independent Variable
210	Hendy HM,Williams KE,Camise TS. Kid's Choice Program improves weight management behaviors and weight status in school children. Appetite. 2011;56(2):484-94. PMID:21277924.	Independent Variable
211	Hendy HM,Williams KE,Riegel K,Paul C. Parent mealtime actions that mediate associations between children's fussy-eating and their weight and diet. Appetite. 2010;54(1):191-195.	Study Design , Independent Variable
212	Hendy HM,Williams KE. Mother's feeding practices for children 3-10 years of age and their associations with child demographics. Appetite. 2012;58(2):710-6. PMID:22269792.	Study Design
213	Herman AN,Malhotra K,Wright G,Fisher JO,Whitaker RC. A qualitative study of the aspirations and challenges of low-income mothers in feeding their preschool-aged children. Int J Behav Nutr Phys Act. 2012;9:132. PMID:23157723.	Study Design , Independent Variable
214	Hermans RC,Larsen JK,Herman CP,Engels RC. How much should I eat? Situational norms affect young women's food intake during meal time. Br J Nutr. 2012;107(4):588-94. PMID:21733296.	Independent Variable
215	Hilbert A,Tuschen-Caffier B,Czaja J. Eating behavior and familial interactions of children with loss of control eating: a laboratory test meal study. Am J Clin Nutr. 2010;91(3):510-8. PMID:20089727.	Independent Variable, Outcome
216	Hildebrand DA,Shriver LH. A quantitative and qualitative approach to understanding fruit and vegetable availability in low-income african-american families with children enrolled in an urban head start program. J Am Diet Assoc. 2010;110(5):710-8. PMID:20430132.	Study Design , Independent Variable
217	Hoare A,Virgo-Milton M,Boak R,Gold L,Waters E,Gussy M,Calache H,Smith M,de Silva AM. A qualitative study of the factors that influence mothers when choosing drinks for their young children. BMC Res Notes. 2014;7(1):430. PMID:24997015.	Study Design
218	Hoerr S,Utech AE,Ruth E. Child control of food choices in Head Start families. J Nutr Educ Behav. 2005;37(4):185-90. PMID:16029688.	Study Design , Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
219	Hoffmann JP,Warnick E. Do family dinners reduce the risk for early adolescent substance use? A propensity score analysis. J Health Soc Behav. 2013;54(3):335-52. PMID:23956358.	Outcome
220	Holland JC,Kolko RP,Stein RI,Welch RR,Perri MG,Schechtman KB,Saelens BE,Epstein LH,Wilfley DE. Modifications in parent feeding practices and child diet during family-based behavioral treatment improve child zBMI. Obesity. 2014;22(5):E119-E126.	Independent Variable
221	Holmes AS,Serrano EL,Machin JE,Duetsch T,Davis GC. Effect of different children's menu labeling designs on family purchases. Appetite. 2013;62:198-202. PMID:22664301.	Independent Variable
222	Hong S,Bae HC,Kim HS,Park EC. Variation in meal-skipping rates of Korean adolescents according to socio-economic status: Results of the Korea Youth Risk Behavior Web-based Survey. Journal of Preventive Medicine and Public Health. 2014;47(3):158-168.	Study Design , Independent Variable
223	Hoppu U,Lehtisalo J,Tapanainen H,Pietinen P. Dietary habits and nutrient intake of Finnish adolescents. Public Health Nutr. 2010;13(6a):965-72. PMID:20513267.	Study Design
224	Horne PJ,Hardman CA,Lowe CF,Tapper K,Le Noury J,Madden P,Patel P,Doody M. Increasing parental provision and children's consumption of lunchbox fruit and vegetables in Ireland: the Food Dudes intervention. Eur J Clin Nutr. 2009;63(5):613-8. PMID:18493261.	Independent Variable
225	Horodynski MA,Stommel M,Brophy-Herb H,Xie Y,Weatherspoon L. Low-income African American and non-Hispanic White mothers' self-efficacy, "picky eater" perception, and toddler fruit and vegetable consumption. Public Health Nurs. 2010;27(5):408-17. PMID:20840710.	Study Design
226	Horodynski MA,Stommel M,Brophy-Herb HE,Weatherspoon L. Mealtime television viewing and dietary quality in low-income African American and Caucasian mother-toddler dyads. Matern Child Health J. 2010;14(4):548-56. PMID:19629662.	Study Design , Independent Variable
227	Hsueh J,Yoshikawa H. Working nonstandard schedules and variable shifts in low-income families: Associations with parental psychological well-being, family functioning, and child well-being. Developmental Psychology. 2007;43(3):620-632.	Study Design , Outcome
228	Hughes SO,Power TG,Papaioannou MA,Cross MB,Nicklas TA,Hall SK,Shewchuk RM. Emotional climate, feeding practices, and feeding styles: an observational analysis of the dinner meal in Head Start families. Int J Behav Nutr Phys Act. 2011;8:60. PMID:21663653.	Independent Variable
229	Hyland R,Stacy R,Adamson A,Moynihan P. Nutrition-related health promotion through an after-school project: the responses of children and their families. Soc Sci Med. 2006;62(3):758-68. PMID:16039768.	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
230	Irwin C,Irwin R,Richey P,Miller M,Boddie J,Dickerson T. Get fit with the Grizzlies: a community-school-home initiative to fight childhood obesity led by a professional sports organization. Stud Health Technol Inform. 2012;172:163-7. PMID:22910518.	Independent Variable
231	Jaaskelainen A,Schwab U,Kolehmainen M,Pirkola J,Jarvelin MR,Laitinen J. Associations of meal frequency and breakfast with obesity and metabolic syndrome traits in adolescents of Northern Finland Birth Cohort 1986. Nutr Metab Cardiovasc Dis. 2013;23(10):1002-9. PMID:22901841.	Independent Variable
232	Jabs J,Devine CM,Bisogni CA,Farrell TJ,Jastran M,Wethington E. Trying to find the quickest way: employed mothers' constructions of time for food. J Nutr Educ Behav. 2007;39(1):18-25. PMID:17276323.	Study Design
233	Jacobs MP,Fiese BH. Family mealtime interactions and overweight children with asthma: potential for compounded risks?. J Pediatr Psychol. 2007;32(1):64-8. PMID:16951307.	Study Design
234	Jaeger SR,Meiselman HL. Perceptions of meal convenience: the case of at-home evening meals. Appetite. 2004;42(3):317-25. PMID:15183923.	Study Design , Independent Variable
235	Jahnke DL,Warschburger PA. Familial transmission of eating behaviors in preschool-aged children. Obesity (Silver Spring). 2008;16(8):1821-5. PMID:18483480.	Independent Variable
236	Jansen E,Mallan KM,Nicholson JM,Daniels LA. The feeding practices and structure questionnaire: construction and initial validation in a sample of Australian first-time mothers and their 2-year olds. Int J Behav Nutr Phys Act. 2014;11:72. PMID:24898364.	Study Design
237	Jansen PW,Roza SJ,Jaddoe VW,Mackenbach JD,Raat H,Hofman A,Verhulst FC,Tiemeier H. Children's eating behavior, feeding practices of parents and weight problems in early childhood: results from the population-based Generation R Study. Int J Behav Nutr Phys Act. 2012;9:130. PMID:23110748.	Study Design , Location
238	Jarman M,Fisk CM,Ntani G,Crozier SR,Godfrey KM,Inskip HM,Cooper C,Robinson SM. Assessing diets of 3-year-old children: evaluation of an FFQ. Public Health Nutr. 2014;17(5):1069-77. PMID:23635946.	Study Design , Independent Variable
239	Jelastopulu E,Kallianezos P,Merekoulias G,Alexopoulos EC,Sapountzi-Krepia D. Prevalence and risk factors of excess weight in school children in West Greece. Nurs Health Sci. 2012;14(3):372-80. PMID:22631878.	Study Design
240	Jilcott SB,Liu H,Dubose KD,Chen S,Kranz S. Food stamp participation is associated with fewer meals away from home, yet higher body mass index and waist circumference in a nationally representative sample. J Nutr Educ Behav. 2011;43(2):110-5. PMID:21392714.	Study Design
241	Jodkowska M,Oblacinska A,Tabak I,Radiukiewicz K. Differences in dietary patterns between overweight and normal-weight adolescents. Med Wieku Rozwoj. 2011;15(3):266-73. PMID:22006481.	Study Design , Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
242	Johannsen DL,Johannsen NM,Specker BL. Influence of parents' eating behaviors and child feeding practices on children's weight status. Obesity (Silver Spring). 2006;14(3):431-9. PMID:16648614.	Independent Variable
243	Johnson BA,Kremer PJ,Swinburn BA,de Silva-Sanigorski AM. Multilevel analysis of the Be Active Eat Well intervention: environmental and behavioural influences on reductions in child obesity risk. Int J Obes (Lond). 2012;36(7):901-7. PMID:22531087.	Independent Variable
244	Johnson DB,Birkett D,Evens C,Pickering S. Promoting family meals in WIC: lessons learned from a statewide initiative. J Nutr Educ Behav. 2006;38(3):177-82. PMID:16731453.	Study Design , Outcome
245	Johnson JS,Nobmann ED,Asay E. Factors related to fruit, vegetable and traditional food consumption which may affect health among Alaska Native People in Western Alaska. Int J Circumpolar Health. 2012;71:17345. PMID:22456043.	Independent Variable
246	Johnson SL,Hughes SO,Cui X,Li X,Allison DB,Liu Y,Goodell LS,Nicklas T,Power TG,Vollrath K. Portion sizes for children are predicted by parental characteristics and the amounts parents serve themselves. Am J Clin Nutr. 2014;99(4):763-70. PMID:24477036.	Study Design , Independent Variable
247	Johnson SL,Ramsay S,Shultz JA,Branen LJ,Fletcher JW. Creating potential for common ground and communication between early childhood program staff and parents about young children's eating. J Nutr Educ Behav. 2013;45(6):558-70. PMID:23769298.	Study Design , Independent Variable
248	Johnston CA,Moreno JP,El-Mubasher A,Woehler D. School lunches and lunches brought from home: a comparative analysis. Child Obes. 2012;8(4):364-8. PMID:22867076.	Independent Variable
249	Jones BL,Fiese BH. Parent routines, child routines, and family demographics associated with obesity in parents and preschool-aged children. Front Psychol. 2014;5:374. PMID:24808883.	Study Design
250	Jorgensen A,Pedersen TP,Meilstrup CR,Rasmussen M. The influence of family structure on breakfast habits among adolescents. Dan Med Bull. 2011;58(5):A4262. PMID:21535982.	Location, Independent Variable
251	Kant AK,Graubard BI. Family income and education were related with 30-year time trends in dietary and meal behaviors of American children and adolescents. J Nutr. 2013;143(5):690-700. PMID:23514763.	Independent Variable
252	Karatzi K,Moschonis G,Barouti AA,Lionis C,Chrousos GP,Manios Y. Dietary patterns and breakfast consumption in relation to insulin resistance in children. The Healthy Growth Study. Public Health Nutr. 2014;#volume#:1-8. PMID:24477051.	Study Design , Independent Variable
253	Karp SM,Barry KM,Gesell SB,Po EEK,Dietrich MS,Barkin SL. Parental feeding patterns and child weight status for Latino preschoolers. Obesity Research and Clinical Practice. 2014;8(1):e88-e97.	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
254	Kegler MC,Alcantara I,Haardorfer R,Gazmararian JA,Ballard D,Sabbs D. The influence of home food environments on eating behaviors of overweight and obese women. J Nutr Educ Behav. 2014;46(3):188-96. PMID:24809866.	Study Design
255	Kegler MC,Alcantara I,Veluswamy JK,Haardorfer R,Hotz JA,Glanz K. Results from an intervention to improve rural home food and physical activity environments. Prog Community Health Partnersh. 2012;6(3):265-77. PMID:22982840.	Independent Variable
256	Khandpur N,Blaine RE,Fisher JO,Davison KK. Fathers' child feeding practices: a review of the evidence. Appetite. 2014;78:110-21. PMID:24667152.	Study Design
257	Kiefner-Burmeister AE,Hoffmann DA,Meers MR,Koball AM,Musher-Eizenman DR. Food consumption by young children: A function of parental feeding goals and practices. Appetite. 2014;74:6-11.	Independent Variable
258	Kim J,Shim JE,Wiley AR,Kim K,McBride BA. Is there a difference between center and home care providers' training, perceptions, and practices related to obesity prevention?. Matern Child Health J. 2012;16(8):1559-66. PMID:21877239.	Study Design , Independent Variable
259	Kim YS,Lee MJ,Suh YS,Kim DH. Relationship between Family Meals and Depressive Symptoms in Children. Korean J Fam Med. 2013;34(3):206-12. PMID:23730488.	Location, Outcome
260	Klohe-Lehman DM,Freeland-Graves J,Clarke KK,Cai G,Voruganti VS,Milani TJ,Nuss HJ,Proffitt JM,Bohman TM. Low-income, overweight and obese mothers as agents of change to improve food choices, fat habits, and physical activity in their 1-to-3-year-old children. J Am Coll Nutr. 2007;26(3):196-208. PMID:17634164.	Independent Variable
261	Kong A,Jones BL,Fiese BH,Schiffer LA,Odoms-Young A,Kim Y,Bailey L,Fitzgibbon ML. Parent-child mealtime interactions in racially/ethnically diverse families with preschool-age children. Eat Behav. 2013;14(4):451-5. PMID:24183134.	Study Design
262	Kornides ML,Nansel TR,Quick V,Haynie DL,Lipsky LM,Laffel LM,Mehta SN. Associations of family meal frequency with family meal habits and meal preparation characteristics among families of youth with type 1 diabetes. Child Care Health Dev. 2014;40(3):405-11. PMID:23731337.	Study Design , Unhealthy Subjects
263	Kral TV,Heo M,Whiteford LM,Faith MS. Effects on cognitive performance of eating compared with omitting breakfast in elementary schoolchildren. J Dev Behav Pediatr. 2012;33(1):9-16. PMID:22218013.	Independent Variable, Outcome
264	Kral TV,Whiteford LM,Heo M,Faith MS. Effects of eating breakfast compared with skipping breakfast on ratings of appetite and intake at subsequent meals in 8- to 10-y-old children. Am J Clin Nutr. 2011;93(2):284-91. PMID:21084650.	Independent Variable
265	Kramer RF,Coutinho AJ,Vaeth E,Christiansen K,Suratkar S,Gittelsohn J. Healthier home food preparation methods	Study Design ,

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	and youth and caregiver psychosocial factors are associated with lower BMI in African American youth. J Nutr. 2012;142(5):948-54. PMID:22457390.	Independent Variable
266	Kristiansen AL,Lande B,Sexton JA,Andersen LF. Dietary patterns among Norwegian 2-year-olds in 1999 and in 2007 and associations with child and parent characteristics. Br J Nutr. 2013;110(1):135-44. PMID:23192009.	Study Design , Location
267	Kristiansen H,Juliusson PB,Eide GE,Roelants M,Bjerknes R. TV viewing and obesity among Norwegian children: the importance of parental education. Acta Paediatr. 2013;102(2):199-205. PMID:23121043.	Independent Variable
268	Kristjansdottir AG,Thorsdottir I,De Bourdeaudhuij I,Due P,Wind M,Klepp KI. Determinants of fruit and vegetable intake among 11-year-old schoolchildren in a country of traditionally low fruit and vegetable consumption. International Journal of Behavioral Nutrition and Physical Activity. 2006;3 .	Study Design
269	Kroller K,Warschburger P. Maternal feeding strategies and child's food intake: Considering weight and demographic influences using structural equation modeling. International Journal of Behavioral Nutrition and Physical Activity. 2009;6 .	Study Design , Independent Variable
270	Krug I,Treasure J,Anderluh M,Bellodi L,Cellini E,Collier D,Bernardo M,Granero R,Karwautz A,Nacmias B,Penelo E,Ricca V,Sorbi S,Tchanturia K,Wagner G,Fernandez-Aranda F. Associations of individual and family eating patterns during childhood and early adolescence: a multicentre European study of associated eating disorder factors. Br J Nutr. 2009;101(6):909-18. PMID:18752723.	Outcome
271	Kruger J,Blanck HM,Gillespie C. Dietary and physical activity behaviors among adults successful at weight loss maintenance. International Journal of Behavioral Nutrition and Physical Activity. 2006;3 .	Study Design
272	Kudlova E,Schneidrova D. Dietary patterns and their changes in early childhood. Cent Eur J Public Health. 2012;20(2):126-34. PMID:22966737.	Study Design , Location
273	Kuhl ES,Clifford LM,Bandstra NF,Filigno SS,Yeomans-Maldonado G,Rausch JR,Stark LJ. Examination of the association between lifestyle behavior changes and weight outcomes in preschoolers receiving treatment for obesity. Health Psychol. 2014;33(1):95-8. PMID:23815763.	Independent Variable
274	Kukulu K,Sarvan S,Muslu L,Yirmibesoglu SG. Dietary habits, economic status, academic performance and body mass index in school children: a comparative study. J Child Health Care. 2010;14(4):355-66. PMID:21078697.	Study Design , Independent Variable
275	Kupers LK,de Pijper JJ,Sauer PJ,Stolk RP,Corpeleijn E. Skipping breakfast and overweight in 2- and 5-year-old Dutch children-the GECKO Drenthe cohort. Int J Obes (Lond). 2014;38(4):569-71. PMID:24158122.	Independent Variable
276	Kuznesof S,Brownlee IA,Moore C,Richardson DP,Jebb SA,Seal CJ. WHOLEheart study participant acceptance of wholegrain foods. Appetite. 2012;59(1):187-93. PMID:22546716.	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
277	Lallukka T,Chandola T,Roos E,Cable N,Sekine M,Kagamimori S,Tatsuse T,Marmot M,Lahelma E. Work-family conflicts and health behaviors among British, Finnish, and Japanese employees. Int J Behav Med. 2010;17(2):134-42. PMID:19507039.	Location, Independent Variable
278	Lallukka T,Laaksonen M,Rahkonen O,Roos E,Lahelma E. Multiple socio-economic circumstances and healthy food habits. Eur J Clin Nutr. 2007;61(6):701-10. PMID:17180154.	Study Design , Independent Variable
279	Lally P,Cooke L,McGowan L,Croker H,Bartle N,Wardle J. Parents' misperceptions of social norms for pre-school children's snacking behaviour. Public Health Nutr. 2012;15(9):1678-82. PMID:22414799.	Study Design
280	Larson N,Hannan PJ,Fulkerson JA,Laska MN,Eisenberg ME,Neumark-Sztainer D. Secular trends in fast-food restaurant use among adolescents and maternal caregivers from 1999 to 2010. Am J Public Health. 2014;104(5):e62-9. PMID:24625157.	Study Design , Independent Variable
281	Larson N,Laska MN,Story M,Neumark-Sztainer D. Predictors of fruit and vegetable intake in young adulthood. J Acad Nutr Diet. 2012;112(8):1216-22. PMID:22698924.	Independent Variable
282	Larson N,MacLehose R,Fulkerson JA,Berge JM,Story M,Neumark-Sztainer D. Eating breakfast and dinner together as a family: associations with sociodemographic characteristics and implications for diet quality and weight status. J Acad Nutr Diet. 2013;113(12):1601-9. PMID:24139290.	Study Design
283	Larson NI,Nelson MC,Neumark-Sztainer D,Story M,Hannan PJ. Making time for meals: meal structure and associations with dietary intake in young adults. J Am Diet Assoc. 2009;109(1):72-9. PMID:19103325.	Study Design
284	Larson NI,Neumark-Sztainer D,Hannan PJ,Story M. Family meals during adolescence are associated with higher diet quality and healthful meal patterns during young adulthood. J Am Diet Assoc. 2007;107(9):1502-10. PMID:17761227.	Duplicate Study
285	Larson NI,Wall MM,Story MT,Neumark-Sztainer DR. Home/family, peer, school, and neighborhood correlates of obesity in adolescents. Obesity (Silver Spring). 2013;21(9):1858-69. PMID:23512596.	Study Design , Independent Variable
286	Laska MN,Larson NI,Neumark-Sztainer D,Story M. Does involvement in food preparation track from adolescence to young adulthood and is it associated with better dietary quality? Findings from a 10-year longitudinal study. Public Health Nutr. 2012;15(7):1150-8. PMID:22124458.	Independent Variable
287	Lawman HG,Polonsky HM,Vander Veur SS,Abel ML,Sherman S,Bauer KW,Sanders T,Fisher JO,Bailey-Davis L,Ng J,Van Wye G,Foster GD. Breakfast patterns among low-income, ethnically-diverse 4th-6th grade children in an urban area. BMC Public Health. 2014;14:604. PMID:24928474.	Study Design , Independent Variable
288	Lazzeri G,Giacchi MV,Spinelli A,Pammolli A,Dalmasso P,Nardone P,Lamberti A,Cavallo F. Overweight among	Study Design ,

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	students aged 11-15 years and its relationship with breakfast, area of residence and parents' education: results from the Italian HBSC 2010 cross-sectional study. Nutr J. 2014;13(1):69. PMID:24997676.	Independent Variable
289	Lazzeri G,Giallombardo D,Guidoni C,Zani A,Casorelli A,Grasso A,Pozzi T,Rossi S,Giacchi M. Nutritional surveillance in Tuscany: eating habits at breakfast, mid-morning and afternoon snacks among 8-9 y-old children. J Prev Med Hyg. 2006;47(3):91-9. PMID:17217185.	Study Design , Independent Variable
290	Lee H,Keller KL. Children who are pressured to eat at home consume fewer high-fat foods in laboratory test meals. J Acad Nutr Diet. 2012;112(2):271-5. PMID:22732461.	Study Design
291	Lee HA,Lee WK,Kong KA,Chang N,Ha EH,Hong YS,Park H. The effect of eating behavior on being overweight or obese during preadolescence. J Prev Med Public Health. 2011;44(5):226-33. PMID:22020188.	Study Design , Independent Variable
292	Lee S,Young DR,Pratt CA,Jobe JB,Chae SE,McMurray RG,Johnson CC,Going SB,Elder JP,Stevens J. Effects of parents' employment status on changes in body mass index and percent body fat in adolescent girls. Child Obes. 2012;8(6):526-32. PMID:23181918.	Independent Variable
293	Leech RM,McNaughton SA,Crawford DA,Campbell KJ,Pearson N,Timperio A. Family food involvement and frequency of family dinner meals among Australian children aged 10-12years. Cross-sectional and longitudinal associations with dietary patterns. Appetite. 2014;75:64-70. PMID:24389242.	Location, Independent Variable
294	Lehto R,Ray C,Lahti-Koski M,Roos E. Meal pattern and BMI in 9-11-year-old children in Finland. Public Health Nutr. 2011;14(7):1245-50. PMID:21129237.	Study Design
295	Lehto R,Ray C,Roos E. Longitudinal associations between family characteristics and measures of childhood obesity. Int J Public Health. 2012;57(3):495-503. PMID:21814847.	Location
296	Lesser IA,Gasevic D,Lear SA. The association between acculturation and dietary patterns of South Asian immigrants. PLoS One. 2014;9(2):e88495. PMID:24558396.	Independent Variable
297	Leung CY,Lumeng JC,Kaciroti NA,Chen YP,Rosenblum K,Miller AL. Surgency and negative affectivity, but not effortful control, are uniquely associated with obesogenic eating behaviors among low-income preschoolers. Appetite. 2014;78:139-46. PMID:24685763.	Independent Variable, Outcome
298	Levin KA,Kirby J,Currie C,Inchley J. Trends in adolescent eating behaviour: a multilevel cross-sectional study of 11-15 year olds in Scotland, 2002-2010. J Public Health (Oxf). 2012;34(4):523-31. PMID:22431257.	Independent Variable
299	Levin KA,Kirby J,Currie C. Adolescent risk behaviours and mealtime routines: does family meal frequency alter the association between family structure and risk behaviour?. Health Educ Res. 2012;27(1):24-35. PMID:21900407.	Study Design , Outcome

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
300	Levin KA,Kirby J,Currie C. Family structure and breakfast consumption of 11-15 year old boys and girls in Scotland, 1994-2010: a repeated cross-sectional study. BMC Public Health. 2012;12:228. PMID:22440153.	Location, Outcome
301	Levin KA,Kirby J. Irregular breakfast consumption in adolescence and the family environment: underlying causes by family structure. Appetite. 2012;59(1):63-70. PMID:22446725.	Location, Outcome
302	Lewis M,Worobey J. Mothers and toddlers lunch together. The relation between observed and reported behavior. Appetite. 2011;56(3):732-6. PMID:21349305.	Study Design
303	Lhuissier A,Tichit C,Caillavet F,Cardon P,Masullo A,Martin-Fernandez J,Parizot I,Chauvin P. Who still eats three meals a day? Findings from a quantitative survey in the Paris area. Appetite. 2013;63:59-69. PMID:23274963.	Study Design , Location
304	Liang T,Kuhle S,Veugelers PJ. Nutrition and body weights of Canadian children watching television and eating while watching television. Public Health Nutr. 2009;12(12):2457-63. PMID:19405988.	Study Design , Independent Variable
305	Lillico HG,Hammond D,Manske S,Murnaghan D. The prevalence of eating behaviors among Canadian youth using cross-sectional school-based surveys. BMC Public Health. 2014;14:323. PMID:24708863.	Study Design
306	Lindsay AC,Sussner KM,Greaney ML,Peterson KE. Influence of social context on eating, physical activity, and sedentary behaviors of Latina mothers and their preschool-age children. Health Educ Behav. 2009;36(1):81-96. PMID:18689491.	Study Design
307	Lissner L,Lanfer A,Gwozdz W,Olafsdottir S,Eiben G,Moreno LA,Santaliestra-Pasias AM,Kovacs E,Barba G,Loit HM,Kourides Y,Pala V,Pohlabeln H,De Henauw S,Buchecker K,Ahrens W,Reisch L. Television habits in relation to overweight, diet and taste preferences in European children: the IDEFICS study. Eur J Epidemiol. 2012;27(9):705-15. PMID:22911022.	Location, Independent Variable
308	Liu J,Hwang WT,Dickerman B,Compher C. Regular breakfast consumption is associated with increased IQ in kindergarten children. Early Hum Dev. 2013;89(4):257-62. PMID:23395328.	Study Design , Independent Variable
309	Lockner DW,Crowe TK,Skipper BJ. Dietary intake and parents' perception of mealtime behaviors in preschool-age children with autism spectrum disorder and in typically developing children. J Am Diet Assoc. 2008;108(8):1360-3. PMID:18656577.	Study Design
310	Lohse B,Cunningham-Sabo L. Eating competence of Hispanic parents is associated with attitudes and behaviors that may mediate fruit and vegetable-related behaviors of 4th grade youth. J Nutr. 2012;142(10):1903-9. PMID:22933747.	Study Design , Independent Variable
311	Lohse B,Rifkin R,Arnold K,Least C. A digital program informs low-income caregivers of preschool-age children about family meals. J Nutr Educ Behav. 2012;44(3):256-61. PMID:22386387.	Study Design , Outcome

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
312	Lora KR,Sisson SB,DeGrace BW,Morris AS. Frequency of Family Meals and 6-11-year-old Children's Social Behaviors. J Fam Psychol. 2014;PMID:25000133.	Study Design , Outcome
313	Loth KA,MacLehose RF,Fulkerson JA,Crow S,Neumark-Sztainer D. Are food restriction and pressure-to-eat parenting practices associated with adolescent disordered eating behaviors?. Int J Eat Disord. 2014;47(3):310-4. PMID:24105668.	Independent Variable
314	Lovelace S,Rabiee-Khan F. Food choices made by low-income households when feeding their pre-school children: a qualitative study. Matern Child Nutr. 2013;PMID:23320519.	Study Design , Location
315	Lubans DR,Morgan PJ,Okely AD,Dewar D,Collins CE,Batterham M,Callister R,Plotnikoff RC. Preventing obesity among adolescent girls: One-year outcomes of the nutrition and enjoyable activity for teen girls (NEAT Girls) cluster randomized controlled trial. Archives of Pediatrics and Adolescent Medicine. 2012;166(9):821-827.	Independent Variable
316	Luszczynska A,de Wit JB,de Vet E,Januszewicz A,Liszewska N,Johnson F,Pratt M,Gaspar T,de Matos MG,Stok FM. At-home environment, out-of-home environment, snacks and sweetened beverages intake in preadolescence, early and mid-adolescence: the interplay between environment and self-regulation. J Youth Adolesc. 2013;42(12):1873-83. PMID:23354418.	Study Design , Location
317	Lyerly JE,Huber LR,Warren-Findlow J,Racine EF,Dmochowski J. Is breakfast skipping associated with physical activity among U.S. adolescents? A cross-sectional study of adolescents aged 12-19 years, National Health and Nutrition Examination Survey (NHANES). Public Health Nutr. 2014;17(4):896-905. PMID:23534672.	Study Design
318	Lytle LA,Kubik MY,Perry C,Story M,Birnbaum AS,Murray DM. Influencing healthful food choices in school and home environments: results from the TEENS study. Prev Med. 2006;43(1):8-13. PMID:16697452.	Independent Variable
319	M AH,Arndt MJ. "Eating-together" mealtimes with African-American fathers and their toddlers. Appl Nurs Res. 2005;18(2):106-9. PMID:15991109.	Study Design
320	MacFarlane A,Abbott G,Crawford D,Ball K. Personal, social and environmental correlates of healthy weight status amongst mothers from socioeconomically disadvantaged neighborhoods: Findings from the READI study. International Journal of Behavioral Nutrition and Physical Activity. 2010;7 .	Location, Independent Variable
321	MacFarlane A,Cleland V,Crawford D,Campbell K,Timperio A. Longitudinal examination of the family food environment and weight status among children. Int J Pediatr Obes. 2009;4(4):343-52. PMID:19922051.	Location, Independent Variable
322	MacFarlane A,Crawford D,Worsley A. Associations between parental concern for adolescent weight and the home food environment and dietary intake. J Nutr Educ Behav. 2010;42(3):152-60. PMID:20097613.	Study Design
323	Maddah M,Nikooyeh B. Factors associated with overweight in children in Rasht, Iran: gender, maternal	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	education, skipping breakfast and parental obesity. Public Health Nutr. 2010;13(2):196-200. PMID:19545473.	
324	Madowitz J,Liang J,Peterson CB,Rydell S,Zucker NL,Tanofsky-Kraff M,Harnack L,Boutelle KN. Concurrent and convergent validity of the eating in the absence of hunger questionnaire and behavioral paradigm in overweight children. Int J Eat Disord. 2014;47(3):287-95. PMID:24186043.	Study Design , Independent Variable
325	Mahadevan M,Hartwell HJ,Feldman CH,Ruzsilla JA,Raines ER. Assisted-living elderly and the mealtime experience. J Hum Nutr Diet. 2014;27(2):152-61. PMID:23489649.	Study Design , Independent Variable
326	Mak TN,Prynne CJ,Cole D,Fitt E,Bates B,Stephen AM. Patterns of sociodemographic and food practice characteristics in relation to fruit and vegetable consumption in children: results from the U.K. National Diet and Nutrition Survey Rolling Programme (2008-2010). Public Health Nutr. 2013;16(11):1912-23. PMID:23920151.	Study Design , Location
327	Makela J,Vaarno J,Kaljonen A,Niinikoski H,Lagstrom H. Maternal overweight impacts infant feeding patterns - The STEPS Study. European Journal of Clinical Nutrition. 2014;68(1):43-49.	Independent Variable, Age
328	Malhotra K,Herman AN,Wright G,Bruton Y,Fisher JO,Whitaker RC. Perceived benefits and challenges for low-income mothers of having family meals with preschool-aged children: childhood memories matter. J Acad Nutr Diet. 2013;113(11):1484-93. PMID:24144074.	Study Design , Independent Variable
329	Mallan KM,Daniels LA,Nothard M,Nicholson JM,Wilson A,Cameron CM,Scuffham PA,Thorpe K. Dads at the dinner table. A cross-sectional study of Australian fathers' child feeding perceptions and practices. Appetite. 2014;73:40-44.	Study Design
330	Mallan KM,Liu WH,Mehta RJ,Daniels LA,Magarey A,Battistutta D. Maternal report of young children's eating styles. Validation of the Children's Eating Behaviour Questionnaire in three ethnically diverse Australian samples. Appetite. 2013;64:48-55. PMID:23333562.	Location, Independent Variable
331	Mandal B,Powell LM. Child care choices, food intake, and children's obesity status in the United States. Economics and Human Biology. 2014;14(1):50-61.	Study Design , Independent Variable
332	Manios Y,Moschonis G,Androutsos O,Filippou C,Van Lippevelde W,Vik FN,Te Velde SJ,Jan N,Dossegger A,Bere E,Molnar D,Moreno LA,Chinapaw MJ,De Bourdeaudhuij I,Brug J. Family sociodemographic characteristics as correlates of children's breakfast habits and weight status in eight European countries. The ENERGY (EuropeaN Energy balance Research to prevent excessive weight Gain among Youth) project. Public Health Nutr. 2014;#volume#:1-10. PMID:25017807.	Study Design
333	Marquis M,Shatenstein B. Food choice motives and the importance of family meals among immigrant mothers. Can J Diet Pract Res. 2005;66(2):77-82. PMID:15975196.	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
334	Martin-Biggers J,Spaccarotella K,Berhaupt-Glickstein A,Hongu N,Worobey J,Byrd-Bredbenner C. Come and get it! A discussion of family mealtime literature and factors affecting obesity risk. Adv Nutr. 2014;5(3):235-47. PMID:24829470.	Study Design
335	Martinez SM,Rhee K,Blanco E,Boutelle K. Maternal attitudes and behaviors regarding feeding practices in elementary school-aged Latino children: a pilot qualitative study on the impact of the cultural role of mothers in the US-Mexican border region of San Diego, California. J Acad Nutr Diet. 2014;114(2):230-7. PMID:24315129.	Study Design
336	Masse LC,Blanck HM,Valente M,Atienza AA,Agurs-Collins T,Weber D,Yaroch AL. Association between self-reported household practices and body mass index of US children and adolescents, 2005. Prev Chronic Dis. 2012;9:E174. PMID:23237244.	Independent Variable
337	Masters MA,Stanek Krogstrand KL,Eskridge KM,Albrecht JA. Race/Ethnicity and Income in Relation to the Home Food Environment in US Youth Aged 6 to 19 Years. J Acad Nutr Diet. 2014;PMID:24935611.	Study Design
338	Mata J,Scheibehenne B,Todd PM. Predicting children's meal preferences: how much do parents know?. Appetite. 2008;50(2-3):367-75. PMID:17950951.	Independent Variable
339	Mazzeo SE,Kelly NR,Stern M,Gow RW,Cotter EW,Thornton LM,Evans RK,Bulik CM. Parent skills training to enhance weight loss in overweight children: Evaluation of NOURISH. Eating Behaviors. 2014;15(2):225-229.	Independent Variable, Attrition
340	McBride CM,Persky S,Wagner LK,Faith MS,Ward DS. Effects of providing personalized feedback of child's obesity risk on mothers' food choices using a virtual reality buffet. Int J Obes (Lond). 2013;37(10):1322-7. PMID:23736369.	Independent Variable
341	McCurdy K,Gorman KS,Kisler T,Metallinos-Katsaras E. Associations between family food behaviors, maternal depression, and child weight among low-income children. Appetite. 2014;79:97-105. PMID:24768937.	Study Design , Independent Variable
342	McEwen C,Flouri E. Fathers' parenting, adverse life events, and adolescents' emotional and eating disorder symptoms: the role of emotion regulation. Eur Child Adolesc Psychiatry. 2009;18(4):206-16. PMID:18810309.	Location, Independent Variable
343	McGowan L,Cooke LJ,Gardner B,Beeken RJ,Croker H,Wardle J. Healthy feeding habits: efficacy results from a cluster-randomized, controlled exploratory trial of a novel, habit-based intervention with parents. Am J Clin Nutr. 2013;98(3):769-77. PMID:23864536.	Location, Independent Variable
344	McIntosh WA,Kubena KS,Tolle G,Dean WR,Jan JS,Anding J. Mothers and meals. The effects of mothers' meal planning and shopping motivations on children's participation in family meals. Appetite. 2010;55(3):623-8. PMID:20870001.	Study Design , Independent Variable, Outcome
345	McPhie S,Skouteris H,McCabe M,Ricciardelli LA,Milgrom J,Baur LA,Aksan N,Dell'aquila D. Maternal correlates of	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	preschool child eating behaviours and body mass index: a cross-sectional study. Int J Pediatr Obes. 2011;6(5-6):476-80. PMID:21780868.	
346	Meier A,Musick K. Variation in Associations Between Family Dinners and Adolescent Well-Being. J Marriage Fam. 2014;76(1):13-23. PMID:24511154.	Outcome
347	Melbye EL,Ogaard T,Overby NC,Hansen H. Parental food-related behaviors and family meal frequencies: associations in Norwegian dyads of parents and preadolescent children. BMC Public Health. 2013;13:820. PMID:24015833.	Study Design
348	Melgar-Quinonez HR,Kaiser LL. Relationship of child-feeding practices to overweight in low-income Mexican-American preschool-aged children. J Am Diet Assoc. 2004;104(7):1110-9. PMID:15215770.	Study Design
349	Mellin AE,Neumark-Sztainer D,Patterson J,Sockalosky J. Unhealthy weight management behavior among adolescent girls with type 1 diabetes mellitus: the role of familial eating patterns and weight-related concerns. J Adolesc Health. 2004;35(4):278-89. PMID:15450541.	Unhealthy Subjects
350	Merten MJ,Williams AL,Shriver LH. Breakfast consumption in adolescence and young adulthood: parental presence, community context, and obesity. J Am Diet Assoc. 2009;109(8):1384-91. PMID:19631044.	Independent Variable
351	Mesas AE,Leon-Munoz LM,Guallar-Castillon P,Graciani A,Gutierrez-Fisac JL,Lopez-Garcia E,Aguilera MT,Banegas JR,Rodriguez-Artalejo F. Obesity-related eating behaviours in the adult population of Spain, 2008-2010. Obes Rev. 2012;13(10):858-67. PMID:22577840.	Study Design
352	Miller DP,Waldfogel J,Han WJ. Family meals and child academic and behavioral outcomes. Child Dev. 2012;83(6):2104-20. PMID:22880815.	Outcome
353	Mitchell M,Piazza-Waggoner C,Modi A,Janicke D. Examining short-term stability of the Mealtime Interaction Coding System (MICS). Journal of Pediatric Psychology. 2009;34(1):63-68.	Independent Variable
354	Moens E,Braet C,Soetens B. Observation of family functioning at mealtime: a comparison between families of children with and without overweight. J Pediatr Psychol. 2007;32(1):52-63. PMID:16801324.	Independent Variable
355	Mohd Nasir MT,Norimah AK,Hazizi AS,Nurliyana AR,Loh SH,Suraya I. Child feeding practices, food habits, anthropometric indicators and cognitive performance among preschoolers in Peninsular Malaysia. Appetite. 2012;58(2):525-30. PMID:22265752.	Location, Outcome
356	Moller LM,de Hoog ML,van Eijsden M,Gemke RJ,Vrijkotte TG. Infant nutrition in relation to eating behaviour and fruit and vegetable intake at age 5 years. Br J Nutr. 2013;109(3):564-71. PMID:22717117.	Location, Independent Variable
357	Monteiro SM,Jancey J,Howat P,Burns S,Jones C,Dhaliwal SS,McManus A,Hills AP,Anderson AS. The protocol of a	Location,

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	randomized controlled trial for playgroup mothers: Reminder on Food, Relaxation, Exercise, and Support for Health (REFRESH) Program. BMC Public Health. 2011;11:648. PMID:21843366.	Independent Variable
358	Montgomery-Reagan K,Bianco JA,Heh V,Rettos J,Huston RS. Prevalence and correlates of high body mass index in rural Appalachian children aged 6-11 years. Rural Remote Health. 2009;9(4):1234. PMID:19848443.	Study Design , Independent Variable
359	Moore GF,Murphy S,Chaplin K,Lyons RA,Atkinson M,Moore L. Impacts of the Primary School Free Breakfast Initiative on socio-economic inequalities in breakfast consumption among 9-11-year-old schoolchildren in Wales. Public Health Nutr. 2014;17(6):1280-9. PMID:24476560.	Independent Variable
360	Moore J,Harre N. Eating and activity: the importance of family and environment. Health Promot J Austr. 2007;18(2):143-8. PMID:17663650.	Study Design , Independent Variable
361	Morawska A,Adamson M,Hinchliffe K,Adams T. Hassle Free Mealtimes Triple P: a randomised controlled trial of a brief parenting group for childhood mealtime difficulties. Behav Res Ther. 2014;53:1-9. PMID:24362359.	Independent Variable, Outcome
362	Moreira I,Severo M,Oliveira A,Durao C,Moreira P,Barros H,Lopes C. Social and health behavioural determinants of maternal child-feeding patterns in preschool-aged children. Maternal and Child Nutrition. 2014;.	Study Design , Independent Variable
363	Morin P,Roy MA. Perceptions of employed parents about early childhood obesity and the need for prevention strategies. Health Promot Pract. 2013;14(1):113-21. PMID:22193255.	Study Design
364	Moschonis G,Kalliora AC,Costarelli V,Papandreou C,Koutoukidis D,Lionis C,Chrousos GP,Manios Y. Identification of lifestyle patterns associated with obesity and fat mass in children: the Healthy Growth Study. Public Health Nutr. 2014;17(3):614-24. PMID:23531449.	Study Design
365	Moschonis G,Mavrogianni C,Karatzi K,Iatridi V,Chrousos GP,Lionis C,Manios Y. Increased physical activity combined with more eating occasions is beneficial against dyslipidemias in children. The Healthy Growth Study. Eur J Nutr. 2013;52(3):1135-44. PMID:22868822.	Study Design , Independent Variable
366	Moser A,Chen SE,Jilcott SB,Nayga RM. Associations between maternal employment and time spent in nutrition-related behaviours among German children and mothers. Public Health Nutr. 2012;15(7):1256-61. PMID:22189559.	Study Design
367	Mossavar-Rahmani Y,Tinker LF,Huang Y,Neuhouser ML,McCann SE,Seguin RA,Vitolins MZ,Curb JD,Prentice RL. Factors relating to eating style, social desirability, body image and eating meals at home increase the precision of calibration equations correcting self-report measures of diet using recovery biomarkers: findings from the Women's Health Initiative. Nutr J. 2013;12:63. PMID:23679960.	Outcome
368	Muhammad NA,Omar K,Shah SA,Muthupalaniappen LA,Arshad F. Parental perception of their children's weight	Study Design ,

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	status, and its association with their nutrition and obesity knowledge. Asia Pac J Clin Nutr. 2008;17(4):597-602. PMID:19114396.	Independent Variable
369	Muller K,Libuda L,Diethelm K,Huybrechts I,Moreno LA,Manios Y,Mistura L,Dallongeville J,Kafatos A,Gonzalez-Gross M,Cuenca-Garcia M,Sjostrom M,Hallstrom L,Widhalm K,Kersting M. Lunch at school, at home or elsewhere. Where do adolescents usually get it and what do they eat? Results of the HELENA Study. Appetite. 2013;71:332-9. PMID:24055659.	Study Design
370	Munoz DJ,Israel AC,Anderson DA. The relationship of family stability and family mealtime frequency with bulimia symptomatology. Eat Disord. 2007;15(3):261-71. PMID:17520457.	Outcome
371	Musaiger AO,Al-Roomi K,Bader Z. Social, dietary and lifestyle factors associated with obesity among Bahraini adolescents. Appetite. 2014;73:197-204.	Independent Variable
372	Musick K,Meier A. ASSESSING CAUSALITY AND PERSISTENCE IN ASSOCIATIONS BETWEEN FAMILY DINNERS AND ADOLESCENT WELL-BEING. J Marriage Fam. 2012;74(3):476-493. PMID:23794750.	Outcome
373	Myhre JB,Loken EB,Wandel M,Andersen LF. Eating location is associated with the nutritional quality of the diet in Norwegian adults. Public Health Nutr. 2014;17(4):915-23. PMID:23481490.	Study Design
374	Nagel G,Wabitsch M,Galm C,Berg S,Brandstetter S,Fritz M,Klenk J,Peter R,Prokopchuk D,Steiner R,Stroth S,Wartha O,Weiland SK,Steinacker J. Determinants of obesity in the Ulm Research on Metabolism, Exercise and Lifestyle in Children (URMEL-ICE). Eur J Pediatr. 2009;168(10):1259-67. PMID:19562371.	Study Design
375	Natale RA,Messiah SE,Asfour L,Uhlhorn SB,Delamater A,Arheart KL. Role Modeling as an Early Childhood Obesity Prevention Strategy: Effect of Parents and Teachers on Preschool Children's Healthy Lifestyle Habits. J Dev Behav Pediatr. 2014;35(6):378-87. PMID:25007060.	Independent Variable
376	Nelson Laska M,Larson NI,Neumark-Sztainer D,Story M. Dietary patterns and home food availability during emerging adulthood: do they differ by living situation?. Public Health Nutr. 2010;13(2):222-8. PMID:19691902.	Study Design
377	Nelson MC,Larson NI,Barr-Anderson D,Neumark-Sztainer D,Story M. Disparities in dietary intake, meal patterning, and home food environments among young adult nonstudents and 2- and 4-year college students. Am J Public Health. 2009;99(7):1216-9. PMID:19443824.	Independent Variable
378	Ness M,Barradas DT,Irving J,Manning SE. Correlates of overweight and obesity among American Indian/Alaska Native and Non-Hispanic White children and adolescents: National Survey of Children's Health, 2007. Matern Child Health J. 2012;16 Suppl 2:268-77. PMID:23229132.	Independent Variable
379	Neumark-Sztainer D,Eisenberg ME,Fulkerson JA,Story M,Larson NI. Family meals and disordered eating in	Outcome

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	adolescents: longitudinal findings from project EAT. Arch Pediatr Adolesc Med. 2008;162(1):17-22. PMID:18180407.	
380	Neumark-Sztainer D,Larson NI,Fulkerson JA,Eisenberg ME,Story M. Family meals and adolescents: what have we learned from Project EAT (Eating Among Teens)?. Public Health Nutr. 2010;13(7):1113-21. PMID:20144257.	Study Design
381	Neumark-Sztainer D,MacLehose R,Loth K,Fulkerson JA,Eisenberg ME,Berge J. What's for dinner? Types of food served at family dinner differ across parent and family characteristics. Public Health Nutr. 2014;17(1):145-55. PMID:23083836.	Study Design
382	Neumark-Sztainer D,Wall M,Fulkerson JA,Larson N. Changes in the frequency of family meals from 1999 to 2010 in the homes of adolescents: trends by sociodemographic characteristics. J Adolesc Health. 2013;52(2):201-6. PMID:23332485.	Study Design
383	Neumark-Sztainer D,Wall M,Story M,Fulkerson JA. Are family meal patterns associated with disordered eating behaviors among adolescents?. J Adolesc Health. 2004;35(5):350-9. PMID:15488428.	Outcome
384	Neumark-Sztainer D,Wall M,Story M,Sherwood NE. Five-year longitudinal predictive factors for disordered eating in a population-based sample of overweight adolescents: implications for prevention and treatment. Int J Eat Disord. 2009;42(7):664-72. PMID:19642214.	Outcome
385	Nicklas TA,O'Neil CE,Stuff JE,Hughes SO,Liu Y. Characterizing dinner meals served and consumed by low-income preschool children. Child Obes. 2012;8(6):561-71. PMID:23181922.	Independent Variable
386	Nielsen A,Krasnik A,Vassard D,Holm L. Opportunities for healthier child feeding. Does ethnic position matter? - Self-reported evaluation of family diet and impediments to change among parents with majority and minority status in Denmark. Appetite. 2014;78:122-128.	Study Design , Independent Variable
387	Niermann C,Krapf F,Renner B,Reiner M,Woll A. Family health climate scale (FHC-scale): Development and validation. International Journal of Behavioral Nutrition and Physical Activity. 2014;11(1) .	Study Design , Independent Variable
388	Nieuwesteeg A,Hartman E,Pouwer F,Emons W,Aanstoot HJ,Van Mil E,Van Bakel H. Qualitative observation instrument to measure the quality of parent-child interactions in young children with type 1 diabetes mellitus. BMC Pediatrics. 2014;14(1) .	Independent Variable, Unhealthy Subjects
389	Nijs KA,de Graaf C,Kok FJ,van Staveren WA. Effect of family style mealtimes on quality of life, physical performance, and body weight of nursing home residents: cluster randomised controlled trial. Bmj. 2006;332(7551):1180-4. PMID:16679331.	Location, Independent Variable
390	Nijs KA,de Graaf C,Siebelink E,Blauw YH,Vanneste V,Kok FJ,van Staveren WA. Effect of family-style meals on	Location,

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	Excluded Citations	Reason for Exclusion
	energy intake and risk of malnutrition in dutch nursing home residents: a randomized controlled trial. J Gerontol A Biol Sci Med Sci. 2006;61(9):935-42. PMID:16960024.	Independent Variable
391	Nishiyama M,Suzuki E,Hashimoto M,Takaoka N,Inaba M,Tadokoro N,Kumakura M,Furuichi T,Kamikawa Y. Skipping breakfast is associated with academic achievement, unhealthy behaviors, and sense of coherence among medical students. Dokkyo Journal of Medical Sciences. 2013;40(1):47-54.	Independent Variable
392	Nurul-Fadhilah A,Teo PS,Huybrechts I,Foo LH. Infrequent breakfast consumption is associated with higher body adiposity and abdominal obesity in Malaysian school-aged adolescents. PLoS One. 2013;8(3):e59297. PMID:23520556.	Independent Variable
393	O'Dea JA,Amy NK. Perceived and desired weight, weight related eating and exercising behaviours, and advice received from parents among thin, overweight, obese or normal weight Australian children and adolescents. Int J Behav Nutr Phys Act. 2011;8:68. PMID:21703026.	Study Design , Independent Variable
394	O'Dea JA,Mugridge AC. Nutritional quality of breakfast and physical activity independently predict the literacy and numeracy scores of children after adjusting for socioeconomic status. Health Educ Res. 2012;27(6):975-85. PMID:22798563.	Independent Variable, Outcome
395	O'Dougherty M,Story M,Lytle L. Food choices of young African-American and Latino adolescents: where do parents fit in?. J Am Diet Assoc. 2006;106(11):1846-50. PMID:17081835.	Study Design , Independent Variable
396	Oellingrath IM,Hersleth M,Svendsen MV. Association between parental motives for food choice and eating patterns of 12- to 13-year-old Norwegian children. Public Health Nutr. 2013;16(11):2023-31. PMID:23034288.	Study Design
397	Oellingrath IM,Svendsen MV,Brantsaeter AL. Tracking of eating patterns and overweight - a follow-up study of Norwegian schoolchildren from middle childhood to early adolescence. Nutr J. 2011;10:106. PMID:21978299.	Location, Independent Variable
398	Offer S. Assessing the relationship between family mealtime communication and adolescent emotional well-being using the experience sampling method. Journal of Adolescence. 2013;36(3):577-585.	Study Design , Outcome
399	Offer S. Time with children and employed parents' emotional well-being. Soc Sci Res. 2014;47:192-203. PMID:24913954.	Independent Variable, Outcome
400	Okubo H,Miyake Y,Sasaki S,Tanaka K,Murakami K,Hirota Y. Dietary patterns in infancy and their associations with maternal socio-economic and lifestyle factors among 758 Japanese mother-child pairs: The Osaka Maternal and Child Health Study. Maternal and Child Nutrition. 2014;10(2):213-225.	Study Design , Independent Variable
401	Olsen NJ,Buch-Andersen T,Handel MN,Ostergaard LM,Pedersen J,Seeger C,Stougaard M,Traerup M,Livemore K,Mortensen EL,Holst C,Heitmann BL. The Healthy Start project: a randomized, controlled intervention to	Study Design , Location

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The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	prevent overweight among normal weight, preschool children at high risk of future overweight. BMC Public Health. 2012;12:590. PMID:22852799.	
402	Olsen SO,Ruiz S. Adolescents' influence in family meal decisions. Appetite. 2008;51(3):646-53. PMID:18599156.	Study Design , Independent Variable
403	Opipari-Arrigan L,Powers SW,Quittner AL,Stark LJ. Mealtime problems predict outcome in clinical trial to improve nutrition in children with CF. Pediatr Pulmonol. 2010;45(1):78-82. PMID:19953660.	Unhealthy Subjects
404	Orrell-Valente JK,Hill LG,Brechwald WA,Dodge KA,Pettit GS,Bates JE. "Just three more bites": an observational analysis of parents' socialization of children's eating at mealtime. Appetite. 2007;48(1):37-45. PMID:17000028.	Study Design , Independent Variable
405	Ortiz-Hernandez L,Rodriguez-Magallanes M,Melgar-Quinonez H. Obesity, eating behavior, and food insecurity among adolescents in Mexico city. Boletin Medico del Hospital Infantil de Mexico. 2012;69(6):431-441.	Study Design
406	Ostbye T,Krause KM,Stroo M,Lovelady CA,Evenson KR,Peterson BL,Bastian LA,Swamy GK,West DG,Brouwer RJ,Zucker NL. Parent-focused change to prevent obesity in preschoolers: results from the KAN-DO study. Prev Med. 2012;55(3):188-95. PMID:22705016.	Independent Variable
407	Ostbye T,Malhotra R,Stroo M,Lovelady C,Brouwer R,Zucker N,Fuemmeler B. The effect of the home environment on physical activity and dietary intake in preschool children. Int J Obes (Lond). 2013;37(10):1314-21. PMID:23736357.	Independent Variable
408	Overby N,Stea TH,Vik FN,Klepp KI,Bere E. Changes in meal pattern among Norwegian children from 2001 to 2008. Public Health Nutr. 2011;14(9):1549-54. PMID:21241534.	Study Design
409	Oyama M,Nakamura K,Tsuchiya Y,Yamamoto M. Unhealthy maternal lifestyle leads to rapid infant weight gain: prevention of future chronic diseases. Tohoku J Exp Med. 2009;217(1):67-72. PMID:19155610.	Location, Independent Variable
410	Palenzuela Paniagua SM,Perez Milena A,Perula de Torres LA,Fernandez Garcia JA,Maldonado Alconada J. Food consumption patterns among adolescents. Anales del Sistema Sanitario de Navarra. 2014;37(1):47-58.	Study Design
411	Papoutsou S,Briassoulis G,Hadjigeorgiou C,Savva SC,Solea T,Hebestreit A,Pala V,Sieri S,Kourides Y,Kafatos A,Tornaritis M. The combination of daily breakfast consumption and optimal breakfast choices in childhood is an important public health message. Int J Food Sci Nutr. 2014;65(3):273-9. PMID:24512299.	Independent Variable
412	Papoutsou S,Briassoulis G,Wolters M,Peplies J,Iacoviello L,Eiben G,Veidebaum T,Molnar D,Russo P,Michels N,Moreno LA,Tornaritis M. No breakfast at home: association with cardiovascular disease risk factors in childhood. Eur J Clin Nutr. 2014;68(7):829-34. PMID:24848628.	Study Design , Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
413	Park S,Kang JH,Lawrence R,Gittelsohn J. Environmental influences on youth eating habits: insights from parents and teachers in South Korea. Ecol Food Nutr. 2014;53(4):347-62. PMID:24884552.	Study Design
414	Patton SR,Clements MA,Fridlington A,Cohoon C,Turpin AL,Delurgio SA. Frequency of mealtime insulin bolus as a proxy measure of adherence for children and youths with type 1 diabetes mellitus. Diabetes Technol Ther. 2013;15(2):124-8. PMID:23317372.	Outcome, Unhealthy Subjects
415	Patton SR,Dolan LM,Chen M,Powers SW. Dietary adherence and mealtime behaviors in young children with type 1 diabetes on intensive insulin therapy. J Acad Nutr Diet. 2013;113(2):258-62. PMID:23351629.	Study Design , Unhealthy Subjects
416	Patton SR,Dolan LM,Mitchell MJ,Byars KC,Standiford D,Powers SW. Mealtime interactions in families of pre-schoolers with type 1 diabetes. Pediatr Diabetes. 2004;5(4):190-8. PMID:15601361.	Study Design , Unhealthy Subjects
417	Patton SR,Dolan LM,Powers SW. Differences in family mealtime interactions between young children with type 1 diabetes and controls: implications for behavioral intervention. J Pediatr Psychol. 2008;33(8):885-93. PMID:18356184.	Study Design , Unhealthy Subjects
418	Patton SR,Dolan LM,Powers SW. Does eating during television viewing affect mealtimes in young children with type 1 diabetes mellitus?. J Pediatr Nurs. 2013;28(4):364-8. PMID:23273663.	Independent Variable, Unhealthy Subjects
419	Patton SR,Dolan LM,Smith LB,Brown MB,Powers SW. Examining mealtime behaviors in families of young children with type 1 diabetes on intensive insulin therapy. Eat Behav. 2013;14(4):464-7. PMID:24183137.	Independent Variable, Unhealthy Subjects
420	Patton SR,Piazza-Waggoner C,Modi AC,Dolan LM,Powers SW. Family functioning at meals relates to adherence in young children with type 1 diabetes. J Paediatr Child Health. 2009;45(12):736-41. PMID:19863707.	Independent Variable, Unhealthy Subjects
421	Pearson N,Atkin AJ,Biddle SJ,Gorely T,Edwardson C. Parenting styles, family structure and adolescent dietary behaviour. Public Health Nutr. 2010;13(8):1245-53. PMID:19954574.	Study Design
422	Pearson N,MacFarlane A,Crawford D,Biddle SJ. Family circumstance and adolescent dietary behaviours. Appetite. 2009;52(3):668-74. PMID:19501765.	Location, Independent Variable
423	Pearson N,Timperio A,Salmon J,Crawford D,Biddle SJH. Family influences on children's physical activity and fruit and vegetable consumption. International Journal of Behavioral Nutrition and Physical Activity. 2009;6 .	Independent Variable
424	Pearson N,Williams L,Crawford D,Ball K. Maternal and best friends' influences on meal-skipping behaviours. Br J Nutr. 2012;108(5):932-8. PMID:22289518.	Location, Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
425	Pedersen TP,Holstein BE,Flachs EM,Rasmussen M. Meal frequencies in early adolescence predict meal frequencies in late adolescence and early adulthood. BMC Public Health. 2013;13:445. PMID:23642295.	Location, Independent Variable
426	Pelletier JE,Laska MN. Balancing healthy meals and busy lives: associations between work, school, and family responsibilities and perceived time constraints among young adults. J Nutr Educ Behav. 2012;44(6):481-9. PMID:23017891.	Study Design
427	Perez LM,Garcia K,Herrera R. Psychological, behavioral and familial factors in obese Cuban children and adolescents. MEDICC Review. 2013;15(4):24-28.	Study Design
428	Perez-Rodriguez M,Melendez G,Nieto C,Aranda M,Pfeffer F. Dietary and physical activity/inactivity factors associated with obesity in school-aged children. Adv Nutr. 2012;3(4):622s-628s. PMID:22798003.	Study Design
429	Persaud N,Maguire JL,Lebovic G,Carsley S,Khovratovich M,Randall Simpson JA,McCrindle BW,Parkin PC,Birken C. Association between serum cholesterol and eating behaviours during early childhood: a cross-sectional study. Cmaj. 2013;185(11):E531-6. PMID:23775611.	Study Design
430	Pescud M,Pettigrew S,Henley N. Nutrition beliefs of disadvantaged parents of overweight children. Health Education Journal. 2014;73(2):201-208.	Independent Variable
431	Peters J,Dollman J,Petkov J,Parletta N. Associations between parenting styles and nutrition knowledge and 2-5-year-old children's fruit, vegetable and non-core food consumption. Public Health Nutr. 2013;16(11):1979-87. PMID:23089340.	Study Design
432	Peters J,Parletta N,Lynch J,Campbell K. A comparison of parental views of their pre-school children's 'healthy' versus 'unhealthy' diets. A qualitative study. Appetite. 2014;76:129-36. PMID:24524974.	Study Design , Independent Variable
433	Pettinger C,Holdsworth M,Gerber M. Meal patterns and cooking practices in Southern France and Central England. Public Health Nutr. 2006;9(8):1020-6. PMID:17125566.	Study Design
434	Petty ML,Escrivao MA,Souza AA. Preliminary validation of the Parent Mealtime Action Scale and its association with food intake in children from Sao Paulo, Brazil. Appetite. 2013;62:166-72. PMID:23219990.	Location, Independent Variable
435	Piazza-Waggoner C,Modi AC,Ingerski LM,Wu YP,Zeller MH. Distress at the Dinner Table? Observed Mealtime Interactions among Treatment-Seeking Families of Obese Children. Child Obes. 2011;7(5):385-391. PMID:23275861.	Study Design , Independent Variable
436	Picarelli A,Tola M,Tabacco F,Marino M,Borghini R,D'Amico T,Lubrano C,Gargiulo P. Enhancing treatment of obesity by using a distracting mini-meal: a new approach to an old problem. Hormones (Athens, Greece). 2013;12(1):101-10. PMID:CN-00881625.	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
437	Pilecki MW,Kowal M,Woronkowicz A,Kryst L,Sobiecki J. The socioeconomic status and family context of eating attitudes and dietary behaviours of children in Polish primary schools. Archives of Psychiatry and Psychotherapy. 2014;16(1):5-13.	Independent Variable
438	Pinhas-Hamiel O,Bar-Zvi E,Boyko V,Reichman B,Lerner-Geva L. Prevalence of overweight in kindergarten children in the centre of Israel - association with lifestyle habits. Child Care Health Dev. 2009;35(2):147-52. PMID:18991982.	Study Design
439	Porter EJ. Problems with preparing food reported by frail older women living alone at home. ANS Adv Nurs Sci. 2007;30(2):159-74. PMID:17510573.	Independent Variable
440	Poulos NS,Pasch KE,Springer AE,Hoelscher DM,Kelder SH. Is frequency of family meals associated with parental encouragement of healthy eating among ethnically diverse eighth graders?. Public Health Nutr. 2014;17(5):998-1003. PMID:23651952.	Study Design , Independent Variable, Outcome
441	Pourshahidi LK,Kerr MA,McCaffrey TA,Livingstone MB. Influencing and modifying children's energy intake: the role of portion size and energy density. Proc Nutr Soc. 2014;73(3):397-406. PMID:24886909.	Independent Variable
442	Powers SW,Chamberlin LA,van Schaick KB,Sherman SN,Whitaker RC. Maternal feeding strategies, child eating behaviors, and child BMI in low-income African-American preschoolers. Obesity (Silver Spring). 2006;14(11):2026-33. PMID:17135620.	Independent Variable
443	Prichard I,Hodder K,Hutchinson A,Wilson C. Predictors of mother-daughter resemblance in dietary intake. The role of eating styles, mothers' consumption, and closeness. Appetite. 2012;58(1):271-6. PMID:22056488.	Location, Independent Variable
444	Provencher V,Drapeau V,Tremblay A,Despres JP,Bouchard C,Lemieux S. Eating behaviours, dietary profile and body composition according to dieting history in men and women of the Quebec Family Study. Br J Nutr. 2004;91(6):997-1004. PMID:15182403.	Study Design
445	Provencher V,Perusse L,Bouchard L,Drapeau V,Bouchard C,Rice T,Rao DC,Tremblay A,Despres JP,Lemieux S. Familial resemblance in eating behaviors in men and women from the Quebec Family Study. Obes Res. 2005;13(9):1624-9. PMID:16222066.	Location, Independent Variable
446	Pula K,Parks CD,Ross CF. Regulatory focus and food choice motives. Prevention orientation associated with mood, convenience, and familiarity. Appetite. 2014;78:15-22.	Independent Variable
447	Quick BL,Fiese BH,Anderson B,Koester BD,Marlin DW. A formative evaluation of shared family mealtime for parents of toddlers and young children. Health Commun. 2011;26(7):656-66. PMID:21598152.	Study Design , Independent Variable
448	Quick V,Wall M,Larson N,Haines J,Neumark-Sztainer D. Personal, behavioral and socio-environmental predictors	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	of overweight incidence in young adults: 10-yr longitudinal findings. Int J Behav Nutr Phys Act. 2013;10:37. PMID:23531253.	
449	Quintiliani LM,Bishop HL,Greaney ML,Whiteley JA. Factors across home, work, and school domains influence nutrition and physical activity behaviors of nontraditional college students. Nutr Res. 2012;32(10):757-63. PMID:23146772.	Study Design
450	Raaijmakers LG,Gevers DW,Teuscher D,Kremers SP,van Assema P. Emotional and instrumental feeding practices of Dutch mothers regarding foods eaten between main meals. BMC Public Health. 2014;14:171. PMID:24533574.	Study Design
451	Raat H,Struijk MK,Remmers T,Vlasblom E,van Grieken A,Broeren SM,te Velde SJ,Beltman M,Boere-Boonekamp MM,L'Hoir MP. Primary prevention of overweight in preschool children, the BeeBOFT study (breastfeeding, breakfast daily, outside playing, few sweet drinks, less TV viewing): design of a cluster randomized controlled trial. BMC Public Health. 2013;13:974. PMID:24138805.	Independent Variable
452	Racine EF,Lyerly J,Troyer JL,Warren-Findlow J,McAuley WJ. The influence of home-delivered dietary approaches to stop hypertension meals on body mass index, energy intake, and percent of energy needs consumed among older adults with hypertension and/or hyperlipidemia. J Acad Nutr Diet. 2012;112(11):1755-62. PMID:23102175.	Independent Variable
453	Rahmawaty S,Lyons-Wall P,Batterham M,Charlton K,Meyer BJ. Food patterns of Australian children ages 9 to 13 y in relation to (omega)-3 long chain polyunsaturated intake. Nutrition. 2014;30(2):169-176.	Study Design , Independent Variable
454	Ramos E,Barros H. Family and school determinants of overweight in 13-year-old Portuguese adolescents. Acta Paediatr. 2007;96(2):281-6. PMID:17429921.	Independent Variable
455	Ray C,Roos E,Brug J,Behrendt I,Ehrenblad B,Yngve A,te Velde SJ. Role of free school lunch in the associations between family-environmental factors and children's fruit and vegetable intake in four European countries. Public Health Nutr. 2013;16(6):1109-17. PMID:22974579.	Study Design
456	Ray C,Roos E. Family characteristics predicting favourable changes in 10 and 11-year-old children's lifestyle-related health behaviours during an 18-month follow-up. Appetite. 2012;58(1):326-32. PMID:22056489.	Study Design , Independent Variable
457	Ray C,Suominen S,Roos E. The role of parents' sense of coherence in irregular meal pattern and food intake pattern of children aged 10-11 in Finland. J Epidemiol Community Health. 2009;63(12):1005-9. PMID:19525244.	Study Design , Independent Variable
458	Reicks M,Degeneffe D,Ghosh K,Bruhn C,Goodell LS,Gunther C,Auld G,Ballejos M,Boushey C,Cluskey M,Misner S,Olson B,Wong S,Zaghloul S. Parent calcium-rich-food practices/perceptions are associated with calcium intake among parents and their early adolescent children. Public Health Nutr. 2012;15(2):331-40. PMID:21729479.	Study Design , Independent Variable
459	Reicks M,Trofholz AC,Stang JS,Laska MN. Impact of Cooking and Home Food Preparation Interventions Among	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	Adults: Outcomes and Implications for Future Programs. J Nutr Educ Behav. 2014;46(4):259-76. PMID:24703245.	
460	Remmers T,van Grieken A,Renders CM,Hirasing RA,Broeren SM,Raat H. Correlates of parental misperception of their child's weight status: the 'be active, eat right' study. PLoS One. 2014;9(2):e88931. PMID:24551191.	Independent Variable
461	Rezaeian S,Ahmadzadeh J. Assessment of food habits and their association with cardiovascular risk factors in employees. International Journal of Collaborative Research on Internal Medicine and Public Health. 2012;4(4):339-343.	Location, Independent Variable
462	Reznar MM,Carlson JS,Hughes SO,Pavangadkar AS,Scott MK,Hoerr SL. An interactive parents' guide for feeding preschool-aged children: pilot studies for improvement. J Acad Nutr Diet. 2014;114(5):788-95. PMID:24512951.	Independent Variable
463	Richter SL,Vandervet LM,Macaskill LA,Salvadori MI,Seabrook JA,Dworatzek PD. Accuracy and reliability of direct observations of home-packed lunches in elementary schools by trained nutrition students. J Acad Nutr Diet. 2012;112(10):1603-7. PMID:23017569.	Location, Independent Variable
464	Ritchie LD,Raman A,Sharma S,Fitch MD,Fleming SE. Dietary intakes of urban, high body mass index, African American children: family and child dietary attributes predict child intakes. J Nutr Educ Behav. 2011;43(4):236-43. PMID:21530411.	Study Design , Independent Variable
465	Ritchie LD. Less frequent eating predicts greater BMI and waist circumference in female adolescents. Am J Clin Nutr. 2012;95(2):290-6. PMID:22218154.	Independent Variable
466	Rito AI,Carvalho MA,Ramos C,Breda J. Program Obesity Zero (POZ)--a community-based intervention to address overweight primary-school children from five Portuguese municipalities. Public Health Nutr. 2013;16(6):1043-51. PMID:23462320.	Independent Variable
467	Robinson TN,Matheson D,Desai M,Wilson DM,Weintraub DL,Haskell WL,McClain A,McClure S,J AB,Sanders LM,Haydel KF,Killen JD. Family, community and clinic collaboration to treat overweight and obese children: Stanford GOALS-A randomized controlled trial of a three-year, multi-component, multi-level, multi-setting intervention. Contemporary Clinical Trials. 2013;36(2):421-435.	Independent Variable
468	Robinson-O'Brien R,Neumark-Sztainer D,Hannan PJ,Burgess-Champoux T,Haines J. Fruits and vegetables at home: child and parent perceptions. J Nutr Educ Behav. 2009;41(5):360-4. PMID:19717120.	Study Design
469	Rockell JE,Skidmore PM,Parnell WR,Wilson N. What children eat during afternoons and evenings: is it important?. Public Health Nutr. 2011;14(3):557-62. PMID:21138613.	Location, Independent Variable
470	Rodearmel SJ,Wyatt HR,Barry MJ,Dong F,Pan D,Israel RG,Cho SS,McBurney MI,Hill JO. A family-based approach to preventing excessive weight gain. Obesity (Silver Spring). 2006;14(8):1392-401. PMID:16988082.	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
471	Rodgers RF,Paxton SJ,Massey R,Campbell KJ,Wertheim EH,Skouteris H,Gibbons K. Maternal feeding practices predict weight gain and obesogenic eating behaviors in young children: a prospective study. Int J Behav Nutr Phys Act. 2013;10:24. PMID:23414332.	Independent Variable
472	Rodgers RF,Paxton SJ,McLean SA,Campbell KJ,Wertheim EH,Skouteris H,Gibbons K. Maternal negative affect is associated with emotional feeding practices and emotional eating in young children. Appetite. 2014;80:242-247.	Study Design , Independent Variable
473	Roe LS,Meengs JS,Birch LL,Rolls BJ. Serving a variety of vegetables and fruit as a snack increased intake in preschool children. Am J Clin Nutr. 2013;98(3):693-9. PMID:23902783.	Independent Variable
474	Roemmich JN,White TM,Paluch R,Epstein LH. Energy intake, parental control of children's eating, and physical activity in siblings discordant for adiposity. Appetite. 2010;55(2):325-31. PMID:20633585.	Study Design , Independent Variable
475	Rollins BY,Belue RZ,Francis LA. The beneficial effect of family meals on obesity differs by race, sex, and household education: the national survey of children's health, 2003-2004. J Am Diet Assoc. 2010;110(9):1335-9. PMID:20800125.	Study Design
476	Rollins BY,Loken E,Savage JS,Birch LL. Maternal controlling feeding practices and girls' inhibitory control interact to predict changes in BMI and eating in the absence of hunger from 5 to 7 y. Am J Clin Nutr. 2014;99(2):249-57. PMID:24284443.	Independent Variable
477	Rollins BY,Loken E,Savage JS,Birch LL. Measurement of food reinforcement in preschool children. Associations with food intake, BMI, and reward sensitivity. Appetite. 2014;72:21-7. PMID:24090537.	Independent Variable
478	Roos E,Pajunen T,Ray C,Lynch C,Kristiansdottir AG,Halldorsson TI,Thorsdottir I,Te Velde SJ,Krawinkel M,Behrendt I,de Almeida MD,Franchini B,Papadaki A,Moschandreas J,Ribic CH,Petrova S,Duleva V,Simcic I,Yngve A. Does eating family meals and having the television on during dinner correlate with overweight? A sub-study of the PRO GREENS project, looking at children from nine European countries. Public Health Nutr. 2014;#volume#:1-9. PMID:24642340.	Study Design
479	Roos E,Sarlio-Lahteenkorva S,Lallukka T,Lahelma E. Associations of work-family conflicts with food habits and physical activity. Public Health Nutr. 2007;10(3):222-9. PMID:17288618.	Study Design
480	Rosenkranz RR,Dzewaltowski DA. Promoting better family meals for girls attending summer programs. J Nutr Educ Behav. 2009;41(1):65-7. PMID:19161923.	Study Design , Outcome
481	Rosenthal MS,Crowley AA,Curry L. Family child care providers' self-perceived role in obesity prevention: working with children, parents, and external influences. J Nutr Educ Behav. 2013;45(6):595-601. PMID:23860100.	Study Design
482	Roshita A,Schubert E,Whittaker M. Child feeding practices in families of working and nonworking mothers of	Study Design ,

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	Indonesian middle class urban families: what are the problems?. Ecol Food Nutr. 2013;52(4):344-70. PMID:23802915.	Independent Variable
483	Rosno EA,Steele RG,Johnston CA,Aylward BS. Parental locus of control: Associations to adherence and outcomes in the treatment of pediatric overweight. Children's Health Care. 2008;37(2):126-144.	Independent Variable
484	Rovner AJ,Mehta SN,Haynie DL,Robinson EM,Pound HJ,Butler DA,Laffel LM,Nansel TR. Perceived benefits, barriers, and strategies of family meals among children with type 1 diabetes mellitus and their parents: focus-group findings. J Am Diet Assoc. 2010;110(9):1302-6. PMID:20800121.	Study Design
485	Salvy SJ,Elmo A,Nitecki LA,Kluczynski MA,Roemmich JN. Influence of parents and friends on children's and adolescents' food intake and food selection. Am J Clin Nutr. 2011;93(1):87-92. PMID:21048059.	Independent Variable
486	Sanchez-Cruz JJ,de Ruiter I,Jimenez-Moleon JJ. Individual, family and environmental factors associated with pediatric excess weight in Spain: a cross-sectional study. BMC Pediatr. 2014;14:3. PMID:24400645.	Study Design
487	Santos JL,Kain J,Dominguez-Vasquez P,Lera L,Galvan M,Corvalan C,Uauy R. Maternal anthropometry and feeding behavior toward preschool children: Association with childhood body mass index in an observational study of Chilean families. International Journal of Behavioral Nutrition and Physical Activity. 2009;6 .	Independent Variable
488	Savoca MR,Martine TL,Morton TB,Johnson LT,Bell NM,Aronson RE,Wallace DC. Meal patterns and food choices of young African-American men: understanding eating within the context of daily life. J Am Diet Assoc. 2011;111(9):1335-42. PMID:21872697.	Study Design
489	Scholten EWM,Schrijvers CTM,Nederkoorn C,Kremers SPJ,Rodenburg G. Relationship between impulsivity, snack consumption and children's weight. PLoS ONE. 2014;9(2) .	Independent Variable
490	Schuetzmann M,Richter-Appelt H,Schulte-Markwort M,Schimmelmann BG. Associations among the perceived parent-child relationship, eating behavior, and body weight in preadolescents: results from a community-based sample. J Pediatr Psychol. 2008;33(7):772-82. PMID:18238800.	Study Design , Independent Variable
491	Sen B. The relationship between frequency of family dinner and adolescent problem behaviors after adjusting for other family characteristics. Journal of Adolescence. 2010;33(1):187-196.	Outcome
492	Serrano M,Torres R,Perez CM,Palacios C. Social environment factors, diet quality, and body weight in 12-year-old children from four public schools in Puerto Rico. P R Health Sci J. 2014;33(2):80-7. PMID:24964643.	Study Design
493	Simmons SF,Levy-Storms L. The effect of dining location on nutritional care quality in nursing homes. J Nutr Health Aging. 2005;9(6):434-9. PMID:16395515.	Study Design
494	Sisson SB,Sheffield-Morris A,Spicer P,Lora K,Latorre C. Influence of family structure on obesogenic behaviors and	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	placement of bedroom TVs of American children: National Survey of Children's Health 2007. Prev Med. 2014;61:48-53. PMID:24440163.	
495	Skafida V. The family meal panacea: exploring how different aspects of family meal occurrence, meal habits and meal enjoyment relate to young children's diets. Sociol Health Illn. 2013;35(6):906-23. PMID:23551143.	Study Design , Location
496	Skala K,Chuang RJ,Evans A,Hedberg AM,Dave J,Sharma S. Ethnic differences in the home food environment and parental food practices among families of low-income Hispanic and African-American preschoolers. J Immigr Minor Health. 2012;14(6):1014-22. PMID:22262411.	Study Design
497	Slane JD,Klump KL,McGue M,Iacono WG. Developmental trajectories of disordered eating from early adolescence to young adulthood: A longitudinal study. International Journal of Eating Disorders. 2014;.	Independent Variable
498	Slater J,Sevenhuysen G,Edginton B,O'Neil J. 'Trying to make it all come together': structuration and employed mothers' experience of family food provisioning in Canada. Health Promot Int. 2012;27(3):405-15. PMID:21693474.	Independent Variable
499	Sleddens EF,Kremers SP,De Vries NK,Thijs C. Relationship between parental feeding styles and eating behaviours of Dutch children aged 6-7. Appetite. 2010;54(1):30-6. PMID:19747513.	Study Design
500	Sleddens EFC,Kremers SPJ,Stafleu A,Dagnelie PC,De Vries NK,Thijs C. Food parenting practices and child dietary behavior. Prospective relations and the moderating role of general parenting. Appetite. 2014;79:42-50.	Independent Variable
501	Smart CE,Ross K,Edge JA,King BR,McElduff P,Collins CE. Can children with Type 1 diabetes and their caregivers estimate the carbohydrate content of meals and snacks?. Diabet Med. 2010;27(3):348-53. PMID:20536499.	Independent Variable
502	Smith KJ,McNaughton SA,Cleland VJ,Crawford D,Ball K. Health, behavioral, cognitive, and social correlates of breakfast skipping among women living in socioeconomically disadvantaged neighborhoods. J Nutr. 2013;143(11):1774-84. PMID:23986365.	Independent Variable, Outcome
503	Smith LP,Ng SW,Popkin BM. Resistant to the recession: low-income adults' maintenance of cooking and away-from-home eating behaviors during times of economic turbulence. Am J Public Health. 2014;104(5):840-6. PMID:24625145.	Study Design
504	Smith LP,Ng SW,Popkin BM. Trends in US home food preparation and consumption: analysis of national nutrition surveys and time use studies from 1965-1966 to 2007-2008. Nutr J. 2013;12:45. PMID:23577692.	Study Design
505	So HK,Nelson EA,Li AM,Guldan GS,Yin J,Ng PC,Sung RY. Breakfast frequency inversely associated with BMI and body fatness in Hong Kong Chinese children aged 9-18 years. Br J Nutr. 2011;106(5):742-51. PMID:21535905.	Independent Variable
506	Sobal J,Hanson K. Family dinner frequency, settings and sources, and body weight in US adults. Appetite.	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	2014;78:81-8. PMID:24681105.	
507	Sobal J,Hanson K. Family meals and body weight in US adults. Public Health Nutr. 2011;14(9):1555-62. PMID:21356147.	Study Design
508	Song YM,Lee K,Sung J,Yang YJ. Changes in eating behaviors and body weight in Koreans: the Healthy Twin Study. Nutrition. 2013;29(1):66-70. PMID:22858202.	Location
509	Song YM,Lee K,Sung J. Eating behaviors and weight over time in a prospective study: the Healthy Twin Study. Asia Pac J Clin Nutr. 2014;23(1):76-83. PMID:24561975.	Independent Variable
510	Sotos-Prieto M,Santos-Beneit G,Pocock S,Redondo J,Fuster V,Penalvo JL. Parental and self-reported dietary and physical activity habits in pre-school children and their socio-economic determinants. Public Health Nutr. 2014;#volume#:1-11. PMID:24698168.	Study Design
511	Spence JC,Carson V,Casey L,Boule N. Examining behavioural susceptibility to obesity among Canadian pre-school children: the role of eating behaviours. Int J Pediatr Obes. 2011;6(2-2):e501-7. PMID:20831463.	Study Design , Independent Variable
512	Spurrier NJ,Magarey AA,Golley R,Curnow F,Sawyer MG. Relationships between the home environment and physical activity and dietary patterns of preschool children: A cross-sectional study. International Journal of Behavioral Nutrition and Physical Activity. 2008;5 .	Study Design , Independent Variable
513	Staser KW,Zollinger TW, Jr. Saywell RM,Kunapareddy S,Gibson PJ,Caine VA. Dietary behaviors associated with fruit and vegetable consumption, Marion County, Indiana, 2005. Prev Chronic Dis. 2011;8(3):A66. PMID:21477506.	Study Design
514	Stephens LD,McNaughton SA,Crawford D,Ball K. Longitudinal predictors of frequent vegetable and fruit consumption among socio-economically disadvantaged Australian adolescents. Appetite. 2014;78:165-71. PMID:24685764.	Independent Variable
515	Stephens LD,McNaughton SA,Crawford D,Ball K. Predictors of high-energy foods and beverages: a longitudinal study among socio-economically disadvantaged adolescents. Public Health Nutr. 2014;17(2):324-37. PMID:23122445.	Location
516	Stewart SD,Menning CL. Family structure, nonresident father involvement, and adolescent eating patterns. J Adolesc Health. 2009;45(2):193-201. PMID:19628147.	Independent Variable
517	Storey KE,Hanning RM,Lambraki IA,Driezen P,Fraser SN,McCargar LJ. Determinants of diet quality among Canadian adolescents. Can J Diet Pract Res. 2009;70(2):58-65. PMID:19515268.	Study Design
518	Story M,Hannan PJ,Fulkerson JA,Rock BH,Smyth M,Arcan C,Himes JH. Bright Start: Description and main	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	outcomes from a group-randomized obesity prevention trial in American Indian children. Obesity (Silver Spring). 2012;20(11):2241-9. PMID:22513491.	
519	Sugiyama S,Okuda M,Sasaki S,Kunitsugu I,Hobara T. Breakfast habits among adolescents and their association with daily energy and fish, vegetable, and fruit intake: a community-based cross-sectional study. Environ Health Prev Med. 2012;17(5):408-14. PMID:22351508.	Location, Independent Variable
520	Swanson V,Power KG,Crombie IK,Irvine L,Kiezebrink K,Wrieden W,Slane PW. Maternal feeding behaviour and young children's dietary quality: a cross-sectional study of socially disadvantaged mothers of two-year old children using the Theory of Planned Behaviour. Int J Behav Nutr Phys Act. 2011;8:65. PMID:21699714.	Study Design
521	Sweeney NM,Horishita N. The breakfast-eating habits of inner city high school students. J Sch Nurs. 2005;21(2):100-5. PMID:15801876.	Study Design
522	Sweeting H,West P. Dietary habits and children's family lives. J Hum Nutr Diet. 2005;18(2):93-7. PMID:15788018.	Study Design
523	Sweetman C,McGowan L,Croker H,Cooke L. Characteristics of family mealtimes affecting children's vegetable consumption and liking. J Am Diet Assoc. 2011;111(2):269-73. PMID:21272701.	Study Design
524	Sweitzer SJ,Briley ME,Roberts-Gray C,Hoelscher DM,Harrist RB,Staskel DM,Almansour FD. Psychosocial outcomes of Lunch is in the Bag, a parent program for packing healthful lunches for preschool children. J Nutr Educ Behav. 2011;43(6):536-42. PMID:21852196.	Study Design , Independent Variable
525	Sweitzer SJ,Briley ME,Roberts-Gray C,Hoelscher DM,Staskel DM,Almansour FD. How to help parents pack better preschool sack lunches: advice from parents for educators. J Nutr Educ Behav. 2011;43(3):194-8. PMID:21550534.	Study Design , Independent Variable
526	Tak NI,te Velde SJ,Brug J. Are positive changes in potential determinants associated with increased fruit and vegetable intakes among primary schoolchildren? Results of two intervention studies in the Netherlands: The Schoolgruiten Project and the Pro Children Study. International Journal of Behavioral Nutrition and Physical Activity. 2008;5 .	Independent Variable
527	Taveras EM,McDonald J,O'Brien A,Haines J,Sherry B,Bottino CJ,Troncoso K,Schmidt ME,Koziol R. Healthy Habits, Happy Homes: methods and baseline data of a randomized controlled trial to improve household routines for obesity prevention. Prev Med. 2012;55(5):418-26. PMID:22960162.	Outcome
528	Taylor JP,Hernandez KJ,Caiger JM,Giberson D,MacLellan D,Sweeney-Nixon M,Veugelers P. Nutritional quality of children's school lunches: differences according to food source. Public Health Nutr. 2012;15(12):2259-64. PMID:22463765.	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
529	Te Velde SJ,Chin AMJ,De Bourdeaudhuij I,Bere E,Maes L,Moreno L,Jan N,Kovacs E,Manios Y,Brug J. Parents and friends both matter: simultaneous and interactive influences of parents and friends on European schoolchildren's energy balance-related behaviours - the ENERGY cross-sectional study. Int J Behav Nutr Phys Act. 2014;11(1):82. PMID:25001090.	Study Design
530	Thibault H,Carriere C,Langevin C,Kossi Deti E,Barberger-Gateau P,Maurice S. Prevalence and factors associated with overweight and obesity in French primary-school children. Public Health Nutr. 2013;16(2):193-201. PMID:22953729.	Study Design
531	Tin SP,Ho SY,Mak KH,Wan KL,Lam TH. Lifestyle and socioeconomic correlates of breakfast skipping in Hong Kong primary 4 schoolchildren. Prev Med. 2011;52(3-4):250-3. PMID:21215276.	Independent Variable
532	Tin SP,Ho SY,Mak KH,Wan KL,Lam TH. Location of breakfast consumption predicts body mass index change in young Hong Kong children. Int J Obes (Lond). 2012;36(7):925-30. PMID:22234278.	Location, Independent Variable
533	Todd MK,Reis-Bergan MJ,Sidman CL,Flohr JA,Jameson-Walker K,Spicer-Bartolau T,Wildeman K. Effect of a family-based intervention on electronic media use and body composition among boys aged 8--11 years: a pilot study. J Child Health Care. 2008;12(4):344-58. PMID:19052191.	Independent Variable
534	Torres R,Serrano M,Perez CM,Palacios C. Physical environment, diet quality, and body weight in a group of 12-year-old children from four public schools in Puerto Rico. P R Health Sci J. 2014;33(1):14-21. PMID:24665604.	Study Design , Independent Variable
535	Toschke AM,Kuchenhoff H,Koletzko B,von Kries R. Meal frequency and childhood obesity. Obes Res. 2005;13(11):1932-8. PMID:16339125.	Independent Variable
536	Toschke AM,Thorsteinsdottir KH,von Kries R. Meal frequency, breakfast consumption and childhood obesity. Int J Pediatr Obes. 2009;4(4):242-8. PMID:19922038.	Independent Variable
537	Tovar A,Hennessy E,Must A,Hughes SO,Gute DM,Sliwa S,Boulos RJ,Vikre EK,Kamins CL,Tofuri K,Pirie A,Economos CD. Feeding styles and evening family meals among recent immigrants. Int J Behav Nutr Phys Act. 2013;10(1):84. PMID:23803223.	Study Design
538	Tremblay L,Rinaldi CM. The prediction of preschool children's weight from family environment factors: gender-linked differences. Eat Behav. 2010;11(4):266-75. PMID:20850062.	Study Design , Independent Variable
539	Turer CB,Stroo M,Brouwer RJ,Krause KM,Lovelady CA,Bastian LA,Peterson B,Ostbye T. Do high-risk preschoolers or overweight mothers meet AAP-recommended behavioral goals for reducing obesity?. Acad Pediatr. 2013;13(3):243-50. PMID:23491583.	Study Design , Independent Variable
540	Tylka TL,Eneli IU,Kroon Van Diest AM,Lumeng JC. Which adaptive maternal eating behaviors predict child feeding	Independent Variable

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	practices? An examination with mothers of 2- to 5-year-old children. Eat Behav. 2013;14(1):57-63. PMID:23265403.	
541	Upton D,Upton P,Taylor C. Increasing children's lunchtime consumption of fruit and vegetables: an evaluation of the Food Dudes programme. Public Health Nutr. 2013;16(6):1066-72. PMID:23067425.	Independent Variable
542	Upton P,Taylor C,Upton D. The effects of the Food Dudes Programme on children's intake of unhealthy foods at lunchtime. Perspect Public Health. 2014;PMID:24651758.	Independent Variable
543	Utter J,Denny S,Robinson E,Fleming T,Ameratunga S,Grant S. Family meals among New Zealand young people: relationships with eating behaviors and body mass index. J Nutr Educ Behav. 2013;45(1):3-11. PMID:23110750.	Study Design
544	Utter J,Denny S,Robinson E,Fleming T,Ameratunga S,Grant S. Family meals and the well-being of adolescents. J Paediatr Child Health. 2013;49(11):906-11. PMID:24251656.	Study Design
545	Utter J,Scragg R,Mhurchu CN,Schaaf D. At-home breakfast consumption among New Zealand children: associations with body mass index and related nutrition behaviors. J Am Diet Assoc. 2007;107(4):570-6. PMID:17383261.	Study Design
546	Utter J,Scragg R,Mhurchu CN,Schaaf D. At-Home Breakfast Consumption among New Zealand Children: Associations with Body Mass Index and Related Nutrition Behaviors{A figure is presented}. Journal of the American Dietetic Association. 2007;107(4):570-576.	Study Design
547	Utter J,Scragg R,Schaaf D,Fitzgerald E,Wilson N. Correlates of body mass index among a nationally representative sample of New Zealand children. Int J Pediatr Obes. 2007;2(2):104-13. PMID:17763017.	Study Design , Independent Variable
548	Van Ansem WJC,Van Lenthe FJ,Schrijvers CTM,Rodenburg G,Van De Mheen D. Socio-economic inequalities in children's snack consumption and sugar-sweetened beverage consumption: The contribution of home environmental factors. British Journal of Nutrition. 2014;112(3):467-476.	Independent Variable
549	Van den Bulck J,Eggermont S. Media use as a reason for meal skipping and fast eating in secondary school children. J Hum Nutr Diet. 2006;19(2):91-100. PMID:16533371.	Independent Variable
550	van der Horst K,Ferrage A,Rytz A. Involving children in meal preparation. Effects on food intake. Appetite. 2014;79:18-24. PMID:24709485.	Independent Variable
551	Van Lippevelde W,Te Velde SJ,Verloigne M,Van Stralen MM,De Bourdeaudhuij I,Manios Y,Bere E,Vik FN,Jan N,Fernandez Alvira JM,Chinapaw MJ,Bringolf-Isler B,Kovacs E,Brug J,Maes L. Associations between family-related factors, breakfast consumption and BMI among 10- to 12-year-old European children: the cross-sectional ENERGY-study. PLoS One. 2013;8(11):e79550. PMID:24282508.	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
552	Vejrup K,Lien N,Klepp KI,Bere E. Consumption of vegetables at dinner in a cohort of Norwegian adolescents. Appetite. 2008;51(1):90-6. PMID:18243413.	Independent Variable
553	Veldhuis L,Vogel I,van Rossem L,Renders CM,Hirasing RA,Mackenbach JP,Raat H. Influence of maternal and child lifestyle-related characteristics on the socioeconomic inequality in overweight and obesity among 5-year-old children; the "Be Active, Eat Right" Study. Int J Environ Res Public Health. 2013;10(6):2336-47. PMID:23743794.	Study Design
554	Veltsista A,Laitinen J,Sovio U,Roma E,Jarvelin MR,Bakoula C. Relationship between eating behavior, breakfast consumption, and obesity among Finnish and Greek adolescents. J Nutr Educ Behav. 2010;42(6):417-21. PMID:20729150.	Location, Independent Variable
555	Vereecken C,Dupuy M,Rasmussen M,Kelly C,Nansel TR,Al Sabbah H,Baldassari D,Jordan MD,Maes L,Niclasen BV,Ahluwalia N. Breakfast consumption and its socio-demographic and lifestyle correlates in schoolchildren in 41 countries participating in the HBSC study. Int J Public Health. 2009;54 Suppl 2:180-90. PMID:19639257.	Study Design , Independent Variable
556	Vereecken C,Legiest E,De Bourdeaudhuij I,Maes L. Associations between general parenting styles and specific food-related parenting practices and children's food consumption. Am J Health Promot. 2009;23(4):233-40. PMID:19288844.	Study Design
557	Verloigne M,Van Lippevelde W,Maes L,Brug J,De Bourdeaudhuij I. Family- and school-based predictors of energy balance-related behaviours in children: a 6-year longitudinal study. Public Health Nutr. 2013;16(2):202-11. PMID:22995020.	Location, Independent Variable, Outcome
558	Verzeletti C,Maes L,Santinello M,Baldassari D,Vereecken CA. Food-related family lifestyle associated with fruit and vegetable consumption among young adolescents in Belgium Flanders and the Veneto Region of Italy. Appetite. 2010;54(2):394-7. PMID:20026139.	Study Design , Location
559	Verzeletti C,Maes L,Santinello M,Vereecken CA. Soft drink consumption in adolescence: associations with food-related lifestyles and family rules in Belgium Flanders and the Veneto Region of Italy. Eur J Public Health. 2010;20(3):312-7. PMID:19805507.	Study Design
560	Veugelers PJ,Fitzgerald AL,Johnston E. Dietary intake and risk factors for poor diet quality among children in Nova Scotia. Can J Public Health. 2005;96(3):212-6. PMID:15913088.	Study Design , Independent Variable
561	Veugelers PJ,Fitzgerald AL. Prevalence of and risk factors for childhood overweight and obesity. Cmaj. 2005;173(6):607-13. PMID:16157724.	Study Design , Independent Variable
562	Virudachalam S,Long JA,Harhay MO,Polsky DE,Feudtner C. Prevalence and patterns of cooking dinner at home in	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	the USA: National Health and Nutrition Examination Survey (NHANES) 2007-2008. Public Health Nutr. 2014;17(5):1022-30. PMID:24107577.	
563	Wadolowska L,Slowinska MA,Pabjan-Adach K,Niedzwiedzka E. Food eating of mothers and their daughters in relation to mothers' body mass index. Pakistan Journal of Nutrition. 2007;6(2):183-187.	Location, Independent Variable
564	Wan Abdul Manan WM,Nur Firdaus I,Safiah MY,Siti Haslinda MD,Poh BK,Norimah AK,Azmi MY,Tahir A,Mirnalini K,Zalilah MS,Fatimah S,Siti Norazlin MM,Fasiah W. Meal patterns of malaysian adults: findings from the Malaysian adults nutrition survey (MANS). Malays J Nutr. 2012;18(2):221-30. PMID:24575668.	Study Design , Location
565	Wang ML,Peterson KE,Richmond TK,Spadano-Gasbarro J,Greaney ML,Mezgebu S,McCormick M,Austin SB. Family physical activity and meal practices associated with disordered weight control behaviors in a multiethnic sample of middle-school youth. Acad Pediatr. 2013;13(4):379-85. PMID:23830023.	Outcome
566	Wansink B,Hanks AS. Calorie reductions and within-meal calorie compensation in children's meal combos. Obesity (Silver Spring). 2014;22(3):630-2. PMID:24376232.	Independent Variable
567	Wansink B,van Kleef E. Dinner rituals that correlate with child and adult BMI. Obesity (Silver Spring). 2014;22(5):E91-5. PMID:24123987.	Study Design
568	Watanabe E,Lee JS,Kawakubo K. Associations of maternal employment and three-generation families with pre-school children's overweight and obesity in Japan. Int J Obes (Lond). 2011;35(7):945-52. PMID:21522125.	Location, Independent Variable
569	Weatherspoon LJ,Venkatesh S,Horodynski MA,Stommel M,Brophy-Herb HE. Food patterns and mealtime behaviors in low-income mothers and toddlers. J Community Health Nurs. 2013;30(1):1-15. PMID:23384063.	Study Design , Independent Variable
570	Webber L,Hill C,Saxton J,Van Jaarsveld CH,Wardle J. Eating behaviour and weight in children. Int J Obes (Lond). 2009;33(1):21-8. PMID:19002146.	Study Design
571	Welsh EM,French SA,Wall M. Examining the relationship between family meal frequency and individual dietary intake: does family cohesion play a role?. J Nutr Educ Behav. 2011;43(4):229-35. PMID:21536496.	Study Design
572	Wenrich TR,Brown JL,Miller-Day M,Kelley KJ,Lengerich EJ. Family members' influence on family meal vegetable choices. J Nutr Educ Behav. 2010;42(4):225-34. PMID:20452288.	Study Design
573	Wenrich TR,Brown JL,Wilson RT,Lengerich EJ. Impact of a community-based intervention on serving and intake of vegetables among low-income, rural Appalachian families. J Nutr Educ Behav. 2012;44(1):36-45. PMID:22023910.	Independent Variable
574	White HJ,Haycraft E,Meyer C. Family mealtimes and eating psychopathology: The role of anxiety and depression among adolescent girls and boys. Appetite. 2014;75:173-179.	Study Design , Independent Variable
575	Widome R,Neumark-Sztainer D,Hannan PJ,Haines J,Story M. Eating when there is not enough to eat: eating	Study Design ,

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	behaviors and perceptions of food among food-insecure youths. Am J Public Health. 2009;99(5):822-8. PMID:19299675.	Independent Variable
576	Wiggins S. Adult and child use of love, like, don't like and hate during family mealtimes. Subjective category assessments as food preference talk. Appetite. 2014;80:7-15. PMID:24793063.	Study Design
577	Wijtzes AI,Jansen W,Jansen PW,Jaddoe VW,Hofman A,Raat H. Maternal educational level and preschool children's consumption of high-calorie snacks and sugar-containing beverages: mediation by the family food environment. Prev Med. 2013;57(5):607-12. PMID:23988496.	Independent Variable
578	Willis TA,George J,Hunt C,Roberts KP,Evans CE,Brown RE,Rudolf MC. Combating child obesity: impact of HENRY on parenting and family lifestyle. Pediatr Obes. 2013;PMID:23818487.	Location
579	Wojcicki JM,Schwartz N,Jimenez-Cruz A,Bacardi-Gascon M,Heyman MB. Acculturation, dietary practices and risk for childhood obesity in an ethnically heterogeneous population of Latino school children in the San Francisco bay area. J Immigr Minor Health. 2012;14(4):533-9. PMID:22101726.	Independent Variable
580	Woodruff SJ,Fryer K,Campbell T,Cole M. The associations of meals and snacks on family meals among a sample of grade 7 students from southwestern ontario. Appetite. 2014;PMID:25038406.	Study Design
581	Woodruff SJ,Hanning RM,McGoldrick K,Brown KS. Healthy eating index-C is positively associated with family dinner frequency among students in grades 6-8 from Southern Ontario, Canada. Eur J Clin Nutr. 2010;64(5):454-60. PMID:20197788.	Study Design , Location
582	Woodruff SJ,Hanning RM. Associations between family dinner frequency and specific food behaviors among grade six, seven, and eight students from Ontario and Nova Scotia. J Adolesc Health. 2009;44(5):431-6. PMID:19380089.	Study Design , Location
583	Woodruff SJ,Hanning RM. Effect of meal environment on diet quality rating. Can J Diet Pract Res. 2009;70(3):118-24. PMID:19709467.	Location, Independent Variable
584	Woodruff SJ,Kirby AR. The associations among family meal frequency, food preparation frequency, self-efficacy for cooking, and food preparation techniques in children and adolescents. J Nutr Educ Behav. 2013;45(4):296-303. PMID:23481894.	Study Design
585	Wroten KC,O'Neil CE,Stuff JE,Liu Y,Nicklas TA. Resemblance of dietary intakes of snacks, sweets, fruit, and vegetables among mother-child dyads from low income families. Appetite. 2012;59(2):316-23. PMID:22634195.	Independent Variable
586	Wurbach A,Zellner K,Kromeyer-Hauschild K. Meal patterns among children and adolescents and their associations with weight status and parental characteristics. Public Health Nutr. 2009;12(8):1115-21.	Study Design

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	PMID:19243677.	
587	Wyse R,Campbell E,Nathan N,Wolfenden L. Associations between characteristics of the home food environment and fruit and vegetable intake in preschool children: a cross-sectional study. BMC Public Health. 2011;11:938. PMID:22177136.	Study Design
588	Yang RJ,Wang EK,Hsieh YS,Chen MY. Irregular breakfast eating and health status among adolescents in Taiwan. BMC Public Health. 2006;6:295. PMID:17150112.	Study Design
589	Yannakoulia M,Papanikolaou K,Hatzopoulou I,Efstathiou E,Papoutsakis C,Dedoussis GV. Association between family divorce and children's BMI and meal patterns: the GENDAI Study. Obesity (Silver Spring). 2008;16(6):1382-7. PMID:18369339.	Study Design
590	Yorulmaz H,Percin Pacal F. Assessment of nutritional habits and obesity satuations of adolescents in 16-18 age groups. Turkiye Klinikleri Journal of Medical Sciences. 2012;32(2):364-370.	Location, Independent Variable
591	Yoshinaga M,Hatake S,Tachikawa T,Shinomiya M,Miyazaki A,Takahashi H. Impact of lifestyles of adolescents and their parents on cardiovascular risk factors in adolescents. J Atheroscler Thromb. 2011;18(11):981-90. PMID:21836372.	Study Design , Independent Variable
592	Yuasa K,Sei M,Takeda E,Ewis AA,Munakata H,Onishi C,Nakahori Y. Effects of lifestyle habits and eating meals together with the family on the prevalence of obesity among school children in Tokushima, Japan: a cross-sectional questionnaire-based survey. J Med Invest. 2008;55(1-2):71-7. PMID:18319548.	Study Design
593	Zeller MH,Reiter-Purtill J,Modi AC,Gutzwiller J,Vannatta K,Davies WH. Controlled study of critical parent and family factors in the obesigenic environment. Obesity (Silver Spring). 2007;15(1):126-36. PMID:17228040.	Study Design , Independent Variable
594	Ziebarth D,Healy-Haney N,Gnadt B,Cronin L,Jones B,Jensen E,Viscuso M. A community-based family intervention program to improve obesity in Hispanic families. Wmj. 2012;111(6):261-6. PMID:23362702.	Study Design , Independent Variable
595	Ziegler P,Briefel R,Ponza M,Novak T,Hendricks K. Nutrient intakes and food patterns of toddlers' lunches and snacks: influence of location. J Am Diet Assoc. 2006;106(1 Suppl 1):S124-34. PMID:16376636.	Study Design
596	Ziegler P,Hanson C,Ponza M,Novak T,Hendricks K. Feeding Infants and Toddlers Study: meal and snack intakes of Hispanic and non-Hispanic infants and toddlers. J Am Diet Assoc. 2006;106(1 Suppl 1):S107-23. PMID:16376635.	Study Design
597	Zuercher JL,Wagstaff DA,Kranz S. Associations of food group and nutrient intake, diet quality, and meal sizes between adults and children in the same household: a cross-sectional analysis of U.S. households. Nutr J. 2011;10:131. PMID:22123043.	Study Design , Independent Variable
598	Zugravu CA. Eating habits and influential factors for mothers and children in Romania. International Journal of	Study Design ,

Excluded Articles: Family Meals & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	Collaborative Research on Internal Medicine and Public Health. 2012;4(4):362-374.	Location

APPENDIX D: SEDENTARY BEHAVIOR, INCLUDING SCREEN TIME – EXCLUDED ARTICLES LIST

Archived from www.NEL.gov on March 21, 2017

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
1	A. A. Lake, T. Townshend, S. Alvanides, E. Stamp, A. J. Adamson. Diet, physical activity, sedentary behaviour and perceptions of the environment in young adults. J Hum Nutr Diet. 2009. 22:444-54. PMID:19743982.	Unhealthy Subjects
2	A. A. Thorp, G. N. Healy, N. Owen, J. Salmon, K. Ball, J. E. Shaw, P. Z. Zimmet, D. W. Dunstan. Deleterious associations of sitting time and television viewing time with cardiometabolic risk biomarkers: Australian Diabetes, Obesity and Lifestyle (AusDiab) study 2004-2005. Diabetes Care. 2010. 33:327-34. PMID:19918003.	Study Design, Outcome
3	A. B. Irvine, L. Philips, J. Seeley, S. Wyant, S. Duncan, R. W. Moore. Get moving: a web site that increases physical activity of sedentary employees. Am J Health Promot. 2011. 25:199-206. PMID:21192750.	Outcome
4	A. Bankoski, T. B. Harris, J. J. McClain, R. J. Brychta, P. Caserotti, K. Y. Chen, D. Berrigan, R. P. Troiano, A. Koster. Sedentary activity associated with metabolic syndrome independent of physical activity. Diabetes Care. 2011. 34:497-503. PMID:21270206.	Outcome
5	A. C. Lindsay, K. M. Sussner, M. L. Greaney, K. E. Peterson. Influence of social context on eating, physical activity, and sedentary behaviors of Latina mothers and their preschool-age children. Health Educ Behav. 2009. 36:81-96. PMID:18689491.	Outcome
6	A. E. Mendham, C. E. Donges, E. A. Liberts, R. Duffield. Effects of mode and intensity on the acute exercise-induced IL-6 and CRP responses in a sedentary, overweight population. Eur J Appl Physiol. 2011. 111:1035-45. PMID:21088973.	Outcome, Sample Size
7	A. E. Mesas, L. M. Leon-Munoz, P. Guallar-Castillon, A. Graciani, J. L. Gutierrez-Fisac, E. Lopez-Garcia, M. T. Aguilera, J. R. Banegas, F. Rodriguez-Artalejo. Obesity-related eating behaviours in the adult population of Spain, 2008-2010. Obes Rev. 2012. 13:858-67. PMID:22577840.	Outcome, Sample Size
8	A. E. Mesas, P. Guallar-Castillon, L. M. Leon-Munoz, A. Graciani, E. Lopez-Garcia, J. L. Gutierrez-Fisac, J. R. Banegas, F. Rodriguez-Artalejo. Obesity-related eating behaviors are associated with low physical activity and poor diet quality in Spain. J Nutr. 2012. 142:1321-8. PMID:22623382.	Independent Variable
9	A. E. Staiano, B. A. Reeder, S. Elliott, M. R. Joffres, P. Pahwa, S. A. Kirkland, G. Paradis, P. T. Katzmarzyk. Physical activity level, waist circumference, and mortality. Appl Physiol Nutr Metab. 2012. 37:1008-13. PMID:22703160.	Independent Variable
10	A. Esteghamati, A. Morteza, O. Khalilzadeh, M. Anvari, S. Noshad, A. Zandieh, M. Nakhjavani. Physical inactivity is correlated with levels of quantitative C-reactive protein in serum, independent of obesity: results of the national surveillance of risk factors of non-communicable diseases in Iran. J Health Popul Nutr. 2012. 30:66-72.	Independent Variable

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	PMID:22524121.	
11	A. Esteghamati, O. Khalilzadeh, A. Rashidi, A. Meysamie, M. Haghazali, F. Asgari, M. Abbasi, S. Rastad, M. M. Gouya. Association between physical activity and insulin resistance in Iranian adults: National Surveillance of Risk Factors of Non-Communicable Diseases (SuRFNCD-2007). Prev Med. 2009. 49:402-6. PMID:19744508.	Independent Variable
12	A. Esteghamati, O. Khalilzadeh, H. Ashraf, A. Zandieh, A. Morteza, A. Rashidi, A. Meysamie, M. Nakhjavani. Physical activity is correlated with serum leptin independent of obesity: results of the national surveillance of risk factors of noncommunicable diseases in Iran (SuRFNCD-2007). Metabolism. 2010. 59:1730-5. PMID:20580780.	Independent Variable
13	A. Gomez-Cabello, R. Pedrero-Chamizo, P. R. Olivares, L. Luzardo, A. Juez-Bengoechea, E. Mata, U. Albers, S. Aznar, G. Villa, L. Espino, N. Gusi, M. Gonzalez-Gross, J. A. Casajus, I. Ara. Prevalence of overweight and obesity in non-institutionalized people aged 65 or over from Spain: the elderly EXERNET multi-centre study. Obes Rev. 2011. 12:583-92. PMID:21535360.	Independent Variable
14	A. Gomez-Cabello, R. Pedrero-Chamizo, P. R. Olivares, R. Hernandez-Perera, J. A. Rodriguez-Marroyo, E. Mata, S. Aznar, J. G. Villa, L. Espino-Toron, N. Gusi, M. Gonzalez-Gross, J. A. Casajus, I. Ara, G. Vicente-Rodriguez. Sitting time increases the overweight and obesity risk independently of walking time in elderly people from Spain. Maturitas. 2012. 73:337-43. PMID:23021800.	Independent Variable
15	A. Gradmark, J. Pomeroy, F. Renstrom, S. Steiginga, M. Persson, A. Wright, L. Bluck, M. Domellof, S. E. Kahn, I. Mogren, P. W. Franks. Physical activity, sedentary behaviors, and estimated insulin sensitivity and secretion in pregnant and non-pregnant women. BMC Pregnancy Childbirth. 2011. 11:44. PMID:21679399.	Independent Variable
16	A. Holtermann, J. V. Hansen, H. Burr, K. Sogaard, G. Sjogaard. The health paradox of occupational and leisure-time physical activity. Br J Sports Med. 2012. 46:291-5. PMID:21459873.	Independent Variable
17	A. I. Guerdjikova, L. West-Smith, S. L. McElroy, T. Sonnanstine, K. Stanford, P. E. Keck. Emotional eating and emotional eating alternatives in subjects undergoing bariatric surgery. Obes Surg. 2007. 17:1091-6. PMID:17953245.	Independent Variable
18	A. K. Chomistek, J. E. Manson, M. L. Stefanick, B. Lu, M. Sands-Lincoln, S. B. Going, L. Garcia, M. A. Allison, S. T. Sims, M. J. LaMonte, K. C. Johnson, C. B. Eaton. Relationship of sedentary behavior and physical activity to incident cardiovascular disease: results from the Women's Health Initiative. J Am Coll Cardiol. 2013. 61:2346-54. PMID:23583242.	Study Design

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
19	A. K. Yancey, C. M. Wold, W. J. McCarthy, M. D. Weber, B. Lee, P. A. Simon, J. E. Fielding. Physical inactivity and overweight among Los Angeles County adults. Am J Prev Med. 2004. 27:146-52. PMID:15261902.	Study Design
20	A. L. Hankinson, M. L. Daviglus, L. Van Horn, Q. Chan, I. Brown, E. Holmes, P. Elliott, J. Stamler. Diet composition and activity level of at risk and metabolically healthy obese American adults. Obesity (Silver Spring). 2013. 21:637-43. PMID:23592673.	Study Design, Duplicate Study
21	A. L. Hansen, K. Wijndaele, N. Owen, D. J. Magliano, A. A. Thorp, J. E. Shaw, D. W. Dunstan. Adverse associations of increases in television viewing time with 5-year changes in glucose homoeostasis markers: the AusDiab study. Diabet Med. 2012. 29:918-25. PMID:22435750.	Study Design
22	A. M. Swartz, L. Squires, S. J. Strath. Energy expenditure of interruptions to sedentary behavior. Int J Behav Nutr Phys Act. 2011. 8:69. PMID:21708007.	Study Design
23	A. M. Swartz, S. Tarima, N. E. Miller, T. L. Hart, E. K. Grimm, A. E. Rote, S. J. Strath. Prediction of body fat in older adults by time spent in sedentary behavior. J Aging Phys Act. 2012. 20:332-44. PMID:22186833.	Study Design, Outcome
24	A. Musto, K. Jacobs, M. Nash, G. DelRossi, A. Perry. The effects of an incremental approach to 10,000 steps/day on metabolic syndrome components in sedentary overweight women. J Phys Act Health. 2010. 7:737-45. PMID:21088304.	Outcome
25	A. Pressler, U. Knebel, S. Esch, D. Kolbl, K. Esefeld, J. Scherr, B. Haller, A. Schmidt-Trucksass, H. Krcmar, M. Halle, J. M. Leimeister. An internet-delivered exercise intervention for workplace health promotion in overweight sedentary employees: a randomized trial. Prev Med. 2010. 51:234-9. PMID:20638409.	Independent Variable
26	A. R. Wiley, T. L. Flood, F. C. Andrade, C. Aradillas, E. M. Cerda. Family and individual predictors of physical activity for older Mexican adolescents. J Adolesc Health. 2011. 49:222-4. PMID:21783059.	Study Design, Outcome
27	A. S. Brazeau, C. Leroux, H. Mircescu, R. Rabasa-Lhoret. Physical activity level and body composition among adults with type 1 diabetes. Diabet Med. 2012. 29:e402-8. PMID:22817453.	Study Design
28	A. Sanchez, G. J. Norman, J. F. Sallis, K. J. Calfas, C. Rock, K. Patrick. Patterns and correlates of multiple risk behaviors in overweight women. Prev Med. 2008. 46:196-202. PMID:18022220.	Study Design
29	A. Wagner, J. Dallongeville, B. Haas, J. B. Ruidavets, P. Amouyel, J. Ferrieres, C. Simon, D. Arveiler. Sedentary behaviour, physical activity and dietary patterns are independently associated with the metabolic syndrome. Diabetes Metab. 2012. 38:428-35. PMID:22721723.	Study Design, Country

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
30	B. A. Gordon, S. F. Fraser, S. R. Bird, A. C. Benson. Insulin sensitivity in response to a single resistance exercise session in apparently healthy individuals. J Endocrinol Invest. 2012. 35:665-9. PMID:21970844.	Study Design, Independent Variable
31	B. A. Shaw, N. Agahi. A prospective cohort study of health behavior profiles after age 50 and mortality risk. BMC Public Health. 2012. 12:803. PMID:22989155.	Study Design
32	B. Choi, P. L. Schnall, H. Yang, M. Dobson, P. Landsbergis, L. Israel, R. Karasek, D. Baker. Sedentary work, low physical job demand, and obesity in US workers. Am J Ind Med. 2010. 53:1088-101. PMID:20737422.	Study Design, Outcome
33	B. J. Arsenault, J. S. Rana, I. Lemieux, J. P. Despres, J. J. Kastelein, S. M. Boekholdt, N. J. Wareham, K. T. Khaw. Physical inactivity, abdominal obesity and risk of coronary heart disease in apparently healthy men and women. Int J Obes (Lond). 2010. 34:340-7. PMID:19918249.	Study Design
34	B. K. Clark, G. N. Healy, E. A. Winkler, P. A. Gardiner, T. Sugiyama, D. W. Dunstan, C. E. Matthews, N. Owen. Relationship of television time with accelerometer-derived sedentary time: NHANES. Med Sci Sports Exerc. 2011. 43:822-8. PMID:20980928.	Study Design, Age
35	B. L. Kaiser, R. L. Brown, L. C. Baumann. Perceived influences on physical activity and diet in low-income adults from two rural counties. Nurs Res. 2010. 59:67-75. PMID:20010047.	Sample Size
36	B. Linetzky, F. De Maio, D. Ferrante, J. Konfino, C. Boissonnet. Sex-stratified socio-economic gradients in physical inactivity, obesity, and diabetes: evidence of short-term changes in Argentina. Int J Public Health. 2013. 58:277-84. PMID:22615030.	Study Design
37	B. M. Duvivier, N. C. Schaper, M. A. Bremers, G. van Crombrugge, P. P. Menheere, M. Kars, H. H. Savelberg. Minimal intensity physical activity (standing and walking) of longer duration improves insulin action and plasma lipids more than shorter periods of moderate to vigorous exercise (cycling) in sedentary subjects when energy expenditure is comparable. PLoS One. 2013. 8:e55542. PMID:23418444.	Study Design
38	B. R. Lippo, I. M. Silva, C. R. Aca, P. I. Lira, G. A. Silva, M. E. Motta. Determinants of physical inactivity among urban adolescents. J Pediatr (Rio J). 2010. 86:520-4. PMID:21140040.	Outcome
39	B. S. Warren, M. Maley, L. J. Sugarwala, M. T. Wells, C. M. Devine. Small Steps Are Easier Together: a goal-based ecological intervention to increase walking by women in rural worksites. Prev Med. 2010. 50:230-4. PMID:20188751.	Outcome
40	B. Sternfeld, C. Block, C. P. Quesenberry, T. J. Block, G. Husson, J. C. Norris, M. Nelson, G. Block. Improving diet	Study Design

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	and physical activity with ALIVE: a worksite randomized trial. Am J Prev Med. 2009. 36:475-83. PMID:19460655.	
41	B. van Steenkiste, M. F. Knevel, M. van den Akker, J. F. Metsemakers. Increased attendance rate: BMI matters, lifestyles don't. Results from the Dutch SMILE study. Fam Pract. 2010. 27:632-7. PMID:20696755.	Independent Variable
42	B. Wallmann-Sperlich, J. Bucksch, S. Hansen, P. Schantz, I. Froboese. Sitting time in Germany: an analysis of socio-demographic and environmental correlates. BMC Public Health. 2013. 13:196. PMID:23497070.	Independent Variable, Outcome
43	C. A. Celis-Morales, F. Perez-Bravo, L. Ibanez, C. Salas, M. E. Bailey, J. M. Gill. Objective vs. self-reported physical activity and sedentary time: effects of measurement method on relationships with risk biomarkers. PLoS One. 2012. 7:e36345. PMID:22590532.	Study Design
44	C. A. Davies, C. Vandelanotte, M. J. Duncan, J. G. van Uffelen. Associations of physical activity and screen-time on health related quality of life in adults. Prev Med. 2012. 55:46-9. PMID:22588226.	Outcome
45	C. Drenowatz, J. C. Eisenmann, K. A. Pfeiffer, G. Welk, K. Heelan, D. Gentile, D. Walsh. Influence of socio-economic status on habitual physical activity and sedentary behavior in 8- to 11-year old children. BMC Public Health. 2010. 10:214. PMID:20423487.	Unhealthy Subjects
46	C. Dubuisson, S. Lioret, A. Dufour, J. L. Volatier, L. Lafay, D. Turck. Associations between usual school lunch attendance and eating habits and sedentary behaviour in French children and adolescents. Eur J Clin Nutr. 2012. 66:1335-41. PMID:23047714.	Independent Variable, Outcome
47	C. E. Matthews, S. M. George, S. C. Moore, H. R. Bowles, A. Blair, Y. Park, R. P. Troiano, A. Hollenbeck, A. Schatzkin. Amount of time spent in sedentary behaviors and cause-specific mortality in US adults. Am J Clin Nutr. 2012. 95:437-45. PMID:22218159.	Independent Variable
48	C. E. Stahl, J. W. Necheles, J. H. Mayefsky, L. K. Wright, K. M. Rankin. 5-4-3-2-1 go! Coordinating pediatric resident education and community health promotion to address the obesity epidemic in children and youth. Clin Pediatr (Phila). 2011. 50:215-24. PMID:21098524.	Study Design
49	C. Freyssin, P. Blanc, C. Verkindt, S. Maunier, F. Prieur. Effect of long-term physical activity practice after cardiac rehabilitation on some risk factors. Int J Rehabil Res. 2011. 34:357-9. PMID:22067550.	Study Design, Outcome
50	C. Greenleaf, R. McGreer. Disordered eating attitudes and self-objectification among physically active and sedentary female college students. J Psychol. 2006. 140:187-98. PMID:16916073.	Outcome
51	C. L. Harris, V. A. George. The impact of dietary restraint and moderate-intensity exercise on post-exercise energy	Study Design

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	intake in sedentary males. Eat Behav. 2008. 9:415-22. PMID:18928904.	
52	C. M. Hoehner, C. E. Barlow, P. Allen, M. Schootman. Commuting distance, cardiorespiratory fitness, and metabolic risk. Am J Prev Med. 2012. 42:571-8. PMID:22608372.	Independent Variable
53	C. Martins Mdo, I. F. Ricarte, C. H. Rocha, R. B. Maia, V. B. Silva, A. B. Veras, M. D. Filho. Blood pressure, excess weight and level of physical activity in students of a public university. Arq Bras Cardiol. 2010. 95:192-9. PMID:20549132.	Study Design
54	C. Moro, J. E. Galgani, L. Luu, M. Pasarica, A. Mairal, S. Bajpeyi, G. Schmitz, D. Langin, G. Liebisch, S. R. Smith. Influence of gender, obesity, and muscle lipase activity on intramyocellular lipids in sedentary individuals. J Clin Endocrinol Metab. 2009. 94:3440-7. PMID:19531593.	Study Design
55	C. Pil-Byung, Y. Shin-Hwan, K. Il-Gyu, H. Gwang-Suk, Y. Jae-Hyun, L. Han-Joon, K. Sung-Eun, J. Yong-Seok. Effects of exercise program on appetite-regulating hormones, inflammatory mediators, lipid profiles, and body composition in healthy men. J Sports Med Phys Fitness. 2011. 51:654-63. PMID:22212269.	Study Design
56	C. Tudor-Locke, N. W. Burton, W. J. Brown. Leisure-time physical activity and occupational sitting: Associations with steps/day and BMI in 54-59 year old Australian women. Prev Med. 2009. 48:64-8. PMID:19027786.	Country, Outcome
57	C. Vandelanotte, T. Sugiyama, P. Gardiner, N. Owen. Associations of leisure-time internet and computer use with overweight and obesity, physical activity and sedentary behaviors: cross-sectional study. J Med Internet Res. 2009. 11:e28. PMID:19666455.	Study Design
58	C. Wikner, B. Gigante, M. L. Hellenius, U. de Faire, K. Leander. The risk of type 2 diabetes in men is synergistically affected by parental history of diabetes and overweight. PLoS One. 2013. 8:e61763. PMID:23630613.	Outcome
59	C. Zhang, C. G. Solomon, J. E. Manson, F. B. Hu. A prospective study of pregravid physical activity and sedentary behaviors in relation to the risk for gestational diabetes mellitus. Arch Intern Med. 2006. 166:543-8. PMID:16534041.	Study Design
60	D. A. Alter, H. C. Wijeysundera, B. Franklin, P. C. Austin, A. Chong, P. I. Oh, J. V. Tu, T. A. Stukel. Obesity, lifestyle risk-factors, and health service outcomes among healthy middle-aged adults in Canada. BMC Health Serv Res. 2012. 12:238. PMID:22863333.	Independent Variable
61	D. A. Grossniklaus, R. A. Gary, M. K. Higgins, S. B. Dunbar. Biobehavioral and psychological differences between overweight adults with and without waist circumference risk. Res Nurs Health. 2010. 33:539-51. PMID:21053387.	Study Design

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
62	D. A. McAlpine, C. U. Manohar, S. K. McCrady, D. Hensrud, J. A. Levine. An office-place stepping device to promote workplace physical activity. Br J Sports Med. 2007. 41:903-7. PMID:17513333.	Independent Variable
63	D. A. Santos, A. M. Silva, F. Baptista, R. Santos, S. Vale, J. Mota, L. B. Sardinha. Sedentary behavior and physical activity are independently related to functional fitness in older adults. Exp Gerontol. 2012. 47:908-12. PMID:22884978.	Outcome
64	D. A. Silva, E. L. Petroski. The simultaneous presence of health risk behaviors in freshman college students in Brazil. J Community Health. 2012. 37:591-8. PMID:21979565.	Study Design
65	D. H. Fernald, L. M. Dickinson, D. B. Froshaug, B. A. Balasubramanian, J. S. Holtrop, A. H. Krist, R. E. Glasgow, L. A. Green. Improving multiple health risk behaviors in primary care: lessons from the Prescription for Health Common Measures, Better Outcomes (COMBO) study. J Am Board Fam Med. 2012. 25:701-11. PMID:22956706.	Study Design
66	D. John, D. L. Thompson, H. Raynor, K. Bielak, B. Rider, D. R. Bassett. Treadmill workstations: a worksite physical activity intervention in overweight and obese office workers. J Phys Act Health. 2011. 8:1034-43. PMID:22039122.	Unhealthy Subjects
67	D. Pekmezi, S. Dunsiger, K. Gans, B. Bock, R. Gaskins, B. Marquez, C. Lee, C. Neighbors, E. Jennings, P. Tilkemeier, B. Marcus. Rationale, design, and baseline findings from Seamos Saludables: a randomized controlled trial testing the efficacy of a culturally and linguistically adapted, computer- tailored physical activity intervention for Latinas. Contemp Clin Trials. 2012. 33:1261-71. PMID:22789455.	Study Design
68	D. R. Van Domelen, A. Koster, P. Caserotti, R. J. Brychta, K. Y. Chen, J. J. McClain, R. P. Troiano, D. Berrigan, T. B. Harris. Employment and physical activity in the U.S. Am J Prev Med. 2011. 41:136-45. PMID:21767720.	Study Design
69	D. T. Duncan, K. Y. Wolin, M. Scharoun-Lee, E. L. Ding, E. T. Warner, G. G. Bennett. Does perception equal reality? Weight misperception in relation to weight-related attitudes and behaviors among overweight and obese US adults. Int J Behav Nutr Phys Act. 2011. 8:20. PMID:21426567.	Study Design, Age
70	D. Van Dyck, E. Cerin, G. Cardon, B. Deforche, J. F. Sallis, N. Owen, I. de Bourdeaudhuij. Physical activity as a mediator of the associations between neighborhood walkability and adiposity in Belgian adults. Health Place. 2010. 16:952-60. PMID:20542461.	Age
71	D. W. Dunstan, E. L. Barr, G. N. Healy, J. Salmon, J. E. Shaw, B. Balkau, D. J. Magliano, A. J. Cameron, P. Z. Zimmet, N. Owen. Television viewing time and mortality: the Australian Diabetes, Obesity and Lifestyle Study (AusDiab). Circulation. 2010. 121:384-91. PMID:20065160.	Age

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
72	D. W. Dunstan, J. Salmon, G. N. Healy, J. E. Shaw, D. Jolley, P. Z. Zimmet, N. Owen. Association of television viewing with fasting and 2-h postchallenge plasma glucose levels in adults without diagnosed diabetes. Diabetes Care. 2007. 30:516-22. PMID:17327314.	Independent Variable
73	D. W. Dunstan, J. Salmon, N. Owen, T. Armstrong, P. Z. Zimmet, T. A. Welborn, A. J. Cameron, T. Dwyer, D. Jolley, J. E. Shaw. Physical activity and television viewing in relation to risk of undiagnosed abnormal glucose metabolism in adults. Diabetes Care. 2004. 27:2603-9. PMID:15504993.	Study Design, Country
74	D. W. Esliger, M. S. Tremblay, J. L. Copeland, J. D. Barnes, G. E. Huntington, D. R. Bassett. Physical activity profile of Old Order Amish, Mennonite, and contemporary children. Med Sci Sports Exerc. 2010. 42:296-303. PMID:19927029.	Study Design, Outcome
75	E. Banks, L. Jorm, K. Rogers, M. Clements, A. Bauman. Screen-time, obesity, ageing and disability: findings from 91 266 participants in the 45 and Up Study. Public Health Nutr. 2011. 14:34-43. PMID:20409356.	Age
76	E. Banks, L. Lim, S. A. Seubsman, C. Bain, A. Sleigh. Relationship of obesity to physical activity, domestic activities, and sedentary behaviours: cross-sectional findings from a national cohort of over 70,000 Thai adults. BMC Public Health. 2011. 11:762. PMID:21970620.	Study Design
77	E. Dorey, V. Roberts, R. Maddison, P. Meagher-Lundberg, R. Dixon, C. Ni Mhurchu. Children and television watching: a qualitative study of New Zealand parents' perceptions and views. Child Care Health Dev. 2010. 36:414-20. PMID:19961500.	Study Design
78	E. E. Nang, A. Salim, Y. Wu, E. S. Tai, J. Lee, R. M. Van Dam. Television screen time, but not computer use and reading time, is associated with cardio-metabolic biomarkers in a multiethnic Asian population: a cross-sectional study. Int J Behav Nutr Phys Act. 2013. 10:70. PMID:23718927.	Independent Variable
79	E. F. Chakravarty, H. B. Hubert, E. Krishnan, B. B. Bruce, V. B. Lingala, J. F. Fries. Lifestyle risk factors predict disability and death in healthy aging adults. Am J Med. 2012. 125:190-7. PMID:22269623.	Outcome
80	E. G. Wilmot, M. J. Davies, C. L. Edwardson, T. Gorely, K. Khunti, M. Nimmo, T. Yates, S. J. Biddle. Rationale and study design for a randomised controlled trial to reduce sedentary time in adults at risk of type 2 diabetes mellitus: project stand (Sedentary Time ANd diabetes). BMC Public Health. 2011. 11:908. PMID:22151909.	Study Design, Outcome
81	E. Hemmingsson, J. Udden, M. Neovius, U. Ekelund, S. Rossner. Increased physical activity in abdominally obese women through support for changed commuting habits: a randomized clinical trial. Int J Obes (Lond). 2009.	Study Design, Outcome

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	33:645-52. PMID:19417772.	
82	E. J. Kim, S. W. Cho, J. Y. Kang, T. I. Choi, Y. K. Park. Effects of a 12-week lifestyle intervention on health outcome and serum adipokines in middle-aged Korean men with borderline high blood pressure. J Am Coll Nutr. 2012. 31:352-60. PMID:23529992.	Study Design
83	E. J. Lyons, D. F. Tate, D. S. Ward, J. M. Bowling, K. M. Ribisl, S. Kalyararaman. Energy expenditure and enjoyment during video game play: differences by game type. Med Sci Sports Exerc. 2011. 43:1987-93. PMID:21364477.	Outcome
84	E. J. Lyons, D. F. Tate, D. S. Ward, X. Wang. Energy intake and expenditure during sedentary screen time and motion-controlled video gaming. Am J Clin Nutr. 2012. 96:234-9. PMID:22760571.	Age
85	E. J. Stevenson, N. M. Astbury, E. J. Simpson, M. A. Taylor, I. A. Macdonald. Fat oxidation during exercise and satiety during recovery are increased following a low-glycemic index breakfast in sedentary women. J Nutr. 2009. 139:890-7. PMID:19321590.	Age
86	E. K. O'Loughlin, E. N. Dugas, C. M. Sabiston, J. L. O'Loughlin. Prevalence and correlates of exergaming in youth. Pediatrics. 2012. 130:806-14. PMID:23027171.	Independent Variable, Outcome
87	E. L. Melanson, W. S. Gozansky, D. W. Barry, P. S. Maclean, G. K. Grunwald, J. O. Hill. When energy balance is maintained, exercise does not induce negative fat balance in lean sedentary, obese sedentary, or lean endurance-trained individuals. J Appl Physiol (1985). 2009. 107:1847-56. PMID:19833807.	Outcome
88	E. M. Blass, D. R. Anderson, H. L. Kirkorian, T. A. Pempek, I. Price, M. F. Koleini. On the road to obesity: Television viewing increases intake of high-density foods. Physiol Behav. 2006. 88:597-604. PMID:16822530.	Outcome
89	E. Pigeon, M. E. Riou, J. St-Onge, E. Couillard, A. Tremblay, A. Marette, S. J. Weisnagel, D. R. Joanisse. Validation of a simple index (SIisOGTT) of insulin sensitivity in a population of sedentary men. Diabetes Metab. 2009. 35:398-403. PMID:19734081.	Outcome
90	E. S. Ford, C. Li, G. Zhao, W. S. Pearson, J. Tsai, J. R. Churilla. Sedentary behavior, physical activity, and concentrations of insulin among US adults. Metabolism. 2010. 59:1268-75. PMID:20060142.	Study Design
91	E. Stamatakis, M. Davis, A. Stathi, M. Hamer. Associations between multiple indicators of objectively-measured and self-reported sedentary behaviour and cardiometabolic risk in older adults. Prev Med. 2012. 54:82-7. PMID:22057055.	Independent Variable
92	E. Stamatakis, M. Hamer, D. W. Dunstan. Screen-based entertainment time, all-cause mortality, and	Independent Variable

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	cardiovascular events: population-based study with ongoing mortality and hospital events follow-up. J Am Coll Cardiol. 2011. 57:292-9. PMID:21232666.	
93	E. Stamatakis, M. Hamer, K. Tilling, D. A. Lawlor. Sedentary time in relation to cardio-metabolic risk factors: differential associations for self-report vs accelerometry in working age adults. Int J Epidemiol. 2012. 41:1328-37. PMID:22634868.	Study Design, Outcome
94	E. Stamatakis, M. Hamer. The extent to which adiposity markers explain the association between sedentary behavior and cardiometabolic risk factors. Obesity (Silver Spring). 2012. 20:229-32. PMID:21779091.	Independent Variable
95	E. Stamatakis, M. Hillsdon, G. Mishra, M. Hamer, M. Marmot. Television viewing and other screen-based entertainment in relation to multiple socioeconomic status indicators and area deprivation: the Scottish Health Survey 2003. J Epidemiol Community Health. 2009. 63:734-40. PMID:19401278.	Study Design, Outcome
96	E. Stamatakis, V. Hirani, K. Rennie. Moderate-to-vigorous physical activity and sedentary behaviours in relation to body mass index-defined and waist circumference-defined obesity. Br J Nutr. 2009. 101:765-73. PMID:18680630.	Unhealthy Subjects
97	F. Bauer, J. W. Beulens, A. Dl van der, C. Wijmenga, D. E. Grobbee, A. M. Spijkerman, Y. T. van der Schouw, N. C. Onland-Moret. Dietary patterns and the risk of type 2 diabetes in overweight and obese individuals. Eur J Nutr. 2013. 52:1127-34. PMID:22972436.	Study Design
98	F. Marcellini, C. Giuli, R. Papa, C. Gagliardi, M. Malavolta, E. Mocchegiani. BMI, life-style and psychological conditions in a sample of elderly Italian men and women. J Nutr Health Aging. 2010. 14:515-22. PMID:20818464.	Study Design, Independent Variable
99	F. Pomara, G. Russo, G. Gravante. Influence of family history to type 2 diabetes on the body composition and homeostasis model assessment: a comparison between young active and sedentary men. Minerva Med. 2006. 97:379-83. PMID:17146418.	Independent Variable, Outcome
100	G. Buyukyazi. Differences in blood lipids and apolipoproteins between master athletes, recreational athletes and sedentary men. J Sports Med Phys Fitness. 2005. 45:112-20. PMID:16208299.	Age
101	G. F. Dunton, D. Berrigan, R. Ballard-Barbash, B. Graubard, A. A. Atienza. Joint associations of physical activity and sedentary behaviors with body mass index: results from a time use survey of US adults. Int J Obes (Lond). 2009. 33:1427-36. PMID:19806160.	Study Design, Outcome
102	G. Frydenlund, T. Jorgensen, U. Toft, C. Pisinger, M. Aadahl. Sedentary leisure time behavior, snacking habits and cardiovascular biomarkers: the Inter99 Study. Eur J Prev Cardiol. 2012. 19:1111-9. PMID:21859779.	Independent Variable, Unhealthy

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
		Subjects
103	G. Guo, K. E. North, P. Gorden-Larsen, C. M. Bulik, S. Choi. Body mass, DRD4, physical activity, sedentary behavior, and family socioeconomic status: the add health study. Obesity (Silver Spring). 2007. 15:1199-206. PMID:17495196.	Study Design
104	G. N. Healy, C. E. Matthews, D. W. Dunstan, E. A. Winkler, N. Owen. Sedentary time and cardio-metabolic biomarkers in US adults: NHANES 2003-06. Eur Heart J. 2011. 32:590-7. PMID:21224291.	Study Design
105	G. N. Healy, D. W. Dunstan, J. Salmon, E. Cerin, J. E. Shaw, P. Z. Zimmet, N. Owen. Breaks in sedentary time: beneficial associations with metabolic risk. Diabetes Care. 2008. 31:661-6. PMID:18252901.	Study Design
106	G. N. Healy, D. W. Dunstan, J. Salmon, J. E. Shaw, P. Z. Zimmet, N. Owen. Television time and continuous metabolic risk in physically active adults. Med Sci Sports Exerc. 2008. 40:639-45. PMID:18317383.	Outcome
107	G. N. Healy, K. Wijndaele, D. W. Dunstan, J. E. Shaw, J. Salmon, P. Z. Zimmet, N. Owen. Objectively measured sedentary time, physical activity, and metabolic risk: the Australian Diabetes, Obesity and Lifestyle Study (AusDiab). Diabetes Care. 2008. 31:369-71. PMID:18000181.	Outcome
108	G. O'Donovan, A. Owen, E. M. Kearney, D. W. Jones, A. M. Nevill, K. Woolf-May, S. R. Bird. Cardiovascular disease risk factors in habitual exercisers, lean sedentary men and abdominally obese sedentary men. Int J Obes (Lond). 2005. 29:1063-9. PMID:15925958.	Outcome
109	G. O'Donovan, J. McEneny, E. M. Kearney, A. Owen, A. M. Nevill, K. Woolf-May, S. R. Bird. LDL particle size in habitual exercisers, lean sedentary men and abdominally obese sedentary men. Int J Sports Med. 2007. 28:644-9. PMID:17436197.	Age
110	H. Charreire, E. Kesse-Guyot, S. Bertrais, C. Simon, B. Chaix, C. Weber, M. Touvier, P. Galan, S. Hercberg, J. M. Oppert. Associations between dietary patterns, physical activity (leisure-time and occupational) and television viewing in middle-aged French adults. Br J Nutr. 2011. 105:902-10. PMID:21251337.	Study Design, Outcome
111	H. Charreire, R. Casey, P. Salze, E. Kesse-Guyot, C. Simon, B. Chaix, A. Banos, D. Badariotti, M. Touvier, C. Weber, J. M. Oppert. Leisure-time physical activity and sedentary behavior clusters and their associations with overweight in middle-aged French adults. Int J Obes (Lond). 2010. 34:1293-301. PMID:20195284.	Study Design, Outcome
112	H. Christian, B. Giles-Corti, M. Knuiman, A. Timperio, S. Foster. The influence of the built environment, social environment and health behaviors on body mass index. results from RESIDE. Prev Med. 2011. 53:57-60.	Study Design, Outcome

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	PMID:21609730.	
113	H. D. de Heer, A. V. Wilkinson, L. L. Strong, M. L. Bondy, L. M. Koehly. Sitting time and health outcomes among Mexican origin adults: obesity as a mediator. BMC Public Health. 2012. 12:896. PMID:23092387.	Independent Variable, Outcome
114	H. Du, D. Bennett, L. Li, G. Whitlock, Y. Guo, R. Collins, J. Chen, Z. Bian, L. S. Hong, S. Feng, X. Chen, L. Chen, R. Zhou, E. Mao, R. Peto, Z. Chen. Physical activity and sedentary leisure time and their associations with BMI, waist circumference, and percentage body fat in 0.5 million adults: the China Kadoorie Biobank study. Am J Clin Nutr. 2013. 97:487-96. PMID:23364014.	Independent Variable
115	H. Kikuchi, S. Inoue, T. Sugiyama, N. Owen, K. Oka, T. Shimomitsu. Correlates of prolonged television viewing time in older Japanese men and women. BMC Public Health. 2013. 13:213. PMID:23496962.	Study Design, Independent Variable
116	H. P. van der Ploeg, M. N. van Poppel, T. Chey, A. E. Bauman, W. J. Brown. The role of pre-pregnancy physical activity and sedentary behaviour in the development of gestational diabetes mellitus. J Sci Med Sport. 2011. 14:149-52. PMID:21030304.	Outcome
117	H. P. van der Ploeg, T. Chey, R. J. Korda, E. Banks, A. Bauman. Sitting time and all-cause mortality risk in 222 497 Australian adults. Arch Intern Med. 2012. 172:494-500. PMID:22450936.	Outcome
118	H. R. Howe, K. Heidal, M. D. Choi, R. M. Kraus, K. Boyle, R. C. Hickner. Increased adipose tissue lipolysis after a 2-week high-fat diet in sedentary overweight/obese men. Metabolism. 2011. 60:976-81. PMID:21040937.	Outcome
119	H. Spittaels, E. Van Cauwenberghe, V. Verbestel, F. De Meester, D. Van Dyck, M. Verloigne, L. Haerens, B. Deforche, G. Cardon, I. De Bourdeaudhuij. Objectively measured sedentary time and physical activity time across the lifespan: a cross-sectional study in four age groups. Int J Behav Nutr Phys Act. 2012. 9:149. PMID:23249449.	Outcome
120	I. De Bourdeaudhuij, J. Lefevre, B. Deforche, K. Wijndaele, L. Matton, R. Philippaerts. Physical activity and psychosocial correlates in normal weight and overweight 11 to 19 year olds. Obes Res. 2005. 13:1097-105. PMID:15976153.	Study Design, Outcome
121	I. Shaw, B. S. Shaw. Relationship between resistance training and lipoprotein profiles in sedentary male smokers. Cardiovasc J Afr. 2008. 19:194-7. PMID:18776961.	Outcome
122	I. Waidyatilaka, P. Lanerolle, R. Wickremasinghe, S. Atukorala, N. Somasundaram, A. de Silva. Sedentary behaviour and physical activity in South Asian women: time to review current recommendations?. PLoS One. 2013. 8:e58328. PMID:23472180.	Study Design

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
123	J. A. Levine, J. M. Miller. The energy expenditure of using a "walk-and-work" desk for office workers with obesity. Br J Sports Med. 2007. 41:558-61. PMID:17504789.	Independent Variable
124	J. A. Steeves, D. R. Bassett, D. L. Thompson, E. C. Fitzhugh. Relationships of occupational and non-occupational physical activity to abdominal obesity. Int J Obes (Lond). 2012. 36:100-6. PMID:21427697.	Outcome
125	J. A. Steeves, D. R. Bassett, E. C. Fitzhugh, H. A. Raynor, D. L. Thompson. Can sedentary behavior be made more active? A randomized pilot study of TV commercial stepping versus walking. Int J Behav Nutr Phys Act. 2012. 9:95. PMID:22866941.	Independent Variable
126	J. B. Dickerson, M. L. Smith, M. E. Benden, M. G. Ory. The association of physical activity, sedentary behaviors, and body mass index classification in a cross-sectional analysis: are the effects homogenous?. BMC Public Health. 2011. 11:926. PMID:22168952.	Study Design
127	J. Boone-Heinonen, P. Gordon-Larsen, L. S. Adair. Obesogenic clusters: multidimensional adolescent obesity-related behaviors in the U.S. Ann Behav Med. 2008. 36:217-30. PMID:19067096.	Study Design
128	J. D. Lecheminant, L. A. Tucker. Recommended levels of physical activity and insulin resistance in middle-aged women. Diabetes Educ. 2011. 37:573-80. PMID:21685378.	Study Design
129	J. E. Turner, D. Markovitch, J. A. Betts, D. Thompson. Nonprescribed physical activity energy expenditure is maintained with structured exercise and implicates a compensatory increase in energy intake. Am J Clin Nutr. 2010. 92:1009-16. PMID:20826629.	Study Design
130	J. G. Kuiper, A. I. Phipps, M. L. Neuhouser, R. T. Chlebowski, C. A. Thomson, M. L. Irwin, D. S. Lane, J. Wactawski-Wende, L. Hou, R. D. Jackson, E. Kampman, P. A. Newcomb. Recreational physical activity, body mass index, and survival in women with colorectal cancer. Cancer Causes Control. 2012. 23:1939-48. PMID:23053793.	Study Design
131	J. G. Ruiz, A. D. Andrade, R. Anam, R. Aguiar, H. Sun, B. A. Roos. Using anthropomorphic avatars resembling sedentary older individuals as models to enhance self-efficacy and adherence to physical activity: psychophysiological correlates. Stud Health Technol Inform. 2012. 173:405-11. PMID:22357026.	Independent Variable
132	J. Granich, M. Rosenberg, M. Knuiman, A. Timperio. Understanding children's sedentary behaviour: a qualitative study of the family home environment. Health Educ Res. 2010. 25:199-210. PMID:18502732.	Study Design
133	J. H. Helmink, S. P. Kremers, F. N. van Brussel-Visser, N. K. de Vries. Sitting time and Body Mass Index in diabetics and pre-diabetics willing to participate in a lifestyle intervention. Int J Environ Res Public Health. 2011. 8:3747-58.	Study Design

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	PMID:22016713.	
134	J. H. Liu, S. J. Jones, H. Sun, J. C. Probst, A. T. Merchant, P. Cavicchia. Diet, physical activity, and sedentary behaviors as risk factors for childhood obesity: an urban and rural comparison. Child Obes. 2012. 8:440-8. PMID:23061499.	Study Design
135	J. He, S. Votruba, J. Pomeroy, S. Bonfiglio, J. Krakoff. Measurement of ad libitum food intake, physical activity, and sedentary time in response to overfeeding. PLoS One. 2012. 7:e36225. PMID:22629311.	Study Design, Outcome
136	J. Henson, T. Yates, S. J. Biddle, C. L. Edwardson, K. Khunti, E. G. Wilmot, L. J. Gray, T. Gorely, M. A. Nimmo, M. J. Davies. Associations of objectively measured sedentary behaviour and physical activity with markers of cardiometabolic health. Diabetologia. 2013. 56:1012-20. PMID:23456209.	Independent Variable
137	J. Kim, H. R. Han. Physical activity, abdominal obesity and the risk of coronary heart disease: a Korean national sample study. Public Health. 2012. 126:410-6. PMID:22445715.	Study Design
138	J. L. Kuk, L. E. Davidson, R. Hudson, K. Kilpatrick, K. Bacskai, R. Ross. Association between dietary fat intake, liver fat, and insulin sensitivity in sedentary, abdominally obese, older men. Appl Physiol Nutr Metab. 2008. 33:239-45. PMID:18347678.	Independent Variable, Outcome
139	J. L. Veerman, G. N. Healy, L. J. Cobiac, T. Vos, E. A. Winkler, N. Owen, D. W. Dunstan. Television viewing time and reduced life expectancy: a life table analysis. Br J Sports Med. 2012. 46:927-30. PMID:23007179.	Independent Variable, Outcome
140	J. Lahti, M. Laaksonen, E. Lahelma, O. Rahkonen. The impact of physical activity on physical health functioning--a prospective study among middle-aged employees. Prev Med. 2010. 50:246-50. PMID:20184919.	Study Design
141	J. Lee, J. Song, J. M. Hootman, P. A. Semanik, R. W. Chang, L. Sharma, L. van Horn, J. M. Bathon, C. B. Eaton, M. C. Hochberg, R. Jackson, C. K. Kwoh, W. J. Mysiw, M. Nevitt, D. D. Dunlop. Obesity and other modifiable factors for physical inactivity measured by accelerometer in adults with knee osteoarthritis. Arthritis Care Res (Hoboken). 2013. 65:53-61. PMID:22674911.	Independent Variable
142	J. M. Gill, R. Bhopal, A. Douglas, S. Wallia, R. Bhopal, A. Sheikh, J. F. Forbes, J. McKnight, N. Sattar, G. Murray, M. E. Lean, S. H. Wild. Sitting time and waist circumference are associated with glycemia in U.K. South Asians: data from 1,228 adults screened for the PODOSA trial. Diabetes Care. 2011. 34:1214-8. PMID:21464463.	Study Design, Independent Variable
143	J. Mikulovic, A. Marcellini, R. Compte, G. Duchateau, J. Vanhelst, P. S. Fardy, G. Bui-Xuan. Prevalence of overweight in adolescents with intellectual deficiency. Differences in socio-educative context, physical activity and	Study Design, Independent Variable

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	dietary habits. Appetite. 2011. 56:403-7. PMID:21146573.	
144	J. N. Booth, L. E. Bromley, A. P. Darukhanavala, H. R. Whitmore, J. G. Imperial, P. D. Penev. Reduced physical activity in adults at risk for type 2 diabetes who curtail their sleep. Obesity (Silver Spring). 2012. 20:278-84. PMID:21996665.	Independent Variable, Outcome
145	J. P. Chaput, A. M. Sjodin, A. Astrup, J. P. Despres, C. Bouchard, A. Tremblay. Risk factors for adult overweight and obesity: the importance of looking beyond the 'big two'. Obes Facts. 2010. 3:320-7. PMID:20975298.	Outcome
146	J. W. Apolzan, H. J. Leidy, R. D. Mattes, W. W. Campbell. Effects of food form on food intake and postprandial appetite sensations, glucose and endocrine responses, and energy expenditure in resistance trained v. sedentary older adults. Br J Nutr. 2011. 106:1107-16. PMID:21492495.	Study Design, Independent Variable
147	J. Westerberg-Jacobson, B. Edlund, A. Ghaderi. A 5-year longitudinal study of the relationship between the wish to be thinner, lifestyle behaviours and disturbed eating in 9-20-year old girls. Eur Eat Disord Rev. 2010. 18:207-19. PMID:20443204.	Outcome
148	J. Y. Chau, H. P. van der Ploeg, D. Merom, T. Chey, A. E. Bauman. Cross-sectional associations between occupational and leisure-time sitting, physical activity and obesity in working adults. Prev Med. 2012. 54:195-200. PMID:22227284.	Study Design
149	K. A. McGuire, R. Ross. Incidental physical activity and sedentary behavior are not associated with abdominal adipose tissue in inactive adults. Obesity (Silver Spring). 2012. 20:576-82. PMID:21959343.	Outcome
150	K. A. McGuire, R. Ross. Sedentary behavior is not associated with cardiometabolic risk in adults with abdominal obesity. PLoS One. 2011. 6:e20503. PMID:21695179.	Study Design
151	K. B. Dorsey, M. Mauldon, R. Magraw, S. Yu, H. M. Krumholz. Do self- or parent-reported dietary, physical activity, and sedentary behaviors predict worsening obesity in children?. J Pediatr. 2010. 157:566-71. PMID:20542293.	Study Design, Age
152	K. B. Grothe, J. Roach, A. Low, S. Himes, J. M. Craft, G. J. Norman, P. M. Dubbert. Sedentary behavior and food cravings in diverse overweight women: a pilot study. Women Health. 2013. 53:405-18. PMID:23751093.	Study Design
153	K. Castetbon, M. Vernay, A. Malon, B. Salanave, V. Deschamps, C. Roudier, A. Oleko, E. Szego, S. Hercberg. Dietary intake, physical activity and nutritional status in adults: the French nutrition and health survey (ENNS, 2006-2007). Br J Nutr. 2009. 102:733-43. PMID:19250574.	Unhealthy Subjects
154	K. De Greef, B. Deforche, C. Tudor-Locke, I. De Bourdeaudhuij. A cognitive-behavioural pedometer-based group	Study Design,

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	intervention on physical activity and sedentary behaviour in individuals with type 2 diabetes. Health Educ Res. 2010. 25:724-36. PMID:20338978.	Independent Variable
155	K. Granados, B. R. Stephens, S. K. Malin, T. W. Zderic, M. T. Hamilton, B. Braun. Appetite regulation in response to sitting and energy imbalance. Appl Physiol Nutr Metab. 2012. 37:323-33. PMID:22462636.	Study Design
156	K. J. Guelfi, C. E. Donges, R. Duffield. Beneficial effects of 12 weeks of aerobic compared with resistance exercise training on perceived appetite in previously sedentary overweight and obese men. Metabolism. 2013. 62:235-43. PMID:22959499.	Study Design, Outcome
157	K. J. Smith, S. A. McNaughton, V. J. Cleland, D. Crawford, K. Ball. Health, behavioral, cognitive, and social correlates of breakfast skipping among women living in socioeconomically disadvantaged neighborhoods. J Nutr. 2013. 143:1774-84. PMID:23986365.	Outcome
158	K. K. Pettee, S. A. Ham, C. A. Macera, B. E. Ainsworth. The reliability of a survey question on television viewing and associations with health risk factors in US adults. Obesity (Silver Spring). 2009. 17:487-93. PMID:19238138.	Study Design
159	K. L. Campbell, C. L. Van Patten, S. E. Neil, A. A. Kirkham, C. C. Gotay, K. A. Gelmon, D. C. McKenzie. Feasibility of a lifestyle intervention on body weight and serum biomarkers in breast cancer survivors with overweight and obesity. J Acad Nutr Diet. 2012. 112:559-67. PMID:22709706.	Study Design
160	K. L. Cox, V. Burke, A. R. Morton, L. J. Beilin, I. B. Puddey. Independent and additive effects of energy restriction and exercise on glucose and insulin concentrations in sedentary overweight men. Am J Clin Nutr. 2004. 80:308-16. PMID:15277150.	Study Design, Outcome
161	K. L. Cox, V. Burke, L. J. Beilin, I. B. Puddey. A comparison of the effects of swimming and walking on body weight, fat distribution, lipids, glucose, and insulin in older women--the Sedentary Women Exercise Adherence Trial 2. Metabolism. 2010. 59:1562-73. PMID:20197194.	Study Design, Unhealthy Subjects
162	K. L. Schneider, B. Spring, S. L. Pagoto. Exercise and energy intake in overweight, sedentary individuals. Eat Behav. 2009. 10:29-35. PMID:19171314.	Independent Variable, Outcome
163	K. Meksawan, D. R. Pendergast, J. J. Leddy, M. Mason, P. J. Horvath, A. B. Awad. Effect of low and high fat diets on nutrient intakes and selected cardiovascular risk factors in sedentary men and women. J Am Coll Nutr. 2004. 23:131-40. PMID:15047679.	Outcome
164	K. Meksawan, J. T. Venkatraman, A. B. Awad, D. R. Pendergast. Effect of dietary fat intake and exercise on	Study Design,

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	inflammatory mediators of the immune system in sedentary men and women. J Am Coll Nutr. 2004. 23:331-40. PMID:15310737.	Outcome
165	K. Miyamoto, M. Nishimuta, T. Hamaoka, N. Kodama, Y. Yoshitake. Equilibrium energy intake estimated by dietary energy intake and body weight changes in young Japanese females. J Nutr Sci Vitaminol (Tokyo). 2012. 58:431-7. PMID:23419402.	Independent Variable, Outcome
166	K. R. Evenson, D. M. Buchner, K. B. Morland. Objective measurement of physical activity and sedentary behavior among US adults aged 60 years or older. Prev Chronic Dis. 2012. 9:E26. PMID:22172193.	Study Design
167	K. R. Evenson, F. Wen. National trends in self-reported physical activity and sedentary behaviors among pregnant women: NHANES 1999-2006. Prev Med. 2010. 50:123-8. PMID:20053370.	Study Design
168	K. R. Sonneville, S. L. Rifas-Shiman, K. P. Kleinman, S. L. Gortmaker, M. W. Gillman, E. M. Taveras. Associations of obesogenic behaviors in mothers and obese children participating in a randomized trial. Obesity (Silver Spring). 2012. 20:1449-54. PMID:22349735.	Study Design, Outcome
169	K. Sanada, M. Miyachi, I. Tabata, K. Suzuki, K. Yamamoto, H. Kawano, C. Usui, M. Higuchi. Differences in body composition and risk of lifestyle-related diseases between young and older male rowers and sedentary controls. J Sports Sci. 2009. 27:1027-34. PMID:19847686.	Study Design, Age
170	K. Shuval, T. Leonard, J. Murdoch, M. O. Caughy, H. W. Kohl, C. S. Skinner. Sedentary behaviors and obesity in a low-income, ethnic-minority population. J Phys Act Health. 2013. 10:132-6. PMID:22398752.	Study Design, Age
171	K. W. Bauer, D. Neumark-Sztainer, J. A. Fulkerson, M. Story. Adolescent girls' weight-related family environments, Minnesota. Prev Chronic Dis. 2011. 8:A68. PMID:21477508.	Study Design, Outcome
172	K. W. Bauer, D. Neumark-Sztainer, J. A. Fulkerson, P. J. Hannan, M. Story. Familial correlates of adolescent girls' physical activity, television use, dietary intake, weight, and body composition. Int J Behav Nutr Phys Act. 2011. 8:25. PMID:21453516.	Independent Variable, Outcome
173	K. Waller, J. Kaprio, M. Lehtovirta, K. Silventoinen, M. Koskenvuo, U. M. Kujala. Leisure-time physical activity and type 2 diabetes during a 28 year follow-up in twins. Diabetologia. 2010. 53:2531-7. PMID:20706830.	Study Design, Outcome
174	K. Wijndaele, N. Duvigneaud, L. Matton, W. Duquet, C. Delecluse, M. Thomis, G. Beunen, J. Lefevre, R. M. Philippaerts. Sedentary behaviour, physical activity and a continuous metabolic syndrome risk score in adults. Eur J Clin Nutr. 2009. 63:421-9. PMID:17971826.	Study Design

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
175	L. A. Sanchez-Johnsen, M. L. Fitzgibbon, Z. Martinovich, M. R. Stolley, A. R. Dyer, L. Van Horn. Ethnic Differences in correlates of obesity between Latin-American and black Women. Obes Res. 2004. 12:652-60. PMID:15090633.	Study Design, Independent Variable
176	L. E. Bratteby, B. Sandhagen, G. Samuelson. Physical activity, energy expenditure and their correlates in two cohorts of Swedish subjects between adolescence and early adulthood. Eur J Clin Nutr. 2005. 59:1324-34. PMID:16091767.	Study Design
177	L. Gerber, M. Otgonsuren, A. Mishra, C. Escheik, A. Birerdinc, M. Stepanova, Z. M. Younossi. Non-alcoholic fatty liver disease (NAFLD) is associated with low level of physical activity: a population-based study. Aliment Pharmacol Ther. 2012. 36:772-81. PMID:22958053.	Outcome
178	L. J. Carr, R. T. Bartee, C. Dorozynski, J. F. Broomfield, M. L. Smith, D. T. Smith. Internet-delivered behavior change program increases physical activity and improves cardiometabolic disease risk factors in sedentary adults: results of a randomized controlled trial. Prev Med. 2008. 46:431-8. PMID:18207228.	Independent Variable, Outcome
179	L. J. Whyte, C. Ferguson, J. Wilson, R. A. Scott, J. M. Gill. Effects of single bout of very high-intensity exercise on metabolic health biomarkers in overweight/obese sedentary men. Metabolism. 2013. 62:212-9. PMID:22999784.	Outcome
180	L. J. Whyte, J. M. Gill, A. J. Cathcart. Effect of 2 weeks of sprint interval training on health-related outcomes in sedentary overweight/obese men. Metabolism. 2010. 59:1421-8. PMID:20153487.	Outcome
181	L. M. Verweij, K. I. Proper, A. N. Weel, C. T. Hulshof, W. van Mechelen. The application of an occupational health guideline reduces sedentary behaviour and increases fruit intake at work: results from an RCT. Occup Environ Med. 2012. 69:500-7. PMID:22383591.	Study Design
182	L. M. Wen, J. M. Simpson, L. A. Baur, C. Rissel, V. M. Flood. Family functioning and obesity risk behaviors: implications for early obesity intervention. Obesity (Silver Spring). 2011. 19:1252-8. PMID:21127478.	Study Design, Outcome
183	L. Pasqualini, G. Schillaci, S. Innocente, G. Pucci, F. Coscia, D. Siepi, G. Lupattelli, G. Ciuffetti, E. Mannarino. Lifestyle intervention improves microvascular reactivity and increases serum adiponectin in overweight hypertensive patients. Nutr Metab Cardiovasc Dis. 2010. 20:87-92. PMID:19473823.	Study Design, Independent Variable
184	L. Rolando, D. W. Byrne, P. W. McGown, R. Z. Goetzel, T. A. Elasy, M. I. Yarbrough. Health risk factor modification predicts incidence of diabetes in an employee population: results of an 8-year longitudinal cohort study. J Occup Environ Med. 2013. 55:410-5. PMID:23532193.	Independent Variable
185	L. Shi, J. A. Morrison, J. Wiecha, M. Horton, L. L. Hayman. Healthy lifestyle factors associated with reduced	Independent Variable

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	cardiometabolic risk. Br J Nutr. 2011. 105:747-54. PMID:21276278.	
186	L. Uijtdewilligen, A. S. Singh, J. W. Twisk, L. L. Koppes, W. van Mechelen, M. J. Chinapaw. Adolescent predictors of objectively measured physical activity and sedentary behaviour at age 42: the Amsterdam Growth and Health Longitudinal Study (AGAHLS). Int J Behav Nutr Phys Act. 2011. 8:107. PMID:21961795.	Outcome
187	M. A. Allison, N. E. Jensky, S. J. Marshall, A. G. Bertoni, M. Cushman. Sedentary behavior and adiposity-associated inflammation: the Multi-Ethnic Study of Atherosclerosis. Am J Prev Med. 2012. 42:8-13. PMID:22176840.	Independent Variable, Outcome
188	M. A. Tully, M. E. Cupples, N. D. Hart, J. McEneny, K. J. McGlade, W. S. Chan, I. S. Young. Randomised controlled trial of home-based walking programmes at and below current recommended levels of exercise in sedentary adults. J Epidemiol Community Health. 2007. 61:778-83. PMID:17699531.	Independent Variable, Outcome
189	M. A. Winkleby, C. Cubbin. Changing patterns in health behaviors and risk factors related to chronic diseases, 1990-2000. Am J Health Promot. 2004. 19:19-27. PMID:15460097.	Study Design
190	M. Baruth, P. A. Sharpe, B. Hutto, S. Wilcox, T. Y. Warren. Patterns of sedentary behavior in overweight and obese women. Ethn Dis. 2013. 23:336-42. PMID:23914420.	Study Design
191	M. C. Nelson, K. Lust, M. Story, E. Ehlinger. Alcohol use, eating patterns, and weight behaviors in a university population. Am J Health Behav. 2009. 33:227-37. PMID:19063644.	Independent Variable
192	M. C. Nelson, P. Gordon-Larsen, K. E. North, L. S. Adair. Body mass index gain, fast food, and physical activity: effects of shared environments over time. Obesity (Silver Spring). 2006. 14:701-9. PMID:16741273.	Age
193	M. C. Nelson, P. Gordon-Larsen, Y. Song, B. M. Popkin. Built and social environments associations with adolescent overweight and activity. Am J Prev Med. 2006. 31:109-17. PMID:16829327.	Age
194	M. C. Peddie, J. L. Bone, N. J. Rehrer, C. M. Skeaff, A. R. Gray, T. L. Perry. Breaking prolonged sitting reduces postprandial glycemia in healthy, normal-weight adults: a randomized crossover trial. Am J Clin Nutr. 2013. 98:358-66. PMID:23803893.	Study Design, Independent Variable
195	M. C. Whitt-Glover, P. E. Hogan, W. Lang, D. P. Heil. Pilot study of a faith-based physical activity program among sedentary blacks. Prev Chronic Dis. 2008. 5:A51. PMID:18341786.	Study Design, Independent Variable
196	M. D. Hanson, E. Chen. Socioeconomic status, race, and body mass index: the mediating role of physical activity and sedentary behaviors during adolescence. J Pediatr Psychol. 2007. 32:250-9. PMID:16896193.	Age
197	M. D. Schmidt, V. J. Cleland, R. J. Thomson, T. Dwyer, A. J. Venn. A comparison of subjective and objective	Outcome

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	measures of physical activity and fitness in identifying associations with cardiometabolic risk factors. Ann Epidemiol. 2008. 18:378-86. PMID:18433666.	
198	M. Du, J. Prescott, P. Kraft, J. Han, E. Giovannucci, S. E. Hankinson, I. De Vivo. Physical activity, sedentary behavior, and leukocyte telomere length in women. Am J Epidemiol. 2012. 175:414-22. PMID:22302075.	Study Design, Outcome
199	M. E. Lavoie, R. Rabasa-Lhoret, E. Doucet, D. Mignault, L. Messier, J. P. Bastard, M. Faraj. Association between physical activity energy expenditure and inflammatory markers in sedentary overweight and obese women. Int J Obes (Lond). 2010. 34:1387-95. PMID:20368709.	Study Design
200	M. E. Riou, E. Pigeon, J. St-Onge, A. Tremblay, A. Marette, S. J. Weisnagel, D. R. Joanisse. Predictors of cardiovascular fitness in sedentary men. Appl Physiol Nutr Metab. 2009. 34:99-106. PMID:19370039.	Independent Variable
201	M. F. Lippincott, A. Carlow, A. Desai, A. Blum, M. Rodrigo, S. Patibandla, G. Zalos, K. Smith, W. H. Schenke, G. Csako, M. A. Waclawiw, R. O. Cannon. Relation of endothelial function to cardiovascular risk in women with sedentary occupations and without known cardiovascular disease. Am J Cardiol. 2008. 102:348-52. PMID:18638600.	Independent Variable
202	M. F. Muldoon, K. I. Erickson, B. H. Goodpaster, J. M. Jakicic, S. M. Conklin, A. Sekikawa, J. K. Yao, S. B. Manuck. Concurrent physical activity modifies the association between n3 long-chain fatty acids and cardiometabolic risk in midlife adults. J Nutr. 2013. 143:1414-20. PMID:23884386.	Study Design, Outcome
203	M. Fuller-Tyszkiewicz, H. Skouteris, L. L. Hardy, C. Halse. The associations between TV viewing, food intake, and BMI. A prospective analysis of data from the Longitudinal Study of Australian Children. Appetite. 2012. 59:945-8. PMID:23000277.	Independent Variable, Age
204	M. Graff, K. E. North, K. L. Monda, E. M. Lange, L. A. Lange, G. Guo, P. Gordon-Larsen. The combined influence of genetic factors and sedentary activity on body mass changes from adolescence to young adulthood: the National Longitudinal Adolescent Health Study. Diabetes Metab Res Rev. 2011. 27:63-9. PMID:21218509.	Study Design, Age
205	M. H. Murphy, E. M. Murtagh, C. A. Boreham, L. G. Hare, A. M. Nevill. The effect of a worksite based walking programme on cardiovascular risk in previously sedentary civil servants [NCT00284479]. BMC Public Health. 2006. 6:136. PMID:16716211.	Study Design
206	M. Hamer, E. Stamatakis, G. D. Mishra. Television- and screen-based activity and mental well-being in adults. Am J Prev Med. 2010. 38:375-80. PMID:20307805.	Independent Variable, Outcome

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
207	M. Hamer, E. Stamatakis. Low-dose physical activity attenuates cardiovascular disease mortality in men and women with clustered metabolic risk factors. Circ Cardiovasc Qual Outcomes. 2012. 5:494-9. PMID:22619275.	Independent Variable, Age
208	M. Hamer, M. Kivimaki, A. Steptoe. Longitudinal patterns in physical activity and sedentary behaviour from mid-life to early old age: a substudy of the Whitehall II cohort. J Epidemiol Community Health. 2012. 66:1110-5. PMID:22791800.	Outcome
209	M. Hamer, S. M. Venuraju, L. Urbanova, A. Lahiri, A. Steptoe. Physical activity, sedentary time, and pericardial fat in healthy older adults. Obesity (Silver Spring). 2012. 20:2113-7. PMID:22402739.	Independent Variable, Outcome
210	M. I. Penatti, F. S. Lira, C. K. Katashima, J. C. Rosa, G. D. Pimentel. Sugar intake is correlated with adiposity and obesity indicators and sedentary lifestyle in Brazilian individuals with morbid obesity. Nutr Hosp. 2012. 27:1547-53. PMID:23478704.	Study Design, Independent Variable
211	M. Inzitari, A. Greenlee, R. Hess, S. Perera, S. A. Studenski. Attitudes of postmenopausal women toward interactive video dance for exercise. J Womens Health (Larchmt). 2009. 18:1239-43. PMID:19630550.	Independent Variable, Age
212	M. J. Duncan, C. Vandelanotte, R. R. Rosenkranz, C. M. Caperchione, H. Ding, M. Ellison, E. S. George, C. Hooker, M. Karunanithi, G. S. Kolt, A. Maeder, M. Noakes, R. Tague, P. Taylor, P. Viljoen, W. K. Mummery. Effectiveness of a website and mobile phone based physical activity and nutrition intervention for middle-aged males: trial protocol and baseline findings of the ManUp Study. BMC Public Health. 2012. 12:656. PMID:22894747.	Study Design, Age
213	M. J. Patel, C. A. Slentz, W. E. Kraus. Metabolic deterioration of the sedentary control group in clinical trials. J Appl Physiol (1985). 2011. 111:1211-7. PMID:21778417.	Study Design
214	M. Ki, T. Pouliou, L. Li, C. Power. Physical (in)activity over 20 y in adulthood: associations with adult lipid levels in the 1958 British birth cohort. Atherosclerosis. 2011. 219:361-7. PMID:21855876.	Independent Variable, Outcome
215	M. O'Dougherty, M. S. Kurzer, K. H. Schmitz. Shifting motivations: Young women's reflections on physical activity over time and across contexts. Health Educ Behav. 2010. 37:547-67. PMID:20530640.	Outcome
216	M. Rosenkilde, P. Auerbach, M. H. Reichkendler, T. Ploug, B. M. Stallknecht, A. Sjodin. Body fat loss and compensatory mechanisms in response to different doses of aerobic exercise--a randomized controlled trial in overweight sedentary males. Am J Physiol Regul Integr Comp Physiol. 2012. 303:R571-9. PMID:22855277.	Study Design
217	M. S. Buchowski, S. S. Cohen, C. E. Matthews, D. G. Schlundt, L. B. Signorello, M. K. Hargreaves, W. J. Blot. Physical activity and obesity gap between black and white women in the southeastern U.S. Am J Prev Med. 2010. 39:140-7.	Age

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	PMID:20621261.	
218	M. Sodergren, S. A. McNaughton, J. Salmon, K. Ball, D. A. Crawford. Associations between fruit and vegetable intake, leisure-time physical activity, sitting time and self-rated health among older adults: cross-sectional data from the WELL study. BMC Public Health. 2012. 12:551. PMID:22830932.	Study Design, Age
219	M. Teychenne, K. Ball, J. Salmon. Promoting physical activity and reducing sedentary behavior in disadvantaged neighborhoods: a qualitative study of what women want. PLoS One. 2012. 7:e49583. PMID:23166718.	Study Design, Age
220	M. Unal, D. O. Unal, A. K. Baltaci, R. Mogulkoc, A. Kayserilioglu. Investigation of serum leptin levels in professional male football players and healthy sedentary males. Neuro Endocrinol Lett. 2005. 26:148-51. PMID:15855887.	Outcome
221	M. Unal, D. O. Unal, F. Salman, A. K. Baltaci, R. Mogulkoc. The relation between serum leptin levels and max VO2 in male patients with type I diabetes and healthy sedentary males. Endocr Res. 2004. 30:491-8. PMID:15554364.	Independent Variable, Outcome
222	N. Koezuka, M. Koo, K. R. Allison, E. M. Adlaf, J. J. Dwyer, G. Faulkner, J. Goodman. The relationship between sedentary activities and physical inactivity among adolescents: results from the Canadian Community Health Survey. J Adolesc Health. 2006. 39:515-22. PMID:16982386.	Study Design, Independent Variable
223	N. Owen, G. N. Healy, C. E. Matthews, D. W. Dunstan. Too much sitting: the population health science of sedentary behavior. Exerc Sport Sci Rev. 2010. 38:105-13. PMID:20577058.	Study Design, Outcome
224	N. Pearson, J. Salmon, D. Crawford, K. Campbell, A. Timperio. Are parental concerns for child TV viewing associated with child TV viewing and the home sedentary environment?. Int J Behav Nutr Phys Act. 2011. 8:102. PMID:21951470.	Outcome
225	N. Pearson, J. Salmon, K. Campbell, D. Crawford, A. Timperio. Tracking of children's body-mass index, television viewing and dietary intake over five-years. Prev Med. 2011. 53:268-70. PMID:21820008.	Independent Variable
226	N. R. Stob, C. Bell, M. A. van Baak, D. R. Seals. Thermic effect of food and beta-adrenergic thermogenic responsiveness in habitually exercising and sedentary healthy adult humans. J Appl Physiol (1985). 2007. 103:616-22. PMID:17463294.	Study Design
227	P. A. Gardiner, G. N. Healy, E. G. Eakin, B. K. Clark, D. W. Dunstan, J. E. Shaw, P. Z. Zimmet, N. Owen. Associations between television viewing time and overall sitting time with the metabolic syndrome in older men and women: the Australian Diabetes, Obesity and Lifestyle study. J Am Geriatr Soc. 2011. 59:788-96. PMID:21568949.	Study Design, Independent Variable
228	P. A. Sharpe, E. L. Burroughs, M. L. Granner, S. Wilcox, B. E. Hutto, C. A. Bryant, L. Peck, L. Pekuri. Impact of a	Independent

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	community-based prevention marketing intervention to promote physical activity among middle-aged women. Health Educ Behav. 2010. 37:403-23. PMID:19875639.	Variable, Outcome
229	P. C. Chang, T. C. Li, M. T. Wu, C. S. Liu, C. I. Li, C. C. Chen, W. Y. Lin, S. Y. Yang, C. C. Lin. Association between television viewing and the risk of metabolic syndrome in a community-based population. BMC Public Health. 2008. 8:193. PMID:18519004.	Outcome
230	P. J. Morgan, A. D. Okely, D. P. Cliff, R. A. Jones, L. A. Baur. Correlates of objectively measured physical activity in obese children. Obesity (Silver Spring). 2008. 16:2634-41. PMID:18927553.	Study Design, Independent Variable
231	P. J. Morgan, D. R. Lubans, R. C. Plotnikoff, R. Callister, T. Burrows, R. Fletcher, A. D. Okely, M. D. Young, A. Miller, V. Clay, A. Lloyd, C. E. Collins. The 'Healthy Dads, Healthy Kids' community effectiveness trial: study protocol of a community-based healthy lifestyle program for fathers and their children. BMC Public Health. 2011. 11:876. PMID:22099889.	Outcome
232	P. Katz, L. Julian, M. C. Tonner, J. Yazdany, L. Trupin, E. Yelin, L. A. Criswell. Physical activity, obesity, and cognitive impairment among women with systemic lupus erythematosus. Arthritis Care Res (Hoboken). 2012. 64:502-10. PMID:22337564.	Independent Variable
233	P. Meyer, B. Kayser, M. P. Kossovsky, P. Sigaud, D. Carballo, P. F. Keller, X. E. Martin, N. Farpour-Lambert, C. Pichard, F. Mach. Stairs instead of elevators at workplace: cardioprotective effects of a pragmatic intervention. Eur J Cardiovasc Prev Rehabil. 2010. 17:569-75. PMID:20299999.	Independent Variable, Outcome
234	P. S. Tandon, C. Zhou, J. F. Sallis, K. L. Cain, L. D. Frank, B. E. Saelens. Home environment relationships with children's physical activity, sedentary time, and screen time by socioeconomic status. Int J Behav Nutr Phys Act. 2012. 9:88. PMID:22835155.	Outcome, Age
235	P. T. Katzmarzyk, T. S. Church, C. L. Craig, C. Bouchard. Sitting time and mortality from all causes, cardiovascular disease, and cancer. Med Sci Sports Exerc. 2009. 41:998-1005. PMID:19346988.	Study Design, Independent Variable
236	Q. L. Xue, K. Bandeen-Roche, T. J. Mielenz, C. L. Seplaki, S. L. Szanton, R. J. Thorpe, R. R. Kalyani, P. H. Chaves, T. T. Dam, K. Ornstein, A. RoyChoudhury, R. Varadhan, W. Yao, L. P. Fried. Patterns of 12-year change in physical activity levels in community-dwelling older women: can modest levels of physical activity help older women live longer?. Am J Epidemiol. 2012. 176:534-43. PMID:22935515.	Study Design
237	Q. Qi, Y. Li, A. K. Chomistek, J. H. Kang, G. C. Curhan, L. R. Pasquale, W. C. Willett, E. B. Rimm, F. B. Hu, L. Qi.	Study Design,

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	Television watching, leisure time physical activity, and the genetic predisposition in relation to body mass index in women and men. Circulation. 2012. 126:1821-7. PMID:22949498.	Independent Variable
238	R. A. Mekary, D. Feskanich, S. Malspeis, F. B. Hu, W. C. Willett, A. E. Field. Physical activity patterns and prevention of weight gain in premenopausal women. Int J Obes (Lond). 2009. 33:1039-47. PMID:19546868.	Study Design
239	R. E. Lee, S. K. Mama, H. J. Adamus-Leach. Neighborhood street scale elements, sedentary time and cardiometabolic risk factors in inactive ethnic minority women. PLoS One. 2012. 7:e51081. PMID:23236434.	Study Design
240	R. F. Carvalho, S. K. Uehara, G. Rosa. Microencapsulated conjugated linoleic acid associated with hypocaloric diet reduces body fat in sedentary women with metabolic syndrome. Vasc Health Risk Manag. 2012. 8:661-7. PMID:23271912.	Study Design
241	R. F. Kushner, S. W. Choi. Prevalence of unhealthy lifestyle patterns among overweight and obese adults. Obesity (Silver Spring). 2010. 18:1160-7. PMID:19875995.	Study Design
242	R. Freak-Poli, R. Wolfe, A. Peeters. Risk of cardiovascular disease and diabetes in a working population with sedentary occupations. J Occup Environ Med. 2010. 52:1132-7. PMID:21063192.	Study Design, Independent Variable
243	R. Freak-Poli, R. Wolfe, K. Backholer, M. de Courten, A. Peeters. Impact of a pedometer-based workplace health program on cardiovascular and diabetes risk profile. Prev Med. 2011. 53:162-71. PMID:21762721.	Independent Variable
244	R. Golubic, U. Ekelund, K. Wijndaele, R. Luben, K. T. Khaw, N. J. Wareham, S. Brage. Rate of weight gain predicts change in physical activity levels: a longitudinal analysis of the EPIC-Norfolk cohort. Int J Obes (Lond). 2013. 37:404-9. PMID:22531093.	Independent Variable, Outcome
245	R. K. Simmons, E. M. van Sluijs, W. Hardeman, S. Sutton, S. J. Griffin. Who will increase their physical activity? Predictors of change in objectively measured physical activity over 12 months in the ProActive cohort. BMC Public Health. 2010. 10:226. PMID:20433700.	Outcome
246	R. L. Freak-Poli, R. Wolfe, H. Walls, K. Backholer, A. Peeters. Participant characteristics associated with greater reductions in waist circumference during a four-month, pedometer-based, workplace health program. BMC Public Health. 2011. 11:824. PMID:22024045.	Independent Variable, Outcome
247	R. L. Newton, H. Han, T. Zderic, M. Hamilton. The energy expenditure of sedentary behavior: a whole room calorimeter study. PLoS One. 2013. 8:e63171. PMID:23658805.	Study Design
248	R. M. Mabry, E. A. Winkler, M. M. Reeves, E. G. Eakin, N. Owen. Associations of physical activity and sitting time	Study Design

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

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	Excluded Citations	Reason for Exclusion
	with the metabolic syndrome among Omani adults. Obesity (Silver Spring). 2012. 20:2290-5. PMID:22314621.	
249	R. M. Mabry, E. A. Winkler, M. M. Reeves, E. G. Eakin, N. Owen. Correlates of Omani adults' physical inactivity and sitting time. Public Health Nutr. 2013. 16:65-72. PMID:22626450.	Study Design
250	R. P. Hirata, L. M. Sampaio, F. S. Leitao Filho, A. Braghiroli, B. Balbi, S. Romano, G. Insalaco, L. V. de Oliveira. General characteristics and risk factors of cardiovascular disease among interstate bus drivers. ScientificWorldJournal. 2012. 2012:216702. PMID:22701350.	Independent Variable, Outcome
251	R. Ruiz, S. B. Gesell, M. S. Buchowski, W. Lambert, S. L. Barkin. The relationship between hispanic parents and their preschool-aged children's physical activity. Pediatrics. 2011. 127:888-95. PMID:21482607.	Study Design, Independent Variable
252	R. S. Rector, J. R. Turk, G. Y. Sun, B. L. Guilford, B. W. Toedebusch, M. W. McClanahan, T. R. Thomas. Short-term lifestyle modification alters circulating biomarkers of endothelial health in sedentary, overweight adults. Appl Physiol Nutr Metab. 2006. 31:512-7. PMID:17111005.	Study Design, Independent Variable
253	R. Santos, L. Soares-Miranda, S. Vale, C. Moreira, A. I. Marques, J. Mota. Sitting time and body mass index, in a Portuguese sample of men: results from the Azorean Physical Activity and Health Study (APAHS). Int J Environ Res Public Health. 2010. 7:1500-7. PMID:20617042.	Study Design
254	R. Santos, M. P. Santos, J. C. Ribeiro, J. Mota. Physical activity and other lifestyle behaviors in a Portuguese sample of adults: results from the Azorean Physical Activity and Health Study. J Phys Act Health. 2009. 6:750-9. PMID:20101918.	Study Design
255	S. A. Duffy, K. A. Cohen, S. H. Choi, M. C. McCullagh, D. Noonan. Predictors of obesity in Michigan Operating Engineers. J Community Health. 2012. 37:619-25. PMID:22005801.	Study Design
256	S. A. French, A. F. Gerlach, N. R. Mitchell, P. J. Hannan, E. M. Welsh. Household obesity prevention: Take Action--a group-randomized trial. Obesity (Silver Spring). 2011. 19:2082-8. PMID:21212771.	Independent Variable, Age
257	S. A. McNaughton, D. Crawford, K. Ball, J. Salmon. Understanding determinants of nutrition, physical activity and quality of life among older adults: the Wellbeing, Eating and Exercise for a Long Life (WELL) study. Health Qual Life Outcomes. 2012. 10:109. PMID:22966959.	Study Design, Independent Variable
258	S. A. McNaughton, D. W. Dunstan, K. Ball, J. Shaw, D. Crawford. Dietary quality is associated with diabetes and cardio-metabolic risk factors. J Nutr. 2009. 139:734-42. PMID:19211825.	Study Design
259	S. B. Sisson, S. M. Camhi, T. S. Church, C. K. Martin, C. Tudor-Locke, C. Bouchard, C. P. Earnest, S. R. Smith, R. L.	Study Design

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	Newton, T. Rankinen, P. T. Katzmarzyk. Leisure time sedentary behavior, occupational/domestic physical activity, and metabolic syndrome in U.S. men and women. Metab Syndr Relat Disord. 2009. 7:529-36. PMID:19900152.	
260	S. C. Folta, A. H. Lichtenstein, R. A. Seguin, J. P. Goldberg, J. F. Kuder, M. E. Nelson. The StrongWomen-Healthy Hearts program: reducing cardiovascular disease risk factors in rural sedentary, overweight, and obese midlife and older women. Am J Public Health. 2009. 99:1271-7. PMID:19443826.	Study Design
261	S. Drummond, K. Dixon, J. Griffin, A. De Looy. Weight loss on an energy-restricted, low-fat, sugar-containing diet in overweight sedentary men. Int J Food Sci Nutr. 2004. 55:279-90. PMID:15369982.	Study Design, Outcome
262	S. F. Chastin, E. Ferriolli, N. A. Stephens, K. C. Fearon, C. Greig. Relationship between sedentary behaviour, physical activity, muscle quality and body composition in healthy older adults. Age Ageing. 2012. 41:111-4. PMID:21749993.	Study Design
263	S. Inoue, T. Sugiyama, T. Takamiya, K. Oka, N. Owen, T. Shimomitsu. Television viewing time is associated with overweight/obesity among older adults, independent of meeting physical activity and health guidelines. J Epidemiol. 2012. 22:50-6. PMID:22156288.	Study Design
264	S. J. Kelly, J. M. Lilley, J. Leonardi-Bee. Associations of morbidity in the underweight. Eur J Clin Nutr. 2010. 64:475-82. PMID:20216568.	Independent Variable
265	S. K. McCrady, J. A. Levine. Sedentariness at work: how much do we really sit?. Obesity (Silver Spring). 2009. 17:2103-5. PMID:19390526.	Independent Variable
266	S. Kwon, J. Mohammad, I. Samuel. Physical activity patterns in morbidly obese and normal-weight women. Am J Health Behav. 2011. 35:155-61. PMID:21204678.	Independent Variable, Outcome
267	S. L. Escobar-Chaves, C. M. Markham, R. C. Addy, A. Greisinger, N. G. Murray, B. Brehm. The Fun Families Study: intervention to reduce children's TV viewing. Obesity (Silver Spring). 2010. 18 Suppl 1:S99-101. PMID:20107469.	Independent Variable
268	S. Lioret, K. J. Campbell, D. Crawford, A. C. Spence, K. Hesketh, S. A. McNaughton. A parent focused child obesity prevention intervention improves some mother obesity risk behaviors: the Melbourne inFANT program. Int J Behav Nutr Phys Act. 2012. 9:100. PMID:22925356.	Outcome
269	S. Lord, S. F. Chastin, L. McInnes, L. Little, P. Briggs, L. Rochester. Exploring patterns of daily physical and sedentary behaviour in community-dwelling older adults. Age Ageing. 2011. 40:205-10. PMID:21239410.	Study Design
270	S. M. Pinto Pereira, M. Ki, C. Power. Sedentary behaviour and biomarkers for cardiovascular disease and diabetes	Study Design

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	in mid-life: the role of television-viewing and sitting at work. PLoS One. 2012. 7:e31132. PMID:22347441.	
271	S. Ortlieb, G. Schneider, S. Koletzko, D. Berdel, A. von Berg, C. P. Bauer, B. Schaaf, O. Herbarth, I. Lehmann, B. Hoffmann, J. Heinrich, H. Schulz. Physical activity and its correlates in children: a cross-sectional study (the GINIplus LISAplus studies). BMC Public Health. 2013. 13:349. PMID:23587274.	Study Design, Outcome
272	S. Pal, C. Cheng, S. Ho. The effect of two different health messages on physical activity levels and health in sedentary overweight, middle-aged women. BMC Public Health. 2011. 11:204. PMID:21453540.	Study Design
273	S. Stringhini, A. Dugravot, M. Shipley, M. Goldberg, M. Zins, M. Kivimaki, M. Marmot, S. Sabia, A. Singh-Manoux. Health behaviours, socioeconomic status, and mortality: further analyses of the British Whitehall II and the French GAZEL prospective cohorts. PLoS Med. 2011. 8:e1000419. PMID:21364974.	Age
274	T. Balboa-Castillo, P. Guallar-Castillon, L. M. Leon-Munoz, A. Graciani, E. Lopez-Garcia, F. Rodriguez-Artalejo. Physical activity and mortality related to obesity and functional status in older adults in Spain. Am J Prev Med. 2011. 40:39-46. PMID:21146766.	Study Design
275	T. E. Brinkley, A. Halverstadt, D. A. Phares, R. E. Ferrell, R. L. Prigeon, J. M. Hagberg, A. P. Goldberg. Hepatic lipase gene -514C>T variant is associated with exercise training-induced changes in VLDL and HDL by lipoprotein lipase. J Appl Physiol (1985). 2011. 111:1871-6. PMID:21960661.	Study Design
276	T. K. Boehmer, S. L. Lovegreen, D. Haire-Joshu, R. C. Brownson. What constitutes an obesogenic environment in rural communities?. Am J Health Promot. 2006. 20:411-21. PMID:16871821.	Outcome
277	T. L. Hart, A. M. Swartz, S. E. Cashin, S. J. Strath. How many days of monitoring predict physical activity and sedentary behaviour in older adults?. Int J Behav Nutr Phys Act. 2011. 8:62. PMID:21679426.	Study Design
278	T. M. O'Connor, E. Cerin, S. O. Hughes, J. Robles, D. Thompson, T. Baranowski, R. E. Lee, T. Nicklas, R. M. Shewchuk. What Hispanic parents do to encourage and discourage 3-5 year old children to be active: a qualitative study using nominal group technique. Int J Behav Nutr Phys Act. 2013. 10:93. PMID:23919301.	Independent Variable
279	T. Peart, H. E. Velasco Mondragon, D. Rohm-Young, Y. Bronner, M. B. Hossain. Weight status in US youth: the role of activity, diet, and sedentary behaviors. Am J Health Behav. 2011. 35:756-64. PMID:22251766.	Independent Variable
280	T. Pouliou, M. Ki, C. Law, L. Li, C. Power. Physical activity and sedentary behaviour at different life stages and adult blood pressure in the 1958 British cohort. J Hypertens. 2012. 30:275-83. PMID:22179092.	Outcome
281	T. S. Church, C. K. Martin, A. M. Thompson, C. P. Earnest, C. R. Mikus, S. N. Blair. Changes in weight, waist	Independent

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	circumference and compensatory responses with different doses of exercise among sedentary, overweight postmenopausal women. PLoS One. 2009. 4:e4515. PMID:19223984.	Variable, Outcome
282	T. Scheers, R. Philippaerts, J. Lefevre. Patterns of physical activity and sedentary behavior in normal-weight, overweight and obese adults, as measured with a portable armband device and an electronic diary. Clin Nutr. 2012. 31:756-64. PMID:22595654.	Independent Variable, Outcome
283	T. Sugiyama, D. Merom, M. Reeves, E. Leslie, N. Owen. Habitual active transport moderates the association of TV viewing time with body mass index. J Phys Act Health. 2010. 7:11-6. PMID:20231750.	Outcome
284	T. Sugiyama, G. N. Healy, D. W. Dunstan, J. Salmon, N. Owen. Is television viewing time a marker of a broader pattern of sedentary behavior?. Ann Behav Med. 2008. 35:245-50. PMID:18357498.	Outcome
285	T. Sugiyama, J. Salmon, D. W. Dunstan, A. E. Bauman, N. Owen. Neighborhood walkability and TV viewing time among Australian adults. Am J Prev Med. 2007. 33:444-9. PMID:18022059.	Study Design, Outcome
286	T. Yates, K. Khunti, E. G. Wilmot, E. Brady, D. Webb, B. Srinivasan, J. Henson, D. Talbot, M. J. Davies. Self-reported sitting time and markers of inflammation, insulin resistance, and adiposity. Am J Prev Med. 2012. 42:1-7. PMID:22176839.	Study Design, Independent Variable
287	V. B. Jernigan, B. Duran, D. Ahn, M. Winkleby. Changing patterns in health behaviors and risk factors related to cardiovascular disease among American Indians and Alaska Natives. Am J Public Health. 2010. 100:677-83. PMID:20220114.	Independent Variable
288	V. Lindhom, J. Lahti, O. Rahkonen, E. Lahelma, T. Lallukka. Joint association of physical activity and body weight with subsequent physical and mental functioning: a follow-up study. BMC Public Health. 2013. 13:197. PMID:23497094.	Study Design
289	W. Brehm, P. Wagner, R. Sygusch, A. Schonung, U. Hahn. Health promotion by means of health sport--a framework and a controlled intervention study with sedentary adults. Scand J Med Sci Sports. 2005. 15:13-20. PMID:15679567.	Outcome
290	W. C. Miller, M. Hering, C. Cothran, K. Croteau, R. Dunlap. After-school physical activity and eating behaviors of middle school students in relation to adult supervision. J Nutr Educ Behav. 2012. 44:326-34. PMID:22309738.	Study Design
291	W. E. Barrington, R. M. Ceballos, S. K. Bishop, B. A. McGregor, S. A. Beresford. Perceived stress, behavior, and body mass index among adults participating in a worksite obesity prevention program, Seattle, 2005-2007. Prev	Study Design, Outcome

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	Chronic Dis. 2012. 9:E152. PMID:23036611.	
292	W. K. Mummery, G. M. Schofield, R. Steele, E. G. Eakin, W. J. Brown. Occupational sitting time and overweight and obesity in Australian workers. Am J Prev Med. 2005. 29:91-7. PMID:16005804.	Outcome
293	W. Kaino, M. Daimon, S. Sasaki, S. Karasawa, K. Takase, K. Tada, K. Wada, W. Kameda, S. Susa, T. Oizumi, A. Fukao, I. Kubota, T. Kayama, T. Kato. Lower physical activity is a risk factor for a clustering of metabolic risk factors in non-obese and obese Japanese subjects: the Takahata study. Endocr J. 2013. 60:617-28. PMID:23337516.	Study Design
294	W. Komal, K. Jaipanesh, M. Seemal. Association of leisure time physical activity, watching television, obesity lipid profile among sedentary low-income south Indian population. East Afr J Public Health. 2010. 7:225-8. PMID:21516959.	Outcome
295	W. M. Admiraal, I. G. van Valkengoed, L. de Munter JS, K. Stronks, J. B. Hoekstra, F. Holleman. The association of physical inactivity with Type 2 diabetes among different ethnic groups. Diabet Med. 2011. 28:668-72. PMID:21569087.	Independent Variable, Outcome
296	W. Trompers, T. L. Perry, M. C. Rose, N. J. Rehrer. Glycemic and insulinemic response to selected snack bars in trained versus sedentary individuals. Int J Sport Nutr Exerc Metab. 2010. 20:27-33. PMID:20190349.	Study Design, Outcome
297	X. Chen, Z. Pang, K. Li. Dietary fat, sedentary behaviors and the prevalence of the metabolic syndrome among Qingdao adults. Nutr Metab Cardiovasc Dis. 2009. 19:27-34. PMID:18472251.	Independent Variable, Age
298	Y. Fukuoka, E. Kamitani, K. Bonnet, T. Lindgren. Real-time social support through a mobile virtual community to improve healthy behavior in overweight and sedentary adults: a focus group analysis. J Med Internet Res. 2011. 13:e49. PMID:21752785.	Independent Variable, Outcome
299	Y. Fukuoka, E. Vittinghoff, S. S. Jong, W. Haskell. Innovation to motivation--pilot study of a mobile phone intervention to increase physical activity among sedentary women. Prev Med. 2010. 51:287-9. PMID:20600263.	Independent Variable, Outcome
300	Y. Liao, K. Harada, A. Shibata, K. Ishii, K. Oka, Y. Nakamura, T. Sugiyama, S. Inoue, T. Shimomitsu. Joint associations of physical activity and screen time with overweight among japanese adults. Int J Behav Nutr Phys Act. 2011. 8:131. PMID:22128879.	Independent Variable
301	Y. Wang, J. Tuomilehto, P. Jousilahti, R. Antikainen, M. Mahonen, P. T. Katzmarzyk, G. Hu. Lifestyle factors in relation to heart failure among Finnish men and women. Circ Heart Fail. 2011. 4:607-12. PMID:21914814.	Study Design
302	Z. Stranska, M. Matoulek, Z. Vilikus, S. Svacina, P. Stransky. Aerobic exercise has beneficial impact on atherogenic	Independent

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	index of plasma in sedentary overweigh and obese women. Neuro Endocrinol Lett. 2011. 32:102-8. PMID:21407166.	Variable, Outcome
303	Aadahl M,Kjaer M,Jorgensen T. Influence of time spent on TV viewing and vigorous intensity physical activity on cardiovascular biomarkers. the Inter 99 study. European Journal of Cardiovascular Prevention and Rehabilitation. 2007. 14:660-665.	Study Design
304	Aadahl M,Linneberg A,Witte D,Jorgensen T. Reduction of sitting time in sedentary men and women. A randomized controlled trial (Sedentary Intervention Trial). Journal of Science and Medicine in Sport. 2012. 15:S302.	Study Design
305	Aagaard P,Grontved A,Aadahl M,Nielsen K,Dahl- Petersen I,Zacho M,Overgaard K. The current level of sedentary behavior in Denmark. Is there scientific basis for recommending a reduction?. Journal of Science and Medicine in Sport. 2012. 15:S28-S29.	Study Design
306	Abeysena C,Jayawardana P. Sleep deprivation, physical activity and low income are risk factors for inadequate weight gain during pregnancy: A cohort study. Journal of Obstetrics and Gynaecology Research. 2011. 37:734-740.	Study Design
307	Al Mulhim AA,Al Gazzar S,Al Bahnassy A,Ali MS. Effect of exercise program on the bone mineral density in sedentary females. Bahrain Medical Bulletin. 2004. 26:42-44.	Study Design
308	Allen NA,Fain JA,Braun B,Chipkin SR. Continuous glucose monitoring counseling improves physical activity behaviors of individuals with type 2 diabetes: A randomized clinical trial. Diabetes Research and Clinical Practice. 2008. 80:371-379.	Study Design
309	Al-Nozha MM,Al-Hazzaa HM,Arafah MR,Al-Khadra A,Al-Mazrou YY,Al-Maatouq MA,Khan NB,Al-Marzouki K,Al-Harthi SS,Abdullah M,Al-Shahid MS. Prevalence of physical activity and inactivity among Saudis aged 30-70 years: A population-based cross-sectional study. Saudi Medical Journal. 2007. 28:559-568.	Outcome
310	Altenburg TM,de Kroon MLA,Renders CM,HiraSing R,Chinapaw MJM. TV Time but Not Computer Time Is Associated with Cardiometabolic Risk in Dutch Young Adults. PLoS ONE. 2013. 8.	Study Design
311	Altenburg TM,Hofsteenge GH,Weijs PJM,Delemarre-van de Waal HA,Chinapaw MJM. Self-Reported Screen Time and Cardiometabolic Risk in Obese Dutch Adolescents. PLoS ONE. 2012. 7.	Outcome
312	Alves JG,Gale CR,Mutrie N,Correia JB,Batty GD. A 6-month exercise intervention among inactive and overweight Favela-residing women in Brazil: The caranguejo exercise trial. American Journal of Public Health. 2009. 99:76-80.	Study Design
313	Apullan FJ,Bourassa MG,Tardif JC,Fortier A,Gayda M,Nigam A. Usefulness of Self-Reported Leisure-Time Physical	Study Design

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	Activity to Predict Long-Term Survival in Patients With Coronary Heart Disease. American Journal of Cardiology. 2008. 102:375-379.	
314	Asikainen TM,Kukkonen-Harjula K,Miilunpalo S. Exercise for health for early postmenopausal women: A systematic review of randomised controlled trials. Sports Medicine. 2004. 34:753-778.	Study Design, Unhealthy Subjects
315	Atlantis E,Chow CM,Kirby A,Fiatarone Singh MA. Worksite intervention effects on physical health: A randomized controlled trial. Health Promotion International. 2006. 21:191-200.	Study Design
316	Balboa-Castillo T,Leon-Munoz LM,Graciani A,Rodriguez-Artalejo F,Guallar-Castillon P. Longitudinal association of physical activity and sedentary behavior during leisure time with health-related quality of life in community-dwelling older adults. Health and Quality of Life Outcomes. 2011. 9.	Study Design, Unhealthy Subjects
317	Balkau B,Mhamdi L,Oppert JM,Nolan J,Golay A,Porcellati F,Laakso M,Ferrannini E. Physical activity and insulin sensitivity the RISC study. Diabetes. 2008. 57:2613-2618.	Independent Variable
318	Bellisle F,Dalix AM,Slama G. Non food-related environmental stimuli induce increased meal intake in healthy women: comparison of television viewing versus listening to a recorded story in laboratory settings. Appetite. 2004. 43:175-80. PMID:CN-00560234.	Unhealthy Subjects, Age
319	Berk DR,Hubert HB,Fries JF. Associations of changes in exercise level with subsequent disability among seniors: A 16-year longitudinal study. Journals of Gerontology - Series A Biological Sciences and Medical Sciences. 2006. 61:97-102.	Independent Variable, Outcome
320	Biddle S. Sedentary behaviour and obesity: Does sitting make you fat?. Obesity Reviews. 2011. 12:17.	Sample Size
321	Bolognesi M,Nigg CR,Massarini M,Lippke S. Reducing obesity indicators through brief physical activity counseling (PACE) in Italian primary care settings. Annals of Behavioral Medicine. 2006. 31:179-185.	Independent Variable
322	Borodulin K,Makinen T,Fogelholm M,Lahti-Koski M,Prattala R. Trends and socioeconomic differences in overweight among physically active and inactive Finns in 1978-2002. Preventive Medicine. 2007. 45:157-162.	Study Design
323	Brandon LJ,Elliott-Lloyd MB. Walking, body composition, and blood pressure dose-response in African American and White women. Ethnicity and Disease. 2006. 16:675-681.	Study Design
324	Brown JE,Broom DH,Nicholson JM,Bittman M. Do working mothers raise couch potato kids? Maternal employment and children's lifestyle behaviours and weight in early childhood. Social Science and Medicine. 2010. 70:1816-1824.	Outcome

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
325	Buman M,Kurka J,Winkler E,Gardiner P,Hekler E,Healy G,Owen N,Baldwin C,Ainsworth B. Estimated replacement effects of accelerometer-derived physical activity and self-reported sleep duration on chronic disease biomarkers. Journal of Science and Medicine in Sport. 2012. 15:S76.	Study Design, Unhealthy Subjects
326	Buman MP,Winkler EAH,Kurka JM,Hekler EB,Baldwin CM,Owen N,Ainsworth BE,Healy GN,Gardiner PA. Reallocating time to sleep, sedentary behaviors, or active behaviors: Associations with cardiovascular disease risk biomarkers, NHANES 2005-2006. American Journal of Epidemiology. 2014. 179:323-334.	Study Design, Independent Variable
327	Burke L,Jancey J,Howat P,Lee A,Kerr D,Shilton T,Hills A,Anderson A. Physical activity results of a home-based physical activity and nutrition program for seniors (PANS). Journal of Science and Medicine in Sport. 2012. 15:S47-S48.	Independent Variable
328	Butte NF,Puyau MR,Adolph AL,Vohra FA,Zakeri I. Physical activity in nonoverweight and overweight hispanic children and adolescents. Medicine and Science in Sports and Exercise. 2007. 39:1257-1266.	Study Design, Outcome
329	Camoes M,Lopes C. Dietary intake and different types of physical activity: Full-day energy expenditure, occupational and leisure-time. Public Health Nutrition. 2008. 11:841-848.	Study Design, Independent Variable
330	Carlsson S,Andersson T,Wolk A,Ahlbom A. Low physical activity and mortality in women: Baseline lifestyle and health as alternative explanations. Scandinavian Journal of Public Health. 2006. 34:480-487.	Study Design, Age
331	Carr LJ,Karvinen K,Peavler M,Smith R,Cangelosi K. Multicomponent intervention to reduce daily sedentary time: A randomised controlled trial. BMJ Open. 2013. 3.	Unhealthy Subjects
332	Chai W,Nigg CR,Pagano IS,Motl RW,Horwath C,Dishman RK. Associations of quality of life with physical activity, fruit and vegetable consumption, and physical inactivity in a free living, multiethnic population in Hawaii: A longitudinal study. International Journal of Behavioral Nutrition and Physical Activity. 2010. 7.	Study Design
333	Chaput JP,Visby T,Nyby S,Klingenberg L,Gregersen NT,Tremblay A,Astrup A,Sjodin A. Video game playing increases food intake in adolescents: A randomized crossover study. American Journal of Clinical Nutrition. 2011. 93:1196-1203.	Study Design
334	Chau J,Grunseit A,Midjthell K,Holmen J,Holmen T,Bauman A,Van Der Ploeg H. Total sitting time, leisure screen time and cardiometabolic risk in adults. Cross-sectional analysis of the HUNT3 cohort, Norway. Journal of Science and Medicine in Sport. 2012. 15:S232.	Study Design
335	Chau JY,Grunseit A,Midthjell K,Holmen J,Holmen TL,Bauman AE,van der Ploeg HP. Cross-sectional associations of	Independent

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	total sitting and leisure screen time with cardiometabolic risk in adults. Results from the HUNT Study, Norway. Journal of Science and Medicine in Sport. 2014. 17:78-84.	Variable, Outcome
336	Chomitz VR,Prabhu SS,Thanikachalam S,Vijayakumar H,Chui KKH,Must A,Bermudez O,Thanikachalam M. Physical activity and sedentary behavior in South Indian adults: Urbanicity, gender, and obesity. FASEB Journal. 2013. 27.	Study Design
337	Christensen P,Bliddal H,Riecke BF,Leeds AR,Astrup A,Christensen R. Comparison of a low-energy diet and a very low-energy diet in sedentary obese individuals: A pragmatic randomized controlled trial. Clinical Obesity. 2011. 1:31-40.	Independent Variable
338	Christensen P,Frederiksen R,Bliddal H,Riecke BF,Bartels EM,Henriksen M,Juul-Sorensen T,Gudbergsen H,Winther K,Astrup A,Christensen R. Comparison of three weight maintenance programs on cardiovascular risk, bone and vitamins in sedentary older adults. Obesity. 2013. 21:1982-1990.	Study Design
339	Chu AHY,Moy FM. Joint Association of Sitting Time and Physical Activity with Metabolic Risk Factors among Middle-Aged Malays in a Developing Country: A Cross-Sectional Study. PLoS ONE. 2013. 8.	Study Design
340	Cichosz SL,Fleischer J,Hoeyem P,Laugesen E,Poulsen PL,Christiansen JS,Ejskjaer N,Hansen TK. Objective measurements of activity patterns in people with newly diagnosed Type 2 diabetes demonstrate a sedentary lifestyle. Diabetic Medicine. 2013. 30:1063-1066.	Study Design, Independent Variable
341	Clark M,Hampson SE,Avery L,Simpson R. Effects of a brief tailored intervention on the process and predictors of lifestyle behaviour change in patients with type 2 diabetes. Psychology, Health and Medicine. 2004. 9:440-449.	Study Design, Outcome
342	Clarke PJ,O'Malley PM,Johnston LD,Schulenberg JE,Lantz P. Differential trends in weight-related health behaviors among American young adults by gender, race/ethnicity, and socioeconomic status: 1984-2006. American Journal of Public Health. 2009. 99:1893-1901.	Study Design
343	Cleland VJ,Schmidt MD,Dwyer T,Venn AJ. Television viewing and abdominal obesity in young adults: Is the association mediated by food and beverage consumption during viewing time or reduced leisure-time physical activity?. American Journal of Clinical Nutrition. 2008. 87:1148-1155.	Study Design
344	Colchero MA,Sosa-Rubi SG. Heterogeneity of income and lifestyle determinants of body weight among adult women in Mexico, 2006. Social Science and Medicine. 2012. 75:120-128.	Outcome
345	Cooper AJM,Brage S,Ekelund U,Wareham NJ,Griffin SJ,Simmons RK. Association between objectively assessed sedentary time and physical activity with metabolic risk factors among people with recently diagnosed type 2	Outcome

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	diabetes. Diabetologia. 2014. 57:73-82.	
346	Cox KL,Burke V,Beilin LJ,Grove JR,Blanksby BA,Puddey IB. Blood pressure rise with swimming versus walking in older women: The Sedentary Women Exercise Adherence Trial 2 (SWEAT 2). Journal of Hypertension. 2006. 24:307-314.	Study Design
347	Cox KL,Burke V,Beilin LJ,Puddey IB. A comparison of the effects of swimming and walking on body weight, fat distribution, lipids, glucose, and insulin in older women-the Sedentary Women Exercise Adherence Trial 2. Metabolism: Clinical and Experimental. 2010. 59:1562-1573.	Study Design
348	Coyne KS,Sexton CC,Clemens JQ,Thompson CL,Chen CI,Bavendam T,Dmochowski R. The impact of OAB on physical activity in the United States: Results from OAB-POLL. Urology. 2013. 82:799-806.	Study Design
349	Craft LL,Zderic TW,Gapstur SM,VanIterson EH,Thomas DM,Siddique J,Hamilton MT. Evidence that women meeting physical activity guidelines do not sit less: An observational inclinometry study. International Journal of Behavioral Nutrition and Physical Activity. 2012. 9.	Study Design
350	Czernichow S,Bertrais S,Preziosi P,Galan P,Hercberg S,Oppert JM. Indicators of abdominal adiposity in middle-aged participants of the SU.VI.MAX study: Relationships with educational level, smoking status and physical inactivity. Diabetes and Metabolism. 2004. 30:153-159.	Outcome
351	Da Conceicao TV,Gomes FA,Tauil PL,Rosa TT. Blood pressure levels and their association with cardiovascular risk factors among employees of the University of Brasilia, a Brazilian public university. Arquivos Brasileiros de Cardiologia. 2006. 86:26-31.	Study Design, Outcome
352	Dechamps A,Gatta B,Bourdel-Marchasson I,Tabarin A,Roger P. Pilot study of a 10-week multidisciplinary tai chi intervention in sedentary obese women. Clinical Journal of Sport Medicine. 2009. 19:49-53.	Study Design
353	Ding D,Rogers K,Macniven R,Kamalesh V,Kritharides L,Chalmers J,Bauman A. Revisiting lifestyle risk index assessment in a large Australian sample: Should sedentary behavior and sleep be included as additional risk factors?. Preventive Medicine. 2014.	Independent Variable
354	Dinger MK,Heesch KC,Cipriani G,Qualls M. Comparison of two email-delivered, pedometer-based interventions to promote walking among insufficiently active women. Journal of Science and Medicine in Sport. 2007. 10:297-302.	Study Design
355	Duncan M,Vandelanotte C,Rashid M,Cutumisu N,Plotnikoff R. Individual, psychological and environmental correlates of office based occupational sitting in the 10,000 Steps cohort. Journal of Science and Medicine in	Age

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

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	Excluded Citations	Reason for Exclusion
	Sport. 2012. 15:S195.	
356	Dunstan DW,Kingwell BA,Larsen R,Healy GN,Cerin E,Hamilton MT,Shaw JE,Bertovic DA,Zimmet PZ,Salmon J,Owen N. Breaking up prolonged sitting reduces postprandial glucose and insulin responses. Diabetes Care. 2012. 35:976-983.	Study Design
357	Dunstan DW,Salmon J,Owen N,Armstrong T,Zimmet PZ,Welborn TA,Cameron AJ,Dwyer T,Jolley D,Shaw JE. Associations of TV viewing and physical activity with the metabolic syndrome in Australian adults. Diabetologia. 2005. 48:2254-2261.	Outcome
358	Duvigneaud N,Wijndaele K,Matton L,Deriemaeker P,Philippaerts R,Lefevre J,Thomis M,Duquet W. Socio-economic and lifestyle factors associated with overweight in Flemish adult men and women. BMC Public Health. 2007. 7.	Outcome
359	Eisenmann JC,Bartee RT,Smith DT,Welk GJ,Fu Q. Combined influence of physical activity and television viewing on the risk of overweight in US youth. International Journal of Obesity. 2008. 32:613-618.	Study Design
360	Elder CR,Gullion CM,Funk KL,Debar LL,Lindberg NM,Stevens VJ. Impact of sleep, screen time, depression and stress on weight change in the intensive weight loss phase of the LIFE study. International journal of obesity (2005). 2012. 36:86-92. PMID:CN-00814829.	Study Design
361	Evans RE,Fawole HO,Sheriff SA,Dall PM,Grant PM,Ryan CG. Point-of-choice prompts to reduce sitting time at work: A randomized trial. American Journal of Preventive Medicine. 2012. 43:293-297.	Study Design, Outcome
362	Evenson KR,Wen F. Prevalence and correlates of objectively measured physical activity and sedentary behavior among US pregnant women. Preventive Medicine. 2011. 53:39-43.	Outcome
363	Falbe J,Rosner B,Willett WC,Sonneville KR,Hu FB,Field AE. Adiposity and different types of screen time. Pediatrics. 2013. 132:e1497-e1505.	Study Design
364	Felber Dietrich D,Ackermann-Liebrich U,Schindler C,Barthelemy JC,Brandli O,Gold DR,Knopfli B,Probst-Hensch NM,Roche F,Tschopp JM,Eckardstein A,Gaspoz JM. Effect of physical activity on heart rate variability in normal weight, overweight and obese subjects: Results from the SAPALDIA study. European Journal of Applied Physiology. 2008. 104:557-565.	Study Design
365	Foley LS,Maddison R,Jiang Y,Olds T,Ridley K. It's not just the television: survey analysis of sedentary behaviour in New Zealand young people. International Journal of Behavioral Nutrition and Physical Activity. 2011. 8.	Study Design
366	Fontana L,Meyer TE,Klein S,Holloszy JO. Long-term low-calorie low-protein vegan diet and endurance exercise are	Study Design

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	associated with low cardiometabolic risk. Rejuvenation Research. 2007. 10:225-234.	
367	Ford ES,Schulze MB,Kroger J,Pischon T,Bergmann MM,Boeing H. Television watching and incident diabetes: Findings from the European Prospective Investigation into Cancer and Nutrition-Potsdam Study. Journal of Diabetes. 2010. 2:23-27.	Study Design
368	Gao X,Nelson ME,Tucker KL. Television viewing is associated with prevalence of metabolic syndrome in hispanic elders. Diabetes Care. 2007. 30:694-700.	Independent Variable
369	Garnier S,Gaubert I,Joffroy S,Auneau G,Mauriege P. Impact of brisk walking on perceived health evaluated by a novel short questionnaire in sedentary and moderately obese postmenopausal women. Menopause. 2013. 20:804-812.	Outcome
370	Gibson S,Lambert J,Neate D. Associations between weight status, physical activity, and consumption of biscuits, cakes and confectionery among young people in Britain. Nutrition Bulletin. 2004. 29:301-309.	Study Design
371	Goktepe AS,Yilmaz B,Alaca R,Mohur H,Gunduz S. Spirometric tests in paraplegic athletes and sedentary paraplegics. Journal of Rheumatology and Medical Rehabilitation. 2004. 15:257-261.	Study Design
372	Grujic V,Cvejin MM,Nikolic EA,Dragnic N,Jovanovic VM,Kvrgic S,Travar S. Association between obesity and socioeconomic factors and lifestyle. Vojnosanitetski Pregled. 2009. 66:705-710.	Study Design
373	Haheim LL,Wisloff TF,Holme I,Nafstad P. Metabolic syndrome predicts prostate cancer in a cohort of middle-aged Norwegian men followed for 27 years. American Journal of Epidemiology. 2006. 164:769-774.	Study Design
374	Hamer M,Stamatakis E. Screen-Based Sedentary Behavior, Physical Activity, and Muscle Strength in the English Longitudinal Study of Ageing. PLoS ONE. 2013. 8.	Study Design, Outcome
375	Harrington DM,Barreira TV,Staiano AE,Katzmarzyk PT. The descriptive epidemiology of sitting among US adults, NHANES 2009/2010. Journal of Science and Medicine in Sport. 2013.	Study Design, Outcome
376	Hassapidou M,Papadopoulou SK,Vlahavas G,Kapantais E,Kaklamanou D,Pagkalos I,Kaklamanou M,Tzotzas T. Association of physical activity and sedentary lifestyle patterns with obesity and cardiometabolic comorbidities in Greek adults: Data from the National epidemiological survey. Hormones. 2013. 12:265-274.	Age
377	Hawkes AL,Lynch BM,Owen N,Aitken JF. Lifestyle factors associated concurrently and prospectively with co-morbid cardiovascular disease in a population-based cohort of colorectal cancer survivors. European Journal of Cancer. 2011. 47:267-276.	Study Design, Outcome

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
378	Healy GN,Dunstan DW,Salmon J,Cerin E,Shaw JE,Zimmet PZ,Owen N. Breaks in sedentary time. Diabetes Care. 2008. 31:661-666.	Study Design, Outcome
379	Hebden L,Balestracci K,McGeechan K,Denney-Wilson E,Harris M,Bauman A,Allman-Farinelli M. 'TXT2BFiT' a mobile phone-based healthy lifestyle program for preventing unhealthy weight gain in young adults: Study protocol for a randomized controlled trial. Trials. 2013. 14.	Study Design, Unhealthy Subjects
380	Heinonen I,Helajarvi H,Pahkala K,Heinonen OJ,Hirvensalo M,Palve K,Tammelin T,Yang X,Juonala M,Mikkila V,Kahonen M,Lehtimaki T,Viikari J,Raitakari OT. Sedentary behaviours and obesity in adults: The cardiovascular risk in young finns study. BMJ Open. 2013. 3.	Outcome
381	Helajarvi H,Pahkala K,Heinonen O,Viikari J,Raitakari O. Sedentary behavior and vascular health. The cardiovascular risk in Young Finns study. Journal of Science and Medicine in Sport. 2012. 15:S73-S74.	Outcome
382	Helmerhorst HJF,Wijndaele K,Brage S,Wareham NJ,Ekelund U. Objectively measured sedentary time may predict insulin resistance independent of moderate- and vigorous-intensity physical activity. Diabetes. 2009. 58:1776-1779.	Outcome
383	Herring SJ,Nelson DB,Davey A,Klotz AA,Dibble LV,Oken E,Foster GD. Determinants of Excessive Gestational Weight Gain in Urban, Low-Income Women. Women's Health Issues. 2012. 22:e439-e446.	Study Design
384	Hildebrand JS,Gapstur SM,Campbell PT,Gaudet MM,Patel AV. Recreational physical activity and leisure-time sitting in relation to postmenopausal breast cancer risk. Cancer Epidemiology Biomarkers and Prevention. 2013. 22:1906-1912.	Outcome
385	Hillsdon MM,Brunner EJ,Guralnik JM,Marmot MG. Prospective study of physical activity and physical function in early old age. American Journal of Preventive Medicine. 2005. 28:245-250.	Study Design
386	Honda T,Narazaki K,Matsuo E,Nofuji Y,Yamashita S,Kishimoto H,Nagayoshi S,Kumagai S. Tri-axial accelerometer-derived sedentary time and its correlates among community-dwelling older adults in Japan. Journal of Science and Medicine in Sport. 2012. 15:S241-S242.	Outcome
387	Howard B,Sethi P,Winkler E,Ridgers N,Salmon J,Healy G,Hamilton M,Owen N,Dunstan D. Age and gender variations in light-intensity physical activity (LIPA) and relationships with sedentary time and MVPA in US adults. Journal of Science and Medicine in Sport. 2012. 15:S83.	Outcome
388	Hu G,Tuomilehto J,Silventoinen K,Barengo NC,Peltonen M,Jousilahti P. The effects of physical activity and body	Study Design,

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	mass index on cardiovascular, cancer and all-cause mortality among 47 212 middle-aged Finnish men and women. International Journal of Obesity. 2005. 29:894-902.	Outcome
389	Igelstrom H,Emtner M,Lindberg E,Asenlof P. Physical activity and sedentary time in persons with obstructive sleep apnea and overweight enrolled in a randomized controlled trial for enhanced physical activity and healthy eating. Sleep and Breathing. 2013. 17:1257-1266.	Study Design
390	Iqbal R,Rafique G,Badruddin S,Qureshi R,Cue R,Gray-Donald K. Increased body fat percentage and physical inactivity are independent predictors of gestational diabetes mellitus in South Asian women. European Journal of Clinical Nutrition. 2007. 61:736-742.	Study Design, Independent Variable, Outcome
391	Ishizaki M,Morikawa Y,Nakagawa H,Honda R,Kawakami N,Haratani T,Kobayashi F,Araki S,Yamada Y. The Influence of Work Characteristics on Body Mass Index and Waist to Hip Ratio in Japanese Employees. Industrial Health. 2004. 42:41-49.	Study Design, Outcome
392	Jenum AK,Anderssen SA,Birkeland KI,Holme I,Graff-Iversen S,Lorentzen C,Ommundsen Y,Raastad T,Odegaard AK,Bahr R. Promoting physical activity in a low-income multiethnic district: Effects of a community intervention study to reduce risk factors for type 2 diabetes and cardiovascular disease: A community intervention reducing inactivity. Diabetes Care. 2006. 29:1605-1612.	Study Design
393	Johnson KM,Nelson KM,Bradley KA. Television viewing practices and obesity among women veterans. Journal of General Internal Medicine. 2006. 21:S76-S81.	Study Design
394	Karelis AD,Fontaine J,Messier V,Messier L,Blanchard C,Rabasa-Lhoret R,Strychar I. Psychosocial correlates of cardiorespiratory fitness and muscle strength in overweight and obese post-menopausal women: A MONET study. Journal of Sports Sciences. 2008. 26:935-940.	Independent Variable, Outcome
395	Katzmarzyk PT,Lee IM. Sedentary behaviour and life expectancy in the USA: A cause-deleted life table analysis. BMJ Open. 2012. 2.	Study Design
396	Kaufman A,Augustson EM,Patrick H. Unraveling the relationship between smoking and weight: The role of sedentary behavior. Journal of Obesity. 2012. 2012.	Study Design
397	Kavouras SA,Panagiotakos DB,Pitsavos C,Chrysohoou C,Anastasiou CA,Lentzas Y,Stefanadis C. Physical activity, obesity status, and glycemic control: The ATTICA study. Medicine and Science in Sports and Exercise. 2007. 39:606-611.	Independent Variable, Outcome

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
398	Kettaneh A,Oppert JM,Heude B,Deschamps V,Borys JM,Lommez A,Ducimetiere P,Charles MA. Changes in physical activity explain paradoxical relationship between baseline physical activity and adiposity changes in adolescent girls: The FLVS II study. International Journal of Obesity. 2005. 29:586-593.	Outcome
399	Khalaf A,Ekblo O,Berggren V,Westergren A,Al-Hazzaa H. Determinants of physical activity (PA), sedentary behaviors, and BMI among female university students in South Western Saudi Arabia (KSA). Clinical Nutrition, Supplement. 2012. 7:263.	Outcome
400	Khalaf A,Ekblom O,Westergren A,Berggren V,Al-Hazzaa H. Prevalence and determinants of obesity and physical inactivity among female university students in South Western Saudi Arabia. Clinical Nutrition, Supplement. 2011. 6:100.	Age
401	Kieffer EC,Sinco B,Kim C. Health behaviors among women of reproductive age with and without a history of gestational diabetes mellitus. Diabetes Care. 2006. 29:1788-1793.	Study Design, Outcome
402	Kim D,Subramanian SV,Gortmaker SL,Kawachi I. US state- and county-level social capital in relation to obesity and physical inactivity: A multilevel, multivariable analysis. Social Science and Medicine. 2006. 63:1045-1059.	Independent Variable
403	Kim J,Tanabe K,Yokoyama N,Zempo H,Kuno S. Objectively measured light-intensity lifestyle activity and sedentary time are independently associated with metabolic syndrome: A cross-sectional study of Japanese adults. International Journal of Behavioral Nutrition and Physical Activity. 2013. 10.	Study Design
404	Kim Y,Wilkens LR,Park SY,Kolonel LN. Association between sitting-time and all-cause mortality in the multiethnic cohort study. American Journal of Epidemiology. 2011. 173:S117.	Study Design, Age
405	Koepp GA,Manohar CU,McCrady-Spitzer SK,Ben-Ner A,Hamann DJ,Runge CF,Levine JA. Treadmill desks: A 1-year prospective trial. Obesity. 2013. 21:705-711.	Study Design
406	Kouvonen A,Kivimaki M,Elovainio M,Pentti J,Linna A,Virtanen M,Vahtera J. Effort/reward imbalance and sedentary lifestyle: An observational study in a large occupational cohort. Occupational and Environmental Medicine. 2006. 63:422-427.	Independent Variable
407	Kumru S,Ozmerdivenli R,Aydin S,Yasar A,Kilic N,Parmaksiz C,Aydin S. Effects of regular physical exercise on serum leptin and androgen concentrations in young women. Journal of Men's Health and Gender. 2005. 2:218-222.	Outcome
408	Kyle UG,Zhang FF,Morabia A,Pichard C. Longitudinal study of body composition changes associated with weight change and physical activity. Nutrition. 2006. 22:1103-1111.	Study Design, Independent Variable

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
409	Lahjibi E,Heude B,Dekker JM,Hojlund K,Laville M,Nolan J,Oppert JM,Balkau B. Impact of objectively measured sedentary behaviour on changes in insulin resistance and secretion over 3years in the RISC study: Interaction with weight gain. Diabetes and Metabolism. 2013. 39:217-225.	Outcome, Unhealthy Subjects
410	Lakerveld J,Dunstan D,Bot S,Salmon J,Dekker J,Nijpels G,Owen N. Abdominal obesity, TV-viewing time and prospective declines in physical activity. Preventive Medicine. 2011. 53:299-302.	Study Design
411	Lam TK,Moore SC,Brinton LA,Smith L,Hollenbeck AR,Gierach GL,Freedman ND. Anthropometric Measures and Physical Activity and the Risk of Lung Cancer in Never-Smokers: A Prospective Cohort Study. PLoS ONE. 2013. 8.	Independent Variable
412	Larsen R,Kingwell B,Robinson C,Healy G,Sethi P,Cerin E,Owen N,Dunstan D. Breaking up prolonged sitting acutely reduces blood pressure in overweight/obese adults. Journal of Hypertension. 2012. 30:e52-e53.	Study Design, Independent Variable
413	Larsen R,Kingwell B,Robinson C,Healy G,Sethi P,Cerin E,Owen N,Dunstan D. The acute effect of 'breaking-up, prolonged sitting on cardiovascular risk factors in overweight/obese adults. Journal of Science and Medicine in Sport. 2012. 15:S232-S233.	Independent Variable, Outcome
414	Larsson I,Lissner L,Naslund I,Lindroos AK. Leisure and occupational physical activity in relation to body mass index in men and women. Scandinavian Journal of Nutrition/Naringsforskning. 2004. 48:165-172.	Independent Variable
415	Laska NM,Pasch KE,Lust K,Story M,Ehlinger E. The differential prevalence of obesity and related behaviors in two- vs. Four-year colleges. Obesity. 2011. 19:453-456.	Independent Variable, Age
416	Li CL,Lin JD,Lee SJ,Tseng RF. Associations between the metabolic syndrome and its components, watching television and physical activity. Public Health. 2007. 121:83-91.	Unhealthy Subjects
417	Lindgarde F,Widen I,Gebb M,Ahren B. Traditional versus agricultural lifestyle among Shuar women of the Ecuadorian Amazon: Effects on leptin levels. Metabolism: Clinical and Experimental. 2004. 53:1355-1358.	Country, Outcome
418	Longo-Mbenza B,Nkongo Mvindu H,Kasiam On'kin JB,Bikuku N,Kianu Phanzu B,Nge Okwe A,Kabangu N. The deleterious effects of physical inactivity on elements of insulin resistance and metabolic syndrome in Central Africans at high cardiovascular risk. Diabetes and Metabolic Syndrome: Clinical Research and Reviews. 2011. 5:1-6.	Outcome
419	Longo-Mbenza B,On'kin JBKL,Okwe AN,Kabangu NK,Fuele SM. Metabolic syndrome, aging, physical inactivity, and incidence of type 2 diabetes in general African population. Diabetes and Vascular Disease Research. 2010. 7:28-39.	Study Design
420	Magnus P,Trogstad L,Owe KM,Olsen SF,Nystad W. Recreational physical activity and the risk of preeclampsia: A prospective cohort of Norwegian women. American Journal of Epidemiology. 2008. 168:952-957.	Outcome, Age

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
421	Maher CA,Mire E,Harrington DM,Staiano AE,Katzmarzyk PT. The independent and combined associations of physical activity and sedentary behavior with obesity in adults: NHANES 2003-06. Obesity. 2013. 21:E730-E737.	Independent Variable, Outcome
422	Martin CK,Coulon SM,Markward N,Greenway FL,Anton SD. Association between energy intake and viewing television, distractibility, and memory for advertisements. The American journal of clinical nutrition. 2009. 89:37-44. PMID:CN-00667089.	Study Design, Independent Variable
423	Martin KR,Kuh D,Harris TB,Guralnik JM,Coggon D,Wills AK. BMI, occupational activity, and leisure-time physical activity: An exploration of risk factors and modifiers for knee osteoarthritis. Arthritis and Rheumatism. 2012. 64:S348.	Outcome
424	Martinez-Gomez D,Moreno LA,Romeo J,Rey-Lopez P,Castillo R,Cabero MJ,Vicente-Rodriguez G,Gutierrez A,Veiga OL,Marcos A. Combined influence of lifestyle risk factors on body fat in Spanish adolescents - The AVENA study. Obesity Facts. 2011. 4:105-111.	Independent Variable
425	Matozinhos FP,Gomes CS,Moreira AD,Mendes LL,Pessoa MC,Malta DC,Velasquez-Melendez G. Metabolic syndrome-association with physical inactivity in adults. Journal of Diabetes. 2013. 5:107.	Independent Variable
426	Matozinhos FP,Gomes CS,Moreira AD,Mendes LL,Pessoa MC,Velasquez-Melendez G,Malta DC. Physical inactivity and burden metabolic syndrome diseases in Brazilian adults. European Journal of Epidemiology. 2013. 28:S204.	Study Design
427	Menai M,Kesse-Guyot E,Charreire H,Galan P,Hercberg S,Fezeu L,Oppert JM. Changes in sedentary behaviors and physical activity in relation with the risk of metabolic syndrome: Longitudinal study in French adults. Obesity Facts. 2013. 6:31.	Unhealthy Subjects
428	Metsios GS,Stavropoulos-Kalinoglou A,Panoulas VF,Wilson M,Nevill AM,Koutedakis Y,Kitas GD. Association of physical inactivity with increased cardiovascular risk in patients with rheumatoid arthritis. European Journal of Cardiovascular Prevention and Rehabilitation. 2009. 16:188-194.	Independent Variable
429	Mitchell JA,Rodriguez D,Schmitz KH,Audrain-Mcgovern J. Greater screen time is associated with adolescent obesity: A longitudinal study of the BMI distribution from Ages 14 to 18. Obesity. 2013. 21:572-575.	Independent Variable
430	Moe B,Mork PJ,Holtermann A,Nilsen TIL. Occupational physical activity, metabolic syndrome and risk of death from all causes and cardiovascular disease in the HUNT 2 cohort study. Occupational and Environmental Medicine. 2013. 70:86-90.	Study Design
431	Moore LL,Bradlee ML,Singer MR,Splansky GL,Proctor MH,Ellison RC,Kreger BE. BMI and waist circumference as	Outcome

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	predictors of lifetime colon cancer risk in Framingham Study adults. International Journal of Obesity. 2004. 28:559-567.	
432	Moreno CRC,Louzada FM,Teixeira LR,Borges F,Lorenzi-Filho G. Short sleep is associated with obesity among truck drivers. Chronobiology International. 2006. 23:1295-1303.	Study Design, Outcome
433	Murff HJ. Potential benefits of a pedometer-based walking program in an inactive patient population. Journal of Clinical Outcomes Management. 2007. 14:238-244.	Independent Variable
434	Murtagh EM,Boreham CAG,Nevill A,Hare LG,Murphy MH. The effects of 60 minutes of brisk walking per week, accumulated in two different patterns, on cardiovascular risk. Preventive Medicine. 2005. 41:92-97.	Independent Variable, Outcome
435	Nelson MC,Neumark-Stzainer D,Hannan PJ,Sirard JR,Story M. Longitudinal and secular trends in physical activity and sedentary behavior during adolescence. Pediatrics. 2006. 118:e1627-e1634.	Study Design
436	Nielsen TL,Wraae K,Brixen K,Hermann AP,Andersen M,Hagen C. Prevalence of overweight, obesity and physical inactivity in 20- to 29-year-old, Danish men. Relation to sociodemography, physical dysfunction and low socioeconomic status: The Odense Androgen Study. International Journal of Obesity. 2006. 30:805-815.	Outcome
437	Nooyens ACJ,Visscher TLS,Jantine Schuit A,Van Rossum CTM,Monique Verschuren WM,Van Mechelen W,Seidell JC. Effects of retirement on lifestyle in relation to changes in weight and waist circumference in Dutch men: A prospective study. Public Health Nutrition. 2005. 8:1266-1274.	Study Design, Independent Variable
438	Nouri R,Moghadasi M,Moraveji F. Association between obesity and overweight with lifestyle status and physical fitness level in Shiraz adults. Iranian Journal of Endocrinology and Metabolism. 2012. 14.	Study Design, Independent Variable
439	Oken E,Ning Y,Rifas-Shiman SL,Radesky JS,Rich-Edwards JW,Gillman MW. Associations of physical activity and inactivity before and during pregnancy with glucose tolerance. Obstetrics and Gynecology. 2006. 108:1200-1207.	Unhealthy Subjects
440	Oken E,Taveras EM,Popoola FA,Rich-Edwards JW,Gillman MW. Television, Walking, and Diet. Associations with Postpartum Weight Retention. American Journal of Preventive Medicine. 2007. 32:305-311.	Study Design
441	Oppert JM,Kettaneh A,Borys JM,Basdevant A,Ducimetiere P,Charles MA. The relationships between indicators of physical activity, indicators of sedentary behaviour and adiposity in French adults: The FLVS II study. Journal of Public Health. 2006. 14:87-93.	Study Design
442	Otten JJ,Jones KE,Littenberg B,Harvey-Berino J. Effects of television viewing reduction on energy intake and expenditure in overweight and obese adults: a randomized controlled trial. Archives of internal medicine. 2009.	Independent Variable, Outcome

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	169:2109-15. PMID:CN-00732793.	
443	Ouyang P,Sung J,Kelemen MD,Hees PS,DeRegis JR,Turner KL,Bacher AC,Stewart KJ. Relationships of insulin sensitivity with fatness and fitness and in older men and women. Journal of Women's Health. 2004. 13:177-185.	Study Design
444	Oyeyemi A,Deforche B,Van Dyck D,Sallis J,De Bourdeaudhuij I. Physical activity and sitting time asmediators of the association between neighborhood environmental perceptions and weight status in African adults. Journal of Science and Medicine in Sport. 2012. 15:S102.	Study Design, Age
445	Paluch A,Shook R,Hurley T,Crowley E,Stephanie B,Hand G,Blair S. Correlates of objectively measured sedentary to light intensity activity among young adults. Journal of Science and Medicine in Sport. 2012. 15:S84.	Study Design
446	Panagiotakos DB,Pitsavos C,Lentzas Y,Skoumas Y,Papadimitriou L,Zeimbekis A,Stefanadis C. Determinants of Physical Inactivity Among Men and Women From Greece: A 5-Year Follow-Up of the ATTICA Study. Annals of Epidemiology. 2008. 18:387-394.	Independent Variable
447	Park S,Park H,Togo F,Watanabe E,Yasunaga A,Yoshiuchi K,Shephard RJ,Aoyagi Y. Year-long physical activity and metabolic syndrome in older Japanese adults: Cross-sectional data from the Nakanojo study. Journals of Gerontology - Series A Biological Sciences and Medical Sciences. 2008. 63:1119-1123.	Study Design, Independent Variable
448	Parkes KR. Physical activity and self-rated health: Interactive effects of activity in work and leisure domains. British Journal of Health Psychology. 2006. 11:533-550.	Study Design, Independent Variable
449	Parsons TJ,Power C,Manor O. Physical activity, television viewing and body mass index: A cross-sectional analysis from childhood to adulthood in the 1958 British cohort. International Journal of Obesity. 2005. 29:1212-1221.	Independent Variable
450	Pearson N,Biddle SJH. Sedentary behavior and dietary intake in children, adolescents, and adults: A systematic review. American Journal of Preventive Medicine. 2011. 41:178-188.	Outcome
451	Peeters GMEEG,Burton NW,Brown WJ. Associations between sitting time and a range of symptoms in mid-age women. Preventive Medicine. 2013. 56:135-141.	Study Design, Independent Variable
452	Proper KI,Cerin E,Brown WJ,Owen N. Sitting time and socio-economic differences in overweight and obesity. International Journal of Obesity. 2007. 31:169-176.	Independent Variable
453	Proper KI,Picavet HSJ,Bemelmans WJE,Verschuren WMM,Wendel-Vos GCW. Sitting behaviors and mental health among workers and nonworkers: The role of weight status. Journal of Obesity. 2012. 2012.	Study Design, Independent Variable
454	Qahoush R,Stotts N,Alawneh MS,Froelicher ES. Physical activity in Arab women in Southern California. European	Study Design

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	Journal of Cardiovascular Nursing. 2010. 9:263-271.	
455	Ramezankhany A,Ali PN,Hedayati M. Comparing effects of aerobics, pilates exercises and low calorie diet on leptin levels and lipid profiles in sedentary women. Iranian Journal of Basic Medical Sciences. 2011. 14:256-263.	Study Design
456	Raynor HA,Steeves EA,Bassett DR,Thompson DL,Gorin AA,Bond DS. Reducing TV watching during adult obesity treatment: Two pilot randomized controlled trials. Behavior Therapy. 2013. 44:674-685.	Study Design, Country
457	Reeves MM,Healy GN,Owen N,Shaw JE,Zimmet PZ,Dunstan DW. Joint associations of poor diet quality and prolonged television viewing time with abnormal glucose metabolism in Australian men and women. Preventive Medicine. 2013. 57:471-476.	Study Design
458	Rhew I,Yasui Y,Sorensen B,Ulrich CM,Neuhouser ML,Tworoger SS,Chubak J,Bowen DJ,McTiernan A. Effects of an exercise intervention on other health behaviors in overweight/obese post-menopausal women. Contemporary Clinical Trials. 2007. 28:472-481.	Study Design, Outcome
459	Rillamas-Sun E,LaCroix A,Hou L,Messina CR,Evenson K,Li W,Coday M,Thomson C,Daviglus M,Manini T,Stefanick M,Beresford S. Associations of physical activity and sedentary behavior with healthy survival, disease, disability, and death in older women. Circulation. 2013. 127.	Study Design
460	Robinson SM,Jameson KA,Syddall HE,Dennison EM,Cooper C,Aihie Sayer A. Clustering of lifestyle risk factors and poor physical function in older adults: The hertfordshire cohort study. Journal of the American Geriatrics Society. 2013. 61:1684-1691.	Study Design, Outcome
461	Rodriguez-Martin A,Novalbos Ruiz JP,Martinez Nieto JM,Escobar Jimenez L. Life-style factors associated with overweight and obesity among Spanish adults. Nutricion Hospitalaria. 2009. 24:144-151.	Independent Variable, Outcome
462	Rosenkranz R,Rosenkranz S,Duncan M,Kolt G. The influence of physical activity and sitting time on health and quality of life: Results from The 45 and Up Study. Journal of Science and Medicine in Sport. 2012. 15:S174.	Age
463	Ruiz JR,Segura-Jimenez V,Ortega FB,Alvarez-Gallardo IC,Camiletti-Moiron D,Aparicio VA,Carbonell-Baeza A,Femia P,Munguia-Izquierdo D,Delgado-Fernandez M. Objectively measured sedentary time and physical activity in women with fibromyalgia: A cross-sectional study. BMJ Open. 2013. 3.	Study Design, Independent Variable
464	Saidie M,Rabiei K,Kelishadi R,Sadeghi M. The association of leisure time physical activity, watching television, obesity lipid profile in an Iranian population. Pakistan Journal of Medical Sciences. 2005. 21:476-481.	Independent Variable
465	Saidj M,Jorgensen T,Jacobsen RK,Linneberg A,Aadahl M. Separate and Joint Associations of Occupational and	Outcome

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	Leisure-Time Sitting with Cardio-Metabolic Risk Factors in Working Adults: A Cross-Sectional Study. PLoS ONE. 2013. 8.	
466	Sasai H,Matsuo T,Fujita M,Saito M,Tanaka K. Effects of regular exercise combined with ingestion of vespa amino acid mixture on aerobic fitness and cardiovascular disease risk factors in sedentary older women: A preliminary study. Geriatrics and Gerontology International. 2011. 11:24-31.	Outcome
467	Saunders T,Chaput J,Goldfield G,Colley R,Kenny G,Doucet E,Tremblay M. Effects of prolonged sitting and physical activity on markers of cardiometabolic risk in healthy childrenandyouth:Apilot study. Journal of Science and Medicine in Sport. 2012. 15:S76.	Study Design, Outcome
468	Saunders TJ,Chaput JP,Goldfield GS,Colley RC,Kenny GP,Doucet E,Tremblay MS. Prolonged sitting and markers of cardiometabolic disease risk in children and youth: A randomized crossover study. Metabolism: Clinical and Experimental. 2013. 62:1423-1428. PMID:CN-00916182.	Independent Variable
469	Schnohr P,Lange P,Scharling H,Skov Jensen J. Long-term physical activity in leisure time and mortality from coronary heart disease, stroke, respiratory diseases, and cancer. The Copenhagen City Heart Study. European Journal of Cardiovascular Prevention and Rehabilitation. 2006. 13:173-179.	Study Design, Independent Variable
470	Schuna Jr JM,Johnson WD,Tudor-Locke C. Adult self-reported and objectively monitored physical activity and sedentary behavior: NHANES 2005-2006. International Journal of Behavioral Nutrition and Physical Activity. 2013. 10.	Independent Variable
471	Scully M,Dixon H,Wakefield M. Association between commercial television exposure and fast-food consumption among adults. Public Health Nutrition. 2009. 12:105-110.	Study Design, Independent Variable
472	Shuval K,Gabriel KP,Leonard T. TV Viewing and BMI by Race/Ethnicity and Socio-Economic Status. PLoS ONE. 2013. 8.	Independent Variable
473	Siervo M,Sabatini S,Fewtrell MS,Wells JCK. Acute effects of violent video-game playing on blood pressure and appetite perception in normal-weight young men: A randomized controlled trial. European Journal of Clinical Nutrition. 2013. 67:1322-1324.	Study Design
474	Singh RB,Pella D,Mechirova V,Kartikey K,Demeester F,Tomar RS,Beegom R,Mehta AS,Gupta SB,De AK,Neki NS,Haque M,Nayse J,Singh S,Thakur AS,Rastogi SS,Singh K,Krishna A. Prevalence of obesity, physical inactivity and undernutrition, a triple burden of diseases during transition in a developing economy. The five city study group.	Study Design, Independent Variable

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	Acta Cardiologica. 2007. 62:119-127.	
475	Slentz CA,Aiken LB,Houmard JA,Bales CW,Johnson JL,Tanner CJ,Duscha BD,Kraus WE. Inactivity, exercise, and visceral fat. STRRIDE: A randomized, controlled study of exercise intensity and amount. Journal of Applied Physiology. 2005. 99:1613-1618.	Independent Variable
476	Sluyter JD,Scragg RKR,Plank LD,Waqa GD,Fotu KF,Swinburn BA. Sizing the association between lifestyle behaviours and fatness in a large, heterogeneous sample of youth of multiple ethnicities from 4 countries. International Journal of Behavioral Nutrition and Physical Activity. 2013. 10.	Study Design
477	Spalding TW,Lyon LA,Steel DH,Hatfield BD. Aerobic exercise training and cardiovascular reactivity to psychological stress in sedentary young normotensive men and women. Psychophysiology. 2004. 41:552-62. PMID:CN-00559941.	Outcome
478	Speck RM,Schmitz KH. Energy expenditure comparison: A pilot study of standing instead of sitting at work for obesity prevention. Preventive Medicine. 2011. 52:283-284.	Study Design
479	Squillace C,Oliva ML,Alorda B,Belen L,Maffei L,Rossi ML,Torresani ME. Relationship between bone mineral density, height loss and lifestyle in adult women. Actualizaciones en Osteologia. 2013. 9:36-46.	Independent Variable, Outcome
480	Staiano AE,Harrington DM,Broyles ST,Gupta AK,Katzmarzyk PT. Television, adiposity, and cardiometabolic risk in children and adolescents. American Journal of Preventive Medicine. 2013. 44:40-47.	Study Design, Independent Variable
481	Steffen LM,Sinaiko AR,Zhou X,Moran A,Jacobs DR,Korenfeld Y,Dengel DR,Chow LS,Steinberger J. Relation of adiposity, television and screen time in offspring to their parents. BMC Pediatrics. 2013. 13.	Outcome
482	Strassnig M,Brar JS,Ganguli R. Health-related quality of life, adiposity, and sedentary behavior in patients with early schizophrenia: Preliminary study. Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy. 2012. 5:389-394.	Independent Variable
483	Sugiyama T,Ding D,Owen N. Sitting in cars for commuting and adults' weight gain over four years. Journal of Science and Medicine in Sport. 2012. 15:S72.	Study Design
484	Sugiyama T,Xie D,Graham-Maar RC,Inoue K,Kobayashi Y,Stettler N. Dietary and Lifestyle Factors Associated with Blood Pressure among U.S. Adolescents. Journal of Adolescent Health. 2007. 40:166-172.	Study Design
485	Sundquist K,Qvist J,Johansson SE,Sundquist J. Increasing trends of obesity in Sweden between 1996/97 and 2000/01. International Journal of Obesity. 2004. 28:254-261.	Independent Variable

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
486	Teras LR,Gapstur SM,Diver WR,Birmann BM,Patel AV. Recreational physical activity, leisure sitting time and risk of non-Hodgkin lymphoid neoplasms in the American Cancer Society Cancer Prevention Study II Cohort. International Journal of Cancer. 2012. 131:1912-1920.	Study Design
487	Thomson M,Spence JC,Raine K,Laing L. The association of television viewing with snacking behavior and body weight of young adults. American Journal of Health Promotion. 2008. 22:329-335.	Independent Variable, Outcome
488	Thorp A,McNaughton S,Owen N,Dunstan D. Joint associations of TV viewing time and snacking behaviour and the metabolic syndrome in Australian adults. Journal of Science and Medicine in Sport. 2012. 15:S199.	Independent Variable
489	Thorp AA,McNaughton SA,Owen N,Dunstan DW. Independent and joint associations of TV viewing time and snack food consumption with the metabolic syndrome and its components; a cross-sectional study in Australian adults. International Journal of Behavioral Nutrition and Physical Activity. 2013. 10:1-11.	Age
490	Tucker LA,Tucker JM. Television viewing and obesity in 300 women: Evaluation of the pathways of energy intake and physical activity. Obesity. 2011. 19:1950-1956.	Independent Variable
491	Uemura H,Katsuura-Kamano S,Yamaguchi M,Nakamoto M,Hiyoshi M,Arisawa K. Abundant daily non-sedentary activity is associated with reduced prevalence ofmetabolic syndrome and insulin resistance. Journal of Endocrinological Investigation. 2013. 36:1069-1075.	Independent Variable, Outcome
492	Uijtdewilligen L,Twisk JWR,Singh AS,Chinapaw MJM,van Mechelen W,Brown WJ. Biological, socio-demographic, work and lifestyle determinants of sitting in young adult women: A prospective cohort study. International Journal of Behavioral Nutrition and Physical Activity. 2014. 7.	Study Design, Unhealthy Subjects
493	Van Der Ploeg H,Chey T,Korda R,Banks E,Bauman A. Sitting time and all cause mortality risk in 222,497 Australian adults. Journal of Science and Medicine in Sport. 2012. 15:S28.	Study Design, Independent Variable
494	Veldhuis L,Vogel I,van Rossem L,Renders CM,HiraSing RA,Mackenbach JP,Raat H. Influence of maternal and child lifestyle-related characteristics on the socioeconomic inequality in overweight and obesity among 5-year-old children; the "Be active, eat right" study. International Journal of Environmental Research and Public Health. 2013. 10:2236-2247.	Independent Variable, Age
495	Velthuis MJ,Schuit AJ,Peeters PHM,Monninkhof EM. Exercise program affects body composition but not weight in postmenopausal women. Menopause. 2009. 16:777-784.	Independent Variable, Outcome
496	Vicente-Rodriguez G,Ortega FB,Rey-Lopez JP,Espana-Romero V,Blay VA,Blay G,Martin-Matillas M,Moreno LA.	Study Design

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	Extracurricular physical activity participation modifies the association between high TV watching and low bone mass. Bone. 2009. 45:925-930.	
497	Waden J,Tikkanen H,Forsblom C,Fagerudd J,Pettersson-Fernholm K,Lakka T,Riska M,Groop PH. Leisure time physical activity is associated with poor glycemic control in type 1 diabetic women: The FinnDiane study. Diabetes Care. 2005. 28:777-782.	Unhealthy Subjects
498	Wallman K,Plant LA,Rakimov B,Maiorana AJ. The effects of two modes of exercise on aerobic fitness and fat mass in an overweight Population. Research in Sports Medicine. 2009. 17:156-170.	Independent Variable
499	Wan Nudri WD,Wan Abdul Manan WM,Mohamed Rusli A. Body mass index and body fat status of men involved in sports, exercise, and sedentary activites. Malaysian Journal of Medical Sciences. 2009. 16:22-27.	Independent Variable
500	Wang D,Zheng W,Wang SM,Wang JB,Wei WQ,Liang H,Qiao YL,Boffetta P. Estimation of cancer incidence and mortality attributable to overweight, obesity, and physical inactivity in China. Nutrition and Cancer. 2012. 64:48-56.	Independent Variable
501	Wijndaele K,Brage S,Besson H,Khaw KT,Sharp SJ,Luben R,Bhaniani A,Wareham NJ,Ekelund U. Television viewing and incident cardiovascular disease: Prospective associations and mediation analysis in the EPIC norfolk study. PLoS ONE. 2011. 6.	Study Design
502	Wijndaele K,Brage S,Besson H,Khaw KT,Sharp SJ,Luben R,Wareham NJ,Ekelund U. Television viewing time independently predicts all-cause and cardiovascular mortality: The EPIC Norfolk study. International Journal of Epidemiology. 2011. 40:150-159.	Independent Variable, Outcome
503	Wijndaele K,Brage S,Simons R,Sharp S,Griffin S,Wareham N,Ekelund U. Sedentary behaviour, moderate-to-vigorous physical activity and insulin resistance: A seven-year prospective study (ProActive). Journal of Science and Medicine in Sport. 2012. 15:S201.	Study Design, Independent Variable
504	Wisse W,Rookhuizen MB,de Kruif MD,van Rossum J,Jordans I,ten Cate H,van Loon LJC,Meesters EW. Prescription of physical activity is not sufficient to change sedentary behavior and improve glycemic control in type 2 diabetes patients. Diabetes Research and Clinical Practice. 2010. 88:e10-e13.	Study Design
505	Womack VY,Puterman E,Van Horn L,Siddique J,Loucks EB,Sternfeld B,Carnethon M. Association of discriminatory experiences on sedentary behaviors: The coronary artery risk development in young adults study (CARDIA). Circulation. 2013. 127.	Study Design

Excluded Articles: Sedentary Behaviors & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
506	Xiao Q,Arem H,Moore SC,Hollenbeck AR,Matthews CE. A large prospective investigation of sleep duration,weight change, and obesity in the NIH-AARP diet and health study cohort. American Journal of Epidemiology. 2013. 178:1600-1610.	Independent Variable
507	Xiao Q,Yang HP,Wentzensen N,Hollenbeck A,Matthews CE. Physical activity in different periods of life, sedentary behavior, and the risk of ovarian cancer in the NIH-AARP diet and health study. Cancer Epidemiology Biomarkers and Prevention. 2013. 22:2000-2008.	Independent Variable
508	Xu F,Li J,Ware RS,Owen N. Associations of television viewing time with excess body weight among urban and rural high-school students in regional mainland China. Public Health Nutrition. 2008. 11:891-896.	Sample Size
509	Yancey AK,McCarthy WJ,Taylor WC,Merlo A,Gewa C,Weber MD,Fielding JE. The Los Angeles Lift Off: A sociocultural environmental change intervention to integrate physical activity into the workplace. Preventive Medicine. 2004. 38:848-856.	Age
510	Young DR,Reynolds K,Sidell MA,Brar SS,Ghai NR,Sternfeld B,Jacobsen SJ,Slezak J,Caan BJ,Quinn VP. Effects of physical activity and sedentary behaviors on risk of heart failure. Circulation. 2013. 127.	Independent Variable

APPENDIX E: SELF-MONITORING – EXCLUDED ARTICLES LIST

Archived from www.NEL.gov on March 21, 2017

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
1	McGrane D,Fisher M. Struck by ACCORD. Practical Diabetes International. 2008. 25:127-129.	Study Design, Unhealthy Subjects
2	Steinberg DM,Tate DF,Bennett GG,Ennett S,Samuel-Hodge C,Ward DS. Daily self-weighing and adverse psychological outcomes: a randomized controlled trial. Am J Prev Med. 2014. 46:24-9. PMID:24355668.	Outcome, Duplicate
3	Wing RR,Tate DF,Gorin AA,Raynor HA,Fava JL,Machan J. STOP regain: are there negative effects of daily weighing?. J Consult Clin Psychol. 2007. 75:652-6. PMID:17663619.	Outcome
4	Cheskin LJ. A personalised intervention reduced weight regain in overweight and obese adults who had recently lost weight: Commentary. Evidence-Based Medicine. 2008. 13:109.	Independent Variable
5	Christian JG,Byers TE,Christian KK,Goldstein MG,Bock BC,Prioreschi B,Bessesen DH. A computer support program that helps clinicians provide patients with metabolic syndrome tailored counseling to promote weight loss. J Am Diet Assoc. 2011. 111:75-83. PMID:21185968.	Independent Variable
6	Linde JA,Jeffery RW. Testing a brief self-directed behavioral weight control program. Behav Med. 2011. 37:47-53. PMID:21660772.	Independent Variable
7	Schroder KE. Computer-assisted dieting: effects of a randomized nutrition intervention. Am J Health Behav. 2011. 35:175-88. PMID:21204680.	Independent Variable, Sample Size
8	Webber KH,Tate DF,Ward DS,Bowling JM. Motivation and its relationship to adherence to self-monitoring and weight loss in a 16-week Internet behavioral weight loss intervention. J Nutr Educ Behav. 2010. 42:161-7. PMID:20138583.	Independent Variable
9	Williamson DA,Anton SD,Han H,Champagne CM,Allen R,Leblanc E,Ryan DH,Rood J,McManus K,Laranjo N,Carey VJ,Loria CM,Bray GA,Sacks FM. Early behavioral adherence predicts short and long-term weight loss in the POUNDS LOST study. J Behav Med. 2010. 33:305-14. PMID:20195742.	Independent Variable

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
10	Phelan S,Phipps MG,Abrams B,Darroch F,Grantham K,Schaffner A,Wing RR. Does behavioral intervention in pregnancy reduce postpartum weight retention? Twelve-month outcomes of the Fit for Delivery randomized trial1-3. American Journal of Clinical Nutrition. 2014. 99:302-311.	Independent Variable
11	Akers JD,Cornett RA,Savla JS,Davy KP,Davy BM. Daily self-monitoring of body weight, step count, fruit/vegetable intake, and water consumption: a feasible and effective long-term weight loss maintenance approach. J Acad Nutr Diet. 2012. 112:685-692.e2. PMID:22709772.	Study Design, Sample Size
12	Alm ME,Neumark-Sztainer D,Story M,Boutelle KN. Self-Weighing and Weight Control Behaviors Among Adolescents with a History of Overweight. Journal of Adolescent Health. 2009. 44:424-430.	Study Design
13	Ames GE,Patel RH,McMullen JS,Thomas CS,Crook JE,Lynch SA,Lutes LD. Improving maintenance of lost weight following a commercial liquid meal replacement program: A preliminary study. Eating Behaviors. 2014. 15:95-98.	Study Design, Attrition
14	Bauer S,de Niet J,Timman R,Kordy H. Enhancement of care through self-monitoring and tailored feedback via text messaging and their use in the treatment of childhood overweight. Patient Educ Couns. 2010. 79:315-9. PMID:20418046.	Study Design
15	Burke LE,Sereika SM,Music E,Warziski M,Styn MA,Stone A. Using instrumented paper diaries to document self-monitoring patterns in weight loss. Contemp Clin Trials. 2008. 29:182-93. PMID:17702667.	Study Design, Sample Size
16	Hollis JF,Gullion CM,Stevens VJ,Brantley PJ,Appel LJ,Ard JD,Champagne CM,Dalcin A,Erlinger TP,Funk K,Laferriere D,Lin PH,Loria CM,Samuel-Hodge C,Vollmer WM,Svetkey LP. Weight loss during the intensive intervention phase of the weight-loss maintenance trial. Am J Prev Med. 2008. 35:118-26. PMID:18617080.	Study Design
17	Welsh EM,Sherwood NE,VanWormer JJ,Hotop AM,Jeffery RW. Is frequent self-weighing associated with poorer body satisfaction? Findings from a phone-based weight loss trial. J Nutr Educ Behav. 2009. 41:425-8. PMID:19879499.	Study Design
18	Yon BA,Johnson RK,Harvey-Berino J,Gold BC,Howard AB. Personal digital assistants are comparable to traditional diaries for dietary self-monitoring during a weight loss program. Journal of Behavioral Medicine. 2007. 30:165-175.	Study Design

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
19	Acharya SD,Elci OU,Sereika SM,Styn MA,Burke LE. Using a personal digital assistant for self-monitoring influences diet quality in comparison to a standard paper record among overweight/obese adults. J Am Diet Assoc. 2011. 111:583-8. PMID:21443993.	Duplicate
20	Alert MD,Rastegar S,Foret M,Slipp L,Jacquart J,Macklin E,Baim M,Fricchione G,Benson H,Denninger J,Yeung A. The effectiveness of a comprehensive mind body weight loss intervention for overweight and obese adults: a pilot study. Complement Ther Med. 2013. 21:286-93. PMID:23876558.	Study Design, Independent Variable
21	Allen JK,Stephens J,Dennison Himmelfarb CR,Stewart KJ,Hauck S. Randomized controlled pilot study testing use of smartphone technology for obesity treatment. J Obes. 2013. 2013:151597. PMID:24392223.	Sample Size
22	Ambeba EJ,Ye L,Sereika SM,Styn MA,Acharya SD,Sevick MA,Ewing LJ,Conroy MB,Glanz K,Zheng Y,Goode RW,Mattos M,Burke LE. The Use of mHealth to Deliver Tailored Messages Reduces Reported Energy and Fat Intake. J Cardiovasc Nurs. 2014. PMID:24434827.	Study Design, Outcome
23	Anderson AS,Craigie AM,Caswell S,Treweek S,Stead M,Macleod M,Daly F,Belch J,Rodger J,Kirk A,Ludbrook A,Rauchhaus P,Norwood P,Thompson J,Wardle J,Steele RJ. The impact of a bodyweight and physical activity intervention (BeWEL) initiated through a national colorectal cancer screening programme: randomised controlled trial. Bmj. 2014. 348:g1823. PMID:24609919.	Independent Variable
24	Anderson LM,Symoniak ED,Epstein LH. A Randomized Pilot Trial of an Integrated School-Worksite Weight Control Program. Health Psychol. 2013. PMID:23895201.	Independent Variable
25	Andrade AM,Coutinho SR,Silva MN,Mata J,Vieira PN,Minderico CS,Melanson KJ,Baptista F,Sardinha LB,Teixeira PJ. The effect of physical activity on weight loss is mediated by eating self-regulation. Patient Educ Couns. 2010. 79:320-6. PMID:20149955.	Independent Variable
26	Annesi J. Effects of treatment differences on psychosocial predictors of exercise and improved eating in obese, middle-age adults. J Phys Act Health. 2013. 10:1024-31. PMID:23132819.	Independent Variable
27	Annesi JJ. Relations of changes in self-regulatory efficacy and physical self-concept with improvements in body satisfaction in obese women initiating exercise with cognitive-behavioral support. Body Image. 2010. 7:356-9. PMID:20541986.	Independent Variable

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
28	Annesi JJ. Dose-response and self-efficacy effects of an exercise program on vigor change in obese women. American Journal of the Medical Sciences. 2010. 339:127-132.	Independent Variable
29	Annesi JJ. Self-regulatory skills usage strengthens the relations of self-efficacy for improved eating, exercise, and weight in the severely obese: toward an explanatory model. Behav Med. 2011. 37:71-6. PMID:21895423.	Independent Variable, Outcome
30	Annesi JJ. Relationship of initial self-regulatory ability with changes in self-regulation and associated fruit and vegetable consumption in severely obese women initiating an exercise and nutrition treatment: moderation of mood and self-efficacy. J Sports Sci Med. 2011. 10:643-8. PMID:24149553.	Independent Variable
31	Annesi JJ. Supported exercise improves controlled eating and weight through its effects on psychosocial factors: extending a systematic research program toward treatment development. Perm J. 2012. 16:7-18. PMID:22529754.	Independent Variable
32	Annesi JJ,Gorjala S. Relationship of exercise program participation with weight loss in adults with severe obesity: assessing psychologically based mediators. South Med J. 2010. 103:1119-23. PMID:20890247.	Study Design, Independent Variable
33	Annesi JJ,Mareno N. Temporal aspects of psychosocial predictors of increased fruit and vegetable intake in adults with severe obesity: mediation by physical activity. J Community Health. 2014. 39:454-63. PMID:24481711.	Independent Variable
34	Annesi JJ,Porter KJ. Reciprocal effects of treatment-induced increases in exercise and improved eating, and their psychosocial correlates, in obese adults seeking weight loss: a field-based trial. Int J Behav Nutr Phys Act. 2013. 10:133. PMID:24308572.	Independent Variable
35	Annesi JJ,Smith AE,Tennant GA. Reducing high BMI in African American preschoolers: effects of a behavior-based physical activity intervention on caloric expenditure. South Med J. 2013. 106:456-9. PMID:23912139.	Independent Variable
36	Annesi JJ,Smith AE,Tennant GA. Effects of the Start For Life treatment on physical activity in primarily African American preschool children of ages 3-5 years. Psychol Health Med. 2013. 18:300-9. PMID:22882084.	Outcome
37	Annesi JJ,Tennant GA. Exercise program-induced mood improvement and improved eating in severely obese adults. Int Q Community Health Educ. 2012. 33:391-402. PMID:24044929.	Independent Variable, Outcome
38	Annesi JJ,Tennant GA. Mediation of social cognitive theory variables in the relationship of exercise and improved eating in sedentary adults with severe obesity. Psychol Health Med. 2013. 18:714-24. PMID:23387320.	Independent Variable

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
39	Annesi JJ,Unruh JL. Relations of exercise, self-appraisal, mood changes and weight loss in obese women: testing propositions based on Baker and Brownell's (2000) model. Am J Med Sci. 2008. 335:198-204. PMID:18344693.	Independent Variable
40	Annesi JJ,Whitaker AC. Psychological factors discriminating between successful and unsuccessful weight loss in a behavioral exercise and nutrition education treatment. Int J Behav Med. 2010. 17:168-75. PMID:19653103.	Study Design, Independent Variable
41	Anton SD,LeBlanc E,Allen HR,Karabetian C,Sacks F,Bray G,Williamson DA. Use of a computerized tracking system to monitor and provide feedback on dietary goals for calorie-restricted diets: the POUNDS LOST study. J Diabetes Sci Technol. 2012. 6:1216-25. PMID:23063049.	Attrition
42	Ash S,Reeves M,Bauer J,Dover T,Vivanti A,Leong C,O'Moore Sullivan T,Capra S. A randomised control trial comparing lifestyle groups, individual counselling and written information in the management of weight and health outcomes over 12 months. Int J Obes (Lond). 2006. 30:1557-64. PMID:16534529.	Independent Variable
43	Au-Yeung KY,Moon GD,Robertson TL,DiCarlo LA,Epstein MS,Weis SE,Reves RR,Engel G. Early clinical experience with networked system for promoting patient self-management. American Journal of Managed Care. 2011. 17:e277-e287.	Study Design, Outcome
44	Bacon L,Stern JS,Van Loan MD,Keim NL. Size acceptance and intuitive eating improve health for obese, female chronic dieters. J Am Diet Assoc. 2005. 105:929-36. PMID:15942543.	Independent Variable
45	Barnes AS,Kimbro RT. Descriptive study of educated African American women successful at weight-loss maintenance through lifestyle changes. J Gen Intern Med. 2012. 27:1272-9. PMID:22539067.	Study Design
46	Barry VW,McClain AC,Shuger S,Sui X,Hardin JW,Hand GA,Wilcox S,Blair SN. Using a technology-based intervention to promote weight loss in sedentary overweight or obese adults: a randomized controlled trial study design. Diabetes Metab Syndr Obes. 2011. 4:67-77. PMID:21448324.	Independent Variable
47	Batch BC,Tyson C,Bagwell J,Corsino L,Intille S,Lin PH,Lazenka T,Bennett G,Bosworth HB,Voils C,Grambow S,Sutton A,Bordogna R,Pangborn M,Schwager J,Pilewski K,Caccia C,Burroughs J,Svetkey LP. Weight loss intervention for young adults using mobile technology: design and rationale of a randomized controlled trial - Cell Phone Intervention for You (CITY). Contemp Clin Trials. 2014. 37:333-41. PMID:24462568.	Study Design

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
48	Bathrellou E,Yannakoulia M,Papanikolaou K,Pehlivanidis A,Pervanidou P,Kanaka-Gantenbein C,Tokou I,Tsiantis J,Chrousos GP,Sidossis LS. Parental involvement does not augment the effectiveness of an intense behavioral program for the treatment of childhood obesity. Hormones (Athens). 2010. 9:171-5. PMID:20687401.	Independent Variable
49	Bennett GG,Foley P,Levine E,Whiteley J,Askew S,Steinberg DM,Batch B,Greaney ML,Miranda H,Wroth TH,Holder MG,Emmons KM,Puleo E. Behavioral treatment for weight gain prevention among black women in primary care practice: a randomized clinical trial. JAMA Intern Med. 2013. 173:1770-7. PMID:23979005.	Independent Variable
50	Bennett GG,Warner ET,Glasgow RE,Askew S,Goldman J,Ritzwoller DP,Emmons KM,Rosner BA,Colditz GA. Obesity treatment for socioeconomically disadvantaged patients in primary care practice. Arch Intern Med. 2012. 172:565-74. PMID:22412073.	Independent Variable, Unhealthy Subjects
51	Bergh IH,Bjelland M,Grydeland M,Lien N,Andersen LF,Klepp KI,Anderssen SA,Ommundsen Y. Mid-way and post-intervention effects on potential determinants of physical activity and sedentary behavior, results of the HEIA study - a multi-component school-based randomized trial. Int J Behav Nutr Phys Act. 2012. 9:63. PMID:22643014.	Independent Variable
52	Bergh IH,van Stralen MM,Bjelland M,Grydeland M,Lien N,Klepp KI,Anderssen SA,Ommundsen Y. Post-intervention effects on screen behaviours and mediating effect of parental regulation: the HEalth In Adolescents study--a multi-component school-based randomized controlled trial. BMC Public Health. 2014. 14:200. PMID:24568125.	Independent Variable
53	Berkel LA,Poston WSC,Reeves RS,Foreyt JP. Behavioral interventions for obesity. Journal of the American Dietetic Association. 2005. 105:S35-S43.	Study Design
54	Berry DC,Schwartz TA,McMurray RG,Skelly AH,Neal M,Hall EG,Aimyong N,Amatuli DJ,Melkus G. The family partners for health study: a cluster randomized controlled trial for child and parent weight management. Nutr Diabetes. 2014. 4:e101. PMID:24418827.	Independent Variable
55	Binks M,van Mierlo T. Utilization patterns and user characteristics of an ad libitum Internet weight loss program. J Med Internet Res. 2010. 12:e9. PMID:20350926.	Independent Variable
56	Blanson Henkemans OA,van der Boog PJ,Lindenberg J,van der Mast CA,Neerincx MA,Zwetsloot-Schonk BJ. An online lifestyle diary with a persuasive computer assistant providing feedback on self-management. Technol Health Care. 2009. 17:253-67. PMID:19641261.	Study Design
57	Bleich SN,Huizinga MM,Beach MC,Cooper LA. Patient use of weight-management activities: a comparison of patient and physician assessments. Patient Educ Couns. 2010. 79:344-50. PMID:20193998.	Study Design, Independent

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
		Variable
58	Boutelle KN,Libbey H,Neumark-Sztainer D,Story M. Weight Control Strategies of Overweight Adolescents Who Successfully Lost Weight. Journal of the American Dietetic Association. 2009. 109:2029-2035.	Study Design
59	Boutelle KN,Norman GJ,Rock CL,Rhee KE,Crow SJ. Guided self-help for the treatment of pediatric obesity. Pediatrics. 2013. 131:e1435-42. PMID:23545372.	Independent Variable
60	Bradshaw AJ,Horwath CC,Katzer L,Gray A. Non-dieting group interventions for overweight and obese women: what predicts non-completion and does completion improve outcomes?. Public Health Nutr. 2010. 13:1622-8. PMID:20025832.	Independent Variable
61	Burke LE,Conroy MB,Sereika SM,Elci OU,Styn MA,Acharya SD,Sevick MA,Ewing LJ,Glanz K. The effect of electronic self-monitoring on weight loss and dietary intake: a randomized behavioral weight loss trial. Obesity (Silver Spring). 2011. 19:338-44. PMID:20847736.	Duplicate
62	Burke LE,Sereika S,Choo J,Warziski M,Music E,Styn M,Novak J,Stone A. Ancillary study to the PREFER trial: a descriptive study of participants' patterns of self-monitoring--rationale, design and preliminary experiences. Contemp Clin Trials. 2006. 27:23-33. PMID:16311076.	Sample Size
63	Burke LE,Sereika S,Choo J,Warziski M,Music E,Styn M,Novak J,Stone A. Ancillary study to the PREFER trial: A descriptive study of participants' patterns of self-monitoring - Rationale, design and preliminary experiences. Contemporary Clinical Trials. 2006. 27:23-33.	Sample Size
64	Burke LE,Styn MA,Glanz K,Ewing LJ,Elci OU,Conroy MB,Sereika SM,Acharya SD,Music E,Keating AL,Sevick MA. SMART trial: A randomized clinical trial of self-monitoring in behavioral weight management-design and baseline findings. Contemp Clin Trials. 2009. 30:540-51. PMID:19665588.	Duplicate
65	Burke LE,Swigart V,Warziski Turk M,Derro N,Ewing LJ. Experiences of self-monitoring: successes and struggles during treatment for weight loss. Qual Health Res. 2009. 19:815-28. PMID:19365099.	Study Design
66	Byrne NM,Meerkin JD,Laukkanen R,Ross R,Fogelholm M,Hills AP. Weight loss strategies for obese adults: personalized weight management program vs. standard care. Obesity (Silver Spring, Md.). 2006. 14:1777-1788.	Sample Size
67	Cadmus-Bertram L,Wang JB,Patterson RE,Newman VA,Parker BA,Pierce JP. Web-based self-monitoring for weight loss among overweight/obese women at increased risk for breast cancer: the HELP pilot study. Psychooncology. 2013. 22:1821-8. PMID:23188655.	Sample Size

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
68	Carels RA,Darby LA,Rydin S,Douglass OM,Cacciapaglia HM,O'Brien WH. The relationship between self-monitoring, outcome expectancies, difficulties with eating and exercise, and physical activity and weight loss treatment outcomes. Ann Behav Med. 2005. 30:182-90. PMID:16336069.	Study Design, Independent Variable
69	Carels RA,Hoffmann DA,Hinman N,Burmeister JM,Koball A,Ashrafioun L,Oehlhof MW,Bannon E,Leroy M,Darby L. Step-down approach to behavioural weight loss treatment: a pilot of a randomised clinical trial. Psychol Health. 2013. 28:1121-34. PMID:23607537.	Independent Variable
70	Carels RA,Wott CB,Young KM,Gumble A,Darby LA,Oehlhof MW,Harper J,Koball A. Successful weight loss with self-help: A stepped-care approach. Journal of Behavioral Medicine. 2009. 32:503-509.	Study Design, Independent Variable
71	Carels RA,Young KM,Coit C,Clayton AM,Spencer A,Hobbs M. Can following the caloric restriction recommendations from the Dietary Guidelines for Americans help individuals lose weight?. Eat Behav. 2008. 9:328-35. PMID:18549992.	Study Design, Independent Variable
72	Carraca EV,Silva MN,Coutinho SR,Vieira PN,Minderico CS,Sardinha LB,Teixeira PJ. The association between physical activity and eating self-regulation in overweight and obese women. Obesity Facts. 2013. 6:493-506.	Independent Variable
73	Carraca EV,Silva MN,Markland D,Vieira PN,Minderico CS,Sardinha LB,Teixeira PJ. Body image change and improved eating self-regulation in a weight management intervention in women. Int J Behav Nutr Phys Act. 2011. 8:75. PMID:21767360.	Study Design, Independent Variable
74	Carter MC,Burley VJ,Nykjaer C,Cade JE. Adherence to a smartphone application for weight loss compared to website and paper diary: pilot randomized controlled trial. J Med Internet Res. 2013. 15:e32. PMID:23587561.	Attrition
75	Chambliss HO,Huber RC,Finley CE,McDoniel SO,Kitzman-Ulrich H,Wilkinson WJ. Computerized self-monitoring and technology-assisted feedback for weight loss with and without an enhanced behavioral component. Patient Educ Couns. 2011. 85:375-82. PMID:21295433.	Attrition
76	Cheung PCH,Ip PLS,Lam ST,Bibby H. A study on body weight perception and weight control behaviours among adolescents in Hong Kong. Hong Kong Medical Journal. 2007. 13:16-21.	Study Design, Independent Variable
77	Christian JG,Bessesen DH,Byers TE,Christian KK,Goldstein MG,Bock BC. Clinic-based support to help overweight patients with type 2 diabetes increase physical activity and lose weight. Arch Intern Med. 2008. 168:141-6.	Unhealthy Subjects

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	PMID:18227359.	
78	Ciampolini M,Lovell-Smith D,Sifone M. Sustained self-regulation of energy intake. Loss of weight in overweight subjects. Maintenance of weight in normal-weight subjects. Nutr Metab (Lond). 2010. 7:4. PMID:20148113.	Independent Variable
79	Cohen TR,Hazell TJ,Vanstone CA,Plourde H,Rodd CJ,Weiler HA. A family-centered lifestyle intervention to improve body composition and bone mass in overweight and obese children 6 through 8 years: a randomized controlled trial study protocol. BMC Public Health. 2013. 13:383. PMID:23617621.	Independent Variable
80	Collins CE,Morgan PJ,Jones P,Fletcher K,Martin J,Aguiar EJ,Lucas A,Neve M,McElduff P,Callister R. Evaluation of a commercial web-based weight loss and weight loss maintenance program in overweight and obese adults: a randomized controlled trial. BMC Public Health. 2010. 10:669. PMID:21047432.	Study Design, Independent Variable
81	Conroy MB,Yang K,Elci OU,Gabriel KP,Styn MA,Wang J,Kriska AM,Sereika SM,Burke LE. Physical activity self-monitoring and weight loss: 6-month results of the SMART trial. Med Sci Sports Exerc. 2011. 43:1568-74. PMID:21200337.	Independent Variable
82	Crespo NC,Elder JP,Ayala GX,Slymen DJ,Campbell NR,Sallis JF,McKenzie TL,Baquero B,Arredondo EM. Results of a multi-level intervention to prevent and control childhood obesity among Latino children: the Aventuras Para Ninos Study. Ann Behav Med. 2012. 43:84-100. PMID:22215470.	Independent Variable
83	Daniali S,Azadbakht L,Mostafavi F. Relationship between body satisfaction with self esteemand unhealthy body weight management. J Educ Health Promot. 2013. 2:29. PMID:24083279.	Study Design, Independent Variable
84	de Niet J,Timman R,Bauer S,van den Akker E,Buijks H,de Klerk C,Kordy H,Passchier J. The effect of a short message service maintenance treatment on body mass index and psychological well-being in overweight and obese children: a randomized controlled trial. Pediatr Obes. 2012. 7:205-19. PMID:22492669.	Duplicate
85	DeJoy DM,Parker KM,Padilla HM,Wilson MG,Roemer EC,Goetzel RZ. Combining environmental and individual weight management interventions in a work setting: results from the Dow chemical study. J Occup Environ Med. 2011. 53:245-52. PMID:21346636.	Independent Variable
86	Delahanty L,Kriska A,Edelstein S,Amodei N,Chadwick J,Copeland K,Galvin B,El Ghormli L,Haymond M,Kelsey MM,Lassiter C,Milaszewski K,Syme A,Mayer-Davis E. Self-reported dietary intake of youth with recent onset of	Unhealthy Subjects

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	type 2 diabetes: results from the TODAY study. J Acad Nutr Diet. 2013. 113:431-9. PMID:23438494.	
87	Delamater AM,Pulgaron ER,Rarback S,Hernandez J,Carrillo A,Christiansen S,Severson HH. Web-based family intervention for overweight children: a pilot study. Child Obes. 2013. 9:57-63. PMID:23308372.	Independent Variable
88	Dennis EA,Potter KL,Estabrooks PA,Davy BM. Weight Gain Prevention for College Freshmen: Comparing Two Social Cognitive Theory-Based Interventions with and without Explicit Self-Regulation Training. J Obes. 2012. 2012:803769. PMID:22778919.	Independent Variable
89	Dennison L,Morrison L,Lloyd S,Phillips D,Stuart B,Williams S,Bradbury K,Roderick P,Murray E,Michie S,Little P,Yardley L. Does brief telephone support improve engagement with a web-based weight management intervention? Randomized controlled trial. J Med Internet Res. 2014. 16:e95. PMID:24681761.	Independent Variable
90	Dorough AE,Winett RA,Anderson ES,Davy BM,Martin EC,Hedrick V. DASH to wellness: emphasizing self-regulation through e-health in adults with prehypertension. Health Psychol. 2014. 33:249-54. PMID:23181455.	Independent Variable
91	Duncan JM,Janke EA,Kozak AT,Roehrig M,Russell SW,McFadden HG,Demott A,Pictor A,Hedeker D,Spring B. PDA+: A Personal Digital Assistant for Obesity Treatment - an RCT testing the use of technology to enhance weight loss treatment for veterans. BMC Public Health. 2011. 11:223. PMID:21481253.	Study Design, Independent Variable
92	Faghanipour S,Hajikazemi E,Nikpour S,Shariatpanahi SA,Hosseini AF. Mobile Phone Short Message Service (SMS) for Weight Management in Iranian Overweight and Obese Women: A Pilot Study. Int J Telemed Appl. 2013. 2013:785654. PMID:24163692.	Study Design, Independent Variable
93	Faucher MA,Mobley J. A community intervention on portion control aimed at weight loss in low-income Mexican American women. J Midwifery Womens Health. 2010. 55:60-4. PMID:20129231.	Independent Variable
94	Fitzpatrick SL,Bandeen-Roche K,Stevens VJ,Coughlin JW,Rubin RR,Brantley PJ,Funk KL,Svetkey LP,Jerome GJ,Dalcin A,Charleston J,Appel LJ. Examining behavioral processes through which lifestyle interventions promote weight loss: results from PREMIER. Obesity (Silver Spring). 2014. 22:1002-7. PMID:24124061.	Duplicate
95	Foley P,Levine E,Askew S,Puleo E,Whiteley J,Batch B,Heil D,Dix D,Lett V,Lanpher M,Miller J,Emmons K,Bennett G. Weight gain prevention among black women in the rural community health center setting: the Shape Program. BMC Public Health. 2012. 12:305. PMID:22537222.	Independent Variable
96	Francis LA,Susman EJ. Self-regulation and rapid weight gain in children from age 3 to 12 years. Arch Pediatr Adolesc Med. 2009. 163:297-302. PMID:19349557.	Study Design, Independent

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
		Variable
97	French SA,Gerlach AF,Mitchell NR,Hannan PJ,Welsh EM. Household obesity prevention: Take Action--a group-randomized trial. Obesity (Silver Spring). 2011. 19:2082-8. PMID:21212771.	Independent Variable, Outcome
98	French SA,Gerlach AF,Mitchell NR,Hannan PJ,Welsh EM. Household obesity prevention: Take actiona group-randomized trial. Obesity. 2011. 19:2082-2088.	Independent Variable
99	Friend S,Bauer KW,Madden TC,Neumark-Sztainer D. Self-weighing among adolescents: associations with body mass index, body satisfaction, weight control behaviors, and binge eating. J Acad Nutr Diet. 2012. 112:99-103. PMID:22717180.	Study Design
100	Funk KL,Stevens VJ,Appel LJ,Bauck A,Brantley PJ,Champagne CM,Coughlin J,Dalcin AT,Harvey-Berino J,Hollis JF,Jerome GJ,Kennedy BM,Lien LF,Myers VH,Samuel-Hodge C,Svetkey LP,Vollmer WM. Associations of internet website use with weight change in a long-term weight loss maintenance program. J Med Internet Res. 2010. 12:e29. PMID:20663751.	Study Design, Independent Variable
101	Funk KL,Stevens VJ,Bauck A,Brantley PJ,Hornbrook M,Jerome GJ,Myers VH,Appel L. Development and Implementation of a Tailored Self-assessment Tool in an Internet-based Weight Loss Maintenance Program. Clin Pract Epidemiol Ment Health. 2011. 7:67-73. PMID:21566735.	Independent Variable, Outcome
102	Germann JN,Kirschenbaum DS,Rich BH. Child and parental self-monitoring as determinants of success in the treatment of morbid obesity in low-income minority children. Journal of Pediatric Psychology. 2007. 32:111-121.	Study Design
103	Gholami M,Wiedemann A,Knoll N,Schwarzer R. Mothers improve their daughters' vegetable intake: A randomized controlled trial. Psychol Health Med. 2014. PMID:24689952.	Independent Variable, Outcome
104	Giannisi F,Pervanidou P,Michalaki E,Papanikolaou K,Chrousos G,Yannakoulia M. Parental readiness to implement life-style behaviour changes in relation to children's excess weight. J Paediatr Child Health. 2014. 50:476-81. PMID:24612057.	Study Design, Independent Variable
105	Gokee LaRose J,Tate DF,Gorin AA,Wing RR. Preventing weight gain in young adults: a randomized controlled pilot study. Am J Prev Med. 2010. 39:63-8. PMID:20537843.	Study Design, Independent Variable
106	Gokee-Larose J,Gorin AA,Wing RR. Behavioral self-regulation for weight loss in young adults: a randomized controlled trial. Int J Behav Nutr Phys Act. 2009. 6:10. PMID:19220909.	Sample Size

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
107	Golan M. Fifteen years of the Family Eating and Activity Habits Questionnaire (FEAHQ): an update and review. Pediatr Obes. 2014. 9:92-101. PMID:23447444.	Independent Variable, Outcome
108	Goldstein SP,Katterman SN,Lowe MR. Relationship of dieting and restrained eating to self-reported caloric intake in female college freshmen. Eat Behav. 2013. 14:237-40. PMID:23557829.	Independent Variable, Outcome
109	Gorin AA,Powers TA,Koestner R,Wing RR,Raynor HA. Autonomy support, self-regulation, and weight loss. Health Psychol. 2014. 33:332-9. PMID:23730718.	Independent Variable
110	Gotsis M,Wang H,Spruijt-Metz D,Jordan-Marsh M,Valente TW. Wellness partners: design and evaluation of a web-based physical activity diary with social gaming features for adults. JMIR Res Protoc. 2013. 2:e10. PMID:23611986.	Independent Variable
111	Gray CM,Hunt K,Mutrie N,Anderson AS,Treweek S,Wyke S. Weight management for overweight and obese men delivered through professional football clubs: a pilot randomized trial. Int J Behav Nutr Phys Act. 2013. 10:121. PMID:24171842.	Independent Variable
112	Greene J,Sacks R,Piniewski B,Kil D,Hahn JS. The impact of an online social network with wireless monitoring devices on physical activity and weight loss. J Prim Care Community Health. 2013. 4:189-94. PMID:23799706.	Independent Variable
113	Halberstadt J,Makkes S,de Vet E,Jansen A,Nederkoorn C,van der Baan-Slootweg OH,Seidell JC. The role of self-regulating abilities in long-term weight loss in severely obese children and adolescents undergoing intensive combined lifestyle interventions (HELIOS); rationale, design and methods. BMC Pediatr. 2013. 13:41. PMID:23530979.	Study Design, Independent Variable
114	Hannum SM,Carson L,Evans EM,Canene KA,Petr EL,Bui L, Jr. Erdman JW. Use of portion-controlled entrees enhances weight loss in women. Obes Res. 2004. 12:538-46. PMID:15044672.	Independent Variable
115	Helsel DL,Jakicic JM,Otto AD. Comparison of techniques for self-monitoring eating and exercise behaviors on weight loss in a correspondence-based intervention. J Am Diet Assoc. 2007. 107:1807-10. PMID:17904942.	Sample Size
116	Hill AM,Kris-Etherton PM. Contemporary strategies for weight loss and cardiovascular disease risk factor modification. Current Atherosclerosis Reports. 2008. 10:486-496.	Study Design, Independent Variable
117	Hood MM,Corsica J,Cvengros J,Wyatt J. Impact of a brief dietary self-monitoring intervention on weight change and CPAP adherence in patients with obstructive sleep apnea. J Psychosom Res. 2013. 74:170-4. PMID:23332533.	Sample Size

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
118	Huisman S,de Gucht V,Maes S,Schroevers M,Chatrou M,Haak H. Self-regulation and weight reduction in patients with type 2 diabetes: a pilot intervention study. Patient Educ Couns. 2009. 75:84-90. PMID:19097740.	Independent Variable, Unhealthy Subjects
119	Jaime PC,Bandoni DH,Sarno F. Impact of an education intervention using email for the prevention of weight gain among adult workers. Public Health Nutr. 2014. 17:1620-7. PMID:23962422.	Attrition
120	Jelalian E,Lloyd-Richardson EE,Mehlenbeck RS,Hart CN,Flynn-O'Brien K,Kaplan J,Neill M,Wing RR. Behavioral weight control treatment with supervised exercise or peer-enhanced adventure for overweight adolescents. J Pediatr. 2010. 157:923-928.e1. PMID:20655544.	Independent Variable
121	John E,Cassidy DM,Playle R,Jewell K,Cohen D,Duncan D,Newcombe RG,Busse M,Owen-Jones E,Williams N,Longo M,Avery A,Simpson SA. Healthy eating and lifestyle in pregnancy (HELP): a protocol for a cluster randomised trial to evaluate the effectiveness of a weight management intervention in pregnancy. BMC Public Health. 2014. 14:439. PMID:24886352.	Study Design, Independent Variable
122	Johnston CA,Moreno JP,Gallagher MR,Wang J,Papaioannou MA,Tyler C,Foreyt JP. Achieving long-term weight maintenance in Mexican-American adolescents with a school-based intervention. J Adolesc Health. 2013. 53:335-41. PMID:23727501.	Independent Variable
123	Johnston CA,Tyler C,Foreyt JP. Behavioral management of obesity. Current Atherosclerosis Reports. 2007. 9:448-453.	Study Design
124	Jolly K,Daley A,Adab P,Lewis A,Denley J,Beach J,Aveyard P. A randomised controlled trial to compare a range of commercial or primary care led weight reduction programmes with a minimal intervention control for weight loss in obesity: the Lighten Up trial. BMC Public Health. 2010. 10:439. PMID:20663185.	Independent Variable
125	Jolly K,Lewis A,Beach J,Denley J,Adab P,Deeks JJ,Daley A,Aveyard P. Comparison of range of commercial or primary care led weight reduction programmes with minimal intervention control for weight loss in obesity: lighten Up randomised controlled trial. Bmj. 2011. 343:d6500. PMID:22053315.	Independent Variable
126	Karfopoulou E,Mouliou K,Koutras Y,Yannakoulia M. Behaviours associated with weight loss maintenance and regaining in a Mediterranean population sample. A qualitative study. Clinical Obesity. 2013. 3:141-149.	Study Design
127	Karhunen L,Lyly M,Lapvetelainen A,Kolehmainen M,Laaksonen DE,Lahteenmaki L,Poutanen K. Psychobehavioural factors are more strongly associated with successful weight management than predetermined satiety effect or	Independent Variable

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	other characteristics of diet. J Obes. 2012. 2012:274068. PMID:22792447.	
128	Kelders SM,van Gemert-Pijnen JE,Werkman A,Seydel ER. Usage and effect of a web-based intervention for the prevention of overweight; a RCT. Stud Health Technol Inform. 2010. 160:28-32. PMID:20841644.	Study Design, Independent Variable
129	Klesges LM,Baranowski T,Beech B,Cullen K,Murray DM,Rochon J,Pratt C. Social desirability bias in self-reported dietary, physical activity and weight concerns measures in 8- to 10-year-old African-American girls: results from the Girls Health Enrichment Multisite Studies (GEMS). Prev Med. 2004. 38 Suppl:S78-87. PMID:15072862.	Study Design
130	Klumbiene J,Petkeviciene J,Vaisvalavicius V,Miseviciene I. Advising overweight persons about diet and physical activity in primary health care: Lithuanian health behaviour monitoring study. BMC Public Health. 2006. 6:30. PMID:16478535.	Study Design
131	Kong A,Beresford SA,Imayama I,Duggan C,Alfano CM,Foster-Schubert KE,Neuhouser ML,Johnson DB,Wang CY,Xiao L,Bain CE,McTiernan A. Adoption of diet-related self-monitoring behaviors varies by race/ethnicity, education, and baseline binge eating score among overweight-to-obese postmenopausal women in a 12-month dietary weight loss intervention. Nutr Res. 2012. 32:260-5. PMID:22575038.	Study Design
132	Kruger J,Blanck HM,Gillespie C. Dietary and physical activity behaviors among adults successful at weight loss maintenance. International Journal of Behavioral Nutrition and Physical Activity. 2006. 3.	Study Design
133	Krummel D,Semmens E,MacBride AM,Fisher B. Lessons learned from the mothers' overweight management study in 4 West Virginia WIC offices. J Nutr Educ Behav. 2010. 42:S52-8. PMID:20399410.	Study Design
134	Kumanyika SK,Shults J,Fassbender J,Whitt MC,Brake V,Kallan MJ,Iqbal N,Bowman MA. Outpatient weight management in African-Americans: the Healthy Eating and Lifestyle Program (HELP) study. Prev Med. 2005. 41:488-502. PMID:15917045.	Independent Variable
135	Kushner RF. Weight loss strategies for treatment of obesity. Progress in Cardiovascular Diseases. 2014. 56:465-472.	Study Design

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
136	Lappalainen R,Sairanen E,Jarvela E,Rantala S,Korpela R,Puttonen S,Kujala UM,Myllymaki T,Peuhkuri K,Mattila E,Kaipainen K,Ahtinen A,Karhunen L,Pihlajamaki J,Jarnefelt H,Laitinen J,Kutinlahti E,Saarelma O,Ermes M,Kolehmainen M. The effectiveness and applicability of different lifestyle interventions for enhancing wellbeing: the study design for a randomized controlled trial for persons with metabolic syndrome risk factors and psychological distress. BMC Public Health. 2014. 14:310. PMID:24708617.	Independent Variable
137	LaRose JG,Fava JL,Steeves EA,Hecht J,Wing RR,Raynor HA. Daily self-weighing within a lifestyle intervention: impact on disordered eating symptoms. Health Psychol. 2014. 33:297-300. PMID:24245845.	Outcome, Unhealthy Subjects
138	Leong SL,Madden C,Gray A,Horwath C. Self-determined, autonomous regulation of eating behavior is related to lower body mass index in a nationwide survey of middle-aged women. J Acad Nutr Diet. 2012. 112:1337-46. PMID:22939438.	Study Design
139	Lin CTJ,Gao Z,Lee JY. Associations between self-reported weight management methods with diet quality as measured by the Healthy Eating Index-2005. Preventive Medicine. 2013. 57:238-243.	Study Design, Outcome
140	Linde JA,Utter J,Jeffery RW,Sherwood NE,Pronk NP,Boyle RG. Specific food intake, fat and fiber intake, and behavioral correlates of BMI among overweight and obese members of a managed care organization. Int J Behav Nutr Phys Act. 2006. 3:42. PMID:17125525.	Independent Variable
141	Lombard C,Deeks A,Jolley D,Ball K,Teede H. A low intensity, community based lifestyle programme to prevent weight gain in women with young children: cluster randomised controlled trial. Bmj. 2010. 341:c3215. PMID:20627974.	Independent Variable
142	Lombard C,Deeks A,Jolley D,Teede HJ. Preventing weight gain: the baseline weight related behaviors and delivery of a randomized controlled intervention in community based women. BMC Public Health. 2009. 9:2. PMID:19121220.	Independent Variable, Outcome
143	Lombard CB,Deeks AA,Ball K,Jolley D,Teede HJ. Weight, physical activity and dietary behavior change in young mothers: short term results of the HeLP-her cluster randomized controlled trial. Nutr J. 2009. 8:17. PMID:19409085.	Independent Variable
144	Lowe MR,Tappe KA,Annunziato RA,Riddell LJ,Coletta MC,Crerand CE,Didie ER,Ochner CN,McKinney S. The effect of training in reduced energy density eating and food self-monitoring accuracy on weight loss maintenance.	Attrition

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The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	Obesity (Silver Spring). 2008. 16:2016-23. PMID:18483475.	
145	Lubans DR,Morgan PJ,Dewar D,Collins CE,Plotnikoff RC,Okely AD,Batterham MJ,Finn T,Callister R. The Nutrition and Enjoyable Activity for Teen Girls (NEAT girls) randomized controlled trial for adolescent girls from disadvantaged secondary schools: rationale, study protocol, and baseline results. BMC Public Health. 2010. 10:652. PMID:21029467.	Study Design
146	Lubans DR,Morgan PJ,Okely AD,Dewar D,Collins CE,Batterham M,Callister R,Plotnikoff RC. Preventing Obesity Among Adolescent Girls: One-Year Outcomes of the Nutrition and Enjoyable Activity for Teen Girls (NEAT Girls) Cluster Randomized Controlled Trial. Arch Pediatr Adolesc Med. 2012. 166:821-7. PMID:22566517.	Independent Variable
147	Lynch A,Bisogni C. Understanding dietary monitoring and self-weighing by gastric bypass patients: A pilot study of self-monitoring behaviors and long-term weight outcomes. Obesity Surgery. 2012. 22:1818-1826.	Unhealthy Subjects
148	Ma J,Yank V,Xiao L,Lavori PW,Wilson SR,Rosas LG,Stafford RS. Translating the diabetes prevention program lifestyle intervention for weight loss into primary care: A randomized trial. JAMA Internal Medicine. 2013. 173:113-121.	Independent Variable
149	Macleod M,Craigie AM,Barton KL,Treweek S,Anderson AS. Recruiting and retaining postpartum women from areas of social disadvantage in a weight-loss trial--an assessment of strategies employed in the WeighWell feasibility study. Matern Child Nutr. 2013. 9:322-31. PMID:22284216.	Independent Variable, Outcome
150	Maddison R,Mhurchu CN,Foley L,Epstein L,Jiang Y,Tsai M,Dewes O,Heke I. Screen-time weight-loss intervention targeting children at home (SWITCH): a randomized controlled trial study protocol. BMC Public Health. 2011. 11:524. PMID:21718543.	Independent Variable
151	Madigan CD,Aveyard P,Jolly K,Denley J,Lewis A,Daley AJ. Regular self-weighing to promote weight maintenance after intentional weight loss: a quasi-randomized controlled trial. J Public Health (Oxf). 2014. 36:259-67. PMID:23753256.	Attrition
152	Madigan CD,Daley AJ,Lewis AL,Jolly K,Aveyard P. Which weight-loss programmes are as effective as Weight Watchers(R)?: non-inferiority analysis. Br J Gen Pract. 2014. 64:e128-36. PMID:24567651.	Study Design, Independent Variable
153	Mata J,Silva MN,Vieira PN,Carraca EV,Andrade AM,Coutinho SR,Sardinha LB,Teixeira PJ. Motivational "spill-over" during weight control: increased self-determination and exercise intrinsic motivation predict eating	Independent Variable

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	self-regulation. Health Psychol. 2009. 28:709-16. PMID:19916639.	
154	McKee HC,Ntoumanis N. Developing self-regulation for dietary temptations: intervention effects on physical, self-regulatory and psychological outcomes. J Behav Med. 2014. PMID:24523025.	Sample Size
155	Miller AL,Horodynski MA,Herb HE,Peterson KE,Contreras D,Kaciroti N,Staples-Watson J,Lumeng JC. Enhancing self-regulation as a strategy for obesity prevention in Head Start preschoolers: the growing healthy study. BMC Public Health. 2012. 12:1040. PMID:23194185.	Independent Variable, Age
156	Miller CK,Gutschall MD,Holloman C. Self-monitoring predicts change in fiber intake and weight loss in adults with diabetes following an intervention regarding the glycemic index. Patient Educ Couns. 2009. 76:213-9. PMID:19181476.	Study Design, Unhealthy Subjects
157	Milsom VA,Middleton KM,Perri MG. Successful long-term weight loss maintenance in a rural population. Clin Interv Aging. 2011. 6:303-9. PMID:22162646.	Study Design
158	Miyachi M,Ohmori Y,Morita A,Aiba N,Watanabe S. Effects of pedometer-based physical activity intervention on abdominal fat and blood pressure: Saku community-based randomized crossover intervention study. Journal of clinical hypertension. 2012. 12:A14. PMID:CN-00764877.	Independent Variable
159	Moore SM,Borawski EA,Cuttler L,Ievers-Landis CE,Love TE. IMPACT: a multi-level family and school intervention targeting obesity in urban youth. Contemp Clin Trials. 2013. 36:574-86. PMID:24008055.	Independent Variable
160	Morgan PJ,Lubans DR,Collins CE,Warren JM,Callister R. The SHED-IT randomized controlled trial: Evaluation of an internet-based weight-loss program for men. Obesity. 2009. 17:2025-2032.	Independent Variable
161	Morgan PJ,Lubans DR,Collins CE,Warren JM,Callister R. 12-month outcomes and process evaluation of the SHED-IT RCT: an internet-based weight loss program targeting men. Obesity (Silver Spring). 2011. 19:142-51. PMID:20523304.	Independent Variable
162	Morgan PJ,Lubans DR,Collins CE,Warren JM,Callister R. 12-month outcomes and process evaluation of the SHED-IT randomized controlled trial: An Internet-based weight loss program targeting men. Obesity reviews. 2012. 11:447. PMID:CN-00782004.	Independent Variable
163	Mossavar-Rahmani Y,Henry H,Rodabough R,Bragg C,Brewer A,Freed T,Kinzel L,Pedersen M,Soule CO,Vosburg S. Additional self-monitoring tools in the dietary modification component of The Women's Health Initiative. J Am Diet Assoc. 2004. 104:76-85. PMID:14702588.	Study Design

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The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
164	Mossavar-Rahmani Y,Tinker LF,Huang Y,Neuhouser ML,McCann SE,Seguin RA,Vitolins MZ,Curb JD,Prentice RL. Factors relating to eating style, social desirability, body image and eating meals at home increase the precision of calibration equations correcting self-report measures of diet using recovery biomarkers: findings from the Women's Health Initiative. Nutr J. 2013. 12:63. PMID:23679960.	Study Design, Outcome
165	Murphy PJ,Williams RL. Weight-loss study in African-American Women: lessons learned from project take HEED and future, technologically enhanced directions. Perm J. 2013. 17:55-9. PMID:23704845.	Independent Variable
166	Nackers LM,Middleton KR,Dubyak PJ,Daniels MJ,Anton SD,Perri MG. Effects of prescribing 1,000 versus 1,500 kilocalories per day in the behavioral treatment of obesity: A randomized trial. Obesity. 2013. 21:2481-2487.	Independent Variable
167	Napolitano MA,Hayes S,Bennett GG,Ives AK,Foster GD. Using facebook and text messaging to deliver a weight loss program to college students. Obesity. 2013. 21:25-31.	Independent Variable
168	Neumark-Sztainer D,van den Berg P,Hannan PJ,Story M. Self-Weighing in Adolescents: Helpful or Harmful? Longitudinal Associations with Body Weight Changes and Disordered Eating. Journal of Adolescent Health. 2006. 39:811-818.	Study Design
169	Nguyen B,Shrewsbury VA,O'Connor J,Steinbeck KS,Hill AJ,Shah S,Kohn MR,Torvaldsen S,Baur LA. Two-year outcomes of an adjunctive telephone coaching and electronic contact intervention for adolescent weight-loss maintenance: the Loozit randomized controlled trial. Int J Obes (Lond). 2013. 37:468-72. PMID:22584456.	Independent Variable
170	Nguyen B,Shrewsbury VA,O'Connor J,Steinbeck KS,Lee A,Hill AJ,Shah S,Kohn MR,Torvaldsen S,Baur LA. Twelve-month outcomes of the loozit randomized controlled trial: a community-based healthy lifestyle program for overweight and obese adolescents. Arch Pediatr Adolesc Med. 2012. 166:170-7. PMID:22312175.	Independent Variable
171	Nicklas BJ,Gaukstern JE,Beavers KM,Newman JC,Leng X,Rejeski WJ. Self-monitoring of spontaneous physical activity and sedentary behavior to prevent weight regain in older adults. Obesity (Silver Spring). 2014. 22:1406-12. PMID:24585701.	Independent Variable
172	Nothwehr F,Snetselaar L,Wu H. Weight management strategies reported by rural men and women in Iowa. J Nutr Educ Behav. 2006. 38:249-53. PMID:16785095.	Study Design
173	Oshima Y,Matsuoka Y,Sakane N. Effect of weight-loss program using self-weighing twice a day and feedback in overweight and obese subject: a randomized controlled trial. Obes Res Clin Pract. 2013. 7:e361-6. PMID:24304478.	Sample Size

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
174	Park NH,An HG. Effects of the weight management program based self-efficacy for body composition, blood lipid profile, weight self-efficacy lifestyles, depression in middle-aged obese women. Taehan Kanho Hakhoe Chi. 2006. 36:1359-66. PMID:17215609.	Study Design, Independent Variable
175	Patrick K,Marshall SJ,Davila EP,Kolodziejczyk JK,Fowler JH,Calfas KJ,Huang JS,Rock CL,Griswold WG,Gupta A,Merchant G,Norman GJ,Raab F,Donohue MC,Fogg BJ,Robinson TN. Design and implementation of a randomized controlled social and mobile weight loss trial for young adults (project SMART). Contemp Clin Trials. 2014. 37:10-8. PMID:24215774.	Independent Variable
176	Pearson ES,Irwin JD,Morrow D,Battram DS,Melling CW. The CHANGE Program: Comparing an Interactive Vs. Prescriptive Approach to Self-Management among University Students with Obesity. Can J Diabetes. 2013. 37:4-11. PMID:24070742.	Independent Variable
177	Pearson ES,Irwin JD,Morrow D,Hall CR. The CHANGE program: comparing an interactive versus prescriptive obesity intervention on university students' self-esteem and quality of life. Appl Psychol Health Well Being. 2012. 4:369-89. PMID:23081768.	Independent Variable
178	Pellegrini CA,Duncan JM,Moller AC,Buscemi J,Sularz A,DeMott A,Pictor A,Pagoto S,Siddique J,Spring B. A smartphone-supported weight loss program: design of the ENGAGED randomized controlled trial. BMC Public Health. 2012. 12:1041. PMID:23194256.	Study Design
179	Pellegrini CA,Verba SD,Otto AD,Helsel DL,Davis KK,Jakicic JM. The comparison of a technology-based system and an in-person behavioral weight loss intervention. Obesity (Silver Spring). 2012. 20:356-63. PMID:21311506.	Independent Variable
180	Phelan S,Phipps MG,Abrams B,Darroch F,Grantham K,Schaffner A,Wing RR. Does behavioral intervention in pregnancy reduce postpartum weight retention? Twelve-month outcomes of the Fit for Delivery randomized trial. Am J Clin Nutr. 2014. 99:302-11. PMID:24284438.	Independent Variable
181	Phimarn W,Pianchana P,Limpikanchakovit P,Suranart K,Supapanichsakul S,Narkgoen A,Saramunee K. Thai community pharmacist involvement in weight management in primary care to improve patient's outcomes. Int J Clin Pharm. 2013. 35:1208-17. PMID:24057434.	Location, Independent Variable
182	Pichayapinyo P,Kaewpan W,Taechaboonsermsak P. Effect of personal health record booklet (PHRB) to knowledge, self-efficacy and healthy behaviors among Thai population at risk of cardiovascular disease (CVD). Journal of the Medical Association of Thailand. 2012. 95:S48-S55.	Location, Outcome

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
183	Polacsek M,Orr J,Letourneau L,Rogers V,Holmberg R,O'Rourke K,Hannon C,Lombard KA,Gortmaker SL. Impact of a primary care intervention on physician practice and patient and family behavior: keep ME Healthy---the Maine Youth Overweight Collaborative. Pediatrics. 2009. 123 Suppl 5:S258-66. PMID:19470601.	Independent Variable
184	Pronk NP,Crain AL,Vanwormer JJ,Martinson BC,Boucher JL,Cosentino DL. The Use of Telehealth Technology in Assessing the Accuracy of Self-Reported Weight and the Impact of a Daily Immediate-Feedback Intervention among Obese Employees. Int J Telemed Appl. 2011. 2011:909248. PMID:21760782.	Study Design, Outcome
185	Quick V,Larson N,Eisenberg ME,Hannan PJ,Neumark-Sztainer D. Self-weighing behaviors in young adults: Tipping the scale toward unhealthy eating behaviors?. Journal of Adolescent Health. 2012. 51:468-474.	Study Design, Outcome
186	Quick V,Loth K,MacLehose R,Linde JA,Neumark-Sztainer D. Prevalence of adolescents' self-weighing behaviors and associations with weight-related behaviors and psychological well-being. Journal of Adolescent Health. 2013. 52:738-744.	Study Design, Outcome
187	Radcliff TA,Bobroff LB,Lutes LD,Durning PE,Daniels MJ,Limacher MC,Janicke DM,Martin AD,Perri MG. Comparing Costs of Telephone vs Face-to-Face Extended-Care Programs for the Management of Obesity in Rural Settings. J Acad Nutr Diet. 2012. 112:1363-73. PMID:22818246.	Independent Variable
188	Rao G,Burke LE,Spring BJ,Ewing LJ,Turk M,Lichtenstein AH,Cornier MA,Spence JD,Coons M. New and emerging weight management strategies for busy ambulatory settings: A scientific statement from the american heart association: Endorsed by the society of behavioral medicine. Circulation. 2011. 124:1182-1203.	Study Design
189	Raynor HA,Jeffery RW,Ruggiero AM,Clark JM,Delahanty LM. Weight loss strategies associated with BMI in overweight adults with type 2 diabetes at entry into the Look AHEAD (Action for Health in Diabetes) trial. Diabetes Care. 2008. 31:1299-304. PMID:18375417.	Unhealthy Subjects
190	Rejeski WJ,Mihalko SL,Ambrosius WT,Bearon LB,McClelland JW. Weight loss and self-regulatory eating efficacy in older adults: the cooperative lifestyle intervention program. J Gerontol B Psychol Sci Soc Sci. 2011. 66:279-86. PMID:21292809.	Independent Variable
191	Robinson TN,Matheson D,Desai M,Wilson DM,Weintraub DL,Haskell WL,McClain A,McClure S,J AB,Sanders LM,Haydel KF,Killen JD. Family, community and clinic collaboration to treat overweight and obese children: Stanford GOALS-A randomized controlled trial of a three-year, multi-component, multi-level, multi-setting intervention. Contemp Clin Trials. 2013. 36:421-35. PMID:24028942.	Study Design, Independent Variable

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
192	Robroek SJ,Bredt FJ,Burdorf A. The (cost-)effectiveness of an individually tailored long-term worksite health promotion programme on physical activity and nutrition: design of a pragmatic cluster randomised controlled trial. BMC Public Health. 2007. 7:259. PMID:17888161.	Study Design, Independent Variable
193	Robroek SJ,Polinder S,Bredt FJ,Burdorf A. Cost-effectiveness of a long-term Internet-delivered worksite health promotion programme on physical activity and nutrition: a cluster randomized controlled trial. Health Educ Res. 2012. 27:399-410. PMID:22350194.	Independent Variable, Outcome
194	Rodearmel SJ,Wyatt HR,Stroebele N,Smith SM,Ogden LG,Hill JO. Small changes in dietary sugar and physical activity as an approach to preventing excessive weight gain: the America on the Move family study. Pediatrics. 2007. 120:e869-79. PMID:17908743.	Independent Variable
195	Rollo ME,Ash S,Lyons-Wall P,Russell A. Trial of a mobile phone method for recording dietary intake in adults with type 2 diabetes: evaluation and implications for future applications. J Telemed Telecare. 2011. 17:318-23. PMID:21844173.	Study Design, Unhealthy Subjects
196	Rothert K,Strecher VJ,Doyle LA,Caplan WM,Joyce JS,Jimison HB,Karm LM,Mims AD,Roth MA. Web-based weight management programs in an integrated health care setting: a randomized, controlled trial. Obesity (Silver Spring). 2006. 14:266-72. PMID:16571852.	Independent Variable
197	Saito A,Kawai K,Yanagisawa M,Yokoyama H,Kuribayashi N,Sugimoto H,Oishi M,Wada T,Iwasaki K,Kanatsuka A,Yagi N,Okuguchi F,Miyazawa K,Arai K,Saito K,Sone H. Self-reported rate of eating is significantly associated with body mass index in Japanese patients with type 2 diabetes. Japan Diabetes Clinical Data Management Study Group (JDDM26). Appetite. 2012. 59:252-255.	Independent Variable, Unhealthy Subjects
198	Scherwitz L,Kesten D. Seven eating styles linked to overeating, overweight, and obesity. Explore (NY). 2005. 1:342-59. PMID:16781565.	Study Design, Independent Variable
199	Schroder KE. Computer-assisted dieting: effects of a randomised controlled intervention. Psychol Health. 2010. 25:519-34. PMID:20204974.	Independent Variable
200	Shapiro JR,Koro T,Doran N,Thompson S,Sallis JF,Calfas K,Patrick K. Text4Diet: A randomized controlled study using text messaging for weight loss behaviors. Preventive Medicine. 2012. 55:412-417.	Independent Variable
201	Shay LE,Seibert D,Watts D,Sbrocco T,Pagliara C. Adherence and weight loss outcomes associated with food-	Sample Size

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	exercise diary preference in a military weight management program. Eat Behav. 2009. 10:220-7. PMID:19778751.	
202	Sherwood NE,Crain AL,Martinson BC,Hayes MG,Anderson JD,Clausen JM,O'Connor PJ,Jeffery RW. Keep it off: a phone-based intervention for long-term weight-loss maintenance. Contemp Clin Trials. 2011. 32:551-60. PMID:21453791.	Study Design, Independent Variable
203	Sherwood NE,Jeffery RW,Pronk NP,Boucher JL,Hanson A,Boyle R,Brelje K,Hase K,Chen V. Mail and phone interventions for weight loss in a managed-care setting: weigh-to-be 2-year outcomes. Int J Obes (Lond). 2006. 30:1565-73. PMID:16552408.	Independent Variable
204	Sherwood NE,Jeffery RW,Welsh EM,Vanwormer J,Hotop AM. The drop it at last study: six-month results of a phone-based weight loss trial. Am J Health Promot. 2010. 24:378-83. PMID:20594094.	Independent Variable
205	Shrewsbury VA,Nguyen B,O'Connor J,Steinbeck KS,Lee A,Hill AJ,Shah S,Kohn MR,Torvaldsen S,Baur LA. Short-term outcomes of community-based adolescent weight management: The Loozit(R) Study. BMC Pediatr. 2011. 11:13. PMID:21303505.	Study Design
206	Shuger SL,Barry VW,Sui X,McClain A,Hand GA,Wilcox S,Meriwether RA,Hardin JW,Blair SN. Electronic feedback in a diet- and physical activity-based lifestyle intervention for weight loss: a randomized controlled trial. Int J Behav Nutr Phys Act. 2011. 8:41. PMID:21592351.	Attrition
207	Siebelink E,Geelen A,de Vries JH. Self-reported energy intake by FFQ compared with actual energy intake to maintain body weight in 516 adults. Br J Nutr. 2011. 106:274-81. PMID:21338536.	Study Design, Independent Variable
208	Sieverdes JC,Sui X,Hand GA,Barry VW,Wilcox S,Meriwether RA,Hardin JW,McClain AC,Blair SN. Cardiometabolic results from an armband-based weight loss trial. Diabetes Metab Syndr Obes. 2011. 4:187-94. PMID:21760735.	Independent Variable
209	Smith BK,Van Walleghen EL,Cook-Wiens G,Martin RN,Curry CR,Sullivan DK,Gibson CA,Donnelly JE. Comparison of two self-directed weight loss interventions: Limited weekly support vs. no outside support. Obes Res Clin Pract. 2009. 3:I-iv. PMID:24345585.	Independent Variable
210	Steinberg DM,Levine EL,Askew S,Foley P,Bennett GG. Daily text messaging for weight control among racial and ethnic minority women: randomized controlled pilot study. J Med Internet Res. 2013. 15:e244. PMID:24246427.	Study Design, Independent Variable
211	Stevens VJ,Funk KL,Brantley PJ,Erlinger TP,Myers VH,Champagne CM,Bauck A,Samuel-Hodge CD,Hollis JF. Design	Study Design,

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	and implementation of an interactive website to support long-term maintenance of weight loss. J Med Internet Res. 2008. 10:e1. PMID:18244892.	Independent Variable
212	Stewart T,Han H,Allen RH,Bathalon G,Ryan DH, Jr. Newton RL,Williamson DA. H.E.A.L.T.H.: efficacy of an internet/population-based behavioral weight management program for the U.S. Army. J Diabetes Sci Technol. 2011. 5:178-87. PMID:21303642.	Study Design, Independent Variable
213	Stuckey M,Russell-Minda E,Read E,Munoz C,Shoemaker K,Kleinstiver P,Petrella R. Diabetes and Technology for Increased Activity (DaTA) study: results of a remote monitoring intervention for prevention of metabolic syndrome. Journal of diabetes science and technology. 2011. 5:928-935.	Study Design
214	Styn MA,Wang J,Acharya SD,Yang K,Chasens ER,Choo J,Ye L,Burke LE. Health-related quality of life among participants in the SMART weight loss trial. Appl Nurs Res. 2012. 25:276-9. PMID:22079745.	Outcome
215	Tanaka M,Adachi Y,Adachi K,Sato C. Effects of a non-face-to-face behavioral weight-control program among Japanese overweight males: a randomized controlled trial. Int J Behav Med. 2010. 17:17-24. PMID:19685190.	Independent Variable
216	Tang JW,Kushner RF,Cameron KA,Hicks B,Cooper AJ,Baker DW. Electronic tools to assist with identification and counseling for overweight patients: a randomized controlled trial. J Gen Intern Med. 2012. 27:933-9. PMID:22402982.	Independent Variable, Outcome
217	Tawara S,Yonemochi Y,Kosaka T,Kouzaki Y,Takita T,Tsuruta T. Use of patients' mobile phones to store and share personal health information: results of a questionnaire survey. Intern Med. 2013. 52:751-6. PMID:23545669.	Study Design, Independent Variable
218	Teixeira PJ,Silva MN,Coutinho SR,Palmeira AL,Mata J,Vieira PN,Carraca EV,Santos TC,Sardinha LB. Mediators of weight loss and weight loss maintenance in middle-aged women. Obesity (Silver Spring). 2010. 18:725-35. PMID:19696752.	Independent Variable
219	Theim KR,Sinton MM,Goldschmidt AB,Van Buren DJ,Doyle AC,Saelens BE,Stein RI,Epstein LH,Wilfley DE. Adherence to behavioral targets and treatment attendance during a pediatric weight control trial. Obesity (Silver Spring). 2013. 21:394-7. PMID:23532993.	Independent Variable
220	Thorndike AN,Sonnenberg L,Healey E,Myint UK,Kvedar JC,Regan S. Prevention of weight gain following a worksite nutrition and exercise program: a randomized controlled trial. Am J Prev Med. 2012. 43:27-33. PMID:22704742.	Independent Variable
221	Timmerman GM,Brown A. The effect of a mindful restaurant eating intervention on weight management in	Independent

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	women. J Nutr Educ Behav. 2012. 44:22-8. PMID:22243980.	Variable
222	Tsai AG,Wadden TA. Major commercial and self-help weight loss programs in the United States. Nutrition in Clinical Care. 2005. 8:132-140.	Study Design
223	Tsai AG,Wadden TA,Pillitteri JL,Sembower MA,Gerlach KK,Kyle TK,Burroughs VJ. Disparities by ethnicity and socioeconomic status in the use of weight loss treatments. J Natl Med Assoc. 2009. 101:62-70. PMID:19245074.	Study Design, Independent Variable
224	Turner-McGrievy GM,Davidson CR,Wilcox S. Does the type of weight loss diet affect who participates in a behavioral weight loss intervention? A comparison of participants for a plant-based diet versus a standard diet trial. Appetite. 2014. 73:156-162.	Independent Variable
225	Turner-McGrievy GM,Tate DF. Are we sure that Mobile Health is really mobile? An examination of mobile device use during two remotely-delivered weight loss interventions. Int J Med Inform. 2014. 83:313-9. PMID:24556530.	Independent Variable
226	van Genugten L,van Empelen P,Boon B,Borsboom G,Visscher T,Oenema A. Results from an online computer-tailored weight management intervention for overweight adults: randomized controlled trial. J Med Internet Res. 2012. 14:e44. PMID:22417813.	Independent Variable
227	van Genugten L,van Empelen P,Flink I,Oenema A. Systematic development of a self-regulation weight-management intervention for overweight adults. BMC Public Health. 2010. 10:649. PMID:20979603.	Study Design
228	van Wier MF,Dekkers JC,Hendriksen IJ,Heymans MW,Ariens GA,Pronk NP,Smid T,van Mechelen W. Effectiveness of phone and e-mail lifestyle counseling for long term weight control among overweight employees. J Occup Environ Med. 2011. 53:680-6. PMID:21654441.	Independent Variable
229	VanWormer JJ,Martinez AM,Cosentino D,Pronk NP. Satisfaction with a weight loss program: what matters?. Am J Health Promot. 2010. 24:238-45. PMID:20232605.	Study Design, Independent Variable
230	Vinkers CD,Adriaanse MA,de Ridder DT. In it for the long haul: characteristics of early and late drop out in a self-management intervention for weight control. J Behav Med. 2013. 36:520-30. PMID:22890616.	Outcome
231	Vinkers CD,Adriaanse MA,Kroese FM,de Ridder DT. Efficacy of a self-management intervention for weight control in overweight and obese adults: a randomized controlled trial. J Behav Med. 2013. PMID:23954938.	Independent Variable

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
232	Wabitsch M,Moss A,Reinehr T,Wiegand S,Kiess W,Scherag A,Holl R,Holle R,Hebebrand J. Medical and psychosocial implications of adolescent extreme obesity - acceptance and effects of structured care, short: Youth with Extreme Obesity Study (YES). BMC Public Health. 2013. 13:789. PMID:23987123.	Independent Variable, Outcome
233	Wake M,Lycett K,Clifford SA,Sabin MA,Gunn J,Gibbons K,Hutton C,McCallum Z,Arnup SJ,Wittert G. Shared care obesity management in 3-10 year old children: 12 month outcomes of HopSCOTCH randomised trial. Bmj. 2013. 346:f3092. PMID:23751902.	Independent Variable
234	Wake M,Lycett K,Sabin MA,Gunn J,Gibbons K,Hutton C,McCallum Z,York E,Stringer M,Wittert G. A shared-care model of obesity treatment for 3-10 year old children: protocol for the HopSCOTCH randomised controlled trial. BMC Pediatr. 2012. 12:39. PMID:22455381.	Independent Variable
235	Walthouwer MJ,Oenema A,Soetens K,Lechner L,De Vries H. Systematic development of a text-driven and a video-driven web-based computer-tailored obesity prevention intervention. BMC Public Health. 2013. 13:978. PMID:24138937.	Study Design, Independent Variable
236	Wang CJ,Fetzer SJ,Yang YC,Wang WL. The efficacy of using self-monitoring diaries in a weight loss program for chronically ill obese adults in a rural area. J Nurs Res. 2012. 20:181-8. PMID:22902977.	Location, Unhealthy Subjects
237	Wang J,Sereika SM,Chasens ER,Ewing LJ,Matthews JT,Burke LE. Effect of adherence to self-monitoring of diet and physical activity on weight loss in a technology-supported behavioral intervention. Patient Prefer Adherence. 2012. 6:221-6. PMID:22536058.	Duplicate
238	Wang JB,Patterson RE,Ang A,Emond JA,Shetty N,Arab L. Timing of energy intake during the day is associated with the risk of obesity in adults. J Hum Nutr Diet. 2014. 27 Suppl 2:255-62. PMID:23808897.	Study Design, Independent Variable
239	Wang L, 3rd Dalton WT,Schetzina KE,Fulton-Robinson H,Holt N,Ho AL,Tudiver F,Wu T. Home food environment, dietary intake, and weight among overweight and obese children in Southern Appalachia. South Med J. 2013. 106:550-7. PMID:24096948.	Study Design, Independent Variable
240	Wang ML,Lemon SC,Olendzki B,Rosal MC. Beverage-consumption patterns and associations with metabolic risk factors among low-income Latinos with uncontrolled type 2 diabetes. J Acad Nutr Diet. 2013. 113:1695-703. PMID:23999278.	Independent Variable, Unhealthy Subjects
241	Wansink B,Painter JE,North J. Bottomless bowls: why visual cues of portion size may influence intake. Obesity	Independent

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	research. 2005. 13:93-100. PMID:CN-00510934.	Variable
242	Webber KH,Tate DF,Michael Bowling J. A randomized comparison of two motivationally enhanced Internet behavioral weight loss programs. Behav Res Ther. 2008. 46:1090-5. PMID:18675402.	Independent Variable
243	Wien M,Haddad E,Oda K,Sabate J. A randomized 3x3 crossover study to evaluate the effect of Hass avocado intake on post-ingestive satiety, glucose and insulin levels, and subsequent energy intake in overweight adults. Nutr J. 2013. 12:155. PMID:24279738.	Independent Variable
244	Wilkinson SA,van der Pligt P,Gibbons KS,McIntyre HD. Trial for Reducing Weight Retention in New Mums: a randomised controlled trial evaluating a low intensity, postpartum weight management programme. J Hum Nutr Diet. 2013. PMID:24267102.	Independent Variable
245	Williams LT,Hollis JL,Collins CE,Morgan PJ. The 40-Something randomized controlled trial to prevent weight gain in mid-age women. BMC Public Health. 2013. 13:1007. PMID:24156558.	Study Design, Independent Variable
246	Wing RR,Tate D,Espeland M,Gorin A,LaRose JG,Robichaud EF,Erickson K,Perdue L,Bahnson J,Lewis CE. Weight gain prevention in young adults: design of the study of novel approaches to weight gain prevention (SNAP) randomized controlled trial. BMC Public Health. 2013. 13:300. PMID:23556505.	Study Design, Independent Variable
247	Wing RR,Tate DF,Gorin AA,Raynor HA,Fava JL. A self-regulation program for maintenance of weight loss. N Engl J Med. 2006. 355:1563-71. PMID:17035649.	Duplicate
248	Xiao L,Yank V,Wilson SR,Lavori PW,Ma J. Two-year weight-loss maintenance in primary care-based Diabetes Prevention Program lifestyle interventions. Nutr Diabetes. 2013. 3:e76. PMID:23797383.	Independent Variable
249	Yannakoulia M,Tyrovolas S,Pounis G,Zeimbekis A,Anastasiou F,Bountziouka V,Voutsa K,Gotsis E,Metallinos G,Lionis C,Polychronopoulos E,Panagiotakos D. Correlates of low dietary energy reporting in free-living elderly: the MEDIS study. Maturitas. 2011. 69:63-8. PMID:21354724.	Study Design
250	Yarborough BJH,Janoff SL,Stevens VJ,Kohler D,Green CA. Delivering a lifestyle and weight loss intervention to individuals in real-world mental health settings: Lessons and opportunities. Translational Behavioral Medicine. 2011. 1:406-415.	Study Design
251	Yin G,Shen Y. Self-designing trial combined with classical group sequential monitoring. J Biopharm Stat. 2005. 15:667-75. PMID:16022171.	Study Design, Independent

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
		Variable
252	Anderson AS,Craigie AM,Caswell S,Treweek S,Stead M,Macleod M,Daly F,Belch J,Rodger J,Kirk A,Ludbrook A,Rauchhaus P,Norwood P,Thompson J,Wardle J,Steele RJ. The impact of a bodyweight and physical activity intervention (BeWEL) initiated through a national colorectal cancer screening programme: randomised controlled trial. Bmj. 2014. 348:g1823. PMID:24609919.	Independent Variable, Unhealthy Subjects
253	Carter MC,Burley VJ,Cade JE. Handheld Electronic Technology for Weight Loss in Overweight/Obese Adults. Current Obesity Reports. 2014. 3:307-315.	Study Design
254	Chung LM,Law QP,Fong SS,Chung JW. Electronic dietary recording system improves nutrition knowledge, eating attitudes and habitual physical activity: a randomised controlled trial. Eat Behav. 2014. 15:410-3.	Outcome
255	Dorough AE,Winett RA,Anderson ES,Davy BM,Martin EC,Hedrick V. DASH to wellness: emphasizing self-regulation through e-health in adults with prehypertension. Health Psychol. 2014. 33:249-54. PMID:23181455.	Sample Size
256	Fitzpatrick SL,Bandeen-Roche K,Stevens VJ,Coughlin JW,Rubin RR,Brantley PJ,Funk KL,Svetkey LP,Jerome GJ,Dalcin A,Charleston J,Appel LJ. Examining behavioral processes through which lifestyle interventions promote weight loss: results from PREMIER. Obesity (Silver Spring). 2014. 22:1002-7. PMID:24124061.	Attrition, Duplicate
257	Harrison CL,Teede HJ,Lombard CB. How effective is self-weighing in the setting of a lifestyle intervention to reduce gestational weight gain and postpartum weight retention?. Aust N Z J Obstet Gynaecol. 2014. PMID:24738837.	Duplicate
258	Hartman SJ,Risica PM,Gans KM,Marcus BH,Eaton CB. Tailored weight loss intervention in obese adults within primary care practice: Rationale, design, and methods of Choose to Lose. Contemporary Clinical Trials. 2014. 38:409-419.	Study Design, Independent Variable
259	Kushner RF. Weight loss strategies for treatment of obesity. Progress in Cardiovascular Diseases. 2014. 56:465-472.	Study Design
260	Morgan PJ,Scott HA,Young MD,Plotnikoff RC,Collins CE,Callister R. Associations between program outcomes and adherence to Social Cognitive Theory tasks: process evaluation of the SHED-IT community weight loss trial for men. Int J Behav Nutr Phys Act. 2014. 11:89.	Attrition

Excluded Articles: Self-Monitoring & Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
261	Nicklas BJ,Gaukstern JE,Beavers KM,Newman JC,Leng X,Rejeski WJ. Self-monitoring of spontaneous physical activity and sedentary behavior to prevent weight regain in older adults. Obesity (Silver Spring). 2014. 22:1406-12. PMID:24585701.	Independent Variable
262	Patrick K,Marshall SJ,Davila EP,Kolodziejczyk JK,Fowler JH,Calfas KJ,Huang JS,Rock CL,Griswold WG,Gupta A,Merchant G,Norman GJ,Raab F,Donohue MC,Fogg BJ,Robinson TN. Design and implementation of a randomized controlled social and mobile weight loss trial for young adults (project SMART). Contemp Clin Trials. 2014. 37:10-8. PMID:24215774.	Study Design, Independent Variable
263	Ricci-Cabello I,Ruiz-Perez I,Rojas-Garcia A,Pastor G,Rodriguez-Barranco M,Goncalves DC. Characteristics and effectiveness of diabetes self-management educational programs targeted to racial/ethnic minority groups: A systematic review, meta-analysis and meta-regression. BMC Endocrine Disorders. 2014. 14.	Study Design, Unhealthy Subjects

APPENDIX F: FOOD AND MENU LABELING – EXCLUDED ARTICLES LIST

Archived from www.NEL.gov on March 21, 2017

Excluded Articles: Food/Menu Labeling & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
1	Abel ML, Lee K, Loglisci R, Righter A, Hipper TJ, Cheskin LJ. Consumer Understanding of Calorie Labeling: A Healthy Monday E-Mail and Text Message Intervention. Health Promot Pract. 2014. http://www.ncbi.nlm.nih.gov/pubmed/25082982.	Independent Variable, Outcome
2	Ahmadi A, Torkamani P, Sohrabi Z, Ghahremani F. Nutrition knowledge: Application and perception of food labels among women. Pakistan Journal of Biological Sciences. 2013;16(24):2026-30.	Study Design
3	Andreas CD, Panagiotis L. Nutrition knowledge and consumer use of nutritional food labels. European Review of Agricultural Economics.32(1):93-118. http://www.ncbi.nlm.nih.gov/pubmed/20114799.	Study Design, Location
4	Antunez L, Vidal L, Sapolinski A, Gimenez A, Maiche A, Ares G. How do design features influence consumer attention when looking for nutritional information on food labels? Results from an eye-tracking study on pan bread labels. Int J Food Sci Nutr. 2013;64(5):515-27.	Study Design, Outcome
5	Ares G, Gimenez A, Bruzzone F, Antunez L, Sapolinski A, Vidal L, et al. Attentional capture and understanding of nutrition labelling: A study based on response times. Int J Food Sci Nutr. 2012;63(6):679-88.	Location, Outcome
6	Arsenault JE, Singleton MC, Funderburk LK. Use of the Go-for-Green nutrition labeling system in military dining facilities is associated with lower fat intake. Journal of the Academy of Nutrition & Dietetics. 2014;114(7):1067-71.	Study Design
7	Aschemann-Witzel J, Grunert KG, van Trijp HC, Bialkova S, Raats MM, Hodgkins C, et al. Effects of nutrition label format and product assortment on the healthfulness of food choice. Appetite. 2013;71:63-74. PMID: 23891558.	Location
8	Auchincloss AH, Mallya GG, Leonberg BL, Ricchezza A, Glanz K, Schwarz DF. Customer responses to mandatory menu labeling at full-service restaurants. Am J Prev Med. 2013;45(6):710-9.	Study Design
9	Ayala C, Tong X, Valderrama A, Ivy A, Keenan N. Actions taken to reduce sodium intake among adults with self-reported hypertension: Healthstyles survey, 2005 and 2008. Journal of Clinical Hypertension. 2010;12(10):793-9.	Study Design
10	Aziz A, Dumais L, Barber J. Health Canada's evaluation of the use of glycemic index claims on food labels. American Journal of Clinical Nutrition. 2013;98(2):269-74.	Study Design
11	Babio N, Vicent P, Lopez L, Benito A, Basulto J, Salas-Salvado J. Adolescents' ability to select healthy food using two different front-of-pack food labels: a cross-over study. Public Health Nutr. 2014;17(6):1403-9	Location
12	Barnett J, Vasileiou K, Gowland MH, Raats MM, Lucas JS. Beyond Labelling: What Strategies Do Nut Allergic Individuals Employ to Make Food Choices? A Qualitative Study. PLoS One. 2013;8(1).	Study Design
13	Basch CH, Ethan D, Rajan S. Price, promotion, and availability of nutrition information: a descriptive study of a	Study Design,

Excluded Articles: Food/Menu Labeling & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	popular fast food chain in New York City. Global journal of health science. 2013;5(6):73-80.	Independent Variable
14	Bergen D, Yeh MC. Effects of energy-content labels and motivational posters on sales of sugar-sweetened beverages: stimulating sales of diet drinks among adults study. J Am Diet Assoc. 2006;106(11):1866-9. PMID: 17081839.	Independent Variable, Outcome
15	Bialkova S, Grunert KG, Juhl HJ, Wasowicz-Kirylo G, Stysko-Kunkowska M, van Trijp HC. Attention mediates the effect of nutrition label information on consumers' choice. Evidence from a choice experiment involving eye-tracking. Appetite. 2014;76:66-75.	Location, Independent Variable
16	Blitstein JL, Evans WD. Use of nutrition facts panels among adults who make household food purchasing decisions. J Nutr Educ Behav. 2006;38(6):360-4. PMID: 17142192.	Study Design
17	Bonanni AE, Bonaccio M, di Castelnuovo A, de Lucia F, Costanzo S, Persichillo M, et al. Food labels use is associated with higher adherence to mediterranean diet: Results from the Moli-sani study. Nutrients. 2013;5(11):4364-79.	Study Design
18	Borgmeier I, Westenhoefer J. Impact of different food label formats on healthiness evaluation and food choice of consumers: a randomized-controlled study. BMC Public Health. 2009;9:184. PMID: 19523212.	Location
19	Bowers KM, Suzuki S. Menu-labeling usage and its association with diet and exercise: 2011 BRFSS Sugar Sweetened Beverage and Menu Labeling module. Prev Chronic Dis. 2014;11:130231.	Study Design
20	Breck A, Cantor J, Martinez O, Elbel B. Who reports noticing and using calorie information posted on fast food restaurant menus? Appetite. 2014;81c:30-6. PMID: 24882449.	Study Design
21	Brissette I, Lowenfels A, Noble C, Spicer D. Predictors of total calories purchased at fast-food restaurants: restaurant characteristics, calorie awareness, and use of calorie information. Journal of Nutrition Education & Behavior. 2013;45(5):404-11.	Study Design
22	Bruce AS, Lepping RJ, Bruce JM, Cherry JBC, Martin LE, Davis AM, et al. Brain responses to food logos in obese and healthy weight children. Journal of Pediatrics. 2013;162(4):759-64.e2.	Independent Variable, Outcome
23	Bruemmer B, Krieger J, Saelens BE, Chan N. Energy, saturated fat, and sodium were lower in entrees at chain restaurants at 18 months compared with 6 months following the implementation of mandatory menu labeling regulation in King County, Washington. J Acad Nutr Diet. 2012;112(8):1169-76. PMID: 22704898.	Study Design
24	Burkhart SJ, Pelly FE. Athlete use and opinion of point of choice nutrition labels at a major international	Study Design,

Excluded Articles: Food/Menu Labeling & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	competition. Appetite. 2013;70:6-13.	Location
25	Carrillo E, Varela P, Fiszman S. Influence of nutritional knowledge on the use and interpretation of Spanish nutritional food labels. J Food Sci. 2012;77(1):H1-H8.	Study Design, Location
26	Carter OB, Mills BW, Lloyd E, Phan T. An independent audit of the Australian food industry's voluntary front-of-pack nutrition labelling scheme for energy-dense nutrition-poor foods. Eur J Clin Nutr. 2013;67(1):31-5. PMID: 23169468.	Location
27	Castetbon K, Harris JL, Schwartz MB. Purchases of ready-to-eat cereals vary across US household sociodemographic categories according to nutritional value and advertising targets. Public Health Nutr. 2012;15(8):1456-65.	Study Design
28	Cavanagh KV, Kruja B, Forestell CA. The effect of brand and caloric information on flavor perception and food consumption in restrained and unrestrained eaters. Appetite. 2014;82C:1-7.	Independent Variable
29	Chand A, Eyles H, Ni Mhurchu C. Availability and accessibility of healthier options and nutrition information at New Zealand fast food restaurants. Appetite. 2012;58(1):227-33.	Location
30	Chu YH, Frongillo EA, Jones SJ. Improving Patrons' Meal Selections Through the Use of Point-of-Selection Nutrition Labels. American Journal of Public Health. 2009;99(11):2001-5.	Study Design
31	Cornwell TB, McAlister AR, Polmear-Swendris N. Children's knowledge of packaged and fast food brands and their BMI. Why the relationship matters for policy makers. Appetite. 2014;81:277-83.	Study Design, Independent Variable
32	Crockett RA, Jebb SA, Hankins M, Marteau TM. The impact of nutritional labels and socioeconomic status on energy intake. An experimental field study. Appetite. 2014;81c:12-9. PMID: 24879885.	Location
33	Dixon H, Scully M, Wakefield M, Kelly B, Chapman K, Donovan R. Parent's responses to nutrient claims and sports celebrity endorsements on energy-dense and nutrient-poor foods: an experimental study. Public Health Nutr. 2011;14(6):1071-9.	Location
34	Dixon HHDcoa, Scully M, Kelly B, Chapman K, Wakefield M. Can counter-advertising reduce pre-adolescent children's susceptibility to front-of-package promotions on unhealthy foods?: Experimental research. Social Science & Medicine. 2014;116:211-9.	Location, Independent Variable
35	Dodds P, Wolfenden L, Chapman K, Wellard L, Hughes C, Wiggers J. Energy and traffic light labelling have no impact on parent and child fast food selection. Appetite. 2013. PMID: 24512900.	Location

Excluded Articles: Food/Menu Labeling & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
36	Dodds P, Wolfenden L, Chapman K, Wellard L, Hughes C, Wiggers J. The effect of energy and traffic light labelling on parent and child fast food selection: a randomised controlled trial. Appetite. 2014;73:23-30.	Study Design, Location
37	Downs JS, Wisdom J, Wansink B, Loewenstein G. Supplementing menu labeling with calorie recommendations to test for facilitation effects. Am J Public Health. 2013;103(9):1604-9. PMID: 23865657.	Study Design
38	Drichoutis AC, Lazaridis P, Nayga RM, Jr., Kapsokefalou M, Chryssochoidis G. A theoretical and empirical investigation of nutritional label use. Eur J Health Econ. 2008;9(3):293-304. PMID: 17924154.	Study Design
39	Driskell JA, Schake MC, Detter HA. Using Nutrition Labeling as a Potential Tool for Changing Eating Habits of University Dining Hall Patrons. J Am Diet Assoc. 2008;108(12):2071-6.	Study Design
40	Duffy E, Hearty AP, Flynn A, McCarthy S, Gibney MJ. Estimation of exposure to food-packaging materials. 2: Patterns of intakes of packaged foods in Irish Children aged 5-12 years. Food Addit Contam. 2006;23(7):715-25.	Study Design, Location
41	Dumanovsky T, Huang CY, Bassett MT. Consumer Awareness of Fast-Food Calorie Information in New York City After Implementation of a Menu Labeling Regulation. American Journal of Public Health. 2010;100(12):2520-5.	Study Design, Outcome
42	Dumanovsky T, Huang CY, Nonas CA, Matte TD, Bassett MT, Silver LD. Changes in energy content of lunchtime purchases from fast food restaurants after introduction of calorie labelling: cross sectional customer surveys. Bmj. 2011;343:d4464. PMID: 21791497.	Study Design
43	Dumanovsky T, Nonas CA, Huang CY, Silver LD, Bassett MT. What people buy from fast-food restaurants: caloric content and menu item selection, New York City 2007. Obesity (Silver Spring). 2009;17(7):1369-74. PMID: 19343015.	Study Design
44	Dunford E, Trevena H, Goodsell C, Ng KH, Webster J, Millis A, et al. FoodSwitch: A Mobile Phone App to Enable Consumers to Make Healthier Food Choices and Crowdsourcing of National Food Composition Data. JMIR Mhealth Uhealth. 2014;2(3):e37.	Study Design, Independent Variable
45	Ebneter DS, Latner JD, Nigg CR. Is less always more? The effects of low-fat labeling and caloric information on food intake, calorie estimates, taste preference, and health attributions. Appetite. 2013;68:92-7. PMID: 23632034.	Independent Variable
46	Eden S. Food labels as boundary objects: How consumers make sense of organic and functional foods. Public Understanding of Science. 2011;20(2):179-94.	Location
47	Elbel B, Gyamfi J, Kersh R. Child and adolescent fast-food choice and the influence of calorie labeling: A natural experiment. International Journal of Obesity. 2011;35(4):493-500.	Study Design
48	Elbel B, Mijanovich T, Dixon LB, Abrams C, Weitzman B, Kersh R, et al. Calorie labeling, fast food purchasing and	Study Design

Excluded Articles: Food/Menu Labeling & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	restaurant visits. Obesity (Silver Spring). 2013;21(11):2172-9. PMID: 24136905.	
49	Elbel B. Consumer estimation of recommended and actual calories at fast food restaurants. Obesity (Silver Spring). 2011;19(10):1971-8. PMID: 21779085.	Study Design
50	Elliott CD, Den Hoed RC, Conlon MJ. Food branding and young children's taste preferences: A reassessment. 2013. p. e364-e8.	Independent Variable
51	Ellison Bbie, Lusk JLjloe, Davis Ddwdoe. THE IMPACT OF RESTAURANT CALORIE LABELS ON FOOD CHOICE: RESULTS FROM A FIELD EXPERIMENT. Economic Inquiry. 2014;52(2):666-81.	Study Design
52	Emrich TE, Qi Y, Mendoza JE, Lou W, Cohen JE, L'Abbe M R. Consumer perceptions of the Nutrition Facts table and front-of-pack nutrition rating systems. Appl Physiol Nutr Metab. 2014;39(4):417-24. PMID: 24669982.	Location
53	Feunekes GIJ, Gortemaker IA, Willems AA, Lion R, van den Kommer M. Front-of-pack nutrition labelling: Testing effectiveness of different nutrition labelling formats front-of-pack in four European countries. Appetite. 2008;50(1):57-70.	Location
54	Fiske A, Cullen KW. Effects of promotional materials on vending sales of low-fat items in teachers' lounges. J Am Diet Assoc. 2004;104(1):90-3. PMID: 14702590.	Independent Variable, Outcome
55	Fitch RC, Harnack LJ, Neumark-Sztainer DR, Story MT, French SA, Oakes JM, et al. Providing calorie information on fast-food restaurant menu boards: consumer views. Am J Health Promot. 2009;24(2):129-32. PMID: 19928485.	Outcome
56	Fitzgerald N, Damio G, Segura-Perez S, Perez-Escamilla R. Nutrition Knowledge, Food Label Use, and Food Intake Patterns among Latinas with and without Type 2 Diabetes. J Am Diet Assoc. 2008;108(6):960-7.	Study Design
57	Forman J, Halford JCG, Summe H, MacDougall M, Keller KL. Food branding influences ad libitum intake differently in children depending on weight status. Results of a pilot study. Appetite. 2009;53(1):76-83.	Study Design, Independent Variable
58	Freedman MR, Connors R. Point-of-purchase nutrition information influences food-purchasing behaviors of college students: a pilot study. J Am Diet Assoc. 2011;111(5 Suppl):S42-6.	Study Design
59	Gabriels G, Lambert M. Nutritional supplement products: Does the label information influence purchasing decisions for the physically active? Nutr J. 2013;12:133. PMID: 24088193.	Study Design, Independent Variable
60	Girz L, Polivy J, Herman CP, Lee H. The effects of calorie information on food selection and intake. Int J Obes (Lond). 2012;36(10):1340-5.	Location

Excluded Articles: Food/Menu Labeling & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
61	Gittelsohn J, Kim EM, He S, Pardilla M. A food store-based environmental intervention is associated with reduced BMI and improved psychosocial factors and food-related behaviors on the Navajo nation. J Nutr. 2013;143(9):1494-500. PMID: 23864511.	Independent Variable
62	Goodman S, Hammond D, Hanning R, Sheeshka J. The impact of adding front-of-package sodium content labels to grocery products: an experimental study. Public Health Nutr. 2013;16(3):383-91. PMID: 22857386.	Location
63	Goodman S, Hammond D, Pillo-Blocka F, Glanville T, Jenkins R. Use of Nutritional Information in Canada: National Trends between 2004 and 2008. J Nutr Educ Behav. 2011;43(5):356-65.	Location
64	Gorton D, Ni Mhurchu C, Chen MH, Dixon R. Nutrition labels: A survey of use, understanding and preferences among ethnically diverse shoppers in New Zealand. Public Health Nutr. 2009;12(9):1359-65.	Study Design, Location
65	Grabenhorst F, Schulte FP, Maderwald S, Brand M. Food labels promote healthy choices by a decision bias in the amygdala. NeuroImage. 2013;74:152-63.	Location, Sample Size
66	Graham DJ, Jeffery RW. Location, location, location: Eye-tracking evidence that consumers preferentially view prominently positioned nutrition information. J Am Diet Assoc. 2011;111(11):1704-11.	Study Design, Outcome
67	Graham DJ, Jeffery RW. Predictors of nutrition label viewing during food purchase decision making: an eye tracking investigation. Public Health Nutr. 2012;15(2):189-97.	Outcome
68	Graham DJ, Laska MN. Nutrition Label Use Partially Mediates the Relationship between Attitude toward Healthy Eating and Overall Dietary Quality among College	Study Design
69	Gravel K, Doucet E, Herman CP, Pomerleau S, Bourlaud AS, Provencher V. "Healthy," "diet," or "hedonic". How nutrition claims affect food-related perceptions and intake? Appetite. 2012;59(3):877-84. PMID: 22963737.	Study Design, Independent Variable
70	Gregori D, Ballali S, Vecchio MG, Contreras LMV, Correa JB, Perez CB, et al. How mothers cook in Chile: An experimental exercise to use food labels to control portion sizes. Open Obesity Journal. 2013;5(SPL.ISSUE1):22-9.	Independent Variable
71	Gregori D, Ballali S, Vecchio MG, Contreras LMV, Correa JB, Perez CB, et al. How to communicate nutritional information to people: The attitudes of Chile population toward food. Open Obesity Journal. 2013;5(SPL.ISSUE1):36-42.	Study Design, Location
72	Grigsby-Toussaint DS, Moise IK, Geiger SD. Observations of marketing on food packaging targeted to youth in retail food stores. Obesity. 2011;19(9):1898-900.	Study Design
73	Grimes CA, Riddell LJ, Nowson CA. Consumer knowledge and attitudes to salt intake and labelled salt information.	Study Design,

Excluded Articles: Food/Menu Labeling & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	Appetite. 2009;53(2):189-94.	Location
74	Gutjar S, Graaf CD, Palascha A, Jager G. Food choice. The battle between package, taste and consumption situation. Appetite. 2014;80:109-13.	Study Design
75	Hammond D, Goodman S, Hanning R, Daniel S. A randomized trial of calorie labeling on menus. Preventive Medicine. 2013;57(6):860-6.	Location, Independent Variable
76	Harnack LJ, French SA. Effect of point-of-purchase calorie labeling on restaurant and cafeteria food choices: a review of the literature. Int J Behav Nutr Phys Act. 2008;5:51.	Study Design
77	Hawthorne KM, Moreland K, Griffin IJ, Abrams SA. An Educational Program Enhances Food Label Understanding of Young Adolescents. J Am Diet Assoc. 2006;106(6):913-6.	Study Design, Independent Variable
78	Helfer P, Shultz TR. The effects of nutrition labeling on consumer food choice: a psychological experiment and computational model. Ann N Y Acad Sci. 2014.	Study Design, Location
79	Hersey JC, Wohlgenant KC, Arsenault JE, Kosa KM, Muth MK. Effects of front-of-package and shelf nutrition labeling systems on consumers. Nutrition Reviews. 2013;71(1):1-14.	Study Design
80	Hieke S, Wilczynski P. Colour Me In--an empirical study on consumer responses to the traffic light signposting system in nutrition labelling. Public Health Nutr. 2012;15(5):773-82.	Study Design, Independent Variable
81	Hodgkins C, Barnett J, Wasowicz-Kirylo G, Stysko-Kunkowska M, Gulcan Y, Kustepeli Y, et al. Understanding how consumers categorise nutritional labels: A consumer derived typology for front-of-pack nutrition labelling. Appetite. 2012;59(3):806-17.	Study Design, Independent Variable
82	Holmes AS, Serrano EL, Machin JE, Duetsch T, Davis GC. Effect of different children's menu labeling designs on family purchases. Appetite. 2013;62:198-202.	Study Design, Independent Variable
83	Huang TTK, Kaur H, McCarter KS, Nazir N, Choi WS, Ahluwalia JS. Reading nutrition labels and fat consumption in adolescents. Journal of Adolescent Health. 2004;35(5):399-401.	Study Design, Independent Variable
84	Jacobs SA, de Beer H, Larney M. Adult consumers' understanding and use of information on food labels: a study	Study Design,

Excluded Articles: Food/Menu Labeling & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	among consumers living in the Potchefstroom and Klerksdorp regions, South Africa. Public Health Nutr. 2011;14(3):510-22.	Location
85	Jacquot L, Berthaud L, Sghair A, Diep C, Brand G. The influence of "tastiness" and "healthiness" labels in cheese flavor perception. Chemosensory Perception. 2013;6(2):53-9.	Independent Variable
86	James A, Adams-Huet B, Shah M. Menu Labels Displaying the Kilocalorie Content or the Exercise Equivalent: Effects on Energy Ordered and Consumed in Young Adults. Am J Health Promot. 2014. PMID: 24575727.	Duplicate Study
87	James DCS. Factors Influencing Food Choices, Dietary Intake, and Nutrition-Related Attitudes among African Americans: Application of a Culturally Sensitive Model. Ethnicity & Health. 2004;9(4):349-67.	Study Design
88	Jordan Lin CT, Lee JY, Yen ST. Do dietary intakes affect search for nutrient information on food labels? Social Science and Medicine. 2004;59(9):1955-67.	Study Design, Outcome
89	Kang HT, Shim JY, Lee YJ, Linton JA, Park BJ, Lee HR. Reading nutrition labels is associated with a lower risk of metabolic syndrome in Korean adults: The 2007-2008 Korean NHANES. Nutrition, Metabolism and Cardiovascular Diseases. 2013;23(9):876-82.	Study Design, Location
90	Keller KL, Kuilema LG, Lee N, Yoon J, Mascaro B, Combes AL, et al. The impact of food branding on children's eating behavior and obesity. Physiology and Behavior. 2012;106(3):379-86.	Independent Variable
91	Kelly B, Hughes C, Chapman K, Louie JCY, Dixon H, Crawford J, et al. Consumer testing of the acceptability and effectiveness of front-of-pack food labelling systems for the Australian grocery market. Health Promot Int. 2009;24(2):120-9.	Location
92	Kempen E, Muller H, Symington E, van Eeden T. A study of the relationship between health awareness, lifestyle behaviour and food label usage in Gauteng. South African Journal of Clinical Nutrition. 2012;25(1):15-21.	Study Design
93	Kim HY, Lee NR, Lee JS, Choi YS, Kwak TK, Chung HR, et al. Meal skipping relates to food choice, understanding of nutrition labeling, and prevalence of obesity in Korean fifth grade children. Nutr Res Pract. 2012;6(4):328-33.	Study Design, Location
94	Kim MG, Oh SW, Han NR, Song DJ, Um JY, Bae SH, et al. Association between Nutrition Label Reading and Nutrient Intake in Korean Adults: Korea National Health and Nutritional Examination Survey, 2007-2009 (KNHANES IV). Korean J Fam Med. 2014;35(4):190-8.	Location
95	Kim MK, Lee KG. Consumer awareness and interest toward sodium reduction trends in Korea. J Food Sci. 2014;79(7):S1416-23.	Study Design, Independent Variable

Excluded Articles: Food/Menu Labeling & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
96	Kim MK, Lopetcharat K, Drake MA. Influence of packaging information on consumer liking of chocolate milk. Journal of Dairy Science. 2013;96(8):4843-56.	Independent Variable
97	Kimura A, Wada Y, Tsuzuki D, Goto S, Cai D, Dan I. Consumer valuation of packaged foods. Interactive effects of amount and accessibility of information. Appetite. 2008;51(3):628-34. PMID: 18597891.	Location, Independent Variable
98	Kiszko KM, Martinez OD, Abrams C, Elbel B. The Influence of Calorie Labeling on Food Orders and Consumption: A Review of the Literature. J Community Health. 2014.	Study Design
99	Kocken PL, Eeuwijk J, Van Kesteren NM, Dusseldorp E, Buijs G, Bassa-Dafesh Z, et al. Promoting the purchase of low-calorie foods from school vending machines: a cluster-randomized controlled study. J Sch Health. 2012;82(3):115-22. PMID: 22320335.	Location
100	Koenigstorfer J, Wasowicz-Kirylo G, Stysko-Kunkowska M, Groeppel-Klein A. Behavioural effects of directive cues on front-of-package nutrition information: the combination matters! Public Health Nutr. 2013:1-7.	Independent Variable
101	Kolodinsky J, Green J, Michahelles M, Harvey-Berino JR. The use of nutritional labels by college students in a food-court setting. Journal of American college health : J of ACH. 2008;57(3):297-302.	Study Design
102	Koutsimanis G, Getter K, Behe B, Harte J, Almenar E. Influences of packaging attributes on consumer purchase decisions for fresh produce. Appetite. 2012;59(2):270-80.	Study Design, Independent Variable
103	Krieger JW, Chan NL, Saelens BE, Ta ML, Solet D, Fleming DW. Menu labeling regulations and calories purchased at chain restaurants. Am J Prev Med. 2013;44(6):595-604. PMID: 23683977.	Study Design
104	Krukowski RA, Harvey-Berino J, Kolodinsky J, Narsana RT, DeSisto TP. Consumers May Not Use or Understand Calorie Labeling in Restaurants. J Am Diet Assoc. 2006;106(6):917-20.	Study Design
105	Kuo T, Jarosz CJ, Simon P, Fielding JE. Menu labeling as a potential strategy for combating the obesity epidemic: A health impact assessment. Am J Public Health. 2009;99(9):1680-6.	Study Design
106	Labiner-Wolfe J, Jordan Lin CT, Verrill L. Effect of low-carbohydrate claims on consumer perceptions about food products' healthfulness and helpfulness for weight management. J Nutr Educ Behav. 2010;42(5):315-20. PMID: 20828665.	Study Design, Independent Variable
107	Lahti-Koski M, Helakorpi S, Olli M, Vartiainen E, Puska P. Awareness and use of the Heart Symbol by Finnish consumers. Public Health Nutr. 2012;15(3):476-82. PMID: 21835085.	Study Design, Location

Excluded Articles: Food/Menu Labeling & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
108	Lando AM, Labiner-Wolfe J. Helping Consumers Make More Healthful Food Choices: Consumer Views on Modifying Food Labels and Providing Point-of-Purchase Nutrition Information at Quick-service Restaurants. J Nutr Educ Behav. 2007;39(3):157-63.	Study Design
109	Lando AM, Lo SC. Single-larger-portion-size and dual-column nutrition labeling may help consumers make more healthful food choices. J Acad Nutr Diet. 2013;113(2):241-50. PMID: 23351627.	Independent Variable, Outcome
110	Lassen AD, Beck A, Leedo E, Andersen EW, Christensen T, Mejborn H, et al. Effectiveness of offering healthy labelled meals in improving the nutritional quality of lunch meals eaten in a worksite canteen. Appetite. 2014;75:128-34.	Location
111	Lee-Kwan SH, Pan L, Maynard L, Kumar G, Park S, Centers for Disease C, et al. Restaurant menu labeling use among adults--17 states, 2012. MMWR - Morbidity & Mortality Weekly Report. 2014;63(27):581-4.	Study Design
112	Lewis JE, Arheart KL, LeBlanc WG, Fleming LE, Lee DJ, Davila EP, et al. Food label use and awareness of nutritional information and recommendations among persons with chronic disease. American Journal of Clinical Nutrition. 2009;90(5):1351-7.	Study Design
113	Lichtenstein AH, Carson JS, Johnson RK, Kris-Etherton PM, Pappas A, Rupp L, et al. Food-intake patterns assessed by using front-of-pack labeling program criteria associated with better diet quality and lower cardiometabolic risk. Am J Clin Nutr. 2014;99(3):454-62. PMID: 24368435.	Study Design
114	Lin CT, Yen ST. Knowledge of dietary fats among US consumers. J Am Diet Assoc. 2010;110(4):613-8. PMID: 20338288.	Study Design
115	Lin C-TJ, Lee J-Y, Yen ST. Do dietary intakes affect search for nutrient information on food labels? Social Science & Medicine. 2004;59(9):1955-67.	Study Design, Outcome
116	Linder NS, Uhl G, Fliessbach K, Trautner P, Elger CE, Weber B. Organic labeling influences food valuation and choice. NeuroImage. 2010;53(1):215-20.	Location, Independent Variable
117	Macon JF, Oakland MJ, Jensen HH, Kissack PA. Food label use by older Americans: data from the Continuing Survey of Food Intakes by Individuals and the Diet and Health Knowledge Survey 1994-96. Journal of Nutrition for the Elderly. 2004;24(1):35-52.	Study Design
118	Mayes C. Governing through choice: Food labels and the confluence of food industry and public health discourse to create 'healthy consumers'. Social Theory & Health. 2014;12(4):376-95.	Study Design

Excluded Articles: Food/Menu Labeling & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
119	McCann MT, Wallace JM, Robson PJ, Rennie KL, McCaffrey TA, Welch RW, et al. Influence of nutrition labelling on food portion size consumption. Appetite. 2013;65:153-8. PMID: 23428941.	Independent Variable
120	McLean R, Hoek J. Sodium and nutrition labelling: a qualitative study exploring New Zealand consumers' food purchasing behaviours. Public Health Nutr. 2014;17(5):1138-46.	Location
121	Mejean C, Macouillard P, Peneau S, Hercberg S, Castetbon K. Consumer acceptability and understanding of front-of-pack nutrition labels. J Hum Nutr Diet. 2013;26(5):494-503. PMID: 23534897.	Location, Independent Variable
122	Mejean C, Macouillard P, Peneau S, Hercberg S, Castetbon K. Perception of front-of-pack labels according to social characteristics, nutritional knowledge and food purchasing habits. Public Health Nutr. 2013;16(3):392-402.	Study Design
123	Mejean C, Macouillard P, Peneau S, Lassale C, Hercberg S, Castetbon K. Association of perception of front-of-pack labels with dietary, lifestyle and health characteristics. PLoS One. 2014;9(3).	Study Design
124	Mitchell RE, Ash SL, McClelland JW. Nutrition education among low-income older adults: a randomized intervention trial in Congregate Nutrition sites. Health Educ Behav. 2006;33(3):374-92. PMID: 16699126.	Study Design, Independent Variable
125	Morley B, Scully M, Martin J, Niven P, Dixon H, Wakefield M. What types of nutrition menu labelling lead consumers to select less energy-dense fast food? An experimental study. Appetite. 2013;67:8-15. PMID: 23523666.	Location
126	Namba A, Auchincloss A, Leonberg BL, Wootan MG. Exploratory analysis of fast-food chain restaurant menus before and after implementation of local calorie-labeling policies, 2005-2011. Prev Chronic Dis. 2013;10:E101.	Outcome
127	Nelson D, Graham D, Harnack L. An Objective Measure of Nutrition Facts Panel Usage and Nutrient Quality of Food Choice. J Nutr Educ Behav. 2014.	Study Design, Independent Variable
128	Nevarez CR, Lafleur MS, Schwarte LU, Rodin B, DeSilva P, Samuels SE. Salud Tiene Sabor: A model for healthier restaurants in a Latino community. Am J Prev Med. 2013;44(3 SUPPL. 3):S186-S92.	Study Design
129	Ng J, Stice E, Yokum S, Bohon C. An fMRI study of obesity, food reward, and perceived caloric density. Does a low-fat label make food less appealing? Appetite. 2011;57(1):65-72. PMID: 21497628.	Study Design, Independent Variable
130	Nikolaou CK, Hankey CR, Lean ME. Calorie-labelling: does it impact on calorie purchase in catering outlets and the	Study Design

Excluded Articles: Food/Menu Labeling & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	views of young adults? Int J Obes (Lond). 2014.	
131	Norazmir MN, Norazlanshah H, Naqieyah N, Khairil Anuar MI. Understanding and use of food package nutrition label among educated young adults. Pakistan Journal of Nutrition. 2012;11(10):836-42.	Study Design, Location
132	O'Dougherty M, Harnack LJ, French SA, Story M, Oakes JM, Jeffery RW. Nutrition labeling and value size pricing at fast-food restaurants: a consumer perspective. Am J Health Promot. 2006;20(4):247-50. PMID: 16555797.	Study Design
133	Okuda N, Nishi N, Ishikawa-Takata K, Yoshimura E, Horie S, Nakanishi T, et al. Understanding of sodium content labeled on food packages by Japanese people. Hypertens Res. 2014;37(5):467-71.	Location
134	Ollberding NJ, Wolf RL, Contento I. Food Label Use and Its Relation to Dietary Intake among US Adults. J Am Diet Assoc. 2010;110(8):1233-7.	Study Design
135	Pang J, Hammond D. Efficacy and consumer preferences for different approaches to calorie labeling on menus. J Nutr Educ Behav. 2013;45(6):669-75. PMID: 23928179.	Location
136	Petersen KS, Torpy DJ, Chapman IM, Guha S, Clifton PM, Turner K, et al. Food label education does not reduce sodium intake in people with type 2 diabetes mellitus. A randomised controlled trial. Appetite. 2013;68:147-51. PMID: 23665299.	Study Design, Location, Unhealthy Subjects
137	Petrovici DA, Ritson C. Factors influencing consumer dietary health preventative behaviours. BMC Public Health. 2006;6:222. PMID: 16948839.	Study Design, Location
138	Petrovici DA, Ritson C. Factors influencing consumer dietary health preventative behaviours. BMC Public Health. 2006;6:222. PMID: 16948839.	Study Design
139	Pettigrew S, Pescud M. The salience of food labeling among low-income families with overweight children. J Nutr Educ Behav. 2013;45(4):332-9.	Study Design
140	Piron J, Smith LV, Simon P, Cummings PL, Kuo T. Knowledge, attitudes and potential response to menu labelling in an urban public health clinic population. Public Health Nutr. 2010;13(4):550-5.	Study Design
141	Pittman DW, Parker JS, Getz BR, Jackson CM, Le TA, Riggs SB, et al. Cost-free and sustainable incentive increases healthy eating decisions during elementary school lunch. Int J Obes (Lond). 2012;36(1):76-9. PMID: 22041982.	Study Design
142	Pope L, Wolf RL. The influence of labeling the vegetable content of snack food on children's taste preferences: a pilot study. J Nutr Educ Behav. 2012;44(2):178-82. PMID: 21256811.	Independent Variable
143	Post RE, Mainous IAG, Diaz VA, Matheson EM, Everett CJ. Use of the Nutrition Facts Label in Chronic Disease Management: Results from the National Health and Nutrition Examination Survey. J Am Diet Assoc.	Study Design

Excluded Articles: Food/Menu Labeling & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	2010;110(4):628-32.	
144	Pulos E, Leng K. Evaluation of a Voluntary Menu-Labeling Program in Full-Service Restaurants. American Journal of Public Health. 2010;100(6):1035-9.	Study Design
145	Ricciuto L, Ip H, Tarasuk V. The relationship between price, amounts of saturated and trans fats, and nutrient content claims on margarines and oils. Can J Diet Pract Res. 2005;66(4):252-5. PMID: 16332300	Study Design, Location
146	Rigby PM,Tommis Y. Improving food purchasing choices through increased understanding of food labels, using itemized till receipts to measure these changes. Journal of human nutrition and dietetics. 2008;21(4):400-1. PMID:CN-00677342.	Independent Variable
147	Roberto CA, Agnew H, Brownell KD. An Observational Study of Consumers' Accessing of Nutrition Information in Chain Restaurants. American Journal of Public Health. 2009;99(5):820-1.	Study Design
148	Roberto CA, Baik J, Harris JL, Brownell KD. Influence of licensed characters on children's taste and snack preferences. Pediatrics. 2010;126(1):88-93. PMID: 20566614.	Study Design, Independent Variable
149	Roberto CA, Bragg MA, Livingston KA, Harris JL, Thompson JM, Seamans MJ, et al. Choosing front-of-package food labelling nutritional criteria: how smart were 'Smart Choices'? Public Health Nutr. 2012;15(2):262-7.	Study Design, Independent Variable
150	Roberto CA, Bragg MA, Schwartz MB, Seamans MJ, Musicus A, Novak N, et al. Facts up front versus traffic light food labels: a randomized controlled trial. Am J Prev Med. 2012;43(2):134-41. PMID: 22813677.	Study Design, Independent Variable
151	Roberto CA, Bragg MA, Seamans MJ, Mechulan RL, Novak N, Brownell KD. Evaluation of consumer understanding of different front-of-package nutrition labels, 2010-2011. Prev Chronic Dis. 2012;9:E149. PMID: 22995103.	Independent Variable
152	Roberto CA, Shivaram M, Martinez O, Boles C, Harris JL, Brownell KD. The Smart Choices front-of-package nutrition label. Influence on perceptions and intake of cereal. Appetite. 2012;58(2):651-7. PMID: 22248710.	Independent Variable
153	Rosentreter SC, Eyles H, Ni Mhurchu C. Traffic lights and health claims: a comparative analysis of the nutrient profile of packaged foods available for sale in New Zealand supermarkets. Aust N Z J Public Health. 2013;37(3):278-83. PMID: 23731112.	Study Design, Location
154	Rothman RL, Housam R, Weiss H, Davis D, Gregory R, Gebretsadik T, et al. Patient Understanding of Food Labels. The Role of Literacy and Numeracy. Am J Prev Med. 2006;31(5):391-8.	Study Design

Excluded Articles: Food/Menu Labeling & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
155	Rovner AJ, Nansel TR, Mehta SN, Higgins LA, Haynie DL, Laffel LM. Development and validation of the type 1 diabetes nutrition knowledge survey. Diabetes Care. 2012;35(8):1643-7. PMID: 22665217.	Study Design
156	Saarela AM. Change of behaviour when selecting food products in a supermarket environment after reminding consumers about weight management. Public Health Nutr. 2014;17(5):1147-55.	Study Design, Location
157	Sacks G, Rayner M, Swinburn B. Impact of front-of-pack 'traffic-light' nutrition labelling on consumer food purchases in the UK. Health Promot Int. 2009;24(4):344-52.	Location
158	Sacks G, Tikellis K, Millar L, Swinburn B. Impact of 'traffic-light' nutrition information on online food purchases in Australia. Aust N Z J Public Health. 2011;35(2):122-6. PMID: 21463406.	Location, Independent Variable
159	Sacks G, Veerman JL, Moodie M, Swinburn B. Traffic-light nutrition labelling and junk-food tax: A modelled comparison of cost-effectiveness for obesity prevention. International Journal of Obesity. 2011;35(7):1001-9.	Independent Variable, Outcome
160	Saelens BE, Chan NL, Krieger J, Nelson Y, Boles M, Colburn TA, et al. Nutrition-labeling regulation impacts on restaurant environments. Am J Prev Med. 2012;43(5):505-11.	Study Design, Location
161	Saha S, S RV, Mendu VV, Gavaravarapu SM. Knowledge and practices of using food label information among adolescents attending schools in Kolkata, India. J Nutr Educ Behav. 2013;45(6):773-9. PMID: 24021455.	Study Design, Location
162	Sahingoz SA. Child consumers' food label reading habits and health. HealthMED. 2012;6(12):4135-40.	Study Design, Independent Variable, Outcome
163	Savoie N, Barlow K, Harvey KL, Binnie MA, Pasut L. Consumer perceptions of front-of-package labelling systems and healthiness of foods. 2013. p. e359-e63.	Location, Independent Variable
164	Schindler J, Kiszko K, Abrams C, Islam N, Elbel B. Environmental and Individual Factors Affecting Menu Labeling Utilization: A Qualitative Research Study. J Acad Nutr Diet. 2013;113(5):667-72.	Study Design
165	Schmitt NM, Wagner N, Kirch W. Consumers' freedom of choice—advertising aimed at children, product placement, and food labeling. Journal of Public Health (09431853). 2007;15(1):57-62.	Study Design, Location
166	Scourboutakos MJ, L'Abbe MR. Restaurant menus: calories, caloric density, and serving size. Am J Prev Med. 2012;43(3):249-55. PMID: 22898117.	Study Design, Location, Independent

Excluded Articles: Food/Menu Labeling & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
		Variable
167	Sharif MZ, Rizzo S, Prelip ML, Glik DC, Belin TR, Langellier BA, et al. The Association between Nutrition Facts Label Utilization and Comprehension among Latinos in Two East Los Angeles Neighborhoods. J Acad Nutr Diet. 2014.	Study Design
168	Sinclair SE, Cooper M, Mansfield ED. The influence of menu labeling on calories selected or consumed: a systematic review and meta-analysis. J Acad Nutr Diet. 2014;114(9):1375-88 e15.	Study Design
169	Soldavini J, Crawford P, Ritchie LD. Nutrition claims influence health perceptions and taste preferences in fourth- and fifth-grade children. J Nutr Educ Behav. 2012;44(6):624-7. PMID: 23010013.	Study Design, Outcome
170	Sonnenberg L, Gelsomin E, Levy DE, Riis J, Barraclough S, Thorndike AN. A traffic light food labeling intervention increases consumer awareness of health and healthy choices at the point-of-purchase.[Erratum appears in Prev Med. 2014 Feb;59:86]. Preventive Medicine. 2013;57(4):253-7.	Study Design
171	Sosa ET, Biediger-Friedman L, Banda M. Associations between a voluntary restaurant menu designation initiative and patron purchasing behavior. Health Promotion Practice. 2014;15(2):281-7.	Study Design
172	Steenhuis I, van Assema P, van Breukelen G, Glanz K. The effectiveness of nutrition education and labeling in Dutch supermarkets. Am J Health Promot. 2004;18(3):221-4. PMID: 14748311.	Study Design, Location
173	Storcksdieck Genannt Bonsmann S, Wills JM. Nutrition Labeling to Prevent Obesity: Reviewing the Evidence from Europe. Curr Obes Rep. 2012;1(3):134-40.	Study Design, Location
174	Stran KA, Knol LL. Determinants of Food Label Use Differ by Sex. J Acad Nutr Diet. 2013;113(5):673-9.	Study Design
175	Swartz JJ, Braxton D, Viera AJ. Calorie menu labeling on quick-service restaurant menus: An updated systematic review of the literature. International Journal of Behavioral Nutrition and Physical Activity. 2011:135.	Study Design
176	Swartz JJ, Dowray S, Braxton D, Mihas P, Viera AJ. Simplifying healthful choices: A qualitative study of a physical activity based nutrition label format. Nutr J. 2013;12(1).	Study Design
177	Taksler GB, Elbel B. Calorie labeling and consumer estimation of calories purchased. International Journal of Behavioral Nutrition and Physical Activity. 2014:91.	Study Design
178	Tandon PS, Zhou C, Chan NL, Lozano P, Couch SC, Glanz K, et al. The impact of menu labeling on fast-food purchases for children and parents. Am J Prev Med. 2011;41(4):434-8.	Study Design
179	Temme EH, van der Voet H, Roodenburg AJ, Bulder A, van Donkersgoed G, van Klaveren J. Impact of foods with health logo on saturated fat, sodium and sugar intake of young Dutch adults. Public Health Nutr. 2011;14(4):635-44.	Location

Excluded Articles: Food/Menu Labeling & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
180	Temple JL, Johnson K, Recupero K, Suders H. Nutrition labels decrease energy intake in adults consuming lunch in the laboratory. J Am Diet Assoc. 2011;111(5 Suppl):S52-5. PMID: 21515136.	Study Design, Independent Variable
181	Temple JL, Johnson KM, Archer K, Lacarte A, Yi C, Epstein LH. Influence of simplified nutrition labeling and taxation on laboratory energy intake in adults. Appetite. 2011;57(1):184-92. PMID: 21569807.	Study Design, Independent Variable
182	Thorndike AN, Riis J, Sonnenberg LM, Levy DE. Traffic-light labels and choice architecture: Promoting healthy food choices. Am J Prev Med. 2014;46(2):143-9.	Study Design
183	Torres-Moreno M, Tarrega A, Torrescasana E, Blanch C. Influence of label information on dark chocolate acceptability. Appetite. 2012;58(2):665-71.	Study Design, Outcome
184	Turconi G, Bazzano R, Roggi C, Cena H. Helping consumers make a more conscious nutritional choice: acceptability of nutrition information at a cafeteria. Public Health Nutr. 2012;15(5):792-801. PMID: 22122811.	Study Design
185	Urban LE, Lichtenstein AH, Gary CE, Fierstein JL, Equi A, Kussmaul C, et al. The energy content of restaurant foods without stated calorie information. JAMA Intern Med. 2013;173(14):1292-9. PMID: 23700076.	Independent Variable, Outcome
186	Vadiveloo MK, Dixon LB, Elbel B. Consumer purchasing patterns in response to calorie labeling legislation in New York City. International Journal of Behavioral Nutritio	Study Design
187	van der Merwe D, Bosman M, Ellis S, de Beer H, Mielmann A. Consumers' knowledge of food label information: an exploratory investigation in Potchefstroom, South Africa. Public Health Nutr. 2013;16(3):403-8.	Location
188	van Herpen E, Hieke S, van Trijp HC. Inferring product healthfulness from nutrition labelling. The influence of reference points. Appetite. 2014;72:138-49. PMID: 24416796.	Study Design, Location, Independent Variable
189	van Herpen E, Trijp HCMV. Front-of-pack nutrition labels. Their effect on attention and choices when consumers have varying goals and time constraints. Appetite. 2011;57(1):148-60.	Location, Outcome
190	Van Kleef E, Van Trijp H, Paeps F, Fernandez-Celemin L. Consumer preferences for front-of-pack calories labelling. Public Health Nutr. 2008;11(2):203-13.	Location
191	Vanderlee L, Goodman S, Sae Yang W, Hammond D. Consumer understanding of calorie amounts and serving size: implications for nutritional labelling. Can J Public Health. 2012;103(5):e327-31. PMID: 23617982.	Location

Excluded Articles: Food/Menu Labeling & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
192	Vanderlee L, Hammond D. Does nutrition information on menus impact food choice? Comparisons across two hospital cafeterias. Public Health Nutr. 2014;17(6):1393-402.	Study Design
193	Vargas-Bustamante A. Menu labeling perception and health behaviors among immigrant and US born minority populations: Assessment in two Los Angeles public markets. Salud Publica Mex. 2013;55 Suppl 4:s515-22.	Study Design, Independent Variable
194	Vemula SR, Gavaravarapu SM, Mendu VV, Mathur P, Avula L. Use of food label information by urban consumers in India - a study among supermarket shoppers. Public Health Nutr. 2013:1-11. PMID: 23965761.	Study Design, Location
195	Vermeer WM, Steenhuis IH, Leeuwis FH, Bos AE, de Boer M, Seidell JC. View the label before you view the movie: a field experiment into the impact of portion size and Guideline Daily Amounts labelling on soft drinks in cinemas. BMC Public Health. 2011;11:438.	Location
196	Vermeer WM, Steenhuis IHM, Leeuwis FH, Bos AER, de Boer M, Seidell JC. Portion Size Labeling and Intended Soft Drink Consumption: The Impact of Labeling Format and Size Portfolio. J Nutr Educ Behav. 2010;42(6):422-6.	Location, Independent Variable
197	Vyth EL, Steenhuis IH, Heymans MW, Roodenburg AJ, Brug J, Seidell JC. Influence of placement of a nutrition logo on cafeteria menu items on lunchtime food Choices at Dutch work sites. J Am Diet Assoc. 2011;111(1):131-6. PMID: 21185975.	Location
198	Vyth EL, Steenhuis IH, Roodenburg AJ, Brug J, Seidell JC. Front-of-pack nutrition label stimulates healthier product development: a quantitative analysis. Int J Behav Nutr Phys Act. 2010;7:65.	Study Design, Location
199	Vyth EL, Steenhuis IH, Vlot JA, Wulp A, Hogenes MG, Looije DH, et al. Actual use of a front-of-pack nutrition logo in the supermarket: consumers' motives in food choice. Public Health Nutr. 2010;13(11):1882-9.	Location, Independent Variable
200	Vyth EL, Van Der Meer EW, Seidell JC, Steenhuis IH. A nutrition labeling intervention in worksite cafeterias: an implementation evaluation across two large catering companies in the Netherlands. Health Promot Int. 2012;27(2):230-7.	Location
201	Wagner HS, Howland M, Mann T. Effects of Subtle and Explicit Health Messages on Food Choice. Health Psychology. 2014.	Study Design, Independent Variable
202	Wahlich C, Gardner B, McGowan L. How, when and why do young women use nutrition information on food	Study Design,

Excluded Articles: Food/Menu Labeling & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	labels? A qualitative analysis. Psychology and Health. 2013;28(2):202-16.	Location
203	Waterlander WE, Steenhuis IH, de Boer MR, Schuit AJ, Seidell JC. Effects of different discount levels on healthy products coupled with a healthy choice label, special offer label or both: results from a web-based supermarket experiment. Int J Behav Nutr Phys Act. 2013;10:59. PMID: 23680347.	Independent Variable
204	Watson WL, Chapman K, King L, Kelly B, Hughes C, Yu Louie JC, et al. How well do Australian shoppers understand energy terms on food labels? Public Health Nutrition. 2013;16(3):409-17.	Study Design, Location
205	Watson WL, Kelly B, Hector D, Hughes C, King L, Crawford J, et al. Can front-of-pack labelling schemes guide healthier food choices? Australian shoppers' responses to seven labelling formats. Appetite. 2014;72:90-7. PMID: 24126243.	Study Design, Location
206	Wethington H, Maynard LM, Blanck HM. Use of calorie information at fast food and chain restaurants among US youth aged 9-18 years, 2010. Journal of Public Health. 2013;35(3):354-60.	Study Design
207	Wiles NL, Paterson M, Meaker JL, Nut M. What factors determine the use of the nutrition information on the food label when female consumers from Pietermaritzburg select and purchase fat spreads? South African Journal of Clinical Nutrition. 2009;22(2):69-73.	Location
208	Williams SL, Mummery KW. Characteristics of consumers using 'better for you' front-of-pack food labelling schemes - an example from the Australian Heart Foundation Tick. Public Health Nutrition. 2013;16(12):2265-72.	Study Design, Location
209	Wojcicki JM, Heyman MB. Adolescent nutritional awareness and use of food labels: Results from the national nutrition health and examination survey. BMC Pediatrics. 2012;12.	Study Design
210	Wojcicki JM, Heyman MB. Use of food labels, awareness of nutritional programmes and participation in the special supplemental program for Women, Infants and Children (WIC): Results from the National Health and Nutrition Examination Survey (2005-2006). Maternal and Child Nutrition. 2013;9(3):299-308.	Study Design
211	Wong CL, Arcand J, Mendoza J, Henson SJ, Qi Y, Lou W, et al. Consumer attitudes and understanding of low-sodium claims on food: an analysis of healthy and hypertensive individuals. Am J Clin Nutr. 2013;97(6):1288-98. PMID: 23576050.	Study Design, Location
212	Wong CL, Mendoza J, Henson SJ, Qi Y, Lou W, L'Abbe MR. Consumer attitudes and understanding of cholesterol-lowering claims on food: randomize mock-package experiments with plant sterol and oat fibre claims. Eur J Clin Nutr. 2014. PMID: 24918122.	Location
213	Wu HW, Sturm R. Changes in the energy and sodium content of main entrees in US chain restaurants from 2010	Study Design,

Excluded Articles: Food/Menu Labeling & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	to 2011. J Acad Nutr Diet. 2014;114(2):209-19.	Independent Variable
214	Yazar K, Seimyr GO, Novak JA, White IR, Liden C. Readability of product ingredient labels can be improved by simple means: An experimental study. Contact Dermatitis. 2014.	Study Design, Outcome

APPENDIX G: HOUSEHOLD FOOD INSECURITY (HFI) – EXCLUDED ARTICLES LIST

Archived from www.NEL.gov on March 21, 2017

Excluded Articles: Household Food Insecurity (HFI) & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
1	Angell-Andersen E,Tretli S,Bjerknes R,Forsen T,Sorensen TI,Eriksson JG,Rasanen L,Grotmol T. The association between nutritional conditions during World War II and childhood anthropometric variables in the Nordic countries. Ann Hum Biol. 2004;31(3):342-55. PMID:15204349.	Independent Variable
2	Arcan C,Neumark-Sztainer D,Hannan P,van den Berg P,Story M,Larson N. Parental eating behaviours, home food environment and adolescent intakes of fruits, vegetables and dairy foods: longitudinal findings from Project EAT. Public Health Nutr. 2007;10(11):1257-65. PMID:17391551.	Independent Variable
3	Bartfeld JS,Ahn HM. The School Breakfast Program strengthens household food security among low-income households with elementary school children. J Nutr. 2011;141(3):470-5. PMID:21228262.	Independent Variable
4	Belsky DW,Moffitt TE,Arseneault L,Melchior M,Caspi A. Context and sequelae of food insecurity in children's development. American Journal of Epidemiology. 2010;172(7):809-818.	Outcome
5	Bodor JN,Rice JC,Farley TA,Swalm CM,Rose D. The association between obesity and urban food environments. J Urban Health. 2010;87(5):771-81. PMID:20458548.	Independent Variable
6	Borders AE,Grobman WA,Amsden LB,Holl JL. Chronic stress and low birth weight neonates in a low-income population of women. Obstet Gynecol. 2007;109(2 Pt 1):331-8. PMID:17267833.	Independent Variable
7	Bronte-Tinkew J,Zaslow M,Capps R,Horowitz A,McNamara M. Food insecurity works through depression, parenting, and infant feeding to influence overweight and health in toddlers. J Nutr. 2007;137(9):2160-5. PMID:17709458.	Age
8	Carter MA. Do childhood excess weight and family food insecurity share common risk factors in the local environment? An examination using a Quebec birth cohort. Appl Physiol Nutr Metab. 2014;39(3):404. PMID:24552390.	Independent Variable, Not Peer Reviewed
9	Casey PH,Simpson PM,Gossett JM,Bogle ML,Champagne CM,Connell C,Harsha D,McCabe-Sellers B,Robbins JM,Stuff JE,Weber J. The association of child and household food insecurity with childhood overweight status. Pediatrics. 2006;118(5):e1406-13. PMID:17079542.	Study Design
10	Chen L,Wahlqvist ML,Teng NC,Lu HM. Imputed food insecurity as a predictor of disease and mental health in Taiwanese elementary school children. Asia Pac J Clin Nutr. 2009;18(4):605-19. PMID:19965355.	Independent Variable, Outcome
11	Davila E. Food insecurity produces adverse health outcomes. International Pediatrics. 2006;21(3):183.	Study Design
12	Drewett RF,Corbett SS,Wright CM. Physical and emotional development, appetite and body image in adolescents who failed to thrive as infants. J Child Psychol Psychiatry. 2006;47(5):524-31. PMID:16671935.	Independent Variable

Excluded Articles: Household Food Insecurity (HFI) & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
13	Eisenmann JC,Gundersen C,Lohman BJ,Garasky S,Stewart SD. Is food insecurity related to overweight and obesity in children and adolescents? A summary of studies, 1995-2009. Obesity Reviews. 2011;12(501):e73-e83.	Study Design
14	Ertel KA,Koenen KC,Rich-Edwards JW,Gillman MW. Maternal depressive symptoms not associated with reduced height in young children in a US prospective cohort study. PLoS One. 2010;5(10):e13656. PMID:21048958.	Independent Variable
15	Feinberg E,Kavanagh PL,Young RL,Prudent N. Food insecurity and compensatory feeding practices among urban black families. Pediatrics. 2008;122(4):e854-e860.	Study Design, Outcome
16	Frongillo EA,Wolfe WS. Impact of participation in Home-Delivered Meals on nutrient intake, dietary patterns, and food insecurity of older persons in New York state. J Nutr Elder. 2010;29(3):293-310. PMID:20711924.	Independent Variable
17	Gibson D. Long-term food stamp program participation is differentially related to overweight in young girls and boys. J Nutr. 2004;134(2):372-9. PMID:14747674.	Independent Variable
18	Hanson KL,Olson CM. Chronic health conditions and depressive symptoms strongly predict persistent food insecurity among rural low-income families. J Health Care Poor Underserved. 2012;23(3):1174-88. PMID:24212167.	Independent Variable, Outcome
19	Heflin CM,Siefert K,Williams DR. Food insufficiency and women's mental health: findings from a 3-year panel of welfare recipients. Soc Sci Med. 2005;61(9):1971-82. PMID:15927331.	Outcome
20	Hernandez DC,Jacknowitz A. Transient, but not persistent, adult food insecurity influences toddler development. J Nutr. 2009;139(8):1517-24. PMID:19535426.	Age
21	Hill C,Saxton J,Webber L,Blundell J,Wardle J. The relative reinforcing value of food predicts weight gain in a longitudinal study of 7-10-y-old children. American Journal of Clinical Nutrition. 2009;90(2):276-281.	Independent Variable
22	Howard LL. Transitions between food insecurity and food security predict children's social skill development during elementary school. Br J Nutr. 2011;105(12):1852-60. PMID:21269533.	Outcome
23	Huddleston-Casas C,Charnigo R,Simmons LA. Food insecurity and maternal depression in rural, low-income families: a longitudinal investigation. Public Health Nutr. 2009;12(8):1133-40. PMID:18789167.	Outcome
24	Jacob AN,Salinas K,Adams-Huet B,Raskin P. Potential causes of weight gain in type 1 diabetes mellitus. Diabetes Obes Metab. 2006;8(4):404-11. PMID:16776747.	Unhealthy Subjects
25	Kin CFW,Shan WSY,Shun LJC,Chung LP,Jean W. Experience of famine and bone health in post-menopausal women. International Journal of Epidemiology. 2007;36(5):1143-1150.	Independent Variable, Outcome
26	Kirkpatrick SI,McIntyre L,Potestio ML. Child hunger and long-term adverse consequences for health. Arch Pediatr Adolesc Med. 2010;164(8):754-62. PMID:20679167.	Outcome

Excluded Articles: Household Food Insecurity (HFI) & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
27	Laraia BA,Siega-Riz AM,Gundersen C,Dole N. Psychosocial factors and socioeconomic indicators are associated with household food insecurity among pregnant women. J Nutr. 2006;136(1):177-82. PMID:16365079.	Study Design, Independent Variable
28	Lee H. The role of local food availability in explaining obesity risk among young school-aged children. Soc Sci Med. 2012;74(8):1193-203. PMID:22381683.	Independent Variable
29	Leung CW,Cluggish S,Villamor E,Catalano PJ,Willett WC,Rimm EB. Few changes in food security and dietary intake from short-term participation in the Supplemental Nutrition Assistance Program among low-income Massachusetts adults. J Nutr Educ Behav. 2014;46(1):68-74. PMID:24238909.	Independent Variable
30	Leung CW,Laraia BA,Kelly M,Nickleach D,Adler NE,Kushi LH,Yen IH. The influence of neighborhood food stores on change in young girls' body mass index. Am J Prev Med. 2011;41(1):43-51. PMID:21665062.	Independent Variable
31	Lumey LH,Stein AD,Kahn HS,Van der Pal-de Bruin KM,Blauw GJ,Zybert PA,Susser ES. Cohort profile: The Dutch Hunger Winter families study. International Journal of Epidemiology. 2007;36(6):1196-1204.	Independent Variable
32	Lyles CR,Wolf MS,Schillinger D,Davis TC,Dewalt D,Dahlke AR,Curtis L,Seligman HK. Food insecurity in relation to changes in hemoglobin A1c, self-efficacy, and fruit/vegetable intake during a diabetes educational intervention. Diabetes Care. 2013;36(6):1448-53. PMID:23275354.	Unhealthy Subjects
33	Martin-Fernandez J,Caillavet F,Lhuissier A,Chauvin P. Food insecurity, a determinant of obesity? - an analysis from a population-based survey in the paris metropolitan area, 2010. Obes Facts. 2014;7(2):120-9. PMID:24801221.	Study Design
34	Melchior M,Caspi A,Howard LM,Ambler AP,Bolton H,Mountain N,Moffitt TE. Mental health context of food insecurity: A representative cohort of families with young children. Pediatrics. 2009;124(4):e564-e572.	Independent Variable, Outcome
35	Melchior M,Chastang JF,Falissard B,Galera C,Tremblay RE,Cote SM,Boivin M. Food insecurity and children's mental health: a prospective birth cohort study. PLoS One. 2012;7(12):e52615. PMID:23300723.	Outcome
36	Metallinos-Katsaras E,Gorman KS,Wilde P,Kallio J. A longitudinal study of WIC participation on household food insecurity. Matern Child Health J. 2011;15(5):627-33. PMID:20455015.	Independent Variable
37	Nalty CC,Sharkey JR,Dean WR. School-based nutrition programs are associated with reduced child food insecurity over time among Mexican-origin mother-child dyads in Texas Border Colonias. J Nutr. 2013;143(5):708-13. PMID:23486977.	Study Design, Outcome
38	Pilgrim A,Barker M,Jackson A,Ntani G,Crozier S,Inskip H,Godfrey K,Cooper C,Robinson S. Does living in a food insecure household impact on the diets and body composition of young children? Findings from the Southampton	Study Design

Excluded Articles: Household Food Insecurity (HFI) & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
	Women's Survey. J Epidemiol Community Health. 2012;66(6):e6. PMID:21652519.	
39	Powell LM,Bao Y. Food prices, access to food outlets and child weight. Econ Hum Biol. 2009;7(1):64-72. PMID:19231301.	Independent Variable
40	Powell LM,Zhao Z,Wang Y. Food prices and fruit and vegetable consumption among young American adults. Health and Place. 2009;15(4):1064-1070.	Independent Variable
41	Rao S,Kanade AN,Yajnik CS,Fall CH. Seasonality in maternal intake and activity influence offspring's birth size among rural Indian mothers--Pune Maternal Nutrition Study. Int J Epidemiol. 2009;38(4):1094-103. PMID:19498084.	Country, Independent Variable
42	Rao S,Kanade AN,Yajnik CS,Fall CHD. Seasonality in maternal intake and activity influence offspring's birth size among rural Indian mothers - Pune Maternal Nutrition Study. International Journal of Epidemiology. 2009;38(4):1094-1103.	Country, Independent Variable
43	Rosas LG,Harley K,Fernald LCH,Guendelman S,Mejia F,Neufeld LM,Eskenazi B. Dietary Associations of Household Food Insecurity among Children of Mexican Descent: Results of a Binational Study. Journal of the American Dietetic Association. 2009;109(12):2001-2009.	Study Design
44	Roseboom T,de Rooij S,Painter R. The Dutch famine and its long-term consequences for adult health. Early Human Development. 2006;82(8):485-491.	Independent Variable
45	Ryu JH,Bartfeld JS. Household food insecurity during childhood and subsequent health status: the early childhood longitudinal study--kindergarten cohort. Am J Public Health. 2012;102(11):e50-5. PMID:22994255.	Outcome
46	Seligman HK,Davis TC,Schillinger D,Wolf MS. Food insecurity is associated with hypoglycemia and poor diabetes self-management in a low-income sample with diabetes. J Health Care Poor Underserved. 2010;21(4):1227-33. PMID:21099074.	Unhealthy Subjects
47	Sharkey JR,Nalty C,Johnson CM,Dean WR. Children's very low food security is associated with increased dietary intakes in energy, fat, and added sugar among Mexican-origin children (6-11 y) in Texas border Colonias. BMC Pediatr. 2012;12:16. PMID:22348599.	Study Design
48	Sharkey JR,Schoenberg NE. Prospective study of black-white differences in food insufficiency among homebound elders. J Aging Health. 2005;17(4):507-27. PMID:16020577.	Independent Variable, Outcome
49	Sharkey JR. Longitudinal examination of homebound older adults who experience heightened food insufficiency: effect of diabetes status and implications for service provision. Gerontologist. 2005;45(6):773-82. PMID:16326659.	Independent Variable, Unhealthy

Excluded Articles: Household Food Insecurity (HFI) & Dietary Intake/Body Weight

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Excluded Citations	Reason for Exclusion
		Subjects
50	Shier V,An R,Sturm R. Is there a robust relationship between neighbourhood food environment and childhood obesity in the USA?. Public Health. 2012;126(9):723-30. PMID:22898435.	Independent Variable
51	Siefert K,Heflin CM,Corcoran ME,Williams DR. Food insufficiency and physical and mental health in a longitudinal survey of welfare recipients. J Health Soc Behav. 2004;45(2):171-86. PMID:15305758.	Outcome
52	Song S. Does Famine have a long-term effect on cohort mortality? Evidence from the 19591961 Great Leap Forward Famine in China. Journal of Biosocial Science. 2009;41(4):469-491.	Country, Independent Variable
53	van Jaarsveld CH,Johnson L,Llewellyn C,Wardle J. Gemini: a UK twin birth cohort with a focus on early childhood weight trajectories, appetite and the family environment. Twin Res Hum Genet. 2010;13(1):72-8. PMID:20158309.	Study Design, Independent Variable
54	Vereecken C,Haerens L,De Bourdeaudhuij I,Maes L. The relationship between children's home food environment and dietary patterns in childhood and adolescence. Public health nutrition. 2010;13(10 A):1729-1735.	Independent Variable
55	Wilde PE,Nord M,Zager RE. In longitudinal data from the survey of program dynamics, 16.9% of the u.s. population was exposed to household food insecurity in a 5-year period. Journal of Hunger and Environmental Nutrition. 2010;5(3):380-398.	Study Design
56	Young SL,Plenty AH,Luwedde FA,Natamba BK,Natureeba P,Achan J,Mwesigwa J,Ruel TD,Ades V,Osterbauer B,Clark TD,Dorsey G,Charlebois ED,Kamya M,Havlir DV,Cohan DL. Household Food Insecurity, Maternal Nutritional Status, and Infant Feeding Practices Among HIV-infected Ugandan Women Receiving Combination Antiretroviral Therapy. Matern Child Health J. 2014. PMID:24585398.	Country, Unhealthy Subjects

APPENDIX H: ACCULTURATION – DIETARY INTAKE – EXCLUDED ARTICLES LIST

Archived from www.NEL.gov on March 21, 2017

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
1	Abou El Hassan D,Hekmat S. Dietary acculturation of Arab immigrants in the Greater Toronto Area. Can J Diet Pract Res. 2012. 73:143-6. PMID:22958634.	Country
2	Abraido-Lanza AF,Chao MT,Florez KR. Do healthy behaviors decline with greater acculturation? Implications for the Latino mortality paradox. Soc Sci Med. 2005. 61:1243-55. PMID:15970234.	Independent Variable
3	Abu-Saad K,Shahar DR,Fraser D,Vardi H,Friger M,Bolotin A,Freedman LS. Adequacy of usual dietary intake and nutritional status among pregnant women in the context of nutrition transition: the DEPOSIT Study. Br J Nutr. 2012. 108:1874-83. PMID:22264559.	Country
4	Ahn MK,Juon HS,Gittelsohn J. Association of race/ethnicity, socioeconomic status, acculturation, and environmental factors with risk of overweight among adolescents in California, 2003. Prev Chronic Dis. 2008. 5:A75. PMID:18558025.	Independent Variable
5	Alkerwi A,Sauvageot N,Pagny S,Beissel J,Delagardelle C,Lair ML. Acculturation, immigration status and cardiovascular risk factors among Portuguese immigrants to Luxembourg: findings from ORISCAV-LUX study. BMC Public Health. 2012. 12:864. PMID:23057477.	Country
6	Allen ML,Elliott MN,Morales LS,Diamant AL,Hambarsoomian K,Schuster MA. Adolescent participation in preventive health behaviors, physical activity, and nutrition: differences across immigrant generations for Asians and Latinos compared with Whites. Am J Public Health. 2007. 97:337-43. PMID:17138919.	Independent Variable
7	Andaya AA,Arredondo EM,Alcaraz JE,Lindsay SP,Elder JP. The association between family meals, TV viewing during meals, and fruit, vegetables, soda, and chips intake among Latino children. J Nutr Educ Behav. 2011. 43:308-15. PMID:20965787.	Independent Variable
8	Andersen S,Laurberg P,Hvingel B,Kleinschmidt K,Heickendorff L,Mosekilde L. Vitamin D status in Greenland is influenced by diet and ethnicity: a population-based survey in an Arctic society in transition. Br J Nutr. 2013. 109:928-35. PMID:22682501.	Country
9	Anderson AK,Damio G,Himmelgreen DA,Peng YK,Segura-Perez S,Perez-Escamilla R. Social capital, acculturation, and breastfeeding initiation among Puerto Rican women in the United States. J Hum Lact. 2004. 20:39-45. PMID:14974699.	Outcome
10	Anderson AS,Bush H,Lean M,Bradby H,Williams R,Lea E. Evolution of atherogenic diets in South Asian and Italian women after migration to a higher risk region. J Hum Nutr Diet. 2005. 18:33-43. PMID:15647097.	Country
11	Arandia G,Nalty C,Sharkey JR,Dean WR. Diet and acculturation among Hispanic/Latino older adults in the United States: a review of literature and recommendations. J Nutr Gerontol Geriatr. 2012. 31:16-37. PMID:22335438.	Study Design

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
12	Ard JD,Skinner CS,Chen C,Aickin M,Svetkey LP. Informing cancer prevention strategies for African Americans: the relationship of African American acculturation to fruit, vegetable, and fat intake. J Behav Med. 2005. 28:239-47. PMID:16015458.	Independent Variable, Sample Size
13	Ariza AJ,Chen EH,Binns HJ,Christoffel KK. Risk factors for overweight in five- to six-year-old Hispanic-American children: a pilot study. J Urban Health. 2004. 81:150-61. PMID:15047793.	Independent Variable, Sample Size
14	Aroian KJ,Peters RM,Rudner N,Waser L. Hypertension prevention beliefs of Hispanics. J Transcult Nurs. 2012. 23:134-42. PMID:22294336.	Study Design
15	Arredondo EM,Elder JP,Ayala GX,Campbell N,Baquero B,Duerksen S. Is parenting style related to children's healthy eating and physical activity in Latino families?. Health Educ Res. 2006. 21:862-71. PMID:17032706.	Independent Variable, Outcome
16	Arredondo EM,Elder JP,Ayala GX,Slymen D,Campbell NR. Association of a traditional vs shared meal decision-making and preparation style with eating behavior of Hispanic women in San Diego County. J Am Diet Assoc. 2006. 106:38-45. PMID:16390665.	Study Design, Independent Variable
17	August KJ,Sorkin DH. Racial/ethnic disparities in exercise and dietary behaviors of middle-aged and older adults. J Gen Intern Med. 2011. 26:245-50. PMID:20865342.	Independent Variable
18	Austin JL,Smith JE,Gianini L,Campos-Melady M. Attitudinal familism predicts weight management adherence in Mexican-American women. J Behav Med. 2013. 36:259-69. PMID:22487966.	Study Design, Independent Variable
19	Ayala GX,Baquero B,Arredondo EM,Campbell N,Larios S,Elder JP. Association between family variables and Mexican American children's dietary behaviors. J Nutr Educ Behav. 2007. 39:62-9. PMID:17346653.	Independent Variable
20	Ayala GX,Baquero B,Klinger S. A systematic review of the relationship between acculturation and diet among Latinos in the United States: implications for future research. J Am Diet Assoc. 2008. 108:1330-44. PMID:18656573.	Study Design
21	Ayala GX,Elder JP,Campbell NR,Slymen DJ,Roy N,Engelberg M,Ganiats T. Correlates of body mass index and waist-to-hip ratio among Mexican women in the United States: implications for intervention development. Womens Health Issues. 2004. 14:155-64. PMID:15482966.	Sample Size
22	Ayala GX,Mueller K,Lopez-Madurga E,Campbell NR,Elder JP. Restaurant and food shopping selections among Latino women in Southern California. J Am Diet Assoc. 2005. 105:38-45. PMID:15635343.	Outcome
23	Ayala GX,Rogers M,Arredondo EM,Campbell NR,Baquero B,Duerksen SC,Elder JP. Away-from-home food intake and risk for obesity: examining the influence of context. Obesity (Silver Spring). 2008. 16:1002-8. PMID:18309297.	Independent Variable, Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
24	Babington L,Patel B. Understanding child feeding practices of Vietnamese mothers. MCN Am J Matern Child Nurs. 2008. 33:376-81. PMID:18997574.	Study Design, Outcome
25	Baker E,Balistreri KS,Van Hook J. Maternal employment and overweight among Hispanic children of immigrants and children of natives. J Immigr Minor Health. 2009. 11:158-67. PMID:17963041.	Independent Variable
26	Banna JC,Kaiser LL,Drake C,Townsend MS. Acculturation, physical activity and television viewing in Hispanic women: findings from the 2005 California Women's Health Survey. Public Health Nutr. 2012. 15:198-207. PMID:21794203.	Outcome
27	Banna JC,Townsend MS. Assessing factorial and convergent validity and reliability of a food behaviour checklist for Spanish-speaking participants in US Department of Agriculture nutrition education programmes. Public Health Nutr. 2011. 14:1165-76. PMID:21338552.	Study Design, Independent Variable
28	Baquero B,Ayala GX,Arredondo EM,Campbell NR,Slymen DJ,Gallo L,Elder JP. Secretos de la Buena Vida: processes of dietary change via a tailored nutrition communication intervention for Latinas. Health Educ Res. 2009. 24:855-66. PMID:19339374.	Study Design, Independent Variable
29	Barnes DM,Almasy N. Refugees' perceptions of healthy behaviors. J Immigr Health. 2005. 7:185-93. PMID:15900419.	Outcome
30	Barrera M Jr.,Toobert D,Strycker L,Osuna D. Effects of acculturation on a culturally adapted diabetes intervention for Latinas. Health Psychol. 2012. 31:51-4. PMID:21859212.	Study Design, Unhealthy Subjects
31	Baruffi G,Hardy CJ,Waslien CI,Uyehara SJ,Krupitsky D. Ethnic differences in the prevalence of overweight among young children in Hawaii. J Am Diet Assoc. 2004. 104:1701-7. PMID:15499358.	Independent Variable
32	Batis C,Hernandez-Barrera L,Barquera S,Rivera JA,Popkin BM. Food acculturation drives dietary differences among Mexicans, Mexican Americans, and Non-Hispanic Whites. J Nutr. 2011. 141:1898-906. PMID:21880951.	Independent Variable
33	Bauer KW,Larson NI,Nelson MC,Story M,Neumark-Sztainer D. Socio-environmental, personal and behavioural predictors of fast-food intake among adolescents. Public Health Nutr. 2009. 12:1767-74. PMID:19105866.	Independent Variable
34	Beagan BL,Chapman GE. Meanings of food, eating and health among African Nova Scotians: 'certain things aren't meant for Black folk'. Ethn Health. 2012. 17:513-29. PMID:22348428.	Country
35	Beech BM,Kumanyika SK,Baranowski T,Davis M,Robinson TN,Sherwood NE,Taylor WC,Relyea G,Zhou A,Pratt C,Owens A,Thompson NS. Parental cultural perspectives in relation to weight-related behaviors and concerns of African-American girls. Obes Res. 2004. 12 Suppl:7S-19S. PMID:15489463.	Independent Variable
36	Benbenek MM,Garwick AW. Enablers and barriers to dietary practices contributing to bone health among early	Study Design

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	adolescent Somali girls living in Minnesota. J Spec Pediatr Nurs. 2012. 17:205-14. PMID:22734874.	
37	Bender MS,Nader PR,Kennedy C,Gahagan S. A culturally appropriate intervention to improve health behaviors in Hispanic mother-child dyads. Child Obes. 2013. 9:157-63. PMID:23514697.	Study Design, Independent Variable
38	Bermudez OI,Hernandez L,Mazariegos M,Solomons NW. Secular trends in food patterns of Guatemalan consumers: new foods for old. Food Nutr Bull. 2008. 29:278-87. PMID:19227052.	Country, Independent Variable
39	Bersamin A,Zidenberg-Cherr S,Stern JS,Luick BR. Nutrient intakes are associated with adherence to a traditional diet among Yup'ik Eskimos living in remote Alaska Native communities: the CANHR Study. Int J Circumpolar Health. 2007. 66:62-70. PMID:17451135.	Independent Variable, Outcome
40	Bhupathiraju SN,Lichtenstein AH,Dawson-Hughes B,Tucker KL. Adherence index based on the AHA 2006 diet and lifestyle recommendations is associated with select cardiovascular disease risk factors in older Puerto Ricans. J Nutr. 2011. 141:460-9. PMID:21270369.	Independent Variable
41	Bjerregaard P,Dahl-Petersen IK. How well does social variation mirror secular change in prevalence of cardiovascular risk factors in a country in transition?. Am J Hum Biol. 2011. 23:774-9. PMID:21932405.	Country
42	Bolstad AL,Bungum T. Diet, acculturation, and BMI in Hispanics living in southern Nevada. Am J Health Behav. 2013. 37:218-26. PMID:23026103.	Independent Variable
43	Bothwell EK,Ayala GX,Conway TL,Rock CL,Gallo LC,Elder JP. Underreporting of food intake among Mexican/Mexican-American Women: rates and correlates. J Am Diet Assoc. 2009. 109:624-32. PMID:19328257.	Independent Variable, Outcome
44	Bowen RL,Devine CM. "Watching a person who knows how to cook, you'll learn a lot". Linked lives, cultural transmission, and the food choices of Puerto Rican girls. Appetite. 2011. 56:290-8. PMID:21172395.	Study Design
45	Brock KE,Ke L,Tseng M,Clemson L,Koo FK,Jang H,Seibel MJ,Mpofu E,Fraser DR,Mason RS. Vitamin D status is associated with sun exposure, vitamin D and calcium intake, acculturation and attitudes in immigrant East Asian women living in Sydney. J Steroid Biochem Mol Biol. 2013. 136:214-7. PMID:23262263.	Country
46	Burgess D,Fu SS,Joseph AM,Hatsukami DK,Solomon J,van Ryn M. Understanding smoking and cessation among Hmong smokers. J Health Care Poor Underserved. 2008. 19:442-51. PMID:18469415.	Study Design, Outcome
47	Burgess-Champoux TL,Larson NI,Neumark-Sztainer DR,Hannan PJ,Story MT. Longitudinal and secular trends in adolescent whole-grain consumption, 1999-2004. Am J Clin Nutr. 2010. 91:154-9. PMID:19906803.	Independent Variable
48	Buscemi J,Beech BM,Relyea G. Predictors of obesity in Latino children: acculturation as a moderator of the relationship between food insecurity and body mass index percentile. J Immigr Minor Health. 2011. 13:149-54. PMID:19472054.	Sample Size

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
49	Carmichael SL,Shaw GM,Song J,Abrams B. Markers of acculturation and risk of NTDs among Hispanic women in California. Birth Defects Res A Clin Mol Teratol. 2008. 82:755-62. PMID:18985703.	Outcome
50	Carrera PM,Gao X,Tucker KL. A study of dietary patterns in the Mexican-American population and their association with obesity. J Am Diet Assoc. 2007. 107:1735-42. PMID:17904933.	Independent Variable
51	Carter BJ,Birnbaum AS,Hark L,Vickery B,Potter C,Osborne MP. Using media messaging to promote healthful eating and physical activity among urban youth. J Nutr Educ Behav. 2005. 37:98-9. PMID:15882488.	Independent Variable
52	Casey D,Murphy K,Lawton J,White FF,Dineen S. A longitudinal qualitative study examining the factors impacting on the ability of persons with T1DM to assimilate the Dose Adjustment for Normal Eating (DAFNE) principles into daily living and how these factors change over time. BMC Public Health. 2011. 11:672. PMID:21878104.	Unhealthy Subjects
53	Castro FG,Marsiglia FF,Kulis S,Kellison JG. Lifetime segmented assimilation trajectories and health outcomes in Latino and other community residents. Am J Public Health. 2010. 100:669-76. PMID:20167890.	Sample Size
54	Cha E,Yang K,Lee J,Min J,Kim KH,Dunbar SB,Jennings BM. Understanding cultural issues in the diabetes self-management behaviors of Korean immigrants. Diabetes Educ. 2012. 38:835-44. PMID:23019236.	Unhealthy Subjects
55	Chaparro MP,Langellier BA,Kim LP,Whaley SE. Predictors of accurate maternal perception of their preschool child's weight status among Hispanic WIC participants. Obesity (Silver Spring). 2011. 19:2026-30. PMID:21546937.	Independent Variable, Outcome
56	Chapman DJ,Perez-Escamilla R. Acculturative type is associated with breastfeeding duration among low-income Latinas. Matern Child Nutr. 2013. 9:188-98. PMID:21787375.	Outcome
57	Chapman DJ,Perez-Escamilla R. US national breastfeeding monitoring and surveillance: current status and recommendations. J Hum Lact. 2009. 25:139-50. PMID:19286840.	Independent Variable
58	Cheah CS,Van Hook J. Chinese and Korean immigrants' early life deprivation: an important factor for child feeding practices and children's body weight in the United States. Soc Sci Med. 2012. 74:744-52. PMID:22265872.	Independent Variable, Sample Size
59	Chen JL,Kennedy C. Factors associated with obesity in Chinese-American children. Pediatr Nurs. 2005. 31:110-5. PMID:15934563.	Sample Size
60	Chen JL,Weiss S,Heyman MB,Cooper B,Lustig RH. The efficacy of the web-based childhood obesity prevention program in Chinese American adolescents (Web ABC study). J Adolesc Health. 2011. 49:148-54. PMID:21783046.	Study Design, Independent Variable
61	Chen JL,Weiss S,Heyman MB,Lustig R. Risk factors for obesity and high blood pressure in Chinese American	Sample Size

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	children: maternal acculturation and children's food choices. J Immigr Minor Health. 2011. 13:268-75. PMID:19757055.	
62	Chen JL,Wu Y. Cardiovascular risk factors in Chinese American children: associations between overweight, acculturation, and physical activity. J Pediatr Health Care. 2008. 22:103-10. PMID:18294579.	Sample Size
63	Chen JL. Household income, maternal acculturation, maternal education level and health behaviors of Chinese-American children and mothers. J Immigr Minor Health. 2009. 11:198-204. PMID:18306042.	Sample Size
64	Choudhary N,Parthasarathy D. Is migration status a determinant of urban nutrition insecurity? Empirical evidence from Mumbai city, India. J Biosoc Sci. 2009. 41:583-605. PMID:19508740.	Country
65	Clarkin PF. Adiposity and height of adult Hmong refugees: relationship with war-related early malnutrition and later migration. Am J Hum Biol. 2008. 20:174-84. PMID:18172871.	Independent Variable
66	Coronado GD,Thompson B,Tejeda S,Godina R,Chen L. Sociodemographic factors and self-management practices related to type 2 diabetes among Hispanics and non-Hispanic whites in a rural setting. J Rural Health. 2007. 23:49-54. PMID:17300478.	Unhealthy Subjects
67	Croteau-Chonka DC,Marvelle AF,Lange EM,Lee NR,Adair LS,Lange LA,Mohlke KL. Genome-wide association study of anthropometric traits and evidence of interactions with age and study year in Filipino women. Obesity (Silver Spring). 2011. 19:1019-27. PMID:20966902.	Country, Independent Variable
68	Cuy Castellanos D,Downey L,Graham-Kresge S,Yadrick K,Zoellner J,Connell CL. Examining the diet of post-migrant Hispanic males using the precede-proceed model: predisposing, reinforcing, and enabling dietary factors. J Nutr Educ Behav. 2013. 45:109-18. PMID:23103256.	Study Design
69	Dave JM,Evans AE,Saunders RP,Watkins KW,Pfeiffer KA. Associations among food insecurity, acculturation, demographic factors, and fruit and vegetable intake at home in Hispanic children. J Am Diet Assoc. 2009. 109:697-701. PMID:19328265.	Independent Variable
70	Davis MF,Adam M,Carvajal S,Sechrest L,Reyna VF. Using Rasch modeling to measure acculturation in youth. J Appl Meas. 2011. 12:324-38. PMID:22357155.	Study Design, Outcome
71	Dekker LH,Snijder MB,Beukers MH,de Vries JH,Brants HA,de Boer EJ,van Dam RM,Stronks K,Nicolaou M. A prospective cohort study of dietary patterns of non-western migrants in the Netherlands in relation to risk factors for cardiovascular diseases: HELIUS-Dietary Patterns. BMC Public Health. 2011. 11:441. PMID:21649889.	Country
72	Delajara M,Rodriguez-Segura M. Why are Mexican American boys so much taller now?. Econ Hum Biol. 2010. 8:212-22. PMID:20678742.	Independent Variable, Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
73	Delavari M,Sonderlund AL,Swinburn B,Mellor D,Renzaho A. Acculturation and obesity among migrant populations in high income countries--a systematic review. BMC Public Health. 2013. 13:458. PMID:23663279.	Study Design
74	Delisle H. Findings on dietary patterns in different groups of African origin undergoing nutrition transition. Appl Physiol Nutr Metab. 2010. 35:224-8. PMID:20383237.	Study Design
75	Delisle HF,Vioque J,Gil A. Dietary patterns and quality in West-African immigrants in Madrid. Nutr J. 2009. 8:3. PMID:19166606.	Country, Independent Variable
76	Derby CA,Wildman RP,McGinn AP,Green RR,Polotsky AJ,Ram KT,Barnhart J,Weiss G,Santoro N. Cardiovascular risk factor variation within a Hispanic cohort: SWAN, the Study of Women's Health Across the Nation. Ethn Dis. 2010. 20:396-402. PMID:21305828.	Independent Variable
77	Desilets MC,Rivard M,Shatenstein B,Delisle H. Dietary transition stages based on eating patterns and diet quality among Haitians of Montreal, Canada. Public Health Nutr. 2007. 10:454-63. PMID:17411465.	Country
78	Dharod JM,Croom JE,Sady CG. Food insecurity: its relationship to dietary intake and body weight among Somali refugee women in the United States. J Nutr Educ Behav. 2013. 45:47-53. PMID:23084983.	Independent Variable
79	Dhokarh R,Himmelgreen DA,Peng YK,Segura-Perez S,Hromi-Fiedler A,Perez-Escamilla R. Food insecurity is associated with acculturation and social networks in Puerto Rican households. J Nutr Educ Behav. 2011. 43:288-94. PMID:20952259.	Independent Variable, Outcome
80	Diaz H,Marshak HH,Montgomery S,Rea B,Backman D. Acculturation and gender: influence on healthy dietary outcomes for Latino adolescents in California. J Nutr Educ Behav. 2009. 41:319-26. PMID:19717114.	Outcome
81	Dixit AA,Azar KM,Gardner CD,Palaniappan LP. Incorporation of whole, ancient grains into a modern Asian Indian diet to reduce the burden of chronic disease. Nutr Rev. 2011. 69:479-88. PMID:21790614.	Study Design
82	Dounias E,Selzner A,Koizumi M,Levang P. From sago to rice, from forest to town: the consequences of sedentarization for the nutritional ecology of Punan former hunter-gatherers of Borneo. Food Nutr Bull. 2007. 28:S294-302. PMID:17658075.	Country
83	Dubowitz T,Acevedo-Garcia D,Salkeld J,Lindsay AC,Subramanian SV,Peterson KE. Lifecourse, immigrant status and acculturation in food purchasing and preparation among low-income mothers. Public Health Nutr. 2007. 10:396-404. PMID:17362536.	Study Design, Outcome
84	Duerksen SC,Elder JP,Arredondo EM,Ayala GX,Slymen DJ,Campbell NR,Baquero B. Family restaurant choices are associated with child and adult overweight status in Mexican-American families. J Am Diet Assoc. 2007. 107:849-53. PMID:17467384.	Independent Variable, Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
85	Edmonds VM. The nutritional patterns of recently immigrated Honduran women. J Transcult Nurs. 2005. 16:226-35. PMID:15980050.	Study Design
86	Elder JP,Ayala GX,Campbell NR,Slymen D,Lopez-Madurga ET,Engelberg M,Baquero B. Interpersonal and print nutrition communication for a Spanish-dominant Latino population: Secretos de la Buena Vida. Health Psychol. 2005. 24:49-57. PMID:15631562.	Study Design, Independent Variable
87	Elder JP,Ayala GX,Slymen DJ,Arredondo EM,Campbell NR. Evaluating psychosocial and behavioral mechanisms of change in a tailored communication intervention. Health Educ Behav. 2009. 36:366-80. PMID:18077657.	Study Design, Independent Variable
88	El-Sayed AM,Galea S. The health of Arab-Americans living in the United States: a systematic review of the literature. BMC Public Health. 2009. 9:272. PMID:19643005.	Study Design
89	Erber E,Beck L,Hopping BN,Sheehy T,De Roose E,Sharma S. Food patterns and socioeconomic indicators of food consumption amongst Inuvialuit in the Canadian Arctic. J Hum Nutr Diet. 2010. 23 Suppl 1:59-66. PMID:21158963.	Country
90	Erber E,Hopping BN,Beck L,Sheehy T,De Roose E,Sharma S. Assessment of dietary adequacy in a remote Inuvialuit population. J Hum Nutr Diet. 2010. 23 Suppl 1:35-42. PMID:21158960.	Country
91	Espinosa de Los Monteros K,Gallo LC,Elder JP,Talavera GA. Individual and area-based indicators of acculturation and the metabolic syndrome among low-income Mexican American women living in a border region. Am J Public Health. 2008. 98:1979-86. PMID:18799765.	Sample Size
92	Evans A,Seth JG,Smith S,Harris KK,Loyo J,Spaulding C,Van Eck M,Gottlieb N. Parental feeding practices and concerns related to child underweight, picky eating, and using food to calm differ according to ethnicity/race, acculturation, and income. Matern Child Health J. 2011. 15:899-909. PMID:19771501.	Outcome
93	Feng D,Reed DB,Esperat MC,Uchida M. Effects of TV in the bedroom on young Hispanic children. Am J Health Promot. 2011. 25:310-8. PMID:21534833.	Independent Variable, Outcome
94	Ferland A,Lamarche B,Chateau-Degat ML,Counil E,Anassour-Laouan-Sidi E,Abdous B,Dewailly E. Dairy product intake and its association with body weight and cardiovascular disease risk factors in a population in dietary transition. J Am Coll Nutr. 2011. 30:92-9. PMID:21730217.	Country
95	Fichter MM,Quadflieg N,Georgopoulou E,Xepapadakos F,Fthenakis EW. Time trends in eating disturbances in young Greek migrants. Int J Eat Disord. 2005. 38:310-22. PMID:16254871.	Country
96	Fitzgerald N,Damio G,Segura-Perez S,Perez-Escamilla R. Nutrition knowledge, food label use, and food intake patterns among Latinas with and without type 2 diabetes. J Am Diet Assoc. 2008. 108:960-7. PMID:18502226.	Study Design, Independent Variable

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
97	Fitzgerald N,Himmelgreen D,Damio G,Segura-Perez S,Peng YK,Perez-Escamilla R. Acculturation, socioeconomic status, obesity and lifestyle factors among low-income Puerto Rican women in Connecticut, U.S., 1998-1999. Rev Panam Salud Publica. 2006. 19:306-13. PMID:16805972.	Independent Variable
98	Fitzgerald N,Hromi-Fiedler A,Segura-Perez S,Perez-Escamilla R. Food insecurity is related to increased risk of type 2 diabetes among Latinas. Ethn Dis. 2011. 21:328-34. PMID:21942166.	Independent Variable, Unhealthy Subjects
99	Fitzgibbon ML,Gapstur SM,Knight SJ. Results of Mujeres Felices por ser Saludables: a dietary/breast health randomized clinical trial for Latino women. Ann Behav Med. 2004. 28:95-104. PMID:15454356.	Study Design, Independent Variable
100	Franzen L,Smith C. Differences in stature, BMI, and dietary practices between US born and newly immigrated Hmong children. Soc Sci Med. 2009. 69:442-50. PMID:19556047.	Sample Size
101	Franzen L,Smith C. Food system access, shopping behavior, and influences on purchasing groceries in adult Hmong living in Minnesota. Am J Health Promot. 2010. 24:396-409. PMID:20594097.	Study Design, Outcome
102	Fuentes-Afflick E,Hessol NA. Overweight in young Latino children. Arch Med Res. 2008. 39:511-8. PMID:18514096.	Sample Size
103	Gallagher MR,Gill S,Reifsnider E. Child health promotion and protection among Mexican mothers. West J Nurs Res. 2008. 30:588-605. PMID:18612095.	Study Design, Independent Variable
104	Gallagher MR. Maternal perspectives on lifestyle habits that put children of Mexican descent at risk for obesity. J Spec Pediatr Nurs. 2010. 15:16-25. PMID:20074110.	Study Design
105	Gao X,Scott T,Falcon LM,Wilde PE,Tucker KL. Food insecurity and cognitive function in Puerto Rican adults. Am J Clin Nutr. 2009. 89:1197-203. PMID:19225117.	Independent Variable, Outcome
106	Garduno-Diaz SD,Khokhar S. South Asian dietary patterns and their association with risk factors for the metabolic syndrome. J Hum Nutr Diet. 2013. 26:145-55. PMID:22943473.	Country
107	George GC,Hanss-Nuss H,Milani TJ,Freeland-Graves JH. Food choices of low-income women during pregnancy and postpartum. J Am Diet Assoc. 2005. 105:899-907. PMID:15942539.	Independent Variable
108	Gibson MV,Diaz VA, 3rd Mainous AG,Geesey ME. Prevalence of breastfeeding and acculturation in Hispanics: results from NHANES 1999-2000 study. Birth. 2005. 32:93-8. PMID:15918865.	Outcome
109	Gilbert PA,Khokhar S. Changing dietary habits of ethnic groups in Europe and implications for health. Nutr Rev. 2008. 66:203-15. PMID:18366534.	Study Design, Country
110	Gonzalez HM,Tarraf W,Haan MN. The metabolic syndrome, biomarkers, and the acculturation-health relationship among older Mexican Americans. J Aging Health. 2011. 23:1101-15. PMID:21948772.	Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
111	Gordon NP,Iribarren C. Health-related characteristics and preferred methods of receiving health education according to dominant language among Latinos aged 25 to 64 in a large Northern California health plan. BMC Public Health. 2008. 8:305. PMID:18782454.	Independent Variable, Outcome
112	Gordon-Larsen P,Adair LS,Nelson MC,Popkin BM. Five-year obesity incidence in the transition period between adolescence and adulthood: the National Longitudinal Study of Adolescent Health. Am J Clin Nutr. 2004. 80:569-75. PMID:15321794.	Independent Variable
113	Gorman JR,Madlensky L,Jackson DJ,Ganiats TG,Boies E. Early postpartum breastfeeding and acculturation among Hispanic women. Birth. 2007. 34:308-15. PMID:18021146.	Outcome
114	Gregory-Mercado KY,Staten LK,Gillespie C,Ranger-Moore J,Thomson CA,Giuliano AR,Will JC,Ford ES,Marshall J. Ethnicity and nutrient intake among Arizona WISEWOMAN participants. J Womens Health (Larchmt). 2007. 16:379-89. PMID:17439383.	Sample Size
115	Gregory-Mercado KY,Staten LK,Ranger-Moore J,Thomson CA,Will JC,Ford ES,Guillen J,Larkey LK,Giuliano AR,Marshall J. Fruit and vegetable consumption of older Mexican-American women is associated with their acculturation level. Ethn Dis. 2006. 16:89-95. PMID:16599354.	Sample Size
116	Grimm KA,Blanck HM. Survey language preference as a predictor of meeting fruit and vegetable objectives among Hispanic adults in the United States, Behavioral Risk Factor Surveillance System, 2009. Prev Chronic Dis. 2011. 8:A133. PMID:22005626.	Independent Variable
117	Grin BM,Gayle TL,Saravia DC,Sanders LM. Use of farmers markets by mothers of WIC recipients, Miami-Dade County, Florida, 2011. Prev Chronic Dis. 2013. 10:E95. PMID:23764344.	Independent Variable, Outcome
118	Groleau D,Souliere M,Kirmayer LJ. Breastfeeding and the cultural configuration of social space among Vietnamese immigrant woman. Health Place. 2006. 12:516-26. PMID:16157504.	Study Design, Outcome
119	Gu W,Rennie KL,Lin X,Wang Y,Yu Z. Differences in bone mineral status between urban and rural Chinese men and women. Bone. 2007. 41:393-9. PMID:17604245.	Country, Independent Variable
120	Guendelman MD,Cheryan S,Monin B. Fitting in but getting fat: identity threat and dietary choices among U.S. immigrant groups. Psychol Sci. 2011. 22:959-67. PMID:21653909.	Study Design
121	Guevarra JS,Kwate NO,Tang TS,Valdimarsdottir HB,Freeman HP,Bovbjerg DH. Acculturation and its relationship to smoking and breast self-examination frequency in African American women. J Behav Med. 2005. 28:191-9. PMID:15957574.	Outcome
122	Hadley C,Patil CL,Nahayo D. Difficulty in the food environment and the experience of food insecurity among	Independent Variable,

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	refugees resettled in the United States. Ecol Food Nutr. 2010. 49:390-407. PMID:21888578.	Outcome
123	Hadley C,Sellen D. Food security and child hunger among recently resettled Liberian refugees and asylum seekers: a pilot study. J Immigr Minor Health. 2006. 8:369-75. PMID:16924410.	Outcome
124	Hadley C,Zodhiates A,Sellen DW. Acculturation, economics and food insecurity among refugees resettled in the USA: a case study of West African refugees. Public Health Nutr. 2007. 10:405-12. PMID:17362537.	Study Design, Outcome
125	Hamner HC,Cogswell ME,Johnson MA. Acculturation factors are associated with folate intakes among Mexican American women. J Nutr. 2011. 141:1889-97. PMID:21865570.	Outcome
126	Hamner HC,Tinker SC,Flores AL,Mulinare J,Weakland AP,Dowling NF. Modelling fortification of corn masa flour with folic acid and the potential impact on Mexican-American women with lower acculturation. Public Health Nutr. 2013. 16:912-21. PMID:23113948.	Outcome
127	Hanni KD,Garcia E,Ellemberg C,Winkleby M. Targeting the taqueria: implementing healthy food options at Mexican American restaurants. Health Promot Pract. 2009. 10:91S-99S. PMID:19454755.	Study Design, Independent Variable
128	Harley K,Eskenazi B. Time in the United States, social support and health behaviors during pregnancy among women of Mexican descent. Soc Sci Med. 2006. 62:3048-61. PMID:16403596.	Independent Variable
129	Harley K,Stamm NL,Eskenazi B. The effect of time in the U.S. on the duration of breastfeeding in women of Mexican descent. Matern Child Health J. 2007. 11:119-25. PMID:17279324.	Outcome
130	Harrison GG,Kagawa-Singer M,Foerster SB,Lee H,Pham Kim L,Nguyen TU,Fernandez-Ami A,Quinn V,Bal DG. Seizing the moment: California's opportunity to prevent nutrition-related health disparities in low-income Asian American population. Cancer. 2005. 104:2962-8. PMID:16276535.	Study Design
131	Haughton J,Gregorio D,Perez-Escamilla R. Factors associated with breastfeeding duration among Connecticut Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) participants. J Hum Lact. 2010. 26:266-73. PMID:20689103.	Outcome
132	Hawkins SS,Lamb K,Cole TJ,Law C. Influence of moving to the UK on maternal health behaviours: prospective cohort study. BMJ. 2008. 336:1052-5. PMID:18403500.	Country
133	Hjelm K,Bard K,Berntorp K,Apelqvist J. Beliefs about health and illness postpartum in women born in Sweden and the Middle East. Midwifery. 2009. 25:564-75. PMID:18206281.	Study Design, Country
134	Hofmann ET. The burden of culture? Health outcomes among immigrants from the former Soviet Union in the United States. J Immigr Minor Health. 2012. 14:315-22. PMID:21221807.	Study Design, Independent Variable
135	Hopkinson J,Konefal Gallagher M. Assignment to a hospital-based breastfeeding clinic and exclusive	Study Design, Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	breastfeeding among immigrant Hispanic mothers: a randomized, controlled trial. J Hum Lact. 2009. 25:287-96. PMID:19436060.	
136	Hopping BN,Erber E,Mead E,Roache C,Sharma S. High levels of physical activity and obesity co-exist amongst Inuit adults in Arctic Canada. J Hum Nutr Diet. 2010. 23 Suppl 1:110-4. PMID:21158969.	Country
137	Hopping BN,Erber E,Mead E,Sheehy T,Roache C,Sharma S. Socioeconomic indicators and frequency of traditional food, junk food, and fruit and vegetable consumption amongst Inuit adults in the Canadian Arctic. J Hum Nutr Diet. 2010. 23 Suppl 1:51-8. PMID:21158962.	Country
138	Hopping BN,Mead E,Erber E,Sheehy C,Roache C,Sharma S. Dietary adequacy of Inuit in the Canadian Arctic. J Hum Nutr Diet. 2010. 23 Suppl 1:27-34. PMID:21158959.	Country
139	Horodynski MA,Olson B,Baker S,Brophy-Herb H,Auld G,Van Egeren L,Lindau J,Singleterry L. Healthy babies through infant-centered feeding protocol: an intervention targeting early childhood obesity in vulnerable populations. BMC Public Health. 2011. 11:868. PMID:22085421.	Study Design, Age
140	Hromi-Fiedler A,Bermudez-Millan A,Segura-Perez S,Perez-Escamilla R. Nutrient and food intakes differ among Latina subgroups during pregnancy. Public Health Nutr. 2012. 15:341-51. PMID:21729472.	Sample Size
141	Hu D,Taylor T,Blow J,Cooper TV. Multiple health behaviors: patterns and correlates of diet and exercise in a Hispanic college sample. Eat Behav. 2011. 12:296-301. PMID:22051363.	Independent Variable, Outcome
142	Hu FB. Globalization of diabetes: the role of diet, lifestyle, and genes. Diabetes Care. 2011. 34:1249-57. PMID:21617109.	Study Design
143	Hwang JY,Lee SE,Kim SH,Chung HW,Kim WY. Psychological distress is associated with inadequate dietary intake in Vietnamese marriage immigrant women in Korea. J Am Diet Assoc. 2010. 110:779-85. PMID:20430141.	Country, Independent Variable
144	Idris I,Deepa R,Fernando DJ,Mohan V. Relation between age and coronary heart disease (CHD) risk in Asian Indian patients with diabetes: A cross-sectional and prospective cohort study. Diabetes Res Clin Pract. 2008. 81:243-9. PMID:18495288.	Unhealthy Subjects
145	Jafar TH,Qadri Z,Islam M,Hatcher J,Bhutta ZA,Chaturvedi N. Rise in childhood obesity with persistently high rates of undernutrition among urban school-aged Indo-Asian children. Arch Dis Child. 2008. 93:373-8. PMID:17942586.	Country
146	Jasti S,Lee CH,Doak C. Gender, acculturation, food patterns, and overweight in Korean immigrants. Am J Health Behav. 2011. 35:734-45. PMID:22251764.	Sample Size
147	Johansen KS,Bjorge B,Hjellset VT,Holmboe-Ottesen G,Raberg M,Wandel M. Changes in food habits and	Country

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

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	Citation	Reason for Exclusion
	motivation for healthy eating among Pakistani women living in Norway: results from the InnvaDiab-DEPLAN study. Public Health Nutr. 2010. 13:858-67. PMID:19941691.	
148	Johnson-Kozlow M,Matt GE,Rock CL,de la Rosa R,Conway TL,Romero RA. Assessment of dietary intakes of Filipino-Americans: implications for food frequency questionnaire design. J Nutr Educ Behav. 2011. 43:505-10. PMID:21705276.	Independent Variable
149	Jorgensen ME,Moustgaard H,Bjerregaard P,Borch-Johnsen K. Gender differences in the association between westernization and metabolic risk among Greenland Inuit. Eur J Epidemiol. 2006. 21:741-8. PMID:17077992.	Country, Independent Variable
150	Joshi SR,Mohan V,Joshi SS,Mechanick JI,Marchetti A. Transcultural diabetes nutrition therapy algorithm: the Asian Indian application. Curr Diab Rep. 2012. 12:204-12. PMID:22354498.	Study Design
151	Jurkowski JM,Mosquera M,Ramos B. Selected cultural factors associated with physical activity among Latino women. Womens Health Issues. 2010. 20:219-26. PMID:20457410.	Outcome
152	Kahan D. Arab American college students' physical activity and body composition: reconciling Middle East-West differences using the socioecological model. Res Q Exerc Sport. 2011. 82:118-28. PMID:21462692.	Study Design
153	Kaholokula JK,Townsend CK,Ige A,Sinclair K,Mau MK,Leake A,Palakiko DM,Yoshimura SR,Kekauoha P,Hughes C. Sociodemographic, behavioral, and biological variables related to weight loss in native Hawaiians and other Pacific Islanders. Obesity (Silver Spring). 2013. 21:E196-203. PMID:23404724.	Independent Variable
154	Kalil A,Chen JH. Mothers' citizenship status and household food insecurity among low-income children of immigrants. New Dir Child Adolesc Dev. 2008. 2008:43-62. PMID:18792952.	Independent Variable, Outcome
155	Kalra P,Srinivasan S,Ivey S,Greenlund K. Knowledge and practice: the risk of cardiovascular disease among Asian Indians. Results from focus groups conducted in Asian Indian communities in Northern California. Ethn Dis. 2004. 14:497-504. PMID:15724768.	Study Design
156	Kaplan MS,Huguet N,Newsom JT,McFarland BH. The association between length of residence and obesity among Hispanic immigrants. Am J Prev Med. 2004. 27:323-6. PMID:15488363.	Independent Variable
157	Kaufman-Shriqui V,Fraser D,Friger M,Bilenko N,Vardi H,Abu-Saad K,Elhadad N,Mor K,Feine Z,Shahar DR. Factors associated with childhood overweight and obesity among acculturated and new immigrants. Ethn Dis. 2013. 23:329-35. PMID:23914419.	Country
158	Kepka D,Ayala GX,Cherrington A. Do Latino immigrants link self-rated health with BMI and health behaviors?. Am J Health Behav. 2007. 31:535-44. PMID:17555384.	Independent Variable
159	Kieffer EC,Welmerink DB,Sinco BR,Welch KB,Schumann CY,Uhley V. Periconception diet does not vary by	Independent Variable,

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	Citation	Reason for Exclusion
	duration of US residence for Mexican immigrant women. J Acad Nutr Diet. 2013. 113:652-8. PMID:23474270.	Sample Size
160	Kilanowski JF. Patterns and correlates of nutrition among migrant farm-worker children. West J Nurs Res. 2012. 34:396-416. PMID:20935214.	Sample Size
161	Kim E,Wolpin S. The Korean American family: adolescents versus parents acculturation to American culture. J Cult Divers. 2008. 15:108-16. PMID:19025199.	Outcome
162	Kim J,Chan MM. Acculturation and dietary habits of Korean Americans. Br J Nutr. 2004. 91:469-78. PMID:15005833.	Sample Size
163	Kim MJ,Lee SJ,Ahn YH,Bowen P,Lee H. Dietary acculturation and diet quality of hypertensive Korean Americans. J Adv Nurs. 2007. 58:436-45. PMID:17442024.	Sample Size
164	Kleiser C,Mensink GB,Neuhauser H,Schenk L,Kurth BM. Food intake of young people with a migration background living in Germany. Public Health Nutr. 2010. 13:324-30. PMID:19656441.	Country
165	Ko GT,So WY,Chow CC,Wong PT,Tong SD,Hui SS,Kwok R,Chan A,Chan CL,Chan JC. Risk associations of obesity with sugar-sweetened beverages and lifestyle factors in Chinese: the 'Better Health for Better Hong Kong' health promotion campaign. Eur J Clin Nutr. 2010. 64:1386-92. PMID:20823900.	Country, Independent Variable
166	Kollannoor-Samuel G,Chhabra J,Fernandez ML,Vega-Lopez S,Perez SS,Damio G,Calle MC,D'Agostino D,Perez-Escamilla R. Determinants of fasting plasma glucose and glycosylated hemoglobin among low income Latinos with poorly controlled type 2 diabetes. J Immigr Minor Health. 2011. 13:809-17. PMID:21181446.	Unhealthy Subjects
167	Kremmyda LS,Papadaki A,Hondros G,Kapsokefalou M,Scott JA. Differentiating between the effect of rapid dietary acculturation and the effect of living away from home for the first time, on the diets of Greek students studying in Glasgow. Appetite. 2008. 50:455-63. PMID:17997195.	Country
168	Kruger R,Kruger HS,Macintyre UE. The determinants of overweight and obesity among 10- to 15-year-old schoolchildren in the North West Province, South Africa - the THUSA BANA (Transition and Health during Urbanisation of South Africans; BANA, children) study. Public Health Nutr. 2006. 9:351-8. PMID:16684387.	Country
169	Kruseman M,Barandereka NA,Hudelson P,Stalder H. Post-migration dietary changes among african refugees in Geneva: a rapid assessment study to inform nutritional interventions. Soz Praventivmed. 2005. 50:161-5. PMID:16010815.	Country
170	Kumar NB,Yu D,Akinremi TO,Odedina FT. Comparing dietary and other lifestyle factors among immigrant Nigerian men living in the US and indigenous men from Nigeria: potential implications for prostate cancer risk reduction. J Immigr Minor Health. 2009. 11:391-9. PMID:19225888.	Independent Variable

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

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	Citation	Reason for Exclusion
171	Landrine H,Klonoff EA. Culture change and ethnic-minority health behavior: an operant theory of acculturation. J Behav Med. 2004. 27:527-55. PMID:15669443.	Study Design
172	Lara M,Gamboa C,Kahramanian MI,Morales LS,Bautista DE. Acculturation and Latino health in the United States: a review of the literature and its sociopolitical context. Annu Rev Public Health. 2005. 26:367-97. PMID:15760294.	Study Design
173	Lawrence JM,Devlin E,Macaskill S,Kelly M,Chinouya M,Raats MM,Barton KL,Wrieden WL,Shepherd R. Factors that affect the food choices made by girls and young women, from minority ethnic groups, living in the UK. J Hum Nutr Diet. 2007. 20:311-9. PMID:17635308.	Study Design, Country
174	Lee WP,Lingard J,Bermingham M. Change in diet and body mass index in Taiwanese women with length of residence in Australia. Asia Pac J Clin Nutr. 2007. 16:56-65. PMID:17215181.	Country
175	Leon DA,Moser KA. Low birth weight persists in South Asian babies born in England and Wales regardless of maternal country of birth. Slow pace of acculturation, physiological constraint or both? Analysis of routine data. J Epidemiol Community Health. 2012. 66:544-51. PMID:21118952.	Country
176	Lim ES,Ko YK,Ban KO. Prevalence and risk factors of metabolic syndrome in the Korean population--Korean National Health Insurance Corporation Survey 2008. J Adv Nurs. 2013. 69:1549-61. PMID:23009023.	Country, Independent Variable
177	Lim S,Zoellner JM,Ajrouch KJ,Ismail AI. Overweight in childhood: the role of resilient parenting in African-American households. Am J Prev Med. 2011. 40:329-33. PMID:21335265.	Independent Variable
178	Lind C,Mirchandani GG,Castrucci BC,Chavez N,Handler A,Hoelscher DM. The effects of acculturation on healthy lifestyle characteristics among Hispanic fourth-grade children in Texas public schools, 2004-2005. J Sch Health. 2012. 82:166-74. PMID:22385089.	Independent Variable
179	Liou D,Bauer KD. Exploratory investigation of obesity risk and prevention in Chinese Americans. J Nutr Educ Behav. 2007. 39:134-41. PMID:17493563.	Study Design, Independent Variable
180	Liu A,Berhane Z,Tseng M. Improved dietary variety and adequacy but lower dietary moderation with acculturation in Chinese women in the United States. J Am Diet Assoc. 2010. 110:457-62. PMID:20184998.	Sample Size
181	Lobb R,Gonzalez Suarez E,Fay ME,Gutheil CM,Hunt MK,Fletcher RH,Emmons KM. Implementation of a cancer prevention program for working class, multiethnic populations. Prev Med. 2004. 38:766-76. PMID:15193897.	Study Design, Independent Variable
182	Lora KR,Lewis NM,Eskridge KM,Stanek-Krogstrand K,Travnicek DA. Correlation of omega-3 fatty acids intakes with acculturation and socioeconomic status in midwestern Latinas. J Immigr Minor Health. 2011. 13:111-8. PMID:20094794.	Outcome, Sample Size

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
183	Lorenzo-Blanco EI,Unger JB,Ritt-Olson A,Soto D,Baezconde-Garbanati L. Acculturation, gender, depression, and cigarette smoking among U.S. Hispanic youth: the mediating role of perceived discrimination. J Youth Adolesc. 2011. 40:1519-33. PMID:21293915.	Independent Variable
184	Lovejoy JC,Champagne CM,de Jonge L,Xie H,Smith SR. Increased visceral fat and decreased energy expenditure during the menopausal transition. Int J Obes (Lond). 2008. 32:949-58. PMID:18332882.	Independent Variable
185	Ludwig AF,Cox P,Ellahi B. Social and cultural construction of obesity among Pakistani Muslim women in North West England. Public Health Nutr. 2011. 14:1842-50. PMID:21208481.	Country
186	Lujan J,Ostwald SK,Ortiz M. Promotora diabetes intervention for Mexican Americans. Diabetes Educ. 2007. 33:660-70. PMID:17684167.	Unhealthy Subjects
187	Lv N,Cason KL. Dietary pattern change and acculturation of Chinese Americans in Pennsylvania. J Am Diet Assoc. 2004. 104:771-8. PMID:15127063.	Sample Size
188	Lynch WC,Heil DP,Wagner E,Havens MD. Ethnic differences in BMI, weight concerns, and eating behaviors: comparison of Native American, White, and Hispanic adolescents. Body Image. 2007. 4:179-90. PMID:18089263.	Independent Variable
189	Lyu JE,Yang YJ,Lee SE,Chung HW,Kim MK,Kim WY. Nutritional status of Vietnamese female marriage immigrants to Korea in relation to length of residence in Korea. Ann Nutr Metab. 2009. 55:317-24. PMID:19828942.	Country
190	Mainous AG 3rd,Diaz VA,Geesey ME. Acculturation and healthy lifestyle among Latinos with diabetes. Ann Fam Med. 2008. 6:131-7. PMID:18332405.	Unhealthy Subjects
191	Marquis M,Shatenstein B. Food choice motives and the importance of family meals among immigrant mothers. Can J Diet Pract Res. 2005. 66:77-82. PMID:15975196.	Country, Outcome
192	Martinez AD. Reconsidering acculturation in dietary change research among Latino immigrants: challenging the preconditions of US migration. Ethn Health. 2013. 18:115-35. PMID:22731980.	Study Design
193	Matt GE,Rock CL,Johnson-Kozlow M. Using recall cues to improve measurement of dietary intakes with a food frequency questionnaire in an ethnically diverse population: an exploratory study. J Am Diet Assoc. 2006. 106:1209-17. PMID:16863716.	Study Design, Outcome
194	Mattei J,Noel SE,Tucker KL. A meat, processed meat, and French fries dietary pattern is associated with high allostatic load in Puerto Rican older adults. J Am Diet Assoc. 2011. 111:1498-506. PMID:21963016.	Independent Variable
195	McDade TW,Rutherford JN,Adair L,Kuzawa C. Population differences in associations between C-reactive protein concentration and adiposity: comparison of young adults in the Philippines and the United States. Am J Clin Nutr. 2009. 89:1237-45. PMID:19225115.	Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
196	McDonald JT,Kennedy S. Is migration to Canada associated with unhealthy weight gain? Overweight and obesity among Canada's immigrants. Soc Sci Med. 2005. 61:2469-81. PMID:15972242.	Country
197	McNeill LH,Stoddard A,Bennett GG,Wolin KY,Sorensen GG. Influence of individual and social contextual factors on changes in leisure-time physical activity in working-class populations: results of the Healthy Directions-Small Businesses Study. Cancer Causes Control. 2012. 23:1475-87. PMID:22806257.	Independent Variable, Outcome
198	Mejean C,Traissac P,Eymard-Duvernay S,Delpeuch F,Maire B. Influence of acculturation among Tunisian migrants in France and their past/present exposure to the home country on diet and physical activity. Public Health Nutr. 2009. 12:832-41. PMID:18647429.	Country
199	Melgar-Quinonez HR,Kaiser LL. Relationship of child-feeding practices to overweight in low-income Mexican-American preschool-aged children. J Am Diet Assoc. 2004. 104:1110-9. PMID:15215770.	Independent Variable
200	Mier N,Smith ML,Carrillo-Zuniga G,Wang X,Garza N,Ory MG. Personal and cultural influences on diabetes self-care behaviors among older Hispanics born in the U.S. and Mexico. J Immigr Minor Health. 2012. 14:1052-62. PMID:22729288.	Unhealthy Subjects
201	Misra A,Ganda OP. Migration and its impact on adiposity and type 2 diabetes. Nutrition. 2007. 23:696-708. PMID:17679049.	Study Design, Independent Variable
202	Moayad N,Balcazar H,Pedregon V,Velasco L,Bayona M. Do acculturation and family cohesiveness influence severity of diabetes among Mexican Americans?. Ethn Dis. 2006. 16:452-9. PMID:17682248.	Unhealthy Subjects
203	Montoya JA,Salinas JJ,Barroso CS,Mitchell-Bennett L,Reininger B. Nativity and nutritional behaviors in the Mexican origin population living in the US-Mexico border region. J Immigr Minor Health. 2011. 13:94-100. PMID:20401536.	Study Design, Independent Variable
204	Moore JB,Gaffney KF,Pawloski LR,Jaimovich SP,Campos MC. Maternal-child nutrition practices and pediatric overweight/obesity in the United States and Chile: a comparative study. J Pediatr Nurs. 2012. 27:e44-9. PMID:21945927.	Country, Independent Variable
205	Morello MI,Madanat H,Crespo NC,Lemus H,Elder J. Associations among parent acculturation, child BMI, and child fruit and vegetable consumption in a Hispanic sample. J Immigr Minor Health. 2012. 14:1023-9. PMID:22392140.	Sample Size
206	Morrison SD,Haldeman L,Sudha S,Gruber KJ,Bailey R. Cultural adaptation resources for nutrition and health in new immigrants in Central North Carolina. J Immigr Minor Health. 2007. 9:205-12. PMID:17245656.	Independent Variable, Outcome
207	Mulasi-Pokhriyal U,Smith C,Franzen-Castle L. Investigating dietary acculturation and intake among US-born and	Sample Size

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	Thailand/Laos-born Hmong-American children aged 9-18 years. Public Health Nutr. 2012. 15:176-85. PMID:21806862.	
208	Murtaugh MA,Herrick JS,Sweeney C,Baumgartner KB,Guiliano AR,Byers T,Slattery ML. Diet composition and risk of overweight and obesity in women living in the southwestern United States. J Am Diet Assoc. 2007. 107:1311-21. PMID:17659896.	Independent Variable
209	Mussap AJ. Acculturation, body image, and eating behaviours in Muslim-Australian women. Health Place. 2009. 15:532-9. PMID:18952486.	Country
210	Myong JP,Kim HR,Jung-Choi K,Baker D,Choi B. Disparities of metabolic syndrome prevalence by age, gender and occupation among Korean adult workers. Ind Health. 2012. 50:115-22. PMID:22293725.	Country
211	Narayan KM,Aviles-Santa L,Oza-Frank R,Pandey M,Curb JD,McNeely M,Araneta MR,Palaniappan L,Rajpathak S,Barrett-Connor E. Report of a National Heart, Lung, And Blood Institute Workshop: heterogeneity in cardiometabolic risk in Asian Americans In the U.S. Opportunities for research. J Am Coll Cardiol. 2010. 55:966-73. PMID:20202512.	Study Design
212	Neighbors CJ,Marquez DX,Marcus BH. Leisure-time physical activity disparities among Hispanic subgroups in the United States. Am J Public Health. 2008. 98:1460-4. PMID:18048795.	Outcome
213	Ngo J,Gurinovic M,Frost-Andersen L,Serra-Majem L. How dietary intake methodology is adapted for use in European immigrant population groups - a review. Br J Nutr. 2009. 101 Suppl 2:S86-94. PMID:19594968.	Study Design
214	Nicolaou M,Doak CM,van Dam RM,Brug J,Stronks K,Seidell JC. Cultural and social influences on food consumption in dutch residents of Turkish and moroccan origin: a qualitative study. J Nutr Educ Behav. 2009. 41:232-41. PMID:19508928.	Country
215	Nicolaou M,van Dam RM,Stronks K. Acculturation and education level in relation to quality of the diet: a study of Surinamese South Asian and Afro-Caribbean residents of the Netherlands. J Hum Nutr Diet. 2006. 19:383-93. PMID:16961685.	Country
216	Nobari TZ,Wang MC,Chaparro MP,Crespi CM,Koleilat M,Whaley SE. Immigrant enclaves and obesity in preschool-aged children in Los Angeles County. Soc Sci Med. 2013. 92:1-8. PMID:23849273.	Independent Variable
217	Norman S,Castro C,Albright C,King A. Comparing acculturation models in evaluating dietary habits among low-income Hispanic women. Ethn Dis. 2004. 14:399-404. PMID:15328942.	Sample Size
218	Novotny R,Oshiro CE,Wilkens LR. Prevalence of Childhood Obesity among Young Multiethnic Children from a Health Maintenance Organization in Hawaii. Child Obes. 2013. 9:35-42. PMID:23373877.	Independent Variable

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
219	Novotny R,Williams AE,Vinoya AC,Oshiro CE,Vogt TM. US acculturation, food intake, and obesity among Asian-Pacific hotel workers. J Am Diet Assoc. 2009. 109:1712-8. PMID:19782170.	Duplicate Study
220	O'Brien MJ,Davey A,Alos VA,Whitaker RC. Diabetes-related behaviors in Latinas and non-Latinas in California. Diabetes Care. 2013. 36:355-61. PMID:22961569.	Independent Variable
221	Odegaard AO,Koh WP,Yuan JM,Gross MD,Pereira MA. Western-style fast food intake and cardiometabolic risk in an Eastern country. Circulation. 2012. 126:182-8. PMID:22753304.	Country
222	Olvera N,Bush JA,Sharma SV,Knox BB,Scherer RL,Butte NF. BOUNCE: a community-based mother-daughter healthy lifestyle intervention for low-income Latino families. Obesity (Silver Spring). 2010. 18 Suppl 1:S102-4. PMID:20107454.	Study Design, Independent Variable
223	Oster A,Yung J. Dietary acculturation, obesity, and diabetes among Chinese immigrants in New York City. Diabetes Care. 2010. 33:e109. PMID:20668145.	Sample Size
224	Osypuk TL,Diez Roux AV,Hadley C,Kandula NR. Are immigrant enclaves healthy places to live? The Multi-ethnic Study of Atherosclerosis. Soc Sci Med. 2009. 69:110-20. PMID:19427731.	Independent Variable
225	Padilla R,Steiner JF,Havranek EP,Beaty B,Davidson AJ,Bull S. A comparison of different measures of acculturation with cardiovascular risk factors in Latinos with hypertension. J Immigr Minor Health. 2011. 13:284-92. PMID:21221808.	Unhealthy Subjects
226	Park SY,Murphy SP,Sharma S,Kolonel LN. Dietary intakes and health-related behaviours of Korean American women born in the USA and Korea: the Multiethnic Cohort Study. Public Health Nutr. 2005. 8:904-11. PMID:16277807.	Independent Variable
227	Park Y,Neckerman K,Quinn J,Weiss C,Jacobson J,Rundle A. Neighbourhood immigrant acculturation and diet among Hispanic female residents of New York City. Public Health Nutr. 2011. 14:1593-600. PMID:21414245.	Independent Variable
228	Park Y,Quinn J,Florez K,Jacobson J,Neckerman K,Rundle A. Hispanic immigrant women's perspective on healthy foods and the New York City retail food environment: A mixed-method study. Soc Sci Med. 2011. 73:13-21. PMID:21658831.	Study Design
229	Patil CL,Hadley C,Nahayo PD. Unpacking dietary acculturation among new Americans: results from formative research with African refugees. J Immigr Minor Health. 2009. 11:342-58. PMID:18253832.	Study Design
230	Peek MK,Cutchin MP,Salinas JJ,Sheffield KM,Eschbach K,Stowe RP,Goodwin JS. Allostatic load among non-Hispanic Whites, non-Hispanic Blacks, and people of Mexican origin: effects of ethnicity, nativity, and acculturation. Am J Public Health. 2010. 100:940-6. PMID:19834005.	Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
231	Perez-Escamilla R,Hromi-Fiedler A,Vega-Lopez S,Bermudez-Millan A,Segura-Perez S. Impact of peer nutrition education on dietary behaviors and health outcomes among Latinos: a systematic literature review. J Nutr Educ Behav. 2008. 40:208-25. PMID:18565462.	Study Design
232	Perez-Escamilla R,Putnik P. The role of acculturation in nutrition, lifestyle, and incidence of type 2 diabetes among Latinos. J Nutr. 2007. 137:860-70. PMID:17374645.	Study Design
233	Perez-Escamilla R,Song DS,Taylor CA,Mejia A,Melgar-Quinonez H,Balcazar HG,Anders RL,Segura-Perez S,Duarte-Gardea MO,Ibarra JM. Place of residence modifies the association between acculturation and dietary tools knowledge among Latina WIC participants: a multi-state study. J Immigr Minor Health. 2011. 13:299-308. PMID:20549357.	Outcome
234	Perez-Escamilla R. Acculturation, nutrition, and health disparities in Latinos. Am J Clin Nutr. 2011. 93:1163S-7S. PMID:21367946.	Study Design
235	Perez-Escamilla R. Dietary quality among Latinos: is acculturation making us sick?. J Am Diet Assoc. 2009. 109:988-91. PMID:19465179.	Study Design
236	Peterman JN,Silka L,Bermudez OI,Wilde PE,Rogers BL. Acculturation, education, nutrition education, and household composition are related to dietary practices among Cambodian refugee women in Lowell, MA. J Am Diet Assoc. 2011. 111:1369-74. PMID:21872700.	Sample Size
237	Pierce BL,Austin MA,Crane PK,Retzlaff BM,Fish B,Hutter CM,Leonetti DL,Fujimoto WY. Measuring dietary acculturation in Japanese Americans with the use of confirmatory factor analysis of food-frequency data. Am J Clin Nutr. 2007. 86:496-503. PMID:17684224.	Study Design, Independent Variable
238	Raberg M,Kumar B,Holmboe-Ottesen G,Wandel M. Overweight and weight dissatisfaction related to socio-economic position, integration and dietary indicators among south Asian immigrants in Oslo. Public Health Nutr. 2010. 13:695-703. PMID:19807936.	Country
239	Ramirez AS,Rutten LJ,Oh A,Vengoechea BL,Moser RP,Vanderpool RC,Hesse BW. Perceptions of cancer controllability and cancer risk knowledge: the moderating role of race, ethnicity, and acculturation. J Cancer Educ. 2013. 28:254-61. PMID:23355279.	Outcome
240	Rawlins E,Baker G,Maynard M,Harding S. Perceptions of healthy eating and physical activity in an ethnically diverse sample of young children and their parents: the DEAL prevention of obesity study. J Hum Nutr Diet. 2013. 26:132-44. PMID:22827466.	Study Design
241	Regev-Tobias H,Reifen R,Endevelt R,Havkin O,Cohen E,Stern G,Stark A. Dietary acculturation and increasing	Country

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	rates of obesity in Ethiopian women living in Israel. Nutrition. 2012. 28:30-4. PMID:21763107.	
242	Renzaho AM,Swinburn B,Burns C. Maintenance of traditional cultural orientation is associated with lower rates of obesity and sedentary behaviours among African migrant children to Australia. Int J Obes (Lond). 2008. 32:594-600. PMID:18253161.	Country
243	Reyes-Ortiz CA,Ju H,Eschbach K,Kuo YF,Goodwin JS. Neighbourhood ethnic composition and diet among Mexican-Americans. Public Health Nutr. 2009. 12:2293-301. PMID:19254428.	Independent Variable
244	Reyes-Ortiz CA,Ju H,Inniss A,Eschbach K,Kuo YF,Goodwin JS. Acculturation and serum nutrients thought to be involved with cancer prevention among Mexican American men in the United States. Cancer Control. 2009. 16:169-75. PMID:19337203.	Outcome
245	Ricciardelli LA,Mellor D,McCabe MP,Mussap AJ,Hallford DJ,Tyler M. Promoting fit bodies, healthy eating and physical activity among Indigenous Australian men: a study protocol. BMC Public Health. 2012. 12:28. PMID:22236166.	Country
246	Rodriguez F,Peralta CA,Green AR,Lopez L. Comparison of C-reactive protein levels in less versus more acculturated Hispanic adults in the United States (from the National Health and Nutrition Examination Survey 1999-2008). Am J Cardiol. 2012. 109:665-9. PMID:22169128.	Independent Variable, Outcome
247	Rodriguez-Moran M,Guerrero-Romero F,Brito-Zurita O,Rascon-Pacheco RA,Perez-Fuentes R,Sanchez-Guillen MC,Gonzalez-Ortiz M,Martinez-Abundis E,Simental-Mendia LE,Madero A,Revilla-Monsalve C,Flores-Martinez SE,Islas-Andrade S,Cruz M,Wacher N,Sanchez-Corona J. Cardiovascular risk factors and acculturation in Yaquis and Tepehuanos Indians from Mexico. Arch Med Res. 2008. 39:352-7. PMID:18279710.	Country
248	Rondinelli AJ,Morris MD,Rodwell TC,Moser KS,Paida P,Popper ST,Brouwer KC. Under- and over-nutrition among refugees in San Diego County, California. J Immigr Minor Health. 2011. 13:161-8. PMID:20505992.	Study Design
249	Rosas LG,Harley K,Fernald LC,Guendelman S,Mejia F,Neufeld LM,Eskenazi B. Dietary associations of household food insecurity among children of Mexican descent: results of a binational study. J Am Diet Assoc. 2009. 109:2001-9. PMID:19942017.	Independent Variable
250	Rosenmoller DL,Gasevic D,Seidell J,Lear SA. Determinants of changes in dietary patterns among Chinese immigrants: a cross-sectional analysis. Int J Behav Nutr Phys Act. 2011. 8:42. PMID:21592378.	Country
251	Roshania R,Narayan KM,Oza-Frank R. Age at arrival and risk of obesity among US immigrants. Obesity (Silver Spring). 2008. 16:2669-75. PMID:18846044.	Independent Variable
252	Rutt CD,Coleman KJ. Examining the relationships among built environment, physical activity, and body mass	Independent Variable

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	index in El Paso, TX. Prev Med. 2005. 40:831-41. PMID:15850885.	
253	Sandy JM,Anisfeld E,Ramirez E. Effects of a prenatal intervention on breastfeeding initiation rates in a Latina immigrant sample. J Hum Lact. 2009. 25:404-11; quiz 458-9. PMID:19487705.	Study Design, Outcome
254	Sarkar S,Das M,Mukhopadhyay B,Chakrabarti CS,Majumder PP. High prevalence of metabolic syndrome and its correlates in two tribal populations of India and the impact of urbanization. Indian J Med Res. 2006. 123:679-86. PMID:16873911.	Country
255	Sawanyawisuth K,Palinkas LA,Ancoli-Israel S,Dimsdale JE,Loredo JS. Ethnic differences in the prevalence and predictors of restless legs syndrome between Hispanics of Mexican descent and non-Hispanic Whites in San Diego county: a population-based study. J Clin Sleep Med. 2013. 9:47-53. PMID:23319904.	Outcome
256	Seth JG,Evans AE,Harris KK,Loyo JJ,Ray TC,Spaulding C,Gottlieb NH. Preschooler feeding practices and beliefs: differences among Spanish- and English-speaking WIC clients. Fam Community Health. 2007. 30:257-70. PMID:17563487.	Outcome
257	Sharkey JR,Johnson CM,Dean WR. Nativity is associated with sugar-sweetened beverage and fast-food meal consumption among Mexican-origin women in Texas border colonias. Nutr J. 2011. 10:101. PMID:21962014.	Independent Variable
258	Sharma S,Cao X,Roache C,Buchan A,Reid R,Gittelsohn J. Assessing dietary intake in a population undergoing a rapid transition in diet and lifestyle: the Arctic Inuit in Nunavut, Canada. Br J Nutr. 2010. 103:749-59. PMID:19840421.	Country
259	Sharma S,Gittelsohn J,Rosol R,Beck L. Addressing the public health burden caused by the nutrition transition through the Healthy Foods North nutrition and lifestyle intervention programme. J Hum Nutr Diet. 2010. 23 Suppl 1:120-7. PMID:21158971.	Country
260	Sharma S. Assessing diet and lifestyle in the Canadian Arctic Inuit and Inuvialuit to inform a nutrition and physical activity intervention programme. J Hum Nutr Diet. 2010. 23 Suppl 1:5-17. PMID:21158957.	Country
261	Sheehy T,Roache C,Sharma S. Eating habits of a population undergoing a rapid dietary transition: portion sizes of traditional and non-traditional foods and beverages consumed by Inuit adults in Nunavut, Canada. Nutr J. 2013. 12:70. PMID:23724920.	Independent Variable
262	Sheikh N,Egeland GM,Johnson-Down L,Kuhnlein HV. Changing dietary patterns and body mass index over time in Canadian Inuit communities. Int J Circumpolar Health. 2011. 70:511-9. PMID:22152598.	Country
263	Shetty P. Nutrition transition and its health outcomes. Indian J Pediatr. 2013. 80 Suppl 1:S21-7. PMID:23412985.	Study Design
264	Singh GK,Kogan MD,Dee DL. Nativity/immigrant status, race/ethnicity, and socioeconomic determinants of	Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	breastfeeding initiation and duration in the United States, 2003. Pediatrics. 2007. 119 Suppl 1:S38-46. PMID:17272583.	
265	Slattery ML,Sweeney C,Edwards S,Herrick J,Murtaugh M,Baumgartner K,Guiliano A,Byers T. Physical activity patterns and obesity in Hispanic and non-Hispanic white women. Med Sci Sports Exerc. 2006. 38:33-41. PMID:16394951.	Independent Variable, Outcome
266	Smith C,Franzen-Castle L. Dietary acculturation and body composition predict American Hmong children's blood pressure. Am J Hum Biol. 2012. 24:666-74. PMID:22836226.	Sample Size
267	Smith NR,Kelly YJ,Nazroo JY. The effects of acculturation on obesity rates in ethnic minorities in England: evidence from the Health Survey for England. Eur J Public Health. 2012. 22:508-13. PMID:21697245.	Country
268	Smith WE,Day RS,Brown LB. Heritage retention and bean intake correlates to dietary fiber intakes in Hispanic mothers--Que Sabrosa Vida. J Am Diet Assoc. 2005. 105:404-11; discussion 411-2. PMID:15746828.	Outcome, Sample Size
269	Song Y,Joung H,Engelhardt K,Yoo SY,Paik HY. Traditional v. modified dietary patterns and their influence on adolescents' nutritional profile. Br J Nutr. 2005. 93:943-9. PMID:16022765.	Country
270	Springer AE,Lewis K,Kelder SH,Fernandez ME,Barroso CS,Hoelscher DM. Physical activity participation by parental language use in 4th, 8th, and 11th grade students in Texas, USA. J Immigr Minor Health. 2010. 12:769-80. PMID:19365728.	Outcome
271	Staffileno BA,Tangney CC,Wilbur J,Marquez DX,Fogg L,Manning A,Bustamante EE,Morris MC. Dietary approaches to stop hypertension patterns in older Latinos with or at risk for hypertension. J Cardiovasc Nurs. 2013. 28:338-47. PMID:22722473.	Sample Size
272	Starling Washington P,Reifsnider E,S LB,Domingeaux Ethington M,R ER. Changes in family variables among normal and overweight preschoolers. Issues Compr Pediatr Nurs. 2010. 33:20-38. PMID:20121578.	Independent Variable
273	Steffen PR,Smith TB,Larson M,Butler L. Acculturation to Western society as a risk factor for high blood pressure: a meta-analytic review. Psychosom Med. 2006. 68:386-97. PMID:16738069.	Study Design
274	Stimpson JP,Urrutia-Rojas X. Acculturation in the United States is associated with lower serum carotenoid levels: Third National Health and Nutrition Examination Survey. J Am Diet Assoc. 2007. 107:1218-23. PMID:17604755.	Outcome
275	Sujoldzic A,De Lucia A. A cross-cultural study of adolescents--BMI, body image and psychological well-being. Coll Antropol. 2007. 31:123-30. PMID:17598390.	Country, Independent Variable
276	Sukalakamala S,Brittin HC. Food practices, changes, preferences, and acculturation of Thais in the United States. J Am Diet Assoc. 2006. 106:103-8. PMID:16390673.	Sample Size

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
277	Sungurova Y,Johansson SE,Sundquist J. East-west health divide and east-west migration: Self-reported health of immigrants from Eastern Europe and the former Soviet Union in Sweden. Scand J Public Health. 2006. 34:217-21. PMID:16581715.	Country
278	Sussner KM,Lindsay AC,Greaney ML,Peterson KE. The influence of immigrant status and acculturation on the development of overweight in Latino families: a qualitative study. J Immigr Minor Health. 2008. 10:497-505. PMID:18373200.	Study Design
279	Sussner KM,Lindsay AC,Peterson KE. The influence of acculturation on breast-feeding initiation and duration in low-income women in the US. J Biosoc Sci. 2008. 40:673-96. PMID:18045509.	Outcome
280	Sussner KM,Lindsay AC,Peterson KE. The influence of maternal acculturation on child body mass index at age 24 months. J Am Diet Assoc. 2009. 109:218-25. PMID:19167948.	Sample Size
281	Tam CY,Martin LJ,Hislop G,Hanley AJ,Minkin S,Boyd NF. Risk factors for breast cancer in postmenopausal Caucasian and Chinese-Canadian women. Breast Cancer Res. 2010. 12:R2. PMID:20053286.	Country
282	Tami SH,Reed DB,Boylan M,Zvonkovic A. Assessment of the effect of acculturation on dietary and physical activity behaviors of Arab mothers in Lubbock, Texas. Ethn Dis. 2012. 22:192-7. PMID:22764642.	Study Design
283	Tarnutzer S,Bopp M. Healthy migrants but unhealthy offspring? A retrospective cohort study among Italians in Switzerland. BMC Public Health. 2012. 12:1104. PMID:23259829.	Country
284	Tautolo el S,Schluter PJ,Paterson J,McRobbie H. Acculturation status has a modest effect on smoking prevalence among a cohort of Pacific fathers in New Zealand. Aust N Z J Public Health. 2011. 35:509-16. PMID:22151156.	Country, Outcome
285	Teo K,Chow CK,Vaz M,Rangarajan S,Yusuf S. The Prospective Urban Rural Epidemiology (PURE) study: examining the impact of societal influences on chronic noncommunicable diseases in low-, middle-, and high-income countries. Am Heart J. 2009. 158:1-7 e1. PMID:19540385.	Independent Variable
286	Tovar A,Hennessy E,Pirie A,Must A,Gute DM,Hyatt RR,Kamins CL,Hughes SO,Boulos R,Sliwa S,Galvao H,Economos CD. Feeding styles and child weight status among recent immigrant mother-child dyads. Int J Behav Nutr Phys Act. 2012. 9:62. PMID:22642962.	Independent Variable
287	Tovar A,Must A,Metayer N,Gute DM,Pirie A,Hyatt RR,Economos CD. Immigrating to the US: what Brazilian, Latin American and Haitian women have to say about changes to their lifestyle that may be associated with obesity. J Immigr Minor Health. 2013. 15:357-64. PMID:22736266.	Study Design
288	Tseng M,Byrne C,Evers KA,London WT,Daly MB. Acculturation and breast density in foreign-born, U.S. Chinese women. Cancer Epidemiol Biomarkers Prev. 2006. 15:1301-5. PMID:16835327.	Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
289	Tseng M,Fang CY. Socio-economic position and lower dietary moderation among Chinese immigrant women in the USA. Public Health Nutr. 2012. 15:415-23. PMID:21806866.	Independent Variable
290	Tseng M,Fang CY. Stress is associated with unfavorable patterns of dietary intake among female chinese immigrants. Ann Behav Med. 2011. 41:324-32. PMID:21384248.	Independent Variable
291	Tseng M,Olufade TO,Evers KA,Byrne C. Adolescent lifestyle factors and adult breast density in U.S. Chinese immigrant women. Nutr Cancer. 2011. 63:342-9. PMID:21391125.	Outcome
292	Van Hook J,Balistreri KS. Immigrant generation, socioeconomic status, and economic development of countries of origin: a longitudinal study of body mass index among children. Soc Sci Med. 2007. 65:976-89. PMID:17570571.	Independent Variable
293	Venkatesh S,Weatherspoon LJ,Kaplowitz SA,Song WO. Acculturation and glycemic control of Asian Indian adults with type 2 diabetes. J Community Health. 2013. 38:78-85. PMID:22744164.	Unhealthy Subjects
294	Vorster HH,Kruger A,Venter CS,Margetts BM,Macintyre UE. Cardiovascular disease risk factors and socio-economic position of Africans in transition: the THUSA study. Cardiovasc J Afr. 2007. 18:282-9. PMID:17957323.	Country, Independent Variable
295	Vue W,Wolff C,Goto K. Hmong food helps us remember who we are: perspectives of food culture and health among Hmong women with young children. J Nutr Educ Behav. 2011. 43:199-204. PMID:20980205.	Study Design
296	Weiss JW,Mouttapa M,Cen S,Johnson CA,Unger J. Longitudinal effects of hostility, depression, and bullying on adolescent smoking initiation. J Adolesc Health. 2011. 48:591-6. PMID:21575819.	Independent Variable
297	Wilson WM,Bulkan J,Piperata BA,Hicks K,Ehlers P. Nutritional status of Makushi Amerindian children and adolescents of Guyana. Ann Hum Biol. 2011. 38:615-29. PMID:21675938.	Country
298	Windle M,Grunbaum JA,Elliott M,Tortolero SR,Berry S,Gilliland J,Kanouse DE,Parcel GS,Wallander J,Kelder S,Collins J,Kolbe L,Schuster M. Healthy passages. A multilevel, multimethod longitudinal study of adolescent health. Am J Prev Med. 2004. 27:164-72. PMID:15261905.	Independent Variable
299	Winham DM. Growth status among low-income Mexican and Mexican-American elementary school children. Am J Hum Biol. 2012. 24:690-5. PMID:22836381.	Sample Size
300	Wirtz AL,Madanat HN. Westernization, intuitive eating, and BMI: an exploration of Jordanian adolescents. Int Q Community Health Educ. 2012. 33:275-87. PMID:23896036.	Country, Sample Size
301	Wojcicki JM,Jimenez-Cruz A,Bacardi-Gascon M,Schwartz N,Heyman MB. Bimodal distribution of risk for childhood obesity in urban Baja California, Mexico. J Urban Health. 2012. 89:628-38. PMID:22669641.	Country
302	Wojcicki JM,Schwartz N,Jimenez-Cruz A,Bacardi-Gascon M,Heyman MB. Acculturation, dietary practices and risk	Sample Size

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	for childhood obesity in an ethnically heterogeneous population of Latino school children in the San Francisco bay area. J Immigr Minor Health. 2012. 14:533-9. PMID:22101726.	
303	Yang EJ,Chung HK,Kim WY,Bianchi L,Song WO. Chronic diseases and dietary changes in relation to Korean Americans' length of residence in the United States. J Am Diet Assoc. 2007. 107:942-50. PMID:17524714.	Sample Size
304	Yang EJ,Kerver JM,Song WO. Dietary patterns of Korean Americans described by factor analysis. J Am Coll Nutr. 2005. 24:115-21. PMID:15798078.	Sample Size
305	Yeh MC,Viladrich A,Bruning N,Roye C. Determinants of Latina obesity in the United States: the role of selective acculturation. J Transcult Nurs. 2009. 20:105-15. PMID:18948450.	Study Design
306	Zeljko H,Skaric-Juric T,Narancic NS,Salihovic MP,Klaric IM,Barbalic M,Starcevic B,Lauc LB,Janicijevic B. Traditional CVD risk factors and socio-economic deprivation in Roma minority population of Croatia. Coll Antropol. 2008. 32:667-76. PMID:18982735.	Country
307	Zimmer Z,Wen M,Kaneda T. A multi-level analysis of urban/rural and socioeconomic differences in functional health status transition among older Chinese. Soc Sci Med. 2010. 71:559-67. PMID:20621749.	Country

APPENDIX I: ACCULTURATION – BODY WEIGHT – EXCLUDED ARTICLES LIST

Archived from www.NEL.gov on March 21, 2017

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
1	Abou El Hassan D,Hekmat S. Dietary acculturation of Arab immigrants in the Greater Toronto Area. Can J Diet Pract Res. 2012. 73:143-6. PMID:22958634.	Country
2	Abraido-Lanza AF,Chao MT,Florez KR. Do healthy behaviors decline with greater acculturation? Implications for the Latino mortality paradox. Soc Sci Med. 2005. 61:1243-55. PMID:15970234.	Independent Variable
3	Abu-Saad K,Shahar DR,Fraser D,Vardi H,Friger M,Bolotin A,Freedman LS. Adequacy of usual dietary intake and nutritional status among pregnant women in the context of nutrition transition: the DEPOSIT Study. Br J Nutr. 2012. 108:1874-83. PMID:22264559.	Country
4	Ahn MK,Juon HS,Gittelsohn J. Association of race/ethnicity, socioeconomic status, acculturation, and environmental factors with risk of overweight among adolescents in California, 2003. Prev Chronic Dis. 2008. 5:A75. PMID:18558025.	Independent Variable
5	Alkerwi A,Sauvageot N,Pagny S,Beissel J,Delagardelle C,Lair ML. Acculturation, immigration status and cardiovascular risk factors among Portuguese immigrants to Luxembourg: findings from ORISCAV-LUX study. BMC Public Health. 2012. 12:864. PMID:23057477.	Country
6	Allen ML,Elliott MN,Morales LS,Diamant AL,Hambarsoomian K,Schuster MA. Adolescent participation in preventive health behaviors, physical activity, and nutrition: differences across immigrant generations for Asians and Latinos compared with Whites. Am J Public Health. 2007. 97:337-43. PMID:17138919.	Independent Variable
7	Andaya AA,Arredondo EM,Alcaraz JE,Lindsay SP,Elder JP. The association between family meals, TV viewing during meals, and fruit, vegetables, soda, and chips intake among Latino children. J Nutr Educ Behav. 2011. 43:308-15. PMID:20965787.	Independent Variable
8	Andersen S,Laurberg P,Hvingel B,Kleinschmidt K,Heickendorff L,Mosekilde L. Vitamin D status in Greenland is influenced by diet and ethnicity: a population-based survey in an Arctic society in transition. Br J Nutr. 2013. 109:928-35. PMID:22682501.	Country
9	Anderson AK,Damio G,Himmelgreen DA,Peng YK,Segura-Perez S,Perez-Escamilla R. Social capital, acculturation, and breastfeeding initiation among Puerto Rican women in the United States. J Hum Lact. 2004. 20:39-45. PMID:14974699.	Outcome
10	Anderson AS,Bush H,Lean M,Bradby H,Williams R,Lea E. Evolution of atherogenic diets in South Asian and Italian women after migration to a higher risk region. J Hum Nutr Diet. 2005. 18:33-43. PMID:15647097.	Country
11	Arandia G,Nalty C,Sharkey JR,Dean WR. Diet and acculturation among Hispanic/Latino older adults in the United States: a review of literature and recommendations. J Nutr Gerontol Geriatr. 2012. 31:16-37. PMID:22335438.	Study Design

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
12	Ard JD,Skinner CS,Chen C,Aickin M,Svetkey LP. Informing cancer prevention strategies for African Americans: the relationship of African American acculturation to fruit, vegetable, and fat intake. J Behav Med. 2005. 28:239-47. PMID:16015458.	Independent Variable, Sample Size
13	Ariza AJ,Chen EH,Binns HJ,Christoffel KK. Risk factors for overweight in five- to six-year-old Hispanic-American children: a pilot study. J Urban Health. 2004. 81:150-61. PMID:15047793.	Independent Variable, Sample Size
14	Aroian KJ,Peters RM,Rudner N,Waser L. Hypertension prevention beliefs of Hispanics. J Transcult Nurs. 2012. 23:134-42. PMID:22294336.	Study Design
15	Arredondo EM,Elder JP,Ayala GX,Campbell N,Baquero B,Duerksen S. Is parenting style related to children's healthy eating and physical activity in Latino families?. Health Educ Res. 2006. 21:862-71. PMID:17032706.	Independent Variable, Outcome
16	Arredondo EM,Elder JP,Ayala GX,Slymen D,Campbell NR. Association of a traditional vs shared meal decision-making and preparation style with eating behavior of Hispanic women in San Diego County. J Am Diet Assoc. 2006. 106:38-45. PMID:16390665.	Study Design, Independent Variable
17	August KJ,Sorkin DH. Racial/ethnic disparities in exercise and dietary behaviors of middle-aged and older adults. J Gen Intern Med. 2011. 26:245-50. PMID:20865342.	Independent Variable
18	Austin JL,Smith JE,Gianini L,Campos-Melady M. Attitudinal familism predicts weight management adherence in Mexican-American women. J Behav Med. 2013. 36:259-69. PMID:22487966.	Study Design, Independent Variable
19	Ayala GX,Baquero B,Arredondo EM,Campbell N,Larios S,Elder JP. Association between family variables and Mexican American children's dietary behaviors. J Nutr Educ Behav. 2007. 39:62-9. PMID:17346653.	Independent Variable
20	Ayala GX,Baquero B,Klinger S. A systematic review of the relationship between acculturation and diet among Latinos in the United States: implications for future research. J Am Diet Assoc. 2008. 108:1330-44. PMID:18656573.	Study Design
21	Ayala GX,Elder JP,Campbell NR,Slymen DJ,Roy N,Engelberg M,Ganiats T. Correlates of body mass index and waist-to-hip ratio among Mexican women in the United States: implications for intervention development. Womens Health Issues. 2004. 14:155-64. PMID:15482966.	Sample Size
22	Ayala GX,Mueller K,Lopez-Madurga E,Campbell NR,Elder JP. Restaurant and food shopping selections among Latino women in Southern California. J Am Diet Assoc. 2005. 105:38-45. PMID:15635343.	Outcome
23	Ayala GX,Rogers M,Arredondo EM,Campbell NR,Baquero B,Duerksen SC,Elder JP. Away-from-home food intake and risk for obesity: examining the influence of context. Obesity (Silver Spring). 2008. 16:1002-8. PMID:18309297.	Independent Variable, Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
24	Babington L,Patel B. Understanding child feeding practices of Vietnamese mothers. MCN Am J Matern Child Nurs. 2008. 33:376-81. PMID:18997574.	Study Design, Outcome
25	Baker E,Balistreri KS,Van Hook J. Maternal employment and overweight among Hispanic children of immigrants and children of natives. J Immigr Minor Health. 2009. 11:158-67. PMID:17963041.	Independent Variable
26	Banna JC,Kaiser LL,Drake C,Townsend MS. Acculturation, physical activity and television viewing in Hispanic women: findings from the 2005 California Women's Health Survey. Public Health Nutr. 2012. 15:198-207. PMID:21794203.	Outcome
27	Banna JC,Townsend MS. Assessing factorial and convergent validity and reliability of a food behaviour checklist for Spanish-speaking participants in US Department of Agriculture nutrition education programmes. Public Health Nutr. 2011. 14:1165-76. PMID:21338552.	Study Design, Independent Variable
28	Baquero B,Ayala GX,Arredondo EM,Campbell NR,Slymen DJ,Gallo L,Elder JP. Secretos de la Buena Vida: processes of dietary change via a tailored nutrition communication intervention for Latinas. Health Educ Res. 2009. 24:855-66. PMID:19339374.	Study Design, Independent Variable
29	Barnes DM,Almasy N. Refugees' perceptions of healthy behaviors. J Immigr Health. 2005. 7:185-93. PMID:15900419.	Outcome
30	Barrera M Jr.,Toobert D,Strycker L,Osuna D. Effects of acculturation on a culturally adapted diabetes intervention for Latinas. Health Psychol. 2012. 31:51-4. PMID:21859212.	Study Design, Unhealthy Subjects
31	Baruffi G,Hardy CJ,Waslien CI,Uyehara SJ,Krupitsky D. Ethnic differences in the prevalence of overweight among young children in Hawaii. J Am Diet Assoc. 2004. 104:1701-7. PMID:15499358.	Independent Variable
32	Batis C,Hernandez-Barrera L,Barquera S,Rivera JA,Popkin BM. Food acculturation drives dietary differences among Mexicans, Mexican Americans, and Non-Hispanic Whites. J Nutr. 2011. 141:1898-906. PMID:21880951.	Independent Variable
33	Bauer KW,Larson NI,Nelson MC,Story M,Neumark-Sztainer D. Socio-environmental, personal and behavioural predictors of fast-food intake among adolescents. Public Health Nutr. 2009. 12:1767-74. PMID:19105866.	Independent Variable
34	Beagan BL,Chapman GE. Meanings of food, eating and health among African Nova Scotians: 'certain things aren't meant for Black folk'. Ethn Health. 2012. 17:513-29. PMID:22348428.	Country
35	Beech BM,Kumanyika SK,Baranowski T,Davis M,Robinson TN,Sherwood NE,Taylor WC,Relyea G,Zhou A,Pratt C,Owens A,Thompson NS. Parental cultural perspectives in relation to weight-related behaviors and concerns of African-American girls. Obes Res. 2004. 12 Suppl:7S-19S. PMID:15489463.	Independent Variable
36	Benbenek MM,Garwick AW. Enablers and barriers to dietary practices contributing to bone health among early	Study Design

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	adolescent Somali girls living in Minnesota. J Spec Pediatr Nurs. 2012. 17:205-14. PMID:22734874.	
37	Bender MS,Nader PR,Kennedy C,Gahagan S. A culturally appropriate intervention to improve health behaviors in Hispanic mother-child dyads. Child Obes. 2013. 9:157-63. PMID:23514697.	Study Design, Independent Variable
38	Bermudez OI,Hernandez L,Mazariegos M,Solomons NW. Secular trends in food patterns of Guatemalan consumers: new foods for old. Food Nutr Bull. 2008. 29:278-87. PMID:19227052.	Country, Independent Variable
39	Bersamin A,Zidenberg-Cherr S,Stern JS,Luick BR. Nutrient intakes are associated with adherence to a traditional diet among Yup'ik Eskimos living in remote Alaska Native communities: the CANHR Study. Int J Circumpolar Health. 2007. 66:62-70. PMID:17451135.	Independent Variable, Outcome
40	Bhupathiraju SN,Lichtenstein AH,Dawson-Hughes B,Tucker KL. Adherence index based on the AHA 2006 diet and lifestyle recommendations is associated with select cardiovascular disease risk factors in older Puerto Ricans. J Nutr. 2011. 141:460-9. PMID:21270369.	Independent Variable
41	Bjerregaard P,Dahl-Petersen IK. How well does social variation mirror secular change in prevalence of cardiovascular risk factors in a country in transition?. Am J Hum Biol. 2011. 23:774-9. PMID:21932405.	Country
42	Bolstad AL,Bungum T. Diet, acculturation, and BMI in Hispanics living in southern Nevada. Am J Health Behav. 2013. 37:218-26. PMID:23026103.	Independent Variable
43	Bothwell EK,Ayala GX,Conway TL,Rock CL,Gallo LC,Elder JP. Underreporting of food intake among Mexican/Mexican-American Women: rates and correlates. J Am Diet Assoc. 2009. 109:624-32. PMID:19328257.	Independent Variable, Outcome
44	Bowen RL,Devine CM. "Watching a person who knows how to cook, you'll learn a lot". Linked lives, cultural transmission, and the food choices of Puerto Rican girls. Appetite. 2011. 56:290-8. PMID:21172395.	Study Design
45	Brock KE,Ke L,Tseng M,Clemson L,Koo FK,Jang H,Seibel MJ,Mpofu E,Fraser DR,Mason RS. Vitamin D status is associated with sun exposure, vitamin D and calcium intake, acculturation and attitudes in immigrant East Asian women living in Sydney. J Steroid Biochem Mol Biol. 2013. 136:214-7. PMID:23262263.	Country
46	Burgess D,Fu SS,Joseph AM,Hatsukami DK,Solomon J,van Ryn M. Understanding smoking and cessation among Hmong smokers. J Health Care Poor Underserved. 2008. 19:442-51. PMID:18469415.	Study Design, Outcome
47	Burgess-Champoux TL,Larson NI,Neumark-Sztainer DR,Hannan PJ,Story MT. Longitudinal and secular trends in adolescent whole-grain consumption, 1999-2004. Am J Clin Nutr. 2010. 91:154-9. PMID:19906803.	Independent Variable
48	Buscemi J,Beech BM,Relyea G. Predictors of obesity in Latino children: acculturation as a moderator of the relationship between food insecurity and body mass index percentile. J Immigr Minor Health. 2011. 13:149-54. PMID:19472054.	Sample Size

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
49	Carmichael SL,Shaw GM,Song J,Abrams B. Markers of acculturation and risk of NTDs among Hispanic women in California. Birth Defects Res A Clin Mol Teratol. 2008. 82:755-62. PMID:18985703.	Outcome
50	Carrera PM,Gao X,Tucker KL. A study of dietary patterns in the Mexican-American population and their association with obesity. J Am Diet Assoc. 2007. 107:1735-42. PMID:17904933.	Independent Variable
51	Carter BJ,Birnbaum AS,Hark L,Vickery B,Potter C,Osborne MP. Using media messaging to promote healthful eating and physical activity among urban youth. J Nutr Educ Behav. 2005. 37:98-9. PMID:15882488.	Independent Variable
52	Casey D,Murphy K,Lawton J,White FF,Dineen S. A longitudinal qualitative study examining the factors impacting on the ability of persons with T1DM to assimilate the Dose Adjustment for Normal Eating (DAFNE) principles into daily living and how these factors change over time. BMC Public Health. 2011. 11:672. PMID:21878104.	Unhealthy Subjects
53	Castro FG,Marsiglia FF,Kulis S,Kellison JG. Lifetime segmented assimilation trajectories and health outcomes in Latino and other community residents. Am J Public Health. 2010. 100:669-76. PMID:20167890.	Sample Size
54	Cha E,Yang K,Lee J,Min J,Kim KH,Dunbar SB,Jennings BM. Understanding cultural issues in the diabetes self-management behaviors of Korean immigrants. Diabetes Educ. 2012. 38:835-44. PMID:23019236.	Unhealthy Subjects
55	Chaparro MP,Langellier BA,Kim LP,Whaley SE. Predictors of accurate maternal perception of their preschool child's weight status among Hispanic WIC participants. Obesity (Silver Spring). 2011. 19:2026-30. PMID:21546937.	Independent Variable, Outcome
56	Chapman DJ,Perez-Escamilla R. Acculturative type is associated with breastfeeding duration among low-income Latinas. Matern Child Nutr. 2013. 9:188-98. PMID:21787375.	Outcome
57	Chapman DJ,Perez-Escamilla R. US national breastfeeding monitoring and surveillance: current status and recommendations. J Hum Lact. 2009. 25:139-50. PMID:19286840.	Independent Variable
58	Cheah CS,Van Hook J. Chinese and Korean immigrants' early life deprivation: an important factor for child feeding practices and children's body weight in the United States. Soc Sci Med. 2012. 74:744-52. PMID:22265872.	Independent Variable, Sample Size
59	Chen JL,Kennedy C. Factors associated with obesity in Chinese-American children. Pediatr Nurs. 2005. 31:110-5. PMID:15934563.	Sample Size
60	Chen JL,Weiss S,Heyman MB,Cooper B,Lustig RH. The efficacy of the web-based childhood obesity prevention program in Chinese American adolescents (Web ABC study). J Adolesc Health. 2011. 49:148-54. PMID:21783046.	Study Design, Independent Variable
61	Chen JL,Weiss S,Heyman MB,Lustig R. Risk factors for obesity and high blood pressure in Chinese American	Sample Size

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	children: maternal acculturation and children's food choices. J Immigr Minor Health. 2011. 13:268-75. PMID:19757055.	
62	Chen JL,Wu Y. Cardiovascular risk factors in Chinese American children: associations between overweight, acculturation, and physical activity. J Pediatr Health Care. 2008. 22:103-10. PMID:18294579.	Sample Size
63	Chen JL. Household income, maternal acculturation, maternal education level and health behaviors of Chinese-American children and mothers. J Immigr Minor Health. 2009. 11:198-204. PMID:18306042.	Sample Size
64	Choudhary N,Parthasarathy D. Is migration status a determinant of urban nutrition insecurity? Empirical evidence from Mumbai city, India. J Biosoc Sci. 2009. 41:583-605. PMID:19508740.	Country
65	Clarkin PF. Adiposity and height of adult Hmong refugees: relationship with war-related early malnutrition and later migration. Am J Hum Biol. 2008. 20:174-84. PMID:18172871.	Independent Variable
66	Coronado GD,Thompson B,Tejeda S,Godina R,Chen L. Sociodemographic factors and self-management practices related to type 2 diabetes among Hispanics and non-Hispanic whites in a rural setting. J Rural Health. 2007. 23:49-54. PMID:17300478.	Unhealthy Subjects
67	Croteau-Chonka DC,Marvelle AF,Lange EM,Lee NR,Adair LS,Lange LA,Mohlke KL. Genome-wide association study of anthropometric traits and evidence of interactions with age and study year in Filipino women. Obesity (Silver Spring). 2011. 19:1019-27. PMID:20966902.	Country, Independent Variable
68	Cuy Castellanos D,Downey L,Graham-Kresge S,Yadrick K,Zoellner J,Connell CL. Examining the diet of post-migrant Hispanic males using the precede-proceed model: predisposing, reinforcing, and enabling dietary factors. J Nutr Educ Behav. 2013. 45:109-18. PMID:23103256.	Study Design
69	Dave JM,Evans AE,Saunders RP,Watkins KW,Pfeiffer KA. Associations among food insecurity, acculturation, demographic factors, and fruit and vegetable intake at home in Hispanic children. J Am Diet Assoc. 2009. 109:697-701. PMID:19328265.	Independent Variable
70	Davis MF,Adam M,Carvajal S,Sechrest L,Reyna VF. Using Rasch modeling to measure acculturation in youth. J Appl Meas. 2011. 12:324-38. PMID:22357155.	Study Design, Outcome
71	Dekker LH,Snijder MB,Beukers MH,de Vries JH,Brants HA,de Boer EJ,van Dam RM,Stronks K,Nicolaou M. A prospective cohort study of dietary patterns of non-western migrants in the Netherlands in relation to risk factors for cardiovascular diseases: HELIUS-Dietary Patterns. BMC Public Health. 2011. 11:441. PMID:21649889.	Country
72	Delajara M,Rodriguez-Segura M. Why are Mexican American boys so much taller now?. Econ Hum Biol. 2010. 8:212-22. PMID:20678742.	Independent Variable, Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
73	Delavari M,Sonderlund AL,Swinburn B,Mellor D,Renzaho A. Acculturation and obesity among migrant populations in high income countries--a systematic review. BMC Public Health. 2013. 13:458. PMID:23663279.	Study Design
74	Delisle H. Findings on dietary patterns in different groups of African origin undergoing nutrition transition. Appl Physiol Nutr Metab. 2010. 35:224-8. PMID:20383237.	Study Design
75	Delisle HF,Vioque J,Gil A. Dietary patterns and quality in West-African immigrants in Madrid. Nutr J. 2009. 8:3. PMID:19166606.	Country, Independent Variable
76	Derby CA,Wildman RP,McGinn AP,Green RR,Polotsky AJ,Ram KT,Barnhart J,Weiss G,Santoro N. Cardiovascular risk factor variation within a Hispanic cohort: SWAN, the Study of Women's Health Across the Nation. Ethn Dis. 2010. 20:396-402. PMID:21305828.	Independent Variable
77	Desilets MC,Rivard M,Shatenstein B,Delisle H. Dietary transition stages based on eating patterns and diet quality among Haitians of Montreal, Canada. Public Health Nutr. 2007. 10:454-63. PMID:17411465.	Country
78	Dharod JM,Croom JE,Sady CG. Food insecurity: its relationship to dietary intake and body weight among Somali refugee women in the United States. J Nutr Educ Behav. 2013. 45:47-53. PMID:23084983.	Independent Variable
79	Dhokarh R,Himmelgreen DA,Peng YK,Segura-Perez S,Hromi-Fiedler A,Perez-Escamilla R. Food insecurity is associated with acculturation and social networks in Puerto Rican households. J Nutr Educ Behav. 2011. 43:288-94. PMID:20952259.	Independent Variable, Outcome
80	Diaz H,Marshak HH,Montgomery S,Rea B,Backman D. Acculturation and gender: influence on healthy dietary outcomes for Latino adolescents in California. J Nutr Educ Behav. 2009. 41:319-26. PMID:19717114.	Outcome
81	Dixit AA,Azar KM,Gardner CD,Palaniappan LP. Incorporation of whole, ancient grains into a modern Asian Indian diet to reduce the burden of chronic disease. Nutr Rev. 2011. 69:479-88. PMID:21790614.	Study Design
82	Dounias E,Selzner A,Koizumi M,Levang P. From sago to rice, from forest to town: the consequences of sedentarization for the nutritional ecology of Punan former hunter-gatherers of Borneo. Food Nutr Bull. 2007. 28:S294-302. PMID:17658075.	Country
83	Dubowitz T,Acevedo-Garcia D,Salkeld J,Lindsay AC,Subramanian SV,Peterson KE. Lifecourse, immigrant status and acculturation in food purchasing and preparation among low-income mothers. Public Health Nutr. 2007. 10:396-404. PMID:17362536.	Study Design, Outcome
84	Duerksen SC,Elder JP,Arredondo EM,Ayala GX,Slymen DJ,Campbell NR,Baquero B. Family restaurant choices are associated with child and adult overweight status in Mexican-American families. J Am Diet Assoc. 2007. 107:849-53. PMID:17467384.	Independent Variable, Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
85	Edmonds VM. The nutritional patterns of recently immigrated Honduran women. J Transcult Nurs. 2005. 16:226-35. PMID:15980050.	Study Design
86	Elder JP,Ayala GX,Campbell NR,Slymen D,Lopez-Madurga ET,Engelberg M,Baquero B. Interpersonal and print nutrition communication for a Spanish-dominant Latino population: Secretos de la Buena Vida. Health Psychol. 2005. 24:49-57. PMID:15631562.	Study Design, Independent Variable
87	Elder JP,Ayala GX,Slymen DJ,Arredondo EM,Campbell NR. Evaluating psychosocial and behavioral mechanisms of change in a tailored communication intervention. Health Educ Behav. 2009. 36:366-80. PMID:18077657.	Study Design, Independent Variable
88	El-Sayed AM,Galea S. The health of Arab-Americans living in the United States: a systematic review of the literature. BMC Public Health. 2009. 9:272. PMID:19643005.	Study Design
89	Erber E,Beck L,Hopping BN,Sheehy T,De Roose E,Sharma S. Food patterns and socioeconomic indicators of food consumption amongst Inuvialuit in the Canadian Arctic. J Hum Nutr Diet. 2010. 23 Suppl 1:59-66. PMID:21158963.	Country
90	Erber E,Hopping BN,Beck L,Sheehy T,De Roose E,Sharma S. Assessment of dietary adequacy in a remote Inuvialuit population. J Hum Nutr Diet. 2010. 23 Suppl 1:35-42. PMID:21158960.	Country
91	Espinosa de Los Monteros K,Gallo LC,Elder JP,Talavera GA. Individual and area-based indicators of acculturation and the metabolic syndrome among low-income Mexican American women living in a border region. Am J Public Health. 2008. 98:1979-86. PMID:18799765.	Sample Size
92	Evans A,Seth JG,Smith S,Harris KK,Loyo J,Spaulding C,Van Eck M,Gottlieb N. Parental feeding practices and concerns related to child underweight, picky eating, and using food to calm differ according to ethnicity/race, acculturation, and income. Matern Child Health J. 2011. 15:899-909. PMID:19771501.	Outcome
93	Feng D,Reed DB,Esperat MC,Uchida M. Effects of TV in the bedroom on young Hispanic children. Am J Health Promot. 2011. 25:310-8. PMID:21534833.	Independent Variable, Outcome
94	Ferland A,Lamarche B,Chateau-Degat ML,Counil E,Anassour-Laouan-Sidi E,Abdous B,Dewailly E. Dairy product intake and its association with body weight and cardiovascular disease risk factors in a population in dietary transition. J Am Coll Nutr. 2011. 30:92-9. PMID:21730217.	Country
95	Fichter MM,Quadflieg N,Georgopoulou E,Xepapadakos F,Fthenakis EW. Time trends in eating disturbances in young Greek migrants. Int J Eat Disord. 2005. 38:310-22. PMID:16254871.	Country
96	Fitzgerald N,Damio G,Segura-Perez S,Perez-Escamilla R. Nutrition knowledge, food label use, and food intake patterns among Latinas with and without type 2 diabetes. J Am Diet Assoc. 2008. 108:960-7. PMID:18502226.	Study Design, Independent Variable

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
97	Fitzgerald N,Himmelgreen D,Damio G,Segura-Perez S,Peng YK,Perez-Escamilla R. Acculturation, socioeconomic status, obesity and lifestyle factors among low-income Puerto Rican women in Connecticut, U.S., 1998-1999. Rev Panam Salud Publica. 2006. 19:306-13. PMID:16805972.	Independent Variable
98	Fitzgerald N,Hromi-Fiedler A,Segura-Perez S,Perez-Escamilla R. Food insecurity is related to increased risk of type 2 diabetes among Latinas. Ethn Dis. 2011. 21:328-34. PMID:21942166.	Independent Variable, Unhealthy Subjects
99	Fitzgibbon ML,Gapstur SM,Knight SJ. Results of Mujeres Felices por ser Saludables: a dietary/breast health randomized clinical trial for Latino women. Ann Behav Med. 2004. 28:95-104. PMID:15454356.	Study Design, Independent Variable
100	Franzen L,Smith C. Differences in stature, BMI, and dietary practices between US born and newly immigrated Hmong children. Soc Sci Med. 2009. 69:442-50. PMID:19556047.	Sample Size
101	Franzen L,Smith C. Food system access, shopping behavior, and influences on purchasing groceries in adult Hmong living in Minnesota. Am J Health Promot. 2010. 24:396-409. PMID:20594097.	Study Design, Outcome
102	Fuentes-Afflick E,Hessol NA. Overweight in young Latino children. Arch Med Res. 2008. 39:511-8. PMID:18514096.	Sample Size
103	Gallagher MR,Gill S,Reifsnider E. Child health promotion and protection among Mexican mothers. West J Nurs Res. 2008. 30:588-605. PMID:18612095.	Study Design, Independent Variable
104	Gallagher MR. Maternal perspectives on lifestyle habits that put children of Mexican descent at risk for obesity. J Spec Pediatr Nurs. 2010. 15:16-25. PMID:20074110.	Study Design
105	Gao X,Scott T,Falcon LM,Wilde PE,Tucker KL. Food insecurity and cognitive function in Puerto Rican adults. Am J Clin Nutr. 2009. 89:1197-203. PMID:19225117.	Independent Variable, Outcome
106	Garduno-Diaz SD,Khokhar S. South Asian dietary patterns and their association with risk factors for the metabolic syndrome. J Hum Nutr Diet. 2013. 26:145-55. PMID:22943473.	Country
107	George GC,Hanss-Nuss H,Milani TJ,Freeland-Graves JH. Food choices of low-income women during pregnancy and postpartum. J Am Diet Assoc. 2005. 105:899-907. PMID:15942539.	Independent Variable
108	Gibson MV,Diaz VA, 3rd Mainous AG,Geesey ME. Prevalence of breastfeeding and acculturation in Hispanics: results from NHANES 1999-2000 study. Birth. 2005. 32:93-8. PMID:15918865.	Outcome
109	Gilbert PA,Khokhar S. Changing dietary habits of ethnic groups in Europe and implications for health. Nutr Rev. 2008. 66:203-15. PMID:18366534.	Study Design, Country
110	Gonzalez HM,Tarraf W,Haan MN. The metabolic syndrome, biomarkers, and the acculturation-health relationship among older Mexican Americans. J Aging Health. 2011. 23:1101-15. PMID:21948772.	Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
111	Gordon NP,Iribarren C. Health-related characteristics and preferred methods of receiving health education according to dominant language among Latinos aged 25 to 64 in a large Northern California health plan. BMC Public Health. 2008. 8:305. PMID:18782454.	Independent Variable, Outcome
112	Gordon-Larsen P,Adair LS,Nelson MC,Popkin BM. Five-year obesity incidence in the transition period between adolescence and adulthood: the National Longitudinal Study of Adolescent Health. Am J Clin Nutr. 2004. 80:569-75. PMID:15321794.	Independent Variable
113	Gorman JR,Madlensky L,Jackson DJ,Ganiats TG,Boies E. Early postpartum breastfeeding and acculturation among Hispanic women. Birth. 2007. 34:308-15. PMID:18021146.	Outcome
114	Gregory-Mercado KY,Staten LK,Gillespie C,Ranger-Moore J,Thomson CA,Giuliano AR,Will JC,Ford ES,Marshall J. Ethnicity and nutrient intake among Arizona WISEWOMAN participants. J Womens Health (Larchmt). 2007. 16:379-89. PMID:17439383.	Sample Size
115	Gregory-Mercado KY,Staten LK,Ranger-Moore J,Thomson CA,Will JC,Ford ES,Guillen J,Larkey LK,Giuliano AR,Marshall J. Fruit and vegetable consumption of older Mexican-American women is associated with their acculturation level. Ethn Dis. 2006. 16:89-95. PMID:16599354.	Sample Size
116	Grimm KA,Blanck HM. Survey language preference as a predictor of meeting fruit and vegetable objectives among Hispanic adults in the United States, Behavioral Risk Factor Surveillance System, 2009. Prev Chronic Dis. 2011. 8:A133. PMID:22005626.	Independent Variable
117	Grin BM,Gayle TL,Saravia DC,Sanders LM. Use of farmers markets by mothers of WIC recipients, Miami-Dade County, Florida, 2011. Prev Chronic Dis. 2013. 10:E95. PMID:23764344.	Independent Variable, Outcome
118	Groleau D,Souliere M,Kirmayer LJ. Breastfeeding and the cultural configuration of social space among Vietnamese immigrant woman. Health Place. 2006. 12:516-26. PMID:16157504.	Study Design, Outcome
119	Gu W,Rennie KL,Lin X,Wang Y,Yu Z. Differences in bone mineral status between urban and rural Chinese men and women. Bone. 2007. 41:393-9. PMID:17604245.	Country, Independent Variable
120	Guendelman MD,Cheryan S,Monin B. Fitting in but getting fat: identity threat and dietary choices among U.S. immigrant groups. Psychol Sci. 2011. 22:959-67. PMID:21653909.	Study Design
121	Guevarra JS,Kwate NO,Tang TS,Valdimarsdottir HB,Freeman HP,Bovbjerg DH. Acculturation and its relationship to smoking and breast self-examination frequency in African American women. J Behav Med. 2005. 28:191-9. PMID:15957574.	Outcome
122	Hadley C,Patil CL,Nahayo D. Difficulty in the food environment and the experience of food insecurity among	Independent Variable,

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	refugees resettled in the United States. Ecol Food Nutr. 2010. 49:390-407. PMID:21888578.	Outcome
123	Hadley C,Sellen D. Food security and child hunger among recently resettled Liberian refugees and asylum seekers: a pilot study. J Immigr Minor Health. 2006. 8:369-75. PMID:16924410.	Outcome
124	Hadley C,Zodhiates A,Sellen DW. Acculturation, economics and food insecurity among refugees resettled in the USA: a case study of West African refugees. Public Health Nutr. 2007. 10:405-12. PMID:17362537.	Study Design, Outcome
125	Hamner HC,Cogswell ME,Johnson MA. Acculturation factors are associated with folate intakes among Mexican American women. J Nutr. 2011. 141:1889-97. PMID:21865570.	Outcome
126	Hamner HC,Tinker SC,Flores AL,Mulinare J,Weakland AP,Dowling NF. Modelling fortification of corn masa flour with folic acid and the potential impact on Mexican-American women with lower acculturation. Public Health Nutr. 2013. 16:912-21. PMID:23113948.	Outcome
127	Hanni KD,Garcia E,Ellemberg C,Winkleby M. Targeting the taqueria: implementing healthy food options at Mexican American restaurants. Health Promot Pract. 2009. 10:91S-99S. PMID:19454755.	Study Design, Independent Variable
128	Harley K,Eskenazi B. Time in the United States, social support and health behaviors during pregnancy among women of Mexican descent. Soc Sci Med. 2006. 62:3048-61. PMID:16403596.	Independent Variable
129	Harley K,Stamm NL,Eskenazi B. The effect of time in the U.S. on the duration of breastfeeding in women of Mexican descent. Matern Child Health J. 2007. 11:119-25. PMID:17279324.	Outcome
130	Harrison GG,Kagawa-Singer M,Foerster SB,Lee H,Pham Kim L,Nguyen TU,Fernandez-Ami A,Quinn V,Bal DG. Seizing the moment: California's opportunity to prevent nutrition-related health disparities in low-income Asian American population. Cancer. 2005. 104:2962-8. PMID:16276535.	Study Design
131	Haughton J,Gregorio D,Perez-Escamilla R. Factors associated with breastfeeding duration among Connecticut Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) participants. J Hum Lact. 2010. 26:266-73. PMID:20689103.	Outcome
132	Hawkins SS,Lamb K,Cole TJ,Law C. Influence of moving to the UK on maternal health behaviours: prospective cohort study. BMJ. 2008. 336:1052-5. PMID:18403500.	Country
133	Hjelm K,Bard K,Berntorp K,Apelqvist J. Beliefs about health and illness postpartum in women born in Sweden and the Middle East. Midwifery. 2009. 25:564-75. PMID:18206281.	Study Design, Country
134	Hofmann ET. The burden of culture? Health outcomes among immigrants from the former Soviet Union in the United States. J Immigr Minor Health. 2012. 14:315-22. PMID:21221807.	Study Design, Independent Variable
135	Hopkinson J,Konefal Gallagher M. Assignment to a hospital-based breastfeeding clinic and exclusive	Study Design, Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	breastfeeding among immigrant Hispanic mothers: a randomized, controlled trial. J Hum Lact. 2009. 25:287-96. PMID:19436060.	
136	Hopping BN,Erber E,Mead E,Roache C,Sharma S. High levels of physical activity and obesity co-exist amongst Inuit adults in Arctic Canada. J Hum Nutr Diet. 2010. 23 Suppl 1:110-4. PMID:21158969.	Country
137	Hopping BN,Erber E,Mead E,Sheehy T,Roache C,Sharma S. Socioeconomic indicators and frequency of traditional food, junk food, and fruit and vegetable consumption amongst Inuit adults in the Canadian Arctic. J Hum Nutr Diet. 2010. 23 Suppl 1:51-8. PMID:21158962.	Country
138	Hopping BN,Mead E,Erber E,Sheehy C,Roache C,Sharma S. Dietary adequacy of Inuit in the Canadian Arctic. J Hum Nutr Diet. 2010. 23 Suppl 1:27-34. PMID:21158959.	Country
139	Horodynski MA,Olson B,Baker S,Brophy-Herb H,Auld G,Van Egeren L,Lindau J,Singleterry L. Healthy babies through infant-centered feeding protocol: an intervention targeting early childhood obesity in vulnerable populations. BMC Public Health. 2011. 11:868. PMID:22085421.	Study Design, Age
140	Hromi-Fiedler A,Bermudez-Millan A,Segura-Perez S,Perez-Escamilla R. Nutrient and food intakes differ among Latina subgroups during pregnancy. Public Health Nutr. 2012. 15:341-51. PMID:21729472.	Sample Size
141	Hu D,Taylor T,Blow J,Cooper TV. Multiple health behaviors: patterns and correlates of diet and exercise in a Hispanic college sample. Eat Behav. 2011. 12:296-301. PMID:22051363.	Independent Variable, Outcome
142	Hu FB. Globalization of diabetes: the role of diet, lifestyle, and genes. Diabetes Care. 2011. 34:1249-57. PMID:21617109.	Study Design
143	Hwang JY,Lee SE,Kim SH,Chung HW,Kim WY. Psychological distress is associated with inadequate dietary intake in Vietnamese marriage immigrant women in Korea. J Am Diet Assoc. 2010. 110:779-85. PMID:20430141.	Country, Independent Variable
144	Idris I,Deepa R,Fernando DJ,Mohan V. Relation between age and coronary heart disease (CHD) risk in Asian Indian patients with diabetes: A cross-sectional and prospective cohort study. Diabetes Res Clin Pract. 2008. 81:243-9. PMID:18495288.	Unhealthy Subjects
145	Jafar TH,Qadri Z,Islam M,Hatcher J,Bhutta ZA,Chaturvedi N. Rise in childhood obesity with persistently high rates of undernutrition among urban school-aged Indo-Asian children. Arch Dis Child. 2008. 93:373-8. PMID:17942586.	Country
146	Jasti S,Lee CH,Doak C. Gender, acculturation, food patterns, and overweight in Korean immigrants. Am J Health Behav. 2011. 35:734-45. PMID:22251764.	Sample Size
147	Johansen KS,Bjorge B,Hjellset VT,Holmboe-Ottesen G,Raberg M,Wandel M. Changes in food habits and	Country

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

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	Citation	Reason for Exclusion
	motivation for healthy eating among Pakistani women living in Norway: results from the InnvaDiab-DEPLAN study. Public Health Nutr. 2010. 13:858-67. PMID:19941691.	
148	Johnson-Kozlow M,Matt GE,Rock CL,de la Rosa R,Conway TL,Romero RA. Assessment of dietary intakes of Filipino-Americans: implications for food frequency questionnaire design. J Nutr Educ Behav. 2011. 43:505-10. PMID:21705276.	Independent Variable
149	Jorgensen ME,Moustgaard H,Bjerregaard P,Borch-Johnsen K. Gender differences in the association between westernization and metabolic risk among Greenland Inuit. Eur J Epidemiol. 2006. 21:741-8. PMID:17077992.	Country, Independent Variable
150	Joshi SR,Mohan V,Joshi SS,Mechanick JI,Marchetti A. Transcultural diabetes nutrition therapy algorithm: the Asian Indian application. Curr Diab Rep. 2012. 12:204-12. PMID:22354498.	Study Design
151	Jurkowski JM,Mosquera M,Ramos B. Selected cultural factors associated with physical activity among Latino women. Womens Health Issues. 2010. 20:219-26. PMID:20457410.	Outcome
152	Kahan D. Arab American college students' physical activity and body composition: reconciling Middle East-West differences using the socioecological model. Res Q Exerc Sport. 2011. 82:118-28. PMID:21462692.	Study Design
153	Kaholokula JK,Townsend CK,Ige A,Sinclair K,Mau MK,Leake A,Palakiko DM,Yoshimura SR,Kekauoha P,Hughes C. Sociodemographic, behavioral, and biological variables related to weight loss in native Hawaiians and other Pacific Islanders. Obesity (Silver Spring). 2013. 21:E196-203. PMID:23404724.	Independent Variable
154	Kalil A,Chen JH. Mothers' citizenship status and household food insecurity among low-income children of immigrants. New Dir Child Adolesc Dev. 2008. 2008:43-62. PMID:18792952.	Independent Variable, Outcome
155	Kalra P,Srinivasan S,Ivey S,Greenlund K. Knowledge and practice: the risk of cardiovascular disease among Asian Indians. Results from focus groups conducted in Asian Indian communities in Northern California. Ethn Dis. 2004. 14:497-504. PMID:15724768.	Study Design
156	Kaplan MS,Huguet N,Newsom JT,McFarland BH. The association between length of residence and obesity among Hispanic immigrants. Am J Prev Med. 2004. 27:323-6. PMID:15488363.	Independent Variable
157	Kaufman-Shriqui V,Fraser D,Friger M,Bilenko N,Vardi H,Abu-Saad K,Elhadad N,Mor K,Feine Z,Shahar DR. Factors associated with childhood overweight and obesity among acculturated and new immigrants. Ethn Dis. 2013. 23:329-35. PMID:23914419.	Country
158	Kepka D,Ayala GX,Cherrington A. Do Latino immigrants link self-rated health with BMI and health behaviors?. Am J Health Behav. 2007. 31:535-44. PMID:17555384.	Independent Variable
159	Kieffer EC,Welmerink DB,Sinco BR,Welch KB,Schumann CY,Uhley V. Periconception diet does not vary by	Independent Variable,

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	Citation	Reason for Exclusion
	duration of US residence for Mexican immigrant women. J Acad Nutr Diet. 2013. 113:652-8. PMID:23474270.	Sample Size
160	Kilanowski JF. Patterns and correlates of nutrition among migrant farm-worker children. West J Nurs Res. 2012. 34:396-416. PMID:20935214.	Sample Size
161	Kim E,Wolpin S. The Korean American family: adolescents versus parents acculturation to American culture. J Cult Divers. 2008. 15:108-16. PMID:19025199.	Outcome
162	Kim J,Chan MM. Acculturation and dietary habits of Korean Americans. Br J Nutr. 2004. 91:469-78. PMID:15005833.	Sample Size
163	Kim MJ,Lee SJ,Ahn YH,Bowen P,Lee H. Dietary acculturation and diet quality of hypertensive Korean Americans. J Adv Nurs. 2007. 58:436-45. PMID:17442024.	Sample Size
164	Kleiser C,Mensink GB,Neuhauser H,Schenk L,Kurth BM. Food intake of young people with a migration background living in Germany. Public Health Nutr. 2010. 13:324-30. PMID:19656441.	Country
165	Ko GT,So WY,Chow CC,Wong PT,Tong SD,Hui SS,Kwok R,Chan A,Chan CL,Chan JC. Risk associations of obesity with sugar-sweetened beverages and lifestyle factors in Chinese: the 'Better Health for Better Hong Kong' health promotion campaign. Eur J Clin Nutr. 2010. 64:1386-92. PMID:20823900.	Country, Independent Variable
166	Kollannoor-Samuel G,Chhabra J,Fernandez ML,Vega-Lopez S,Perez SS,Damio G,Calle MC,D'Agostino D,Perez-Escamilla R. Determinants of fasting plasma glucose and glycosylated hemoglobin among low income Latinos with poorly controlled type 2 diabetes. J Immigr Minor Health. 2011. 13:809-17. PMID:21181446.	Unhealthy Subjects
167	Kremmyda LS,Papadaki A,Hondros G,Kapsokefalou M,Scott JA. Differentiating between the effect of rapid dietary acculturation and the effect of living away from home for the first time, on the diets of Greek students studying in Glasgow. Appetite. 2008. 50:455-63. PMID:17997195.	Country
168	Kruger R,Kruger HS,Macintyre UE. The determinants of overweight and obesity among 10- to 15-year-old schoolchildren in the North West Province, South Africa - the THUSA BANA (Transition and Health during Urbanisation of South Africans; BANA, children) study. Public Health Nutr. 2006. 9:351-8. PMID:16684387.	Country
169	Kruseman M,Barandereka NA,Hudelson P,Stalder H. Post-migration dietary changes among african refugees in Geneva: a rapid assessment study to inform nutritional interventions. Soz Praventivmed. 2005. 50:161-5. PMID:16010815.	Country
170	Kumar NB,Yu D,Akinremi TO,Odedina FT. Comparing dietary and other lifestyle factors among immigrant Nigerian men living in the US and indigenous men from Nigeria: potential implications for prostate cancer risk reduction. J Immigr Minor Health. 2009. 11:391-9. PMID:19225888.	Independent Variable

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

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	Citation	Reason for Exclusion
171	Landrine H,Klonoff EA. Culture change and ethnic-minority health behavior: an operant theory of acculturation. J Behav Med. 2004. 27:527-55. PMID:15669443.	Study Design
172	Lara M,Gamboa C,Kahramanian MI,Morales LS,Bautista DE. Acculturation and Latino health in the United States: a review of the literature and its sociopolitical context. Annu Rev Public Health. 2005. 26:367-97. PMID:15760294.	Study Design
173	Lawrence JM,Devlin E,Macaskill S,Kelly M,Chinouya M,Raats MM,Barton KL,Wrieden WL,Shepherd R. Factors that affect the food choices made by girls and young women, from minority ethnic groups, living in the UK. J Hum Nutr Diet. 2007. 20:311-9. PMID:17635308.	Study Design, Country
174	Lee WP,Lingard J,Bermingham M. Change in diet and body mass index in Taiwanese women with length of residence in Australia. Asia Pac J Clin Nutr. 2007. 16:56-65. PMID:17215181.	Country
175	Leon DA,Moser KA. Low birth weight persists in South Asian babies born in England and Wales regardless of maternal country of birth. Slow pace of acculturation, physiological constraint or both? Analysis of routine data. J Epidemiol Community Health. 2012. 66:544-51. PMID:21118952.	Country
176	Lim ES,Ko YK,Ban KO. Prevalence and risk factors of metabolic syndrome in the Korean population--Korean National Health Insurance Corporation Survey 2008. J Adv Nurs. 2013. 69:1549-61. PMID:23009023.	Country, Independent Variable
177	Lim S,Zoellner JM,Ajrouch KJ,Ismail AI. Overweight in childhood: the role of resilient parenting in African-American households. Am J Prev Med. 2011. 40:329-33. PMID:21335265.	Independent Variable
178	Lind C,Mirchandani GG,Castrucci BC,Chavez N,Handler A,Hoelscher DM. The effects of acculturation on healthy lifestyle characteristics among Hispanic fourth-grade children in Texas public schools, 2004-2005. J Sch Health. 2012. 82:166-74. PMID:22385089.	Independent Variable
179	Liou D,Bauer KD. Exploratory investigation of obesity risk and prevention in Chinese Americans. J Nutr Educ Behav. 2007. 39:134-41. PMID:17493563.	Study Design, Independent Variable
180	Liu A,Berhane Z,Tseng M. Improved dietary variety and adequacy but lower dietary moderation with acculturation in Chinese women in the United States. J Am Diet Assoc. 2010. 110:457-62. PMID:20184998.	Sample Size
181	Lobb R,Gonzalez Suarez E,Fay ME,Gutheil CM,Hunt MK,Fletcher RH,Emmons KM. Implementation of a cancer prevention program for working class, multiethnic populations. Prev Med. 2004. 38:766-76. PMID:15193897.	Study Design, Independent Variable
182	Lora KR,Lewis NM,Eskridge KM,Stanek-Krogstrand K,Travnicek DA. Correlation of omega-3 fatty acids intakes with acculturation and socioeconomic status in midwestern Latinas. J Immigr Minor Health. 2011. 13:111-8. PMID:20094794.	Outcome, Sample Size

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	Citation	Reason for Exclusion
183	Lorenzo-Blanco EI,Unger JB,Ritt-Olson A,Soto D,Baezconde-Garbanati L. Acculturation, gender, depression, and cigarette smoking among U.S. Hispanic youth: the mediating role of perceived discrimination. J Youth Adolesc. 2011. 40:1519-33. PMID:21293915.	Independent Variable
184	Lovejoy JC,Champagne CM,de Jonge L,Xie H,Smith SR. Increased visceral fat and decreased energy expenditure during the menopausal transition. Int J Obes (Lond). 2008. 32:949-58. PMID:18332882.	Independent Variable
185	Ludwig AF,Cox P,Ellahi B. Social and cultural construction of obesity among Pakistani Muslim women in North West England. Public Health Nutr. 2011. 14:1842-50. PMID:21208481.	Country
186	Lujan J,Ostwald SK,Ortiz M. Promotora diabetes intervention for Mexican Americans. Diabetes Educ. 2007. 33:660-70. PMID:17684167.	Unhealthy Subjects
187	Lv N,Cason KL. Dietary pattern change and acculturation of Chinese Americans in Pennsylvania. J Am Diet Assoc. 2004. 104:771-8. PMID:15127063.	Sample Size
188	Lynch WC,Heil DP,Wagner E,Havens MD. Ethnic differences in BMI, weight concerns, and eating behaviors: comparison of Native American, White, and Hispanic adolescents. Body Image. 2007. 4:179-90. PMID:18089263.	Independent Variable
189	Lyu JE,Yang YJ,Lee SE,Chung HW,Kim MK,Kim WY. Nutritional status of Vietnamese female marriage immigrants to Korea in relation to length of residence in Korea. Ann Nutr Metab. 2009. 55:317-24. PMID:19828942.	Country
190	Mainous AG 3rd,Diaz VA,Geesey ME. Acculturation and healthy lifestyle among Latinos with diabetes. Ann Fam Med. 2008. 6:131-7. PMID:18332405.	Unhealthy Subjects
191	Marquis M,Shatenstein B. Food choice motives and the importance of family meals among immigrant mothers. Can J Diet Pract Res. 2005. 66:77-82. PMID:15975196.	Country, Outcome
192	Martinez AD. Reconsidering acculturation in dietary change research among Latino immigrants: challenging the preconditions of US migration. Ethn Health. 2013. 18:115-35. PMID:22731980.	Study Design
193	Matt GE,Rock CL,Johnson-Kozlow M. Using recall cues to improve measurement of dietary intakes with a food frequency questionnaire in an ethnically diverse population: an exploratory study. J Am Diet Assoc. 2006. 106:1209-17. PMID:16863716.	Study Design, Outcome
194	Mattei J,Noel SE,Tucker KL. A meat, processed meat, and French fries dietary pattern is associated with high allostatic load in Puerto Rican older adults. J Am Diet Assoc. 2011. 111:1498-506. PMID:21963016.	Independent Variable
195	McDade TW,Rutherford JN,Adair L,Kuzawa C. Population differences in associations between C-reactive protein concentration and adiposity: comparison of young adults in the Philippines and the United States. Am J Clin Nutr. 2009. 89:1237-45. PMID:19225115.	Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
196	McDonald JT,Kennedy S. Is migration to Canada associated with unhealthy weight gain? Overweight and obesity among Canada's immigrants. Soc Sci Med. 2005. 61:2469-81. PMID:15972242.	Country
197	McNeill LH,Stoddard A,Bennett GG,Wolin KY,Sorensen GG. Influence of individual and social contextual factors on changes in leisure-time physical activity in working-class populations: results of the Healthy Directions-Small Businesses Study. Cancer Causes Control. 2012. 23:1475-87. PMID:22806257.	Independent Variable, Outcome
198	Mejean C,Traissac P,Eymard-Duvernay S,Delpeuch F,Maire B. Influence of acculturation among Tunisian migrants in France and their past/present exposure to the home country on diet and physical activity. Public Health Nutr. 2009. 12:832-41. PMID:18647429.	Country
199	Melgar-Quinonez HR,Kaiser LL. Relationship of child-feeding practices to overweight in low-income Mexican-American preschool-aged children. J Am Diet Assoc. 2004. 104:1110-9. PMID:15215770.	Independent Variable
200	Mier N,Smith ML,Carrillo-Zuniga G,Wang X,Garza N,Ory MG. Personal and cultural influences on diabetes self-care behaviors among older Hispanics born in the U.S. and Mexico. J Immigr Minor Health. 2012. 14:1052-62. PMID:22729288.	Unhealthy Subjects
201	Misra A,Ganda OP. Migration and its impact on adiposity and type 2 diabetes. Nutrition. 2007. 23:696-708. PMID:17679049.	Study Design, Independent Variable
202	Moayad N,Balcazar H,Pedregon V,Velasco L,Bayona M. Do acculturation and family cohesiveness influence severity of diabetes among Mexican Americans?. Ethn Dis. 2006. 16:452-9. PMID:17682248.	Unhealthy Subjects
203	Montoya JA,Salinas JJ,Barroso CS,Mitchell-Bennett L,Reininger B. Nativity and nutritional behaviors in the Mexican origin population living in the US-Mexico border region. J Immigr Minor Health. 2011. 13:94-100. PMID:20401536.	Study Design, Independent Variable
204	Moore JB,Gaffney KF,Pawloski LR,Jaimovich SP,Campos MC. Maternal-child nutrition practices and pediatric overweight/obesity in the United States and Chile: a comparative study. J Pediatr Nurs. 2012. 27:e44-9. PMID:21945927.	Country, Independent Variable
205	Morello MI,Madanat H,Crespo NC,Lemus H,Elder J. Associations among parent acculturation, child BMI, and child fruit and vegetable consumption in a Hispanic sample. J Immigr Minor Health. 2012. 14:1023-9. PMID:22392140.	Sample Size
206	Morrison SD,Haldeman L,Sudha S,Gruber KJ,Bailey R. Cultural adaptation resources for nutrition and health in new immigrants in Central North Carolina. J Immigr Minor Health. 2007. 9:205-12. PMID:17245656.	Independent Variable, Outcome
207	Mulasi-Pokhriyal U,Smith C,Franzen-Castle L. Investigating dietary acculturation and intake among US-born and	Sample Size

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	Thailand/Laos-born Hmong-American children aged 9-18 years. Public Health Nutr. 2012. 15:176-85. PMID:21806862.	
208	Murtaugh MA,Herrick JS,Sweeney C,Baumgartner KB,Guiliano AR,Byers T,Slattery ML. Diet composition and risk of overweight and obesity in women living in the southwestern United States. J Am Diet Assoc. 2007. 107:1311-21. PMID:17659896.	Independent Variable
209	Mussap AJ. Acculturation, body image, and eating behaviours in Muslim-Australian women. Health Place. 2009. 15:532-9. PMID:18952486.	Country
210	Myong JP,Kim HR,Jung-Choi K,Baker D,Choi B. Disparities of metabolic syndrome prevalence by age, gender and occupation among Korean adult workers. Ind Health. 2012. 50:115-22. PMID:22293725.	Country
211	Narayan KM,Aviles-Santa L,Oza-Frank R,Pandey M,Curb JD,McNeely M,Araneta MR,Palaniappan L,Rajpathak S,Barrett-Connor E. Report of a National Heart, Lung, And Blood Institute Workshop: heterogeneity in cardiometabolic risk in Asian Americans In the U.S. Opportunities for research. J Am Coll Cardiol. 2010. 55:966-73. PMID:20202512.	Study Design
212	Neighbors CJ,Marquez DX,Marcus BH. Leisure-time physical activity disparities among Hispanic subgroups in the United States. Am J Public Health. 2008. 98:1460-4. PMID:18048795.	Outcome
213	Ngo J,Gurinovic M,Frost-Andersen L,Serra-Majem L. How dietary intake methodology is adapted for use in European immigrant population groups - a review. Br J Nutr. 2009. 101 Suppl 2:S86-94. PMID:19594968.	Study Design
214	Nicolaou M,Doak CM,van Dam RM,Brug J,Stronks K,Seidell JC. Cultural and social influences on food consumption in dutch residents of Turkish and moroccan origin: a qualitative study. J Nutr Educ Behav. 2009. 41:232-41. PMID:19508928.	Country
215	Nicolaou M,van Dam RM,Stronks K. Acculturation and education level in relation to quality of the diet: a study of Surinamese South Asian and Afro-Caribbean residents of the Netherlands. J Hum Nutr Diet. 2006. 19:383-93. PMID:16961685.	Country
216	Nobari TZ,Wang MC,Chaparro MP,Crespi CM,Koleilat M,Whaley SE. Immigrant enclaves and obesity in preschool-aged children in Los Angeles County. Soc Sci Med. 2013. 92:1-8. PMID:23849273.	Independent Variable
217	Norman S,Castro C,Albright C,King A. Comparing acculturation models in evaluating dietary habits among low-income Hispanic women. Ethn Dis. 2004. 14:399-404. PMID:15328942.	Sample Size
218	Novotny R,Oshiro CE,Wilkens LR. Prevalence of Childhood Obesity among Young Multiethnic Children from a Health Maintenance Organization in Hawaii. Child Obes. 2013. 9:35-42. PMID:23373877.	Independent Variable

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
219	Novotny R,Williams AE,Vinoya AC,Oshiro CE,Vogt TM. US acculturation, food intake, and obesity among Asian-Pacific hotel workers. J Am Diet Assoc. 2009. 109:1712-8. PMID:19782170.	Duplicate Study
220	O'Brien MJ,Davey A,Alos VA,Whitaker RC. Diabetes-related behaviors in Latinas and non-Latinas in California. Diabetes Care. 2013. 36:355-61. PMID:22961569.	Independent Variable
221	Odegaard AO,Koh WP,Yuan JM,Gross MD,Pereira MA. Western-style fast food intake and cardiometabolic risk in an Eastern country. Circulation. 2012. 126:182-8. PMID:22753304.	Country
222	Olvera N,Bush JA,Sharma SV,Knox BB,Scherer RL,Butte NF. BOUNCE: a community-based mother-daughter healthy lifestyle intervention for low-income Latino families. Obesity (Silver Spring). 2010. 18 Suppl 1:S102-4. PMID:20107454.	Study Design, Independent Variable
223	Oster A,Yung J. Dietary acculturation, obesity, and diabetes among Chinese immigrants in New York City. Diabetes Care. 2010. 33:e109. PMID:20668145.	Sample Size
224	Osypuk TL,Diez Roux AV,Hadley C,Kandula NR. Are immigrant enclaves healthy places to live? The Multi-ethnic Study of Atherosclerosis. Soc Sci Med. 2009. 69:110-20. PMID:19427731.	Independent Variable
225	Padilla R,Steiner JF,Havranek EP,Beaty B,Davidson AJ,Bull S. A comparison of different measures of acculturation with cardiovascular risk factors in Latinos with hypertension. J Immigr Minor Health. 2011. 13:284-92. PMID:21221808.	Unhealthy Subjects
226	Park SY,Murphy SP,Sharma S,Kolonel LN. Dietary intakes and health-related behaviours of Korean American women born in the USA and Korea: the Multiethnic Cohort Study. Public Health Nutr. 2005. 8:904-11. PMID:16277807.	Independent Variable
227	Park Y,Neckerman K,Quinn J,Weiss C,Jacobson J,Rundle A. Neighbourhood immigrant acculturation and diet among Hispanic female residents of New York City. Public Health Nutr. 2011. 14:1593-600. PMID:21414245.	Independent Variable
228	Park Y,Quinn J,Florez K,Jacobson J,Neckerman K,Rundle A. Hispanic immigrant women's perspective on healthy foods and the New York City retail food environment: A mixed-method study. Soc Sci Med. 2011. 73:13-21. PMID:21658831.	Study Design
229	Patil CL,Hadley C,Nahayo PD. Unpacking dietary acculturation among new Americans: results from formative research with African refugees. J Immigr Minor Health. 2009. 11:342-58. PMID:18253832.	Study Design
230	Peek MK,Cutchin MP,Salinas JJ,Sheffield KM,Eschbach K,Stowe RP,Goodwin JS. Allostatic load among non-Hispanic Whites, non-Hispanic Blacks, and people of Mexican origin: effects of ethnicity, nativity, and acculturation. Am J Public Health. 2010. 100:940-6. PMID:19834005.	Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
231	Perez-Escamilla R,Hromi-Fiedler A,Vega-Lopez S,Bermudez-Millan A,Segura-Perez S. Impact of peer nutrition education on dietary behaviors and health outcomes among Latinos: a systematic literature review. J Nutr Educ Behav. 2008. 40:208-25. PMID:18565462.	Study Design
232	Perez-Escamilla R,Putnik P. The role of acculturation in nutrition, lifestyle, and incidence of type 2 diabetes among Latinos. J Nutr. 2007. 137:860-70. PMID:17374645.	Study Design
233	Perez-Escamilla R,Song DS,Taylor CA,Mejia A,Melgar-Quinonez H,Balcazar HG,Anders RL,Segura-Perez S,Duarte-Gardea MO,Ibarra JM. Place of residence modifies the association between acculturation and dietary tools knowledge among Latina WIC participants: a multi-state study. J Immigr Minor Health. 2011. 13:299-308. PMID:20549357.	Outcome
234	Perez-Escamilla R. Acculturation, nutrition, and health disparities in Latinos. Am J Clin Nutr. 2011. 93:1163S-7S. PMID:21367946.	Study Design
235	Perez-Escamilla R. Dietary quality among Latinos: is acculturation making us sick?. J Am Diet Assoc. 2009. 109:988-91. PMID:19465179.	Study Design
236	Peterman JN,Silka L,Bermudez OI,Wilde PE,Rogers BL. Acculturation, education, nutrition education, and household composition are related to dietary practices among Cambodian refugee women in Lowell, MA. J Am Diet Assoc. 2011. 111:1369-74. PMID:21872700.	Sample Size
237	Pierce BL,Austin MA,Crane PK,Retzlaff BM,Fish B,Hutter CM,Leonetti DL,Fujimoto WY. Measuring dietary acculturation in Japanese Americans with the use of confirmatory factor analysis of food-frequency data. Am J Clin Nutr. 2007. 86:496-503. PMID:17684224.	Study Design, Independent Variable
238	Raberg M,Kumar B,Holmboe-Ottesen G,Wandel M. Overweight and weight dissatisfaction related to socio-economic position, integration and dietary indicators among south Asian immigrants in Oslo. Public Health Nutr. 2010. 13:695-703. PMID:19807936.	Country
239	Ramirez AS,Rutten LJ,Oh A,Vengoechea BL,Moser RP,Vanderpool RC,Hesse BW. Perceptions of cancer controllability and cancer risk knowledge: the moderating role of race, ethnicity, and acculturation. J Cancer Educ. 2013. 28:254-61. PMID:23355279.	Outcome
240	Rawlins E,Baker G,Maynard M,Harding S. Perceptions of healthy eating and physical activity in an ethnically diverse sample of young children and their parents: the DEAL prevention of obesity study. J Hum Nutr Diet. 2013. 26:132-44. PMID:22827466.	Study Design
241	Regev-Tobias H,Reifen R,Endevelt R,Havkin O,Cohen E,Stern G,Stark A. Dietary acculturation and increasing	Country

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	rates of obesity in Ethiopian women living in Israel. Nutrition. 2012. 28:30-4. PMID:21763107.	
242	Renzaho AM,Swinburn B,Burns C. Maintenance of traditional cultural orientation is associated with lower rates of obesity and sedentary behaviours among African migrant children to Australia. Int J Obes (Lond). 2008. 32:594-600. PMID:18253161.	Country
243	Reyes-Ortiz CA,Ju H,Eschbach K,Kuo YF,Goodwin JS. Neighbourhood ethnic composition and diet among Mexican-Americans. Public Health Nutr. 2009. 12:2293-301. PMID:19254428.	Independent Variable
244	Reyes-Ortiz CA,Ju H,Inniss A,Eschbach K,Kuo YF,Goodwin JS. Acculturation and serum nutrients thought to be involved with cancer prevention among Mexican American men in the United States. Cancer Control. 2009. 16:169-75. PMID:19337203.	Outcome
245	Ricciardelli LA,Mellor D,McCabe MP,Mussap AJ,Hallford DJ,Tyler M. Promoting fit bodies, healthy eating and physical activity among Indigenous Australian men: a study protocol. BMC Public Health. 2012. 12:28. PMID:22236166.	Country
246	Rodriguez F,Peralta CA,Green AR,Lopez L. Comparison of C-reactive protein levels in less versus more acculturated Hispanic adults in the United States (from the National Health and Nutrition Examination Survey 1999-2008). Am J Cardiol. 2012. 109:665-9. PMID:22169128.	Independent Variable, Outcome
247	Rodriguez-Moran M,Guerrero-Romero F,Brito-Zurita O,Rascon-Pacheco RA,Perez-Fuentes R,Sanchez-Guillen MC,Gonzalez-Ortiz M,Martinez-Abundis E,Simental-Mendia LE,Madero A,Revilla-Monsalve C,Flores-Martinez SE,Islas-Andrade S,Cruz M,Wacher N,Sanchez-Corona J. Cardiovascular risk factors and acculturation in Yaquis and Tepehuanos Indians from Mexico. Arch Med Res. 2008. 39:352-7. PMID:18279710.	Country
248	Rondinelli AJ,Morris MD,Rodwell TC,Moser KS,Paida P,Popper ST,Brouwer KC. Under- and over-nutrition among refugees in San Diego County, California. J Immigr Minor Health. 2011. 13:161-8. PMID:20505992.	Study Design
249	Rosas LG,Harley K,Fernald LC,Guendelman S,Mejia F,Neufeld LM,Eskenazi B. Dietary associations of household food insecurity among children of Mexican descent: results of a binational study. J Am Diet Assoc. 2009. 109:2001-9. PMID:19942017.	Independent Variable
250	Rosenmoller DL,Gasevic D,Seidell J,Lear SA. Determinants of changes in dietary patterns among Chinese immigrants: a cross-sectional analysis. Int J Behav Nutr Phys Act. 2011. 8:42. PMID:21592378.	Country
251	Roshania R,Narayan KM,Oza-Frank R. Age at arrival and risk of obesity among US immigrants. Obesity (Silver Spring). 2008. 16:2669-75. PMID:18846044.	Independent Variable
252	Rutt CD,Coleman KJ. Examining the relationships among built environment, physical activity, and body mass	Independent Variable

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	index in El Paso, TX. Prev Med. 2005. 40:831-41. PMID:15850885.	
253	Sandy JM,Anisfeld E,Ramirez E. Effects of a prenatal intervention on breastfeeding initiation rates in a Latina immigrant sample. J Hum Lact. 2009. 25:404-11; quiz 458-9. PMID:19487705.	Study Design, Outcome
254	Sarkar S,Das M,Mukhopadhyay B,Chakrabarti CS,Majumder PP. High prevalence of metabolic syndrome and its correlates in two tribal populations of India and the impact of urbanization. Indian J Med Res. 2006. 123:679-86. PMID:16873911.	Country
255	Sawanyawisuth K,Palinkas LA,Ancoli-Israel S,Dimsdale JE,Loredo JS. Ethnic differences in the prevalence and predictors of restless legs syndrome between Hispanics of Mexican descent and non-Hispanic Whites in San Diego county: a population-based study. J Clin Sleep Med. 2013. 9:47-53. PMID:23319904.	Outcome
256	Seth JG,Evans AE,Harris KK,Loyo JJ,Ray TC,Spaulding C,Gottlieb NH. Preschooler feeding practices and beliefs: differences among Spanish- and English-speaking WIC clients. Fam Community Health. 2007. 30:257-70. PMID:17563487.	Outcome
257	Sharkey JR,Johnson CM,Dean WR. Nativity is associated with sugar-sweetened beverage and fast-food meal consumption among Mexican-origin women in Texas border colonias. Nutr J. 2011. 10:101. PMID:21962014.	Independent Variable
258	Sharma S,Cao X,Roache C,Buchan A,Reid R,Gittelsohn J. Assessing dietary intake in a population undergoing a rapid transition in diet and lifestyle: the Arctic Inuit in Nunavut, Canada. Br J Nutr. 2010. 103:749-59. PMID:19840421.	Country
259	Sharma S,Gittelsohn J,Rosol R,Beck L. Addressing the public health burden caused by the nutrition transition through the Healthy Foods North nutrition and lifestyle intervention programme. J Hum Nutr Diet. 2010. 23 Suppl 1:120-7. PMID:21158971.	Country
260	Sharma S. Assessing diet and lifestyle in the Canadian Arctic Inuit and Inuvialuit to inform a nutrition and physical activity intervention programme. J Hum Nutr Diet. 2010. 23 Suppl 1:5-17. PMID:21158957.	Country
261	Sheehy T,Roache C,Sharma S. Eating habits of a population undergoing a rapid dietary transition: portion sizes of traditional and non-traditional foods and beverages consumed by Inuit adults in Nunavut, Canada. Nutr J. 2013. 12:70. PMID:23724920.	Independent Variable
262	Sheikh N,Egeland GM,Johnson-Down L,Kuhnlein HV. Changing dietary patterns and body mass index over time in Canadian Inuit communities. Int J Circumpolar Health. 2011. 70:511-9. PMID:22152598.	Country
263	Shetty P. Nutrition transition and its health outcomes. Indian J Pediatr. 2013. 80 Suppl 1:S21-7. PMID:23412985.	Study Design
264	Singh GK,Kogan MD,Dee DL. Nativity/immigrant status, race/ethnicity, and socioeconomic determinants of	Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	breastfeeding initiation and duration in the United States, 2003. Pediatrics. 2007. 119 Suppl 1:S38-46. PMID:17272583.	
265	Slattery ML,Sweeney C,Edwards S,Herrick J,Murtaugh M,Baumgartner K,Guiliano A,Byers T. Physical activity patterns and obesity in Hispanic and non-Hispanic white women. Med Sci Sports Exerc. 2006. 38:33-41. PMID:16394951.	Independent Variable, Outcome
266	Smith C,Franzen-Castle L. Dietary acculturation and body composition predict American Hmong children's blood pressure. Am J Hum Biol. 2012. 24:666-74. PMID:22836226.	Sample Size
267	Smith NR,Kelly YJ,Nazroo JY. The effects of acculturation on obesity rates in ethnic minorities in England: evidence from the Health Survey for England. Eur J Public Health. 2012. 22:508-13. PMID:21697245.	Country
268	Smith WE,Day RS,Brown LB. Heritage retention and bean intake correlates to dietary fiber intakes in Hispanic mothers--Que Sabrosa Vida. J Am Diet Assoc. 2005. 105:404-11; discussion 411-2. PMID:15746828.	Outcome, Sample Size
269	Song Y,Joung H,Engelhardt K,Yoo SY,Paik HY. Traditional v. modified dietary patterns and their influence on adolescents' nutritional profile. Br J Nutr. 2005. 93:943-9. PMID:16022765.	Country
270	Springer AE,Lewis K,Kelder SH,Fernandez ME,Barroso CS,Hoelscher DM. Physical activity participation by parental language use in 4th, 8th, and 11th grade students in Texas, USA. J Immigr Minor Health. 2010. 12:769-80. PMID:19365728.	Outcome
271	Staffileno BA,Tangney CC,Wilbur J,Marquez DX,Fogg L,Manning A,Bustamante EE,Morris MC. Dietary approaches to stop hypertension patterns in older Latinos with or at risk for hypertension. J Cardiovasc Nurs. 2013. 28:338-47. PMID:22722473.	Sample Size
272	Starling Washington P,Reifsnider E,S LB,Domingeaux Ethington M,R ER. Changes in family variables among normal and overweight preschoolers. Issues Compr Pediatr Nurs. 2010. 33:20-38. PMID:20121578.	Independent Variable
273	Steffen PR,Smith TB,Larson M,Butler L. Acculturation to Western society as a risk factor for high blood pressure: a meta-analytic review. Psychosom Med. 2006. 68:386-97. PMID:16738069.	Study Design
274	Stimpson JP,Urrutia-Rojas X. Acculturation in the United States is associated with lower serum carotenoid levels: Third National Health and Nutrition Examination Survey. J Am Diet Assoc. 2007. 107:1218-23. PMID:17604755.	Outcome
275	Sujoldzic A,De Lucia A. A cross-cultural study of adolescents--BMI, body image and psychological well-being. Coll Antropol. 2007. 31:123-30. PMID:17598390.	Country, Independent Variable
276	Sukalakamala S,Brittin HC. Food practices, changes, preferences, and acculturation of Thais in the United States. J Am Diet Assoc. 2006. 106:103-8. PMID:16390673.	Sample Size

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
277	Sungurova Y,Johansson SE,Sundquist J. East-west health divide and east-west migration: Self-reported health of immigrants from Eastern Europe and the former Soviet Union in Sweden. Scand J Public Health. 2006. 34:217-21. PMID:16581715.	Country
278	Sussner KM,Lindsay AC,Greaney ML,Peterson KE. The influence of immigrant status and acculturation on the development of overweight in Latino families: a qualitative study. J Immigr Minor Health. 2008. 10:497-505. PMID:18373200.	Study Design
279	Sussner KM,Lindsay AC,Peterson KE. The influence of acculturation on breast-feeding initiation and duration in low-income women in the US. J Biosoc Sci. 2008. 40:673-96. PMID:18045509.	Outcome
280	Sussner KM,Lindsay AC,Peterson KE. The influence of maternal acculturation on child body mass index at age 24 months. J Am Diet Assoc. 2009. 109:218-25. PMID:19167948.	Sample Size
281	Tam CY,Martin LJ,Hislop G,Hanley AJ,Minkin S,Boyd NF. Risk factors for breast cancer in postmenopausal Caucasian and Chinese-Canadian women. Breast Cancer Res. 2010. 12:R2. PMID:20053286.	Country
282	Tami SH,Reed DB,Boylan M,Zvonkovic A. Assessment of the effect of acculturation on dietary and physical activity behaviors of Arab mothers in Lubbock, Texas. Ethn Dis. 2012. 22:192-7. PMID:22764642.	Study Design
283	Tarnutzer S,Bopp M. Healthy migrants but unhealthy offspring? A retrospective cohort study among Italians in Switzerland. BMC Public Health. 2012. 12:1104. PMID:23259829.	Country
284	Tautolo el S,Schluter PJ,Paterson J,McRobbie H. Acculturation status has a modest effect on smoking prevalence among a cohort of Pacific fathers in New Zealand. Aust N Z J Public Health. 2011. 35:509-16. PMID:22151156.	Country, Outcome
285	Teo K,Chow CK,Vaz M,Rangarajan S,Yusuf S. The Prospective Urban Rural Epidemiology (PURE) study: examining the impact of societal influences on chronic noncommunicable diseases in low-, middle-, and high-income countries. Am Heart J. 2009. 158:1-7 e1. PMID:19540385.	Independent Variable
286	Tovar A,Hennessy E,Pirie A,Must A,Gute DM,Hyatt RR,Kamins CL,Hughes SO,Boulos R,Sliwa S,Galvao H,Economos CD. Feeding styles and child weight status among recent immigrant mother-child dyads. Int J Behav Nutr Phys Act. 2012. 9:62. PMID:22642962.	Independent Variable
287	Tovar A,Must A,Metayer N,Gute DM,Pirie A,Hyatt RR,Economos CD. Immigrating to the US: what Brazilian, Latin American and Haitian women have to say about changes to their lifestyle that may be associated with obesity. J Immigr Minor Health. 2013. 15:357-64. PMID:22736266.	Study Design
288	Tseng M,Byrne C,Evers KA,London WT,Daly MB. Acculturation and breast density in foreign-born, U.S. Chinese women. Cancer Epidemiol Biomarkers Prev. 2006. 15:1301-5. PMID:16835327.	Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

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	Citation	Reason for Exclusion
289	Tseng M,Fang CY. Socio-economic position and lower dietary moderation among Chinese immigrant women in the USA. Public Health Nutr. 2012. 15:415-23. PMID:21806866.	Independent Variable
290	Tseng M,Fang CY. Stress is associated with unfavorable patterns of dietary intake among female chinese immigrants. Ann Behav Med. 2011. 41:324-32. PMID:21384248.	Independent Variable
291	Tseng M,Olufade TO,Evers KA,Byrne C. Adolescent lifestyle factors and adult breast density in U.S. Chinese immigrant women. Nutr Cancer. 2011. 63:342-9. PMID:21391125.	Outcome
292	Van Hook J,Balistreri KS. Immigrant generation, socioeconomic status, and economic development of countries of origin: a longitudinal study of body mass index among children. Soc Sci Med. 2007. 65:976-89. PMID:17570571.	Independent Variable
293	Venkatesh S,Weatherspoon LJ,Kaplowitz SA,Song WO. Acculturation and glycemic control of Asian Indian adults with type 2 diabetes. J Community Health. 2013. 38:78-85. PMID:22744164.	Unhealthy Subjects
294	Vorster HH,Kruger A,Venter CS,Margetts BM,Macintyre UE. Cardiovascular disease risk factors and socio-economic position of Africans in transition: the THUSA study. Cardiovasc J Afr. 2007. 18:282-9. PMID:17957323.	Country, Independent Variable
295	Vue W,Wolff C,Goto K. Hmong food helps us remember who we are: perspectives of food culture and health among Hmong women with young children. J Nutr Educ Behav. 2011. 43:199-204. PMID:20980205.	Study Design
296	Weiss JW,Mouttapa M,Cen S,Johnson CA,Unger J. Longitudinal effects of hostility, depression, and bullying on adolescent smoking initiation. J Adolesc Health. 2011. 48:591-6. PMID:21575819.	Independent Variable
297	Wilson WM,Bulkan J,Piperata BA,Hicks K,Ehlers P. Nutritional status of Makushi Amerindian children and adolescents of Guyana. Ann Hum Biol. 2011. 38:615-29. PMID:21675938.	Country
298	Windle M,Grunbaum JA,Elliott M,Tortolero SR,Berry S,Gilliland J,Kanouse DE,Parcel GS,Wallander J,Kelder S,Collins J,Kolbe L,Schuster M. Healthy passages. A multilevel, multimethod longitudinal study of adolescent health. Am J Prev Med. 2004. 27:164-72. PMID:15261905.	Independent Variable
299	Winham DM. Growth status among low-income Mexican and Mexican-American elementary school children. Am J Hum Biol. 2012. 24:690-5. PMID:22836381.	Sample Size
300	Wirtz AL,Madanat HN. Westernization, intuitive eating, and BMI: an exploration of Jordanian adolescents. Int Q Community Health Educ. 2012. 33:275-87. PMID:23896036.	Country, Sample Size
301	Wojcicki JM,Jimenez-Cruz A,Bacardi-Gascon M,Schwartz N,Heyman MB. Bimodal distribution of risk for childhood obesity in urban Baja California, Mexico. J Urban Health. 2012. 89:628-38. PMID:22669641.	Country
302	Wojcicki JM,Schwartz N,Jimenez-Cruz A,Bacardi-Gascon M,Heyman MB. Acculturation, dietary practices and risk	Sample Size

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	for childhood obesity in an ethnically heterogeneous population of Latino school children in the San Francisco bay area. J Immigr Minor Health. 2012. 14:533-9. PMID:22101726.	
303	Yang EJ,Chung HK,Kim WY,Bianchi L,Song WO. Chronic diseases and dietary changes in relation to Korean Americans' length of residence in the United States. J Am Diet Assoc. 2007. 107:942-50. PMID:17524714.	Sample Size
304	Yang EJ,Kerver JM,Song WO. Dietary patterns of Korean Americans described by factor analysis. J Am Coll Nutr. 2005. 24:115-21. PMID:15798078.	Sample Size
305	Yeh MC,Viladrich A,Bruning N,Roye C. Determinants of Latina obesity in the United States: the role of selective acculturation. J Transcult Nurs. 2009. 20:105-15. PMID:18948450.	Study Design
306	Zeljko H,Skaric-Juric T,Narancic NS,Salihovic MP,Klaric IM,Barbalic M,Starcevic B,Lauc LB,Janicijevic B. Traditional CVD risk factors and socio-economic deprivation in Roma minority population of Croatia. Coll Antropol. 2008. 32:667-76. PMID:18982735.	Country
307	Zimmer Z,Wen M,Kaneda T. A multi-level analysis of urban/rural and socioeconomic differences in functional health status transition among older Chinese. Soc Sci Med. 2010. 71:559-67. PMID:20621749.	Country

APPENDIX J: ACCULTURATION – CARDIOVASCULAR DISEASE – EXCLUDED ARTICLES LIST

Archived from www.NEL.gov on March 21, 2017

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
1	Abou El Hassan D,Hekmat S. Dietary acculturation of Arab immigrants in the Greater Toronto Area. Can J Diet Pract Res. 2012. 73:143-6. PMID:22958634.	Country
2	Abraido-Lanza AF,Chao MT,Florez KR. Do healthy behaviors decline with greater acculturation? Implications for the Latino mortality paradox. Soc Sci Med. 2005. 61:1243-55. PMID:15970234.	Independent Variable
3	Abu-Saad K,Shahar DR,Fraser D,Vardi H,Friger M,Bolotin A,Freedman LS. Adequacy of usual dietary intake and nutritional status among pregnant women in the context of nutrition transition: the DEPOSIT Study. Br J Nutr. 2012. 108:1874-83. PMID:22264559.	Country
4	Ahn MK,Juon HS,Gittelsohn J. Association of race/ethnicity, socioeconomic status, acculturation, and environmental factors with risk of overweight among adolescents in California, 2003. Prev Chronic Dis. 2008. 5:A75. PMID:18558025.	Independent Variable
5	Alkerwi A,Sauvageot N,Pagny S,Beissel J,Delagardelle C,Lair ML. Acculturation, immigration status and cardiovascular risk factors among Portuguese immigrants to Luxembourg: findings from ORISCAV-LUX study. BMC Public Health. 2012. 12:864. PMID:23057477.	Country
6	Allen ML,Elliott MN,Morales LS,Diamant AL,Hambarsoomian K,Schuster MA. Adolescent participation in preventive health behaviors, physical activity, and nutrition: differences across immigrant generations for Asians and Latinos compared with Whites. Am J Public Health. 2007. 97:337-43. PMID:17138919.	Independent Variable
7	Andaya AA,Arredondo EM,Alcaraz JE,Lindsay SP,Elder JP. The association between family meals, TV viewing during meals, and fruit, vegetables, soda, and chips intake among Latino children. J Nutr Educ Behav. 2011. 43:308-15. PMID:20965787.	Independent Variable
8	Andersen S,Laurberg P,Hvingel B,Kleinschmidt K,Heickendorff L,Mosekilde L. Vitamin D status in Greenland is influenced by diet and ethnicity: a population-based survey in an Arctic society in transition. Br J Nutr. 2013. 109:928-35. PMID:22682501.	Country
9	Anderson AK,Damio G,Himmelgreen DA,Peng YK,Segura-Perez S,Perez-Escamilla R. Social capital, acculturation, and breastfeeding initiation among Puerto Rican women in the United States. J Hum Lact. 2004. 20:39-45. PMID:14974699.	Outcome
10	Anderson AS,Bush H,Lean M,Bradby H,Williams R,Lea E. Evolution of atherogenic diets in South Asian and Italian women after migration to a higher risk region. J Hum Nutr Diet. 2005. 18:33-43. PMID:15647097.	Country
11	Arandia G,Nalty C,Sharkey JR,Dean WR. Diet and acculturation among Hispanic/Latino older adults in the United States: a review of literature and recommendations. J Nutr Gerontol Geriatr. 2012. 31:16-37. PMID:22335438.	Study Design

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
12	Ard JD,Skinner CS,Chen C,Aickin M,Svetkey LP. Informing cancer prevention strategies for African Americans: the relationship of African American acculturation to fruit, vegetable, and fat intake. J Behav Med. 2005. 28:239-47. PMID:16015458.	Independent Variable, Sample Size
13	Ariza AJ,Chen EH,Binns HJ,Christoffel KK. Risk factors for overweight in five- to six-year-old Hispanic-American children: a pilot study. J Urban Health. 2004. 81:150-61. PMID:15047793.	Independent Variable, Sample Size
14	Aroian KJ,Peters RM,Rudner N,Waser L. Hypertension prevention beliefs of Hispanics. J Transcult Nurs. 2012. 23:134-42. PMID:22294336.	Study Design
15	Arredondo EM,Elder JP,Ayala GX,Campbell N,Baquero B,Duerksen S. Is parenting style related to children's healthy eating and physical activity in Latino families?. Health Educ Res. 2006. 21:862-71. PMID:17032706.	Independent Variable, Outcome
16	Arredondo EM,Elder JP,Ayala GX,Slymen D,Campbell NR. Association of a traditional vs shared meal decision-making and preparation style with eating behavior of Hispanic women in San Diego County. J Am Diet Assoc. 2006. 106:38-45. PMID:16390665.	Study Design, Independent Variable
17	August KJ,Sorkin DH. Racial/ethnic disparities in exercise and dietary behaviors of middle-aged and older adults. J Gen Intern Med. 2011. 26:245-50. PMID:20865342.	Independent Variable
18	Austin JL,Smith JE,Gianini L,Campos-Melady M. Attitudinal familism predicts weight management adherence in Mexican-American women. J Behav Med. 2013. 36:259-69. PMID:22487966.	Study Design, Independent Variable
19	Ayala GX,Baquero B,Arredondo EM,Campbell N,Larios S,Elder JP. Association between family variables and Mexican American children's dietary behaviors. J Nutr Educ Behav. 2007. 39:62-9. PMID:17346653.	Independent Variable
20	Ayala GX,Baquero B,Klinger S. A systematic review of the relationship between acculturation and diet among Latinos in the United States: implications for future research. J Am Diet Assoc. 2008. 108:1330-44. PMID:18656573.	Study Design
21	Ayala GX,Elder JP,Campbell NR,Slymen DJ,Roy N,Engelberg M,Ganiats T. Correlates of body mass index and waist-to-hip ratio among Mexican women in the United States: implications for intervention development. Womens Health Issues. 2004. 14:155-64. PMID:15482966.	Sample Size
22	Ayala GX,Mueller K,Lopez-Madurga E,Campbell NR,Elder JP. Restaurant and food shopping selections among Latino women in Southern California. J Am Diet Assoc. 2005. 105:38-45. PMID:15635343.	Outcome
23	Ayala GX,Rogers M,Arredondo EM,Campbell NR,Baquero B,Duerksen SC,Elder JP. Away-from-home food intake and risk for obesity: examining the influence of context. Obesity (Silver Spring). 2008. 16:1002-8. PMID:18309297.	Independent Variable, Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
24	Babington L,Patel B. Understanding child feeding practices of Vietnamese mothers. MCN Am J Matern Child Nurs. 2008. 33:376-81. PMID:18997574.	Study Design, Outcome
25	Baker E,Balistreri KS,Van Hook J. Maternal employment and overweight among Hispanic children of immigrants and children of natives. J Immigr Minor Health. 2009. 11:158-67. PMID:17963041.	Independent Variable
26	Banna JC,Kaiser LL,Drake C,Townsend MS. Acculturation, physical activity and television viewing in Hispanic women: findings from the 2005 California Women's Health Survey. Public Health Nutr. 2012. 15:198-207. PMID:21794203.	Outcome
27	Banna JC,Townsend MS. Assessing factorial and convergent validity and reliability of a food behaviour checklist for Spanish-speaking participants in US Department of Agriculture nutrition education programmes. Public Health Nutr. 2011. 14:1165-76. PMID:21338552.	Study Design, Independent Variable
28	Baquero B,Ayala GX,Arredondo EM,Campbell NR,Slymen DJ,Gallo L,Elder JP. Secretos de la Buena Vida: processes of dietary change via a tailored nutrition communication intervention for Latinas. Health Educ Res. 2009. 24:855-66. PMID:19339374.	Study Design, Independent Variable
29	Barnes DM,Almasy N. Refugees' perceptions of healthy behaviors. J Immigr Health. 2005. 7:185-93. PMID:15900419.	Outcome
30	Barrera M Jr.,Toobert D,Strycker L,Osuna D. Effects of acculturation on a culturally adapted diabetes intervention for Latinas. Health Psychol. 2012. 31:51-4. PMID:21859212.	Study Design, Unhealthy Subjects
31	Baruffi G,Hardy CJ,Waslien CI,Uyehara SJ,Krupitsky D. Ethnic differences in the prevalence of overweight among young children in Hawaii. J Am Diet Assoc. 2004. 104:1701-7. PMID:15499358.	Independent Variable
32	Batis C,Hernandez-Barrera L,Barquera S,Rivera JA,Popkin BM. Food acculturation drives dietary differences among Mexicans, Mexican Americans, and Non-Hispanic Whites. J Nutr. 2011. 141:1898-906. PMID:21880951.	Independent Variable
33	Bauer KW,Larson NI,Nelson MC,Story M,Neumark-Sztainer D. Socio-environmental, personal and behavioural predictors of fast-food intake among adolescents. Public Health Nutr. 2009. 12:1767-74. PMID:19105866.	Independent Variable
34	Beagan BL,Chapman GE. Meanings of food, eating and health among African Nova Scotians: 'certain things aren't meant for Black folk'. Ethn Health. 2012. 17:513-29. PMID:22348428.	Country
35	Beech BM,Kumanyika SK,Baranowski T,Davis M,Robinson TN,Sherwood NE,Taylor WC,Relyea G,Zhou A,Pratt C,Owens A,Thompson NS. Parental cultural perspectives in relation to weight-related behaviors and concerns of African-American girls. Obes Res. 2004. 12 Suppl:7S-19S. PMID:15489463.	Independent Variable
36	Benbenek MM,Garwick AW. Enablers and barriers to dietary practices contributing to bone health among early	Study Design

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	adolescent Somali girls living in Minnesota. J Spec Pediatr Nurs. 2012. 17:205-14. PMID:22734874.	
37	Bender MS,Nader PR,Kennedy C,Gahagan S. A culturally appropriate intervention to improve health behaviors in Hispanic mother-child dyads. Child Obes. 2013. 9:157-63. PMID:23514697.	Study Design, Independent Variable
38	Bermudez OI,Hernandez L,Mazariegos M,Solomons NW. Secular trends in food patterns of Guatemalan consumers: new foods for old. Food Nutr Bull. 2008. 29:278-87. PMID:19227052.	Country, Independent Variable
39	Bersamin A,Zidenberg-Cherr S,Stern JS,Luick BR. Nutrient intakes are associated with adherence to a traditional diet among Yup'ik Eskimos living in remote Alaska Native communities: the CANHR Study. Int J Circumpolar Health. 2007. 66:62-70. PMID:17451135.	Independent Variable, Outcome
40	Bhupathiraju SN,Lichtenstein AH,Dawson-Hughes B,Tucker KL. Adherence index based on the AHA 2006 diet and lifestyle recommendations is associated with select cardiovascular disease risk factors in older Puerto Ricans. J Nutr. 2011. 141:460-9. PMID:21270369.	Independent Variable
41	Bjerregaard P,Dahl-Petersen IK. How well does social variation mirror secular change in prevalence of cardiovascular risk factors in a country in transition?. Am J Hum Biol. 2011. 23:774-9. PMID:21932405.	Country
42	Bolstad AL,Bungum T. Diet, acculturation, and BMI in Hispanics living in southern Nevada. Am J Health Behav. 2013. 37:218-26. PMID:23026103.	Independent Variable
43	Bothwell EK,Ayala GX,Conway TL,Rock CL,Gallo LC,Elder JP. Underreporting of food intake among Mexican/Mexican-American Women: rates and correlates. J Am Diet Assoc. 2009. 109:624-32. PMID:19328257.	Independent Variable, Outcome
44	Bowen RL,Devine CM. "Watching a person who knows how to cook, you'll learn a lot". Linked lives, cultural transmission, and the food choices of Puerto Rican girls. Appetite. 2011. 56:290-8. PMID:21172395.	Study Design
45	Brock KE,Ke L,Tseng M,Clemson L,Koo FK,Jang H,Seibel MJ,Mpofu E,Fraser DR,Mason RS. Vitamin D status is associated with sun exposure, vitamin D and calcium intake, acculturation and attitudes in immigrant East Asian women living in Sydney. J Steroid Biochem Mol Biol. 2013. 136:214-7. PMID:23262263.	Country
46	Burgess D,Fu SS,Joseph AM,Hatsukami DK,Solomon J,van Ryn M. Understanding smoking and cessation among Hmong smokers. J Health Care Poor Underserved. 2008. 19:442-51. PMID:18469415.	Study Design, Outcome
47	Burgess-Champoux TL,Larson NI,Neumark-Sztainer DR,Hannan PJ,Story MT. Longitudinal and secular trends in adolescent whole-grain consumption, 1999-2004. Am J Clin Nutr. 2010. 91:154-9. PMID:19906803.	Independent Variable
48	Buscemi J,Beech BM,Relyea G. Predictors of obesity in Latino children: acculturation as a moderator of the relationship between food insecurity and body mass index percentile. J Immigr Minor Health. 2011. 13:149-54. PMID:19472054.	Sample Size

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
49	Carmichael SL,Shaw GM,Song J,Abrams B. Markers of acculturation and risk of NTDs among Hispanic women in California. Birth Defects Res A Clin Mol Teratol. 2008. 82:755-62. PMID:18985703.	Outcome
50	Carrera PM,Gao X,Tucker KL. A study of dietary patterns in the Mexican-American population and their association with obesity. J Am Diet Assoc. 2007. 107:1735-42. PMID:17904933.	Independent Variable
51	Carter BJ,Birnbaum AS,Hark L,Vickery B,Potter C,Osborne MP. Using media messaging to promote healthful eating and physical activity among urban youth. J Nutr Educ Behav. 2005. 37:98-9. PMID:15882488.	Independent Variable
52	Casey D,Murphy K,Lawton J,White FF,Dineen S. A longitudinal qualitative study examining the factors impacting on the ability of persons with T1DM to assimilate the Dose Adjustment for Normal Eating (DAFNE) principles into daily living and how these factors change over time. BMC Public Health. 2011. 11:672. PMID:21878104.	Unhealthy Subjects
53	Castro FG,Marsiglia FF,Kulis S,Kellison JG. Lifetime segmented assimilation trajectories and health outcomes in Latino and other community residents. Am J Public Health. 2010. 100:669-76. PMID:20167890.	Sample Size
54	Cha E,Yang K,Lee J,Min J,Kim KH,Dunbar SB,Jennings BM. Understanding cultural issues in the diabetes self-management behaviors of Korean immigrants. Diabetes Educ. 2012. 38:835-44. PMID:23019236.	Unhealthy Subjects
55	Chaparro MP,Langellier BA,Kim LP,Whaley SE. Predictors of accurate maternal perception of their preschool child's weight status among Hispanic WIC participants. Obesity (Silver Spring). 2011. 19:2026-30. PMID:21546937.	Independent Variable, Outcome
56	Chapman DJ,Perez-Escamilla R. Acculturative type is associated with breastfeeding duration among low-income Latinas. Matern Child Nutr. 2013. 9:188-98. PMID:21787375.	Outcome
57	Chapman DJ,Perez-Escamilla R. US national breastfeeding monitoring and surveillance: current status and recommendations. J Hum Lact. 2009. 25:139-50. PMID:19286840.	Independent Variable
58	Cheah CS,Van Hook J. Chinese and Korean immigrants' early life deprivation: an important factor for child feeding practices and children's body weight in the United States. Soc Sci Med. 2012. 74:744-52. PMID:22265872.	Independent Variable, Sample Size
59	Chen JL,Kennedy C. Factors associated with obesity in Chinese-American children. Pediatr Nurs. 2005. 31:110-5. PMID:15934563.	Sample Size
60	Chen JL,Weiss S,Heyman MB,Cooper B,Lustig RH. The efficacy of the web-based childhood obesity prevention program in Chinese American adolescents (Web ABC study). J Adolesc Health. 2011. 49:148-54. PMID:21783046.	Study Design, Independent Variable
61	Chen JL,Weiss S,Heyman MB,Lustig R. Risk factors for obesity and high blood pressure in Chinese American	Sample Size

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	children: maternal acculturation and children's food choices. J Immigr Minor Health. 2011. 13:268-75. PMID:19757055.	
62	Chen JL,Wu Y. Cardiovascular risk factors in Chinese American children: associations between overweight, acculturation, and physical activity. J Pediatr Health Care. 2008. 22:103-10. PMID:18294579.	Sample Size
63	Chen JL. Household income, maternal acculturation, maternal education level and health behaviors of Chinese-American children and mothers. J Immigr Minor Health. 2009. 11:198-204. PMID:18306042.	Sample Size
64	Choudhary N,Parthasarathy D. Is migration status a determinant of urban nutrition insecurity? Empirical evidence from Mumbai city, India. J Biosoc Sci. 2009. 41:583-605. PMID:19508740.	Country
65	Clarkin PF. Adiposity and height of adult Hmong refugees: relationship with war-related early malnutrition and later migration. Am J Hum Biol. 2008. 20:174-84. PMID:18172871.	Independent Variable
66	Coronado GD,Thompson B,Tejeda S,Godina R,Chen L. Sociodemographic factors and self-management practices related to type 2 diabetes among Hispanics and non-Hispanic whites in a rural setting. J Rural Health. 2007. 23:49-54. PMID:17300478.	Unhealthy Subjects
67	Croteau-Chonka DC,Marvelle AF,Lange EM,Lee NR,Adair LS,Lange LA,Mohlke KL. Genome-wide association study of anthropometric traits and evidence of interactions with age and study year in Filipino women. Obesity (Silver Spring). 2011. 19:1019-27. PMID:20966902.	Country, Independent Variable
68	Cuy Castellanos D,Downey L,Graham-Kresge S,Yadrick K,Zoellner J,Connell CL. Examining the diet of post-migrant Hispanic males using the precede-proceed model: predisposing, reinforcing, and enabling dietary factors. J Nutr Educ Behav. 2013. 45:109-18. PMID:23103256.	Study Design
69	Dave JM,Evans AE,Saunders RP,Watkins KW,Pfeiffer KA. Associations among food insecurity, acculturation, demographic factors, and fruit and vegetable intake at home in Hispanic children. J Am Diet Assoc. 2009. 109:697-701. PMID:19328265.	Independent Variable
70	Davis MF,Adam M,Carvajal S,Sechrest L,Reyna VF. Using Rasch modeling to measure acculturation in youth. J Appl Meas. 2011. 12:324-38. PMID:22357155.	Study Design, Outcome
71	Dekker LH,Snijder MB,Beukers MH,de Vries JH,Brants HA,de Boer EJ,van Dam RM,Stronks K,Nicolaou M. A prospective cohort study of dietary patterns of non-western migrants in the Netherlands in relation to risk factors for cardiovascular diseases: HELIUS-Dietary Patterns. BMC Public Health. 2011. 11:441. PMID:21649889.	Country
72	Delajara M,Rodriguez-Segura M. Why are Mexican American boys so much taller now?. Econ Hum Biol. 2010. 8:212-22. PMID:20678742.	Independent Variable, Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
73	Delavari M,Sonderlund AL,Swinburn B,Mellor D,Renzaho A. Acculturation and obesity among migrant populations in high income countries--a systematic review. BMC Public Health. 2013. 13:458. PMID:23663279.	Study Design
74	Delisle H. Findings on dietary patterns in different groups of African origin undergoing nutrition transition. Appl Physiol Nutr Metab. 2010. 35:224-8. PMID:20383237.	Study Design
75	Delisle HF,Vioque J,Gil A. Dietary patterns and quality in West-African immigrants in Madrid. Nutr J. 2009. 8:3. PMID:19166606.	Country, Independent Variable
76	Derby CA,Wildman RP,McGinn AP,Green RR,Polotsky AJ,Ram KT,Barnhart J,Weiss G,Santoro N. Cardiovascular risk factor variation within a Hispanic cohort: SWAN, the Study of Women's Health Across the Nation. Ethn Dis. 2010. 20:396-402. PMID:21305828.	Independent Variable
77	Desilets MC,Rivard M,Shatenstein B,Delisle H. Dietary transition stages based on eating patterns and diet quality among Haitians of Montreal, Canada. Public Health Nutr. 2007. 10:454-63. PMID:17411465.	Country
78	Dharod JM,Croom JE,Sady CG. Food insecurity: its relationship to dietary intake and body weight among Somali refugee women in the United States. J Nutr Educ Behav. 2013. 45:47-53. PMID:23084983.	Independent Variable
79	Dhokarh R,Himmelgreen DA,Peng YK,Segura-Perez S,Hromi-Fiedler A,Perez-Escamilla R. Food insecurity is associated with acculturation and social networks in Puerto Rican households. J Nutr Educ Behav. 2011. 43:288-94. PMID:20952259.	Independent Variable, Outcome
80	Diaz H,Marshak HH,Montgomery S,Rea B,Backman D. Acculturation and gender: influence on healthy dietary outcomes for Latino adolescents in California. J Nutr Educ Behav. 2009. 41:319-26. PMID:19717114.	Outcome
81	Dixit AA,Azar KM,Gardner CD,Palaniappan LP. Incorporation of whole, ancient grains into a modern Asian Indian diet to reduce the burden of chronic disease. Nutr Rev. 2011. 69:479-88. PMID:21790614.	Study Design
82	Dounias E,Selzner A,Koizumi M,Levang P. From sago to rice, from forest to town: the consequences of sedentarization for the nutritional ecology of Punan former hunter-gatherers of Borneo. Food Nutr Bull. 2007. 28:S294-302. PMID:17658075.	Country
83	Dubowitz T,Acevedo-Garcia D,Salkeld J,Lindsay AC,Subramanian SV,Peterson KE. Lifecourse, immigrant status and acculturation in food purchasing and preparation among low-income mothers. Public Health Nutr. 2007. 10:396-404. PMID:17362536.	Study Design, Outcome
84	Duerksen SC,Elder JP,Arredondo EM,Ayala GX,Slymen DJ,Campbell NR,Baquero B. Family restaurant choices are associated with child and adult overweight status in Mexican-American families. J Am Diet Assoc. 2007. 107:849-53. PMID:17467384.	Independent Variable, Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
85	Edmonds VM. The nutritional patterns of recently immigrated Honduran women. J Transcult Nurs. 2005. 16:226-35. PMID:15980050.	Study Design
86	Elder JP,Ayala GX,Campbell NR,Slymen D,Lopez-Madurga ET,Engelberg M,Baquero B. Interpersonal and print nutrition communication for a Spanish-dominant Latino population: Secretos de la Buena Vida. Health Psychol. 2005. 24:49-57. PMID:15631562.	Study Design, Independent Variable
87	Elder JP,Ayala GX,Slymen DJ,Arredondo EM,Campbell NR. Evaluating psychosocial and behavioral mechanisms of change in a tailored communication intervention. Health Educ Behav. 2009. 36:366-80. PMID:18077657.	Study Design, Independent Variable
88	El-Sayed AM,Galea S. The health of Arab-Americans living in the United States: a systematic review of the literature. BMC Public Health. 2009. 9:272. PMID:19643005.	Study Design
89	Erber E,Beck L,Hopping BN,Sheehy T,De Roose E,Sharma S. Food patterns and socioeconomic indicators of food consumption amongst Inuvialuit in the Canadian Arctic. J Hum Nutr Diet. 2010. 23 Suppl 1:59-66. PMID:21158963.	Country
90	Erber E,Hopping BN,Beck L,Sheehy T,De Roose E,Sharma S. Assessment of dietary adequacy in a remote Inuvialuit population. J Hum Nutr Diet. 2010. 23 Suppl 1:35-42. PMID:21158960.	Country
91	Espinosa de Los Monteros K,Gallo LC,Elder JP,Talavera GA. Individual and area-based indicators of acculturation and the metabolic syndrome among low-income Mexican American women living in a border region. Am J Public Health. 2008. 98:1979-86. PMID:18799765.	Sample Size
92	Evans A,Seth JG,Smith S,Harris KK,Loyo J,Spaulding C,Van Eck M,Gottlieb N. Parental feeding practices and concerns related to child underweight, picky eating, and using food to calm differ according to ethnicity/race, acculturation, and income. Matern Child Health J. 2011. 15:899-909. PMID:19771501.	Outcome
93	Feng D,Reed DB,Esperat MC,Uchida M. Effects of TV in the bedroom on young Hispanic children. Am J Health Promot. 2011. 25:310-8. PMID:21534833.	Independent Variable, Outcome
94	Ferland A,Lamarche B,Chateau-Degat ML,Counil E,Anassour-Laouan-Sidi E,Abdous B,Dewailly E. Dairy product intake and its association with body weight and cardiovascular disease risk factors in a population in dietary transition. J Am Coll Nutr. 2011. 30:92-9. PMID:21730217.	Country
95	Fichter MM,Quadflieg N,Georgopoulou E,Xepapadakos F,Fthenakis EW. Time trends in eating disturbances in young Greek migrants. Int J Eat Disord. 2005. 38:310-22. PMID:16254871.	Country
96	Fitzgerald N,Damio G,Segura-Perez S,Perez-Escamilla R. Nutrition knowledge, food label use, and food intake patterns among Latinas with and without type 2 diabetes. J Am Diet Assoc. 2008. 108:960-7. PMID:18502226.	Study Design, Independent Variable

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
97	Fitzgerald N,Himmelgreen D,Damio G,Segura-Perez S,Peng YK,Perez-Escamilla R. Acculturation, socioeconomic status, obesity and lifestyle factors among low-income Puerto Rican women in Connecticut, U.S., 1998-1999. Rev Panam Salud Publica. 2006. 19:306-13. PMID:16805972.	Independent Variable
98	Fitzgerald N,Hromi-Fiedler A,Segura-Perez S,Perez-Escamilla R. Food insecurity is related to increased risk of type 2 diabetes among Latinas. Ethn Dis. 2011. 21:328-34. PMID:21942166.	Independent Variable, Unhealthy Subjects
99	Fitzgibbon ML,Gapstur SM,Knight SJ. Results of Mujeres Felices por ser Saludables: a dietary/breast health randomized clinical trial for Latino women. Ann Behav Med. 2004. 28:95-104. PMID:15454356.	Study Design, Independent Variable
100	Franzen L,Smith C. Differences in stature, BMI, and dietary practices between US born and newly immigrated Hmong children. Soc Sci Med. 2009. 69:442-50. PMID:19556047.	Sample Size
101	Franzen L,Smith C. Food system access, shopping behavior, and influences on purchasing groceries in adult Hmong living in Minnesota. Am J Health Promot. 2010. 24:396-409. PMID:20594097.	Study Design, Outcome
102	Fuentes-Afflick E,Hessol NA. Overweight in young Latino children. Arch Med Res. 2008. 39:511-8. PMID:18514096.	Sample Size
103	Gallagher MR,Gill S,Reifsnider E. Child health promotion and protection among Mexican mothers. West J Nurs Res. 2008. 30:588-605. PMID:18612095.	Study Design, Independent Variable
104	Gallagher MR. Maternal perspectives on lifestyle habits that put children of Mexican descent at risk for obesity. J Spec Pediatr Nurs. 2010. 15:16-25. PMID:20074110.	Study Design
105	Gao X,Scott T,Falcon LM,Wilde PE,Tucker KL. Food insecurity and cognitive function in Puerto Rican adults. Am J Clin Nutr. 2009. 89:1197-203. PMID:19225117.	Independent Variable, Outcome
106	Garduno-Diaz SD,Khokhar S. South Asian dietary patterns and their association with risk factors for the metabolic syndrome. J Hum Nutr Diet. 2013. 26:145-55. PMID:22943473.	Country
107	George GC,Hanss-Nuss H,Milani TJ,Freeland-Graves JH. Food choices of low-income women during pregnancy and postpartum. J Am Diet Assoc. 2005. 105:899-907. PMID:15942539.	Independent Variable
108	Gibson MV,Diaz VA, 3rd Mainous AG,Geesey ME. Prevalence of breastfeeding and acculturation in Hispanics: results from NHANES 1999-2000 study. Birth. 2005. 32:93-8. PMID:15918865.	Outcome
109	Gilbert PA,Khokhar S. Changing dietary habits of ethnic groups in Europe and implications for health. Nutr Rev. 2008. 66:203-15. PMID:18366534.	Study Design, Country
110	Gonzalez HM,Tarraf W,Haan MN. The metabolic syndrome, biomarkers, and the acculturation-health relationship among older Mexican Americans. J Aging Health. 2011. 23:1101-15. PMID:21948772.	Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
111	Gordon NP,Iribarren C. Health-related characteristics and preferred methods of receiving health education according to dominant language among Latinos aged 25 to 64 in a large Northern California health plan. BMC Public Health. 2008. 8:305. PMID:18782454.	Independent Variable, Outcome
112	Gordon-Larsen P,Adair LS,Nelson MC,Popkin BM. Five-year obesity incidence in the transition period between adolescence and adulthood: the National Longitudinal Study of Adolescent Health. Am J Clin Nutr. 2004. 80:569-75. PMID:15321794.	Independent Variable
113	Gorman JR,Madlensky L,Jackson DJ,Ganiats TG,Boies E. Early postpartum breastfeeding and acculturation among Hispanic women. Birth. 2007. 34:308-15. PMID:18021146.	Outcome
114	Gregory-Mercado KY,Staten LK,Gillespie C,Ranger-Moore J,Thomson CA,Giuliano AR,Will JC,Ford ES,Marshall J. Ethnicity and nutrient intake among Arizona WISEWOMAN participants. J Womens Health (Larchmt). 2007. 16:379-89. PMID:17439383.	Sample Size
115	Gregory-Mercado KY,Staten LK,Ranger-Moore J,Thomson CA,Will JC,Ford ES,Guillen J,Larkey LK,Giuliano AR,Marshall J. Fruit and vegetable consumption of older Mexican-American women is associated with their acculturation level. Ethn Dis. 2006. 16:89-95. PMID:16599354.	Sample Size
116	Grimm KA,Blanck HM. Survey language preference as a predictor of meeting fruit and vegetable objectives among Hispanic adults in the United States, Behavioral Risk Factor Surveillance System, 2009. Prev Chronic Dis. 2011. 8:A133. PMID:22005626.	Independent Variable
117	Grin BM,Gayle TL,Saravia DC,Sanders LM. Use of farmers markets by mothers of WIC recipients, Miami-Dade County, Florida, 2011. Prev Chronic Dis. 2013. 10:E95. PMID:23764344.	Independent Variable, Outcome
118	Groleau D,Souliere M,Kirmayer LJ. Breastfeeding and the cultural configuration of social space among Vietnamese immigrant woman. Health Place. 2006. 12:516-26. PMID:16157504.	Study Design, Outcome
119	Gu W,Rennie KL,Lin X,Wang Y,Yu Z. Differences in bone mineral status between urban and rural Chinese men and women. Bone. 2007. 41:393-9. PMID:17604245.	Country, Independent Variable
120	Guendelman MD,Cheryan S,Monin B. Fitting in but getting fat: identity threat and dietary choices among U.S. immigrant groups. Psychol Sci. 2011. 22:959-67. PMID:21653909.	Study Design
121	Guevarra JS,Kwate NO,Tang TS,Valdimarsdottir HB,Freeman HP,Bovbjerg DH. Acculturation and its relationship to smoking and breast self-examination frequency in African American women. J Behav Med. 2005. 28:191-9. PMID:15957574.	Outcome
122	Hadley C,Patil CL,Nahayo D. Difficulty in the food environment and the experience of food insecurity among	Independent Variable,

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	refugees resettled in the United States. Ecol Food Nutr. 2010. 49:390-407. PMID:21888578.	Outcome
123	Hadley C,Sellen D. Food security and child hunger among recently resettled Liberian refugees and asylum seekers: a pilot study. J Immigr Minor Health. 2006. 8:369-75. PMID:16924410.	Outcome
124	Hadley C,Zodhiates A,Sellen DW. Acculturation, economics and food insecurity among refugees resettled in the USA: a case study of West African refugees. Public Health Nutr. 2007. 10:405-12. PMID:17362537.	Study Design, Outcome
125	Hamner HC,Cogswell ME,Johnson MA. Acculturation factors are associated with folate intakes among Mexican American women. J Nutr. 2011. 141:1889-97. PMID:21865570.	Outcome
126	Hamner HC,Tinker SC,Flores AL,Mulinare J,Weakland AP,Dowling NF. Modelling fortification of corn masa flour with folic acid and the potential impact on Mexican-American women with lower acculturation. Public Health Nutr. 2013. 16:912-21. PMID:23113948.	Outcome
127	Hanni KD,Garcia E,Ellemberg C,Winkleby M. Targeting the taqueria: implementing healthy food options at Mexican American restaurants. Health Promot Pract. 2009. 10:91S-99S. PMID:19454755.	Study Design, Independent Variable
128	Harley K,Eskenazi B. Time in the United States, social support and health behaviors during pregnancy among women of Mexican descent. Soc Sci Med. 2006. 62:3048-61. PMID:16403596.	Independent Variable
129	Harley K,Stamm NL,Eskenazi B. The effect of time in the U.S. on the duration of breastfeeding in women of Mexican descent. Matern Child Health J. 2007. 11:119-25. PMID:17279324.	Outcome
130	Harrison GG,Kagawa-Singer M,Foerster SB,Lee H,Pham Kim L,Nguyen TU,Fernandez-Ami A,Quinn V,Bal DG. Seizing the moment: California's opportunity to prevent nutrition-related health disparities in low-income Asian American population. Cancer. 2005. 104:2962-8. PMID:16276535.	Study Design
131	Haughton J,Gregorio D,Perez-Escamilla R. Factors associated with breastfeeding duration among Connecticut Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) participants. J Hum Lact. 2010. 26:266-73. PMID:20689103.	Outcome
132	Hawkins SS,Lamb K,Cole TJ,Law C. Influence of moving to the UK on maternal health behaviours: prospective cohort study. BMJ. 2008. 336:1052-5. PMID:18403500.	Country
133	Hjelm K,Bard K,Berntorp K,Apelqvist J. Beliefs about health and illness postpartum in women born in Sweden and the Middle East. Midwifery. 2009. 25:564-75. PMID:18206281.	Study Design, Country
134	Hofmann ET. The burden of culture? Health outcomes among immigrants from the former Soviet Union in the United States. J Immigr Minor Health. 2012. 14:315-22. PMID:21221807.	Study Design, Independent Variable
135	Hopkinson J,Konefal Gallagher M. Assignment to a hospital-based breastfeeding clinic and exclusive	Study Design, Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	breastfeeding among immigrant Hispanic mothers: a randomized, controlled trial. J Hum Lact. 2009. 25:287-96. PMID:19436060.	
136	Hopping BN,Erber E,Mead E,Roache C,Sharma S. High levels of physical activity and obesity co-exist amongst Inuit adults in Arctic Canada. J Hum Nutr Diet. 2010. 23 Suppl 1:110-4. PMID:21158969.	Country
137	Hopping BN,Erber E,Mead E,Sheehy T,Roache C,Sharma S. Socioeconomic indicators and frequency of traditional food, junk food, and fruit and vegetable consumption amongst Inuit adults in the Canadian Arctic. J Hum Nutr Diet. 2010. 23 Suppl 1:51-8. PMID:21158962.	Country
138	Hopping BN,Mead E,Erber E,Sheehy C,Roache C,Sharma S. Dietary adequacy of Inuit in the Canadian Arctic. J Hum Nutr Diet. 2010. 23 Suppl 1:27-34. PMID:21158959.	Country
139	Horodynski MA,Olson B,Baker S,Brophy-Herb H,Auld G,Van Egeren L,Lindau J,Singleterry L. Healthy babies through infant-centered feeding protocol: an intervention targeting early childhood obesity in vulnerable populations. BMC Public Health. 2011. 11:868. PMID:22085421.	Study Design, Age
140	Hromi-Fiedler A,Bermudez-Millan A,Segura-Perez S,Perez-Escamilla R. Nutrient and food intakes differ among Latina subgroups during pregnancy. Public Health Nutr. 2012. 15:341-51. PMID:21729472.	Sample Size
141	Hu D,Taylor T,Blow J,Cooper TV. Multiple health behaviors: patterns and correlates of diet and exercise in a Hispanic college sample. Eat Behav. 2011. 12:296-301. PMID:22051363.	Independent Variable, Outcome
142	Hu FB. Globalization of diabetes: the role of diet, lifestyle, and genes. Diabetes Care. 2011. 34:1249-57. PMID:21617109.	Study Design
143	Hwang JY,Lee SE,Kim SH,Chung HW,Kim WY. Psychological distress is associated with inadequate dietary intake in Vietnamese marriage immigrant women in Korea. J Am Diet Assoc. 2010. 110:779-85. PMID:20430141.	Country, Independent Variable
144	Idris I,Deepa R,Fernando DJ,Mohan V. Relation between age and coronary heart disease (CHD) risk in Asian Indian patients with diabetes: A cross-sectional and prospective cohort study. Diabetes Res Clin Pract. 2008. 81:243-9. PMID:18495288.	Unhealthy Subjects
145	Jafar TH,Qadri Z,Islam M,Hatcher J,Bhutta ZA,Chaturvedi N. Rise in childhood obesity with persistently high rates of undernutrition among urban school-aged Indo-Asian children. Arch Dis Child. 2008. 93:373-8. PMID:17942586.	Country
146	Jasti S,Lee CH,Doak C. Gender, acculturation, food patterns, and overweight in Korean immigrants. Am J Health Behav. 2011. 35:734-45. PMID:22251764.	Sample Size
147	Johansen KS,Bjorge B,Hjellset VT,Holmboe-Ottesen G,Raberg M,Wandel M. Changes in food habits and	Country

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	motivation for healthy eating among Pakistani women living in Norway: results from the InnvaDiab-DEPLAN study. Public Health Nutr. 2010. 13:858-67. PMID:19941691.	
148	Johnson-Kozlow M,Matt GE,Rock CL,de la Rosa R,Conway TL,Romero RA. Assessment of dietary intakes of Filipino-Americans: implications for food frequency questionnaire design. J Nutr Educ Behav. 2011. 43:505-10. PMID:21705276.	Independent Variable
149	Jorgensen ME,Moustgaard H,Bjerregaard P,Borch-Johnsen K. Gender differences in the association between westernization and metabolic risk among Greenland Inuit. Eur J Epidemiol. 2006. 21:741-8. PMID:17077992.	Country, Independent Variable
150	Joshi SR,Mohan V,Joshi SS,Mechanick JI,Marchetti A. Transcultural diabetes nutrition therapy algorithm: the Asian Indian application. Curr Diab Rep. 2012. 12:204-12. PMID:22354498.	Study Design
151	Jurkowski JM,Mosquera M,Ramos B. Selected cultural factors associated with physical activity among Latino women. Womens Health Issues. 2010. 20:219-26. PMID:20457410.	Outcome
152	Kahan D. Arab American college students' physical activity and body composition: reconciling Middle East-West differences using the socioecological model. Res Q Exerc Sport. 2011. 82:118-28. PMID:21462692.	Study Design
153	Kaholokula JK,Townsend CK,Ige A,Sinclair K,Mau MK,Leake A,Palakiko DM,Yoshimura SR,Kekauoha P,Hughes C. Sociodemographic, behavioral, and biological variables related to weight loss in native Hawaiians and other Pacific Islanders. Obesity (Silver Spring). 2013. 21:E196-203. PMID:23404724.	Independent Variable
154	Kalil A,Chen JH. Mothers' citizenship status and household food insecurity among low-income children of immigrants. New Dir Child Adolesc Dev. 2008. 2008:43-62. PMID:18792952.	Independent Variable, Outcome
155	Kalra P,Srinivasan S,Ivey S,Greenlund K. Knowledge and practice: the risk of cardiovascular disease among Asian Indians. Results from focus groups conducted in Asian Indian communities in Northern California. Ethn Dis. 2004. 14:497-504. PMID:15724768.	Study Design
156	Kaplan MS,Huguet N,Newsom JT,McFarland BH. The association between length of residence and obesity among Hispanic immigrants. Am J Prev Med. 2004. 27:323-6. PMID:15488363.	Independent Variable
157	Kaufman-Shriqui V,Fraser D,Friger M,Bilenko N,Vardi H,Abu-Saad K,Elhadad N,Mor K,Feine Z,Shahar DR. Factors associated with childhood overweight and obesity among acculturated and new immigrants. Ethn Dis. 2013. 23:329-35. PMID:23914419.	Country
158	Kepka D,Ayala GX,Cherrington A. Do Latino immigrants link self-rated health with BMI and health behaviors?. Am J Health Behav. 2007. 31:535-44. PMID:17555384.	Independent Variable
159	Kieffer EC,Welmerink DB,Sinco BR,Welch KB,Schumann CY,Uhley V. Periconception diet does not vary by	Independent Variable,

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	duration of US residence for Mexican immigrant women. J Acad Nutr Diet. 2013. 113:652-8. PMID:23474270.	Sample Size
160	Kilanowski JF. Patterns and correlates of nutrition among migrant farm-worker children. West J Nurs Res. 2012. 34:396-416. PMID:20935214.	Sample Size
161	Kim E,Wolpin S. The Korean American family: adolescents versus parents acculturation to American culture. J Cult Divers. 2008. 15:108-16. PMID:19025199.	Outcome
162	Kim J,Chan MM. Acculturation and dietary habits of Korean Americans. Br J Nutr. 2004. 91:469-78. PMID:15005833.	Sample Size
163	Kim MJ,Lee SJ,Ahn YH,Bowen P,Lee H. Dietary acculturation and diet quality of hypertensive Korean Americans. J Adv Nurs. 2007. 58:436-45. PMID:17442024.	Sample Size
164	Kleiser C,Mensink GB,Neuhauser H,Schenk L,Kurth BM. Food intake of young people with a migration background living in Germany. Public Health Nutr. 2010. 13:324-30. PMID:19656441.	Country
165	Ko GT,So WY,Chow CC,Wong PT,Tong SD,Hui SS,Kwok R,Chan A,Chan CL,Chan JC. Risk associations of obesity with sugar-sweetened beverages and lifestyle factors in Chinese: the 'Better Health for Better Hong Kong' health promotion campaign. Eur J Clin Nutr. 2010. 64:1386-92. PMID:20823900.	Country, Independent Variable
166	Kollannoor-Samuel G,Chhabra J,Fernandez ML,Vega-Lopez S,Perez SS,Damio G,Calle MC,D'Agostino D,Perez-Escamilla R. Determinants of fasting plasma glucose and glycosylated hemoglobin among low income Latinos with poorly controlled type 2 diabetes. J Immigr Minor Health. 2011. 13:809-17. PMID:21181446.	Unhealthy Subjects
167	Kremmyda LS,Papadaki A,Hondros G,Kapsokefalou M,Scott JA. Differentiating between the effect of rapid dietary acculturation and the effect of living away from home for the first time, on the diets of Greek students studying in Glasgow. Appetite. 2008. 50:455-63. PMID:17997195.	Country
168	Kruger R,Kruger HS,Macintyre UE. The determinants of overweight and obesity among 10- to 15-year-old schoolchildren in the North West Province, South Africa - the THUSA BANA (Transition and Health during Urbanisation of South Africans; BANA, children) study. Public Health Nutr. 2006. 9:351-8. PMID:16684387.	Country
169	Kruseman M,Barandereka NA,Hudelson P,Stalder H. Post-migration dietary changes among african refugees in Geneva: a rapid assessment study to inform nutritional interventions. Soz Praventivmed. 2005. 50:161-5. PMID:16010815.	Country
170	Kumar NB,Yu D,Akinremi TO,Odedina FT. Comparing dietary and other lifestyle factors among immigrant Nigerian men living in the US and indigenous men from Nigeria: potential implications for prostate cancer risk reduction. J Immigr Minor Health. 2009. 11:391-9. PMID:19225888.	Independent Variable

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
171	Landrine H,Klonoff EA. Culture change and ethnic-minority health behavior: an operant theory of acculturation. J Behav Med. 2004. 27:527-55. PMID:15669443.	Study Design
172	Lara M,Gamboa C,Kahramanian MI,Morales LS,Bautista DE. Acculturation and Latino health in the United States: a review of the literature and its sociopolitical context. Annu Rev Public Health. 2005. 26:367-97. PMID:15760294.	Study Design
173	Lawrence JM,Devlin E,Macaskill S,Kelly M,Chinouya M,Raats MM,Barton KL,Wrieden WL,Shepherd R. Factors that affect the food choices made by girls and young women, from minority ethnic groups, living in the UK. J Hum Nutr Diet. 2007. 20:311-9. PMID:17635308.	Study Design, Country
174	Lee WP,Lingard J,Bermingham M. Change in diet and body mass index in Taiwanese women with length of residence in Australia. Asia Pac J Clin Nutr. 2007. 16:56-65. PMID:17215181.	Country
175	Leon DA,Moser KA. Low birth weight persists in South Asian babies born in England and Wales regardless of maternal country of birth. Slow pace of acculturation, physiological constraint or both? Analysis of routine data. J Epidemiol Community Health. 2012. 66:544-51. PMID:21118952.	Country
176	Lim ES,Ko YK,Ban KO. Prevalence and risk factors of metabolic syndrome in the Korean population--Korean National Health Insurance Corporation Survey 2008. J Adv Nurs. 2013. 69:1549-61. PMID:23009023.	Country, Independent Variable
177	Lim S,Zoellner JM,Ajrouch KJ,Ismail AI. Overweight in childhood: the role of resilient parenting in African-American households. Am J Prev Med. 2011. 40:329-33. PMID:21335265.	Independent Variable
178	Lind C,Mirchandani GG,Castrucci BC,Chavez N,Handler A,Hoelscher DM. The effects of acculturation on healthy lifestyle characteristics among Hispanic fourth-grade children in Texas public schools, 2004-2005. J Sch Health. 2012. 82:166-74. PMID:22385089.	Independent Variable
179	Liou D,Bauer KD. Exploratory investigation of obesity risk and prevention in Chinese Americans. J Nutr Educ Behav. 2007. 39:134-41. PMID:17493563.	Study Design, Independent Variable
180	Liu A,Berhane Z,Tseng M. Improved dietary variety and adequacy but lower dietary moderation with acculturation in Chinese women in the United States. J Am Diet Assoc. 2010. 110:457-62. PMID:20184998.	Sample Size
181	Lobb R,Gonzalez Suarez E,Fay ME,Gutheil CM,Hunt MK,Fletcher RH,Emmons KM. Implementation of a cancer prevention program for working class, multiethnic populations. Prev Med. 2004. 38:766-76. PMID:15193897.	Study Design, Independent Variable
182	Lora KR,Lewis NM,Eskridge KM,Stanek-Krogstrand K,Travnicek DA. Correlation of omega-3 fatty acids intakes with acculturation and socioeconomic status in midwestern Latinas. J Immigr Minor Health. 2011. 13:111-8. PMID:20094794.	Outcome, Sample Size

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

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	Citation	Reason for Exclusion
183	Lorenzo-Blanco EI,Unger JB,Ritt-Olson A,Soto D,Baezconde-Garbanati L. Acculturation, gender, depression, and cigarette smoking among U.S. Hispanic youth: the mediating role of perceived discrimination. J Youth Adolesc. 2011. 40:1519-33. PMID:21293915.	Independent Variable
184	Lovejoy JC,Champagne CM,de Jonge L,Xie H,Smith SR. Increased visceral fat and decreased energy expenditure during the menopausal transition. Int J Obes (Lond). 2008. 32:949-58. PMID:18332882.	Independent Variable
185	Ludwig AF,Cox P,Ellahi B. Social and cultural construction of obesity among Pakistani Muslim women in North West England. Public Health Nutr. 2011. 14:1842-50. PMID:21208481.	Country
186	Lujan J,Ostwald SK,Ortiz M. Promotora diabetes intervention for Mexican Americans. Diabetes Educ. 2007. 33:660-70. PMID:17684167.	Unhealthy Subjects
187	Lv N,Cason KL. Dietary pattern change and acculturation of Chinese Americans in Pennsylvania. J Am Diet Assoc. 2004. 104:771-8. PMID:15127063.	Sample Size
188	Lynch WC,Heil DP,Wagner E,Havens MD. Ethnic differences in BMI, weight concerns, and eating behaviors: comparison of Native American, White, and Hispanic adolescents. Body Image. 2007. 4:179-90. PMID:18089263.	Independent Variable
189	Lyu JE,Yang YJ,Lee SE,Chung HW,Kim MK,Kim WY. Nutritional status of Vietnamese female marriage immigrants to Korea in relation to length of residence in Korea. Ann Nutr Metab. 2009. 55:317-24. PMID:19828942.	Country
190	Mainous AG 3rd,Diaz VA,Geesey ME. Acculturation and healthy lifestyle among Latinos with diabetes. Ann Fam Med. 2008. 6:131-7. PMID:18332405.	Unhealthy Subjects
191	Marquis M,Shatenstein B. Food choice motives and the importance of family meals among immigrant mothers. Can J Diet Pract Res. 2005. 66:77-82. PMID:15975196.	Country, Outcome
192	Martinez AD. Reconsidering acculturation in dietary change research among Latino immigrants: challenging the preconditions of US migration. Ethn Health. 2013. 18:115-35. PMID:22731980.	Study Design
193	Matt GE,Rock CL,Johnson-Kozlow M. Using recall cues to improve measurement of dietary intakes with a food frequency questionnaire in an ethnically diverse population: an exploratory study. J Am Diet Assoc. 2006. 106:1209-17. PMID:16863716.	Study Design, Outcome
194	Mattei J,Noel SE,Tucker KL. A meat, processed meat, and French fries dietary pattern is associated with high allostatic load in Puerto Rican older adults. J Am Diet Assoc. 2011. 111:1498-506. PMID:21963016.	Independent Variable
195	McDade TW,Rutherford JN,Adair L,Kuzawa C. Population differences in associations between C-reactive protein concentration and adiposity: comparison of young adults in the Philippines and the United States. Am J Clin Nutr. 2009. 89:1237-45. PMID:19225115.	Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
196	McDonald JT,Kennedy S. Is migration to Canada associated with unhealthy weight gain? Overweight and obesity among Canada's immigrants. Soc Sci Med. 2005. 61:2469-81. PMID:15972242.	Country
197	McNeill LH,Stoddard A,Bennett GG,Wolin KY,Sorensen GG. Influence of individual and social contextual factors on changes in leisure-time physical activity in working-class populations: results of the Healthy Directions-Small Businesses Study. Cancer Causes Control. 2012. 23:1475-87. PMID:22806257.	Independent Variable, Outcome
198	Mejean C,Traissac P,Eymard-Duvernay S,Delpeuch F,Maire B. Influence of acculturation among Tunisian migrants in France and their past/present exposure to the home country on diet and physical activity. Public Health Nutr. 2009. 12:832-41. PMID:18647429.	Country
199	Melgar-Quinonez HR,Kaiser LL. Relationship of child-feeding practices to overweight in low-income Mexican-American preschool-aged children. J Am Diet Assoc. 2004. 104:1110-9. PMID:15215770.	Independent Variable
200	Mier N,Smith ML,Carrillo-Zuniga G,Wang X,Garza N,Ory MG. Personal and cultural influences on diabetes self-care behaviors among older Hispanics born in the U.S. and Mexico. J Immigr Minor Health. 2012. 14:1052-62. PMID:22729288.	Unhealthy Subjects
201	Misra A,Ganda OP. Migration and its impact on adiposity and type 2 diabetes. Nutrition. 2007. 23:696-708. PMID:17679049.	Study Design, Independent Variable
202	Moayad N,Balcazar H,Pedregon V,Velasco L,Bayona M. Do acculturation and family cohesiveness influence severity of diabetes among Mexican Americans?. Ethn Dis. 2006. 16:452-9. PMID:17682248.	Unhealthy Subjects
203	Montoya JA,Salinas JJ,Barroso CS,Mitchell-Bennett L,Reininger B. Nativity and nutritional behaviors in the Mexican origin population living in the US-Mexico border region. J Immigr Minor Health. 2011. 13:94-100. PMID:20401536.	Study Design, Independent Variable
204	Moore JB,Gaffney KF,Pawloski LR,Jaimovich SP,Campos MC. Maternal-child nutrition practices and pediatric overweight/obesity in the United States and Chile: a comparative study. J Pediatr Nurs. 2012. 27:e44-9. PMID:21945927.	Country, Independent Variable
205	Morello MI,Madanat H,Crespo NC,Lemus H,Elder J. Associations among parent acculturation, child BMI, and child fruit and vegetable consumption in a Hispanic sample. J Immigr Minor Health. 2012. 14:1023-9. PMID:22392140.	Sample Size
206	Morrison SD,Haldeman L,Sudha S,Gruber KJ,Bailey R. Cultural adaptation resources for nutrition and health in new immigrants in Central North Carolina. J Immigr Minor Health. 2007. 9:205-12. PMID:17245656.	Independent Variable, Outcome
207	Mulasi-Pokhriyal U,Smith C,Franzen-Castle L. Investigating dietary acculturation and intake among US-born and	Sample Size

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	Thailand/Laos-born Hmong-American children aged 9-18 years. Public Health Nutr. 2012. 15:176-85. PMID:21806862.	
208	Murtaugh MA,Herrick JS,Sweeney C,Baumgartner KB,Guiliano AR,Byers T,Slattery ML. Diet composition and risk of overweight and obesity in women living in the southwestern United States. J Am Diet Assoc. 2007. 107:1311-21. PMID:17659896.	Independent Variable
209	Mussap AJ. Acculturation, body image, and eating behaviours in Muslim-Australian women. Health Place. 2009. 15:532-9. PMID:18952486.	Country
210	Myong JP,Kim HR,Jung-Choi K,Baker D,Choi B. Disparities of metabolic syndrome prevalence by age, gender and occupation among Korean adult workers. Ind Health. 2012. 50:115-22. PMID:22293725.	Country
211	Narayan KM,Aviles-Santa L,Oza-Frank R,Pandey M,Curb JD,McNeely M,Araneta MR,Palaniappan L,Rajpathak S,Barrett-Connor E. Report of a National Heart, Lung, And Blood Institute Workshop: heterogeneity in cardiometabolic risk in Asian Americans In the U.S. Opportunities for research. J Am Coll Cardiol. 2010. 55:966-73. PMID:20202512.	Study Design
212	Neighbors CJ,Marquez DX,Marcus BH. Leisure-time physical activity disparities among Hispanic subgroups in the United States. Am J Public Health. 2008. 98:1460-4. PMID:18048795.	Outcome
213	Ngo J,Gurinovic M,Frost-Andersen L,Serra-Majem L. How dietary intake methodology is adapted for use in European immigrant population groups - a review. Br J Nutr. 2009. 101 Suppl 2:S86-94. PMID:19594968.	Study Design
214	Nicolaou M,Doak CM,van Dam RM,Brug J,Stronks K,Seidell JC. Cultural and social influences on food consumption in dutch residents of Turkish and moroccan origin: a qualitative study. J Nutr Educ Behav. 2009. 41:232-41. PMID:19508928.	Country
215	Nicolaou M,van Dam RM,Stronks K. Acculturation and education level in relation to quality of the diet: a study of Surinamese South Asian and Afro-Caribbean residents of the Netherlands. J Hum Nutr Diet. 2006. 19:383-93. PMID:16961685.	Country
216	Nobari TZ,Wang MC,Chaparro MP,Crespi CM,Koleilat M,Whaley SE. Immigrant enclaves and obesity in preschool-aged children in Los Angeles County. Soc Sci Med. 2013. 92:1-8. PMID:23849273.	Independent Variable
217	Norman S,Castro C,Albright C,King A. Comparing acculturation models in evaluating dietary habits among low-income Hispanic women. Ethn Dis. 2004. 14:399-404. PMID:15328942.	Sample Size
218	Novotny R,Oshiro CE,Wilkens LR. Prevalence of Childhood Obesity among Young Multiethnic Children from a Health Maintenance Organization in Hawaii. Child Obes. 2013. 9:35-42. PMID:23373877.	Independent Variable

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
219	Novotny R,Williams AE,Vinoya AC,Oshiro CE,Vogt TM. US acculturation, food intake, and obesity among Asian-Pacific hotel workers. J Am Diet Assoc. 2009. 109:1712-8. PMID:19782170.	Duplicate Study
220	O'Brien MJ,Davey A,Alos VA,Whitaker RC. Diabetes-related behaviors in Latinas and non-Latinas in California. Diabetes Care. 2013. 36:355-61. PMID:22961569.	Independent Variable
221	Odegaard AO,Koh WP,Yuan JM,Gross MD,Pereira MA. Western-style fast food intake and cardiometabolic risk in an Eastern country. Circulation. 2012. 126:182-8. PMID:22753304.	Country
222	Olvera N,Bush JA,Sharma SV,Knox BB,Scherer RL,Butte NF. BOUNCE: a community-based mother-daughter healthy lifestyle intervention for low-income Latino families. Obesity (Silver Spring). 2010. 18 Suppl 1:S102-4. PMID:20107454.	Study Design, Independent Variable
223	Oster A,Yung J. Dietary acculturation, obesity, and diabetes among Chinese immigrants in New York City. Diabetes Care. 2010. 33:e109. PMID:20668145.	Sample Size
224	Osypuk TL,Diez Roux AV,Hadley C,Kandula NR. Are immigrant enclaves healthy places to live? The Multi-ethnic Study of Atherosclerosis. Soc Sci Med. 2009. 69:110-20. PMID:19427731.	Independent Variable
225	Padilla R,Steiner JF,Havranek EP,Beaty B,Davidson AJ,Bull S. A comparison of different measures of acculturation with cardiovascular risk factors in Latinos with hypertension. J Immigr Minor Health. 2011. 13:284-92. PMID:21221808.	Unhealthy Subjects
226	Park SY,Murphy SP,Sharma S,Kolonel LN. Dietary intakes and health-related behaviours of Korean American women born in the USA and Korea: the Multiethnic Cohort Study. Public Health Nutr. 2005. 8:904-11. PMID:16277807.	Independent Variable
227	Park Y,Neckerman K,Quinn J,Weiss C,Jacobson J,Rundle A. Neighbourhood immigrant acculturation and diet among Hispanic female residents of New York City. Public Health Nutr. 2011. 14:1593-600. PMID:21414245.	Independent Variable
228	Park Y,Quinn J,Florez K,Jacobson J,Neckerman K,Rundle A. Hispanic immigrant women's perspective on healthy foods and the New York City retail food environment: A mixed-method study. Soc Sci Med. 2011. 73:13-21. PMID:21658831.	Study Design
229	Patil CL,Hadley C,Nahayo PD. Unpacking dietary acculturation among new Americans: results from formative research with African refugees. J Immigr Minor Health. 2009. 11:342-58. PMID:18253832.	Study Design
230	Peek MK,Cutchin MP,Salinas JJ,Sheffield KM,Eschbach K,Stowe RP,Goodwin JS. Allostatic load among non-Hispanic Whites, non-Hispanic Blacks, and people of Mexican origin: effects of ethnicity, nativity, and acculturation. Am J Public Health. 2010. 100:940-6. PMID:19834005.	Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
231	Perez-Escamilla R,Hromi-Fiedler A,Vega-Lopez S,Bermudez-Millan A,Segura-Perez S. Impact of peer nutrition education on dietary behaviors and health outcomes among Latinos: a systematic literature review. J Nutr Educ Behav. 2008. 40:208-25. PMID:18565462.	Study Design
232	Perez-Escamilla R,Putnik P. The role of acculturation in nutrition, lifestyle, and incidence of type 2 diabetes among Latinos. J Nutr. 2007. 137:860-70. PMID:17374645.	Study Design
233	Perez-Escamilla R,Song DS,Taylor CA,Mejia A,Melgar-Quinonez H,Balcazar HG,Anders RL,Segura-Perez S,Duarte-Gardea MO,Ibarra JM. Place of residence modifies the association between acculturation and dietary tools knowledge among Latina WIC participants: a multi-state study. J Immigr Minor Health. 2011. 13:299-308. PMID:20549357.	Outcome
234	Perez-Escamilla R. Acculturation, nutrition, and health disparities in Latinos. Am J Clin Nutr. 2011. 93:1163S-7S. PMID:21367946.	Study Design
235	Perez-Escamilla R. Dietary quality among Latinos: is acculturation making us sick?. J Am Diet Assoc. 2009. 109:988-91. PMID:19465179.	Study Design
236	Peterman JN,Silka L,Bermudez OI,Wilde PE,Rogers BL. Acculturation, education, nutrition education, and household composition are related to dietary practices among Cambodian refugee women in Lowell, MA. J Am Diet Assoc. 2011. 111:1369-74. PMID:21872700.	Sample Size
237	Pierce BL,Austin MA,Crane PK,Retzlaff BM,Fish B,Hutter CM,Leonetti DL,Fujimoto WY. Measuring dietary acculturation in Japanese Americans with the use of confirmatory factor analysis of food-frequency data. Am J Clin Nutr. 2007. 86:496-503. PMID:17684224.	Study Design, Independent Variable
238	Raberg M,Kumar B,Holmboe-Ottesen G,Wandel M. Overweight and weight dissatisfaction related to socio-economic position, integration and dietary indicators among south Asian immigrants in Oslo. Public Health Nutr. 2010. 13:695-703. PMID:19807936.	Country
239	Ramirez AS,Rutten LJ,Oh A,Vengoechea BL,Moser RP,Vanderpool RC,Hesse BW. Perceptions of cancer controllability and cancer risk knowledge: the moderating role of race, ethnicity, and acculturation. J Cancer Educ. 2013. 28:254-61. PMID:23355279.	Outcome
240	Rawlins E,Baker G,Maynard M,Harding S. Perceptions of healthy eating and physical activity in an ethnically diverse sample of young children and their parents: the DEAL prevention of obesity study. J Hum Nutr Diet. 2013. 26:132-44. PMID:22827466.	Study Design
241	Regev-Tobias H,Reifen R,Endevelt R,Havkin O,Cohen E,Stern G,Stark A. Dietary acculturation and increasing	Country

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	rates of obesity in Ethiopian women living in Israel. Nutrition. 2012. 28:30-4. PMID:21763107.	
242	Renzaho AM,Swinburn B,Burns C. Maintenance of traditional cultural orientation is associated with lower rates of obesity and sedentary behaviours among African migrant children to Australia. Int J Obes (Lond). 2008. 32:594-600. PMID:18253161.	Country
243	Reyes-Ortiz CA,Ju H,Eschbach K,Kuo YF,Goodwin JS. Neighbourhood ethnic composition and diet among Mexican-Americans. Public Health Nutr. 2009. 12:2293-301. PMID:19254428.	Independent Variable
244	Reyes-Ortiz CA,Ju H,Inniss A,Eschbach K,Kuo YF,Goodwin JS. Acculturation and serum nutrients thought to be involved with cancer prevention among Mexican American men in the United States. Cancer Control. 2009. 16:169-75. PMID:19337203.	Outcome
245	Ricciardelli LA,Mellor D,McCabe MP,Mussap AJ,Hallford DJ,Tyler M. Promoting fit bodies, healthy eating and physical activity among Indigenous Australian men: a study protocol. BMC Public Health. 2012. 12:28. PMID:22236166.	Country
246	Rodriguez F,Peralta CA,Green AR,Lopez L. Comparison of C-reactive protein levels in less versus more acculturated Hispanic adults in the United States (from the National Health and Nutrition Examination Survey 1999-2008). Am J Cardiol. 2012. 109:665-9. PMID:22169128.	Independent Variable, Outcome
247	Rodriguez-Moran M,Guerrero-Romero F,Brito-Zurita O,Rascon-Pacheco RA,Perez-Fuentes R,Sanchez-Guillen MC,Gonzalez-Ortiz M,Martinez-Abundis E,Simental-Mendia LE,Madero A,Revilla-Monsalve C,Flores-Martinez SE,Islas-Andrade S,Cruz M,Wacher N,Sanchez-Corona J. Cardiovascular risk factors and acculturation in Yaquis and Tepehuanos Indians from Mexico. Arch Med Res. 2008. 39:352-7. PMID:18279710.	Country
248	Rondinelli AJ,Morris MD,Rodwell TC,Moser KS,Paida P,Popper ST,Brouwer KC. Under- and over-nutrition among refugees in San Diego County, California. J Immigr Minor Health. 2011. 13:161-8. PMID:20505992.	Study Design
249	Rosas LG,Harley K,Fernald LC,Guendelman S,Mejia F,Neufeld LM,Eskenazi B. Dietary associations of household food insecurity among children of Mexican descent: results of a binational study. J Am Diet Assoc. 2009. 109:2001-9. PMID:19942017.	Independent Variable
250	Rosenmoller DL,Gasevic D,Seidell J,Lear SA. Determinants of changes in dietary patterns among Chinese immigrants: a cross-sectional analysis. Int J Behav Nutr Phys Act. 2011. 8:42. PMID:21592378.	Country
251	Roshania R,Narayan KM,Oza-Frank R. Age at arrival and risk of obesity among US immigrants. Obesity (Silver Spring). 2008. 16:2669-75. PMID:18846044.	Independent Variable
252	Rutt CD,Coleman KJ. Examining the relationships among built environment, physical activity, and body mass	Independent Variable

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	index in El Paso, TX. Prev Med. 2005. 40:831-41. PMID:15850885.	
253	Sandy JM,Anisfeld E,Ramirez E. Effects of a prenatal intervention on breastfeeding initiation rates in a Latina immigrant sample. J Hum Lact. 2009. 25:404-11; quiz 458-9. PMID:19487705.	Study Design, Outcome
254	Sarkar S,Das M,Mukhopadhyay B,Chakrabarti CS,Majumder PP. High prevalence of metabolic syndrome and its correlates in two tribal populations of India and the impact of urbanization. Indian J Med Res. 2006. 123:679-86. PMID:16873911.	Country
255	Sawanyawisuth K,Palinkas LA,Ancoli-Israel S,Dimsdale JE,Loredo JS. Ethnic differences in the prevalence and predictors of restless legs syndrome between Hispanics of Mexican descent and non-Hispanic Whites in San Diego county: a population-based study. J Clin Sleep Med. 2013. 9:47-53. PMID:23319904.	Outcome
256	Seth JG,Evans AE,Harris KK,Loyo JJ,Ray TC,Spaulding C,Gottlieb NH. Preschooler feeding practices and beliefs: differences among Spanish- and English-speaking WIC clients. Fam Community Health. 2007. 30:257-70. PMID:17563487.	Outcome
257	Sharkey JR,Johnson CM,Dean WR. Nativity is associated with sugar-sweetened beverage and fast-food meal consumption among Mexican-origin women in Texas border colonias. Nutr J. 2011. 10:101. PMID:21962014.	Independent Variable
258	Sharma S,Cao X,Roache C,Buchan A,Reid R,Gittelsohn J. Assessing dietary intake in a population undergoing a rapid transition in diet and lifestyle: the Arctic Inuit in Nunavut, Canada. Br J Nutr. 2010. 103:749-59. PMID:19840421.	Country
259	Sharma S,Gittelsohn J,Rosol R,Beck L. Addressing the public health burden caused by the nutrition transition through the Healthy Foods North nutrition and lifestyle intervention programme. J Hum Nutr Diet. 2010. 23 Suppl 1:120-7. PMID:21158971.	Country
260	Sharma S. Assessing diet and lifestyle in the Canadian Arctic Inuit and Inuvialuit to inform a nutrition and physical activity intervention programme. J Hum Nutr Diet. 2010. 23 Suppl 1:5-17. PMID:21158957.	Country
261	Sheehy T,Roache C,Sharma S. Eating habits of a population undergoing a rapid dietary transition: portion sizes of traditional and non-traditional foods and beverages consumed by Inuit adults in Nunavut, Canada. Nutr J. 2013. 12:70. PMID:23724920.	Independent Variable
262	Sheikh N,Egeland GM,Johnson-Down L,Kuhnlein HV. Changing dietary patterns and body mass index over time in Canadian Inuit communities. Int J Circumpolar Health. 2011. 70:511-9. PMID:22152598.	Country
263	Shetty P. Nutrition transition and its health outcomes. Indian J Pediatr. 2013. 80 Suppl 1:S21-7. PMID:23412985.	Study Design
264	Singh GK,Kogan MD,Dee DL. Nativity/immigrant status, race/ethnicity, and socioeconomic determinants of	Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	breastfeeding initiation and duration in the United States, 2003. Pediatrics. 2007. 119 Suppl 1:S38-46. PMID:17272583.	
265	Slattery ML,Sweeney C,Edwards S,Herrick J,Murtaugh M,Baumgartner K,Guiliano A,Byers T. Physical activity patterns and obesity in Hispanic and non-Hispanic white women. Med Sci Sports Exerc. 2006. 38:33-41. PMID:16394951.	Independent Variable, Outcome
266	Smith C,Franzen-Castle L. Dietary acculturation and body composition predict American Hmong children's blood pressure. Am J Hum Biol. 2012. 24:666-74. PMID:22836226.	Sample Size
267	Smith NR,Kelly YJ,Nazroo JY. The effects of acculturation on obesity rates in ethnic minorities in England: evidence from the Health Survey for England. Eur J Public Health. 2012. 22:508-13. PMID:21697245.	Country
268	Smith WE,Day RS,Brown LB. Heritage retention and bean intake correlates to dietary fiber intakes in Hispanic mothers--Que Sabrosa Vida. J Am Diet Assoc. 2005. 105:404-11; discussion 411-2. PMID:15746828.	Outcome, Sample Size
269	Song Y,Joung H,Engelhardt K,Yoo SY,Paik HY. Traditional v. modified dietary patterns and their influence on adolescents' nutritional profile. Br J Nutr. 2005. 93:943-9. PMID:16022765.	Country
270	Springer AE,Lewis K,Kelder SH,Fernandez ME,Barroso CS,Hoelscher DM. Physical activity participation by parental language use in 4th, 8th, and 11th grade students in Texas, USA. J Immigr Minor Health. 2010. 12:769-80. PMID:19365728.	Outcome
271	Staffileno BA,Tangney CC,Wilbur J,Marquez DX,Fogg L,Manning A,Bustamante EE,Morris MC. Dietary approaches to stop hypertension patterns in older Latinos with or at risk for hypertension. J Cardiovasc Nurs. 2013. 28:338-47. PMID:22722473.	Sample Size
272	Starling Washington P,Reifsnider E,S LB,Domingeaux Ethington M,R ER. Changes in family variables among normal and overweight preschoolers. Issues Compr Pediatr Nurs. 2010. 33:20-38. PMID:20121578.	Independent Variable
273	Steffen PR,Smith TB,Larson M,Butler L. Acculturation to Western society as a risk factor for high blood pressure: a meta-analytic review. Psychosom Med. 2006. 68:386-97. PMID:16738069.	Study Design
274	Stimpson JP,Urrutia-Rojas X. Acculturation in the United States is associated with lower serum carotenoid levels: Third National Health and Nutrition Examination Survey. J Am Diet Assoc. 2007. 107:1218-23. PMID:17604755.	Outcome
275	Sujoldzic A,De Lucia A. A cross-cultural study of adolescents--BMI, body image and psychological well-being. Coll Antropol. 2007. 31:123-30. PMID:17598390.	Country, Independent Variable
276	Sukalakamala S,Brittin HC. Food practices, changes, preferences, and acculturation of Thais in the United States. J Am Diet Assoc. 2006. 106:103-8. PMID:16390673.	Sample Size

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
277	Sungurova Y,Johansson SE,Sundquist J. East-west health divide and east-west migration: Self-reported health of immigrants from Eastern Europe and the former Soviet Union in Sweden. Scand J Public Health. 2006. 34:217-21. PMID:16581715.	Country
278	Sussner KM,Lindsay AC,Greaney ML,Peterson KE. The influence of immigrant status and acculturation on the development of overweight in Latino families: a qualitative study. J Immigr Minor Health. 2008. 10:497-505. PMID:18373200.	Study Design
279	Sussner KM,Lindsay AC,Peterson KE. The influence of acculturation on breast-feeding initiation and duration in low-income women in the US. J Biosoc Sci. 2008. 40:673-96. PMID:18045509.	Outcome
280	Sussner KM,Lindsay AC,Peterson KE. The influence of maternal acculturation on child body mass index at age 24 months. J Am Diet Assoc. 2009. 109:218-25. PMID:19167948.	Sample Size
281	Tam CY,Martin LJ,Hislop G,Hanley AJ,Minkin S,Boyd NF. Risk factors for breast cancer in postmenopausal Caucasian and Chinese-Canadian women. Breast Cancer Res. 2010. 12:R2. PMID:20053286.	Country
282	Tami SH,Reed DB,Boylan M,Zvonkovic A. Assessment of the effect of acculturation on dietary and physical activity behaviors of Arab mothers in Lubbock, Texas. Ethn Dis. 2012. 22:192-7. PMID:22764642.	Study Design
283	Tarnutzer S,Bopp M. Healthy migrants but unhealthy offspring? A retrospective cohort study among Italians in Switzerland. BMC Public Health. 2012. 12:1104. PMID:23259829.	Country
284	Tautolo el S,Schluter PJ,Paterson J,McRobbie H. Acculturation status has a modest effect on smoking prevalence among a cohort of Pacific fathers in New Zealand. Aust N Z J Public Health. 2011. 35:509-16. PMID:22151156.	Country, Outcome
285	Teo K,Chow CK,Vaz M,Rangarajan S,Yusuf S. The Prospective Urban Rural Epidemiology (PURE) study: examining the impact of societal influences on chronic noncommunicable diseases in low-, middle-, and high-income countries. Am Heart J. 2009. 158:1-7 e1. PMID:19540385.	Independent Variable
286	Tovar A,Hennessy E,Pirie A,Must A,Gute DM,Hyatt RR,Kamins CL,Hughes SO,Boulos R,Sliwa S,Galvao H,Economos CD. Feeding styles and child weight status among recent immigrant mother-child dyads. Int J Behav Nutr Phys Act. 2012. 9:62. PMID:22642962.	Independent Variable
287	Tovar A,Must A,Metayer N,Gute DM,Pirie A,Hyatt RR,Economos CD. Immigrating to the US: what Brazilian, Latin American and Haitian women have to say about changes to their lifestyle that may be associated with obesity. J Immigr Minor Health. 2013. 15:357-64. PMID:22736266.	Study Design
288	Tseng M,Byrne C,Evers KA,London WT,Daly MB. Acculturation and breast density in foreign-born, U.S. Chinese women. Cancer Epidemiol Biomarkers Prev. 2006. 15:1301-5. PMID:16835327.	Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
289	Tseng M,Fang CY. Socio-economic position and lower dietary moderation among Chinese immigrant women in the USA. Public Health Nutr. 2012. 15:415-23. PMID:21806866.	Independent Variable
290	Tseng M,Fang CY. Stress is associated with unfavorable patterns of dietary intake among female chinese immigrants. Ann Behav Med. 2011. 41:324-32. PMID:21384248.	Independent Variable
291	Tseng M,Olufade TO,Evers KA,Byrne C. Adolescent lifestyle factors and adult breast density in U.S. Chinese immigrant women. Nutr Cancer. 2011. 63:342-9. PMID:21391125.	Outcome
292	Van Hook J,Balistreri KS. Immigrant generation, socioeconomic status, and economic development of countries of origin: a longitudinal study of body mass index among children. Soc Sci Med. 2007. 65:976-89. PMID:17570571.	Independent Variable
293	Venkatesh S,Weatherspoon LJ,Kaplowitz SA,Song WO. Acculturation and glycemic control of Asian Indian adults with type 2 diabetes. J Community Health. 2013. 38:78-85. PMID:22744164.	Unhealthy Subjects
294	Vorster HH,Kruger A,Venter CS,Margetts BM,Macintyre UE. Cardiovascular disease risk factors and socio-economic position of Africans in transition: the THUSA study. Cardiovasc J Afr. 2007. 18:282-9. PMID:17957323.	Country, Independent Variable
295	Vue W,Wolff C,Goto K. Hmong food helps us remember who we are: perspectives of food culture and health among Hmong women with young children. J Nutr Educ Behav. 2011. 43:199-204. PMID:20980205.	Study Design
296	Weiss JW,Mouttapa M,Cen S,Johnson CA,Unger J. Longitudinal effects of hostility, depression, and bullying on adolescent smoking initiation. J Adolesc Health. 2011. 48:591-6. PMID:21575819.	Independent Variable
297	Wilson WM,Bulkan J,Piperata BA,Hicks K,Ehlers P. Nutritional status of Makushi Amerindian children and adolescents of Guyana. Ann Hum Biol. 2011. 38:615-29. PMID:21675938.	Country
298	Windle M,Grunbaum JA,Elliott M,Tortolero SR,Berry S,Gilliland J,Kanouse DE,Parcel GS,Wallander J,Kelder S,Collins J,Kolbe L,Schuster M. Healthy passages. A multilevel, multimethod longitudinal study of adolescent health. Am J Prev Med. 2004. 27:164-72. PMID:15261905.	Independent Variable
299	Winham DM. Growth status among low-income Mexican and Mexican-American elementary school children. Am J Hum Biol. 2012. 24:690-5. PMID:22836381.	Sample Size
300	Wirtz AL,Madanat HN. Westernization, intuitive eating, and BMI: an exploration of Jordanian adolescents. Int Q Community Health Educ. 2012. 33:275-87. PMID:23896036.	Country, Sample Size
301	Wojcicki JM,Jimenez-Cruz A,Bacardi-Gascon M,Schwartz N,Heyman MB. Bimodal distribution of risk for childhood obesity in urban Baja California, Mexico. J Urban Health. 2012. 89:628-38. PMID:22669641.	Country
302	Wojcicki JM,Schwartz N,Jimenez-Cruz A,Bacardi-Gascon M,Heyman MB. Acculturation, dietary practices and risk	Sample Size

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	for childhood obesity in an ethnically heterogeneous population of Latino school children in the San Francisco bay area. J Immigr Minor Health. 2012. 14:533-9. PMID:22101726.	
303	Yang EJ,Chung HK,Kim WY,Bianchi L,Song WO. Chronic diseases and dietary changes in relation to Korean Americans' length of residence in the United States. J Am Diet Assoc. 2007. 107:942-50. PMID:17524714.	Sample Size
304	Yang EJ,Kerver JM,Song WO. Dietary patterns of Korean Americans described by factor analysis. J Am Coll Nutr. 2005. 24:115-21. PMID:15798078.	Sample Size
305	Yeh MC,Viladrich A,Bruning N,Roye C. Determinants of Latina obesity in the United States: the role of selective acculturation. J Transcult Nurs. 2009. 20:105-15. PMID:18948450.	Study Design
306	Zeljko H,Skaric-Juric T,Narancic NS,Salihovic MP,Klaric IM,Barbalic M,Starcevic B,Lauc LB,Janicijevic B. Traditional CVD risk factors and socio-economic deprivation in Roma minority population of Croatia. Coll Antropol. 2008. 32:667-76. PMID:18982735.	Country
307	Zimmer Z,Wen M,Kaneda T. A multi-level analysis of urban/rural and socioeconomic differences in functional health status transition among older Chinese. Soc Sci Med. 2010. 71:559-67. PMID:20621749.	Country

APPENDIX K: ACCULTURATION – TYPE 2 DIABETES – EXCLUDED ARTICLES LIST

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Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
1	Abou El Hassan D,Hekmat S. Dietary acculturation of Arab immigrants in the Greater Toronto Area. Can J Diet Pract Res. 2012. 73:143-6. PMID:22958634.	Country
2	Abraido-Lanza AF,Chao MT,Florez KR. Do healthy behaviors decline with greater acculturation? Implications for the Latino mortality paradox. Soc Sci Med. 2005. 61:1243-55. PMID:15970234.	Independent Variable
3	Abu-Saad K,Shahar DR,Fraser D,Vardi H,Friger M,Bolotin A,Freedman LS. Adequacy of usual dietary intake and nutritional status among pregnant women in the context of nutrition transition: the DEPOSIT Study. Br J Nutr. 2012. 108:1874-83. PMID:22264559.	Country
4	Ahn MK,Juon HS,Gittelsohn J. Association of race/ethnicity, socioeconomic status, acculturation, and environmental factors with risk of overweight among adolescents in California, 2003. Prev Chronic Dis. 2008. 5:A75. PMID:18558025.	Independent Variable
5	Alkerwi A,Sauvageot N,Pagny S,Beissel J,Delagardelle C,Lair ML. Acculturation, immigration status and cardiovascular risk factors among Portuguese immigrants to Luxembourg: findings from ORISCAV-LUX study. BMC Public Health. 2012. 12:864. PMID:23057477.	Country
6	Allen ML,Elliott MN,Morales LS,Diamant AL,Hambarsoomian K,Schuster MA. Adolescent participation in preventive health behaviors, physical activity, and nutrition: differences across immigrant generations for Asians and Latinos compared with Whites. Am J Public Health. 2007. 97:337-43. PMID:17138919.	Independent Variable
7	Andaya AA,Arredondo EM,Alcaraz JE,Lindsay SP,Elder JP. The association between family meals, TV viewing during meals, and fruit, vegetables, soda, and chips intake among Latino children. J Nutr Educ Behav. 2011. 43:308-15. PMID:20965787.	Independent Variable
8	Andersen S,Laurberg P,Hvingel B,Kleinschmidt K,Heickendorff L,Mosekilde L. Vitamin D status in Greenland is influenced by diet and ethnicity: a population-based survey in an Arctic society in transition. Br J Nutr. 2013. 109:928-35. PMID:22682501.	Country
9	Anderson AK,Damio G,Himmelgreen DA,Peng YK,Segura-Perez S,Perez-Escamilla R. Social capital, acculturation, and breastfeeding initiation among Puerto Rican women in the United States. J Hum Lact. 2004. 20:39-45. PMID:14974699.	Outcome
10	Anderson AS,Bush H,Lean M,Bradby H,Williams R,Lea E. Evolution of atherogenic diets in South Asian and Italian women after migration to a higher risk region. J Hum Nutr Diet. 2005. 18:33-43. PMID:15647097.	Country
11	Arandia G,Nalty C,Sharkey JR,Dean WR. Diet and acculturation among Hispanic/Latino older adults in the United States: a review of literature and recommendations. J Nutr Gerontol Geriatr. 2012. 31:16-37. PMID:22335438.	Study Design

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	Citation	Reason for Exclusion
12	Ard JD,Skinner CS,Chen C,Aickin M,Svetkey LP. Informing cancer prevention strategies for African Americans: the relationship of African American acculturation to fruit, vegetable, and fat intake. J Behav Med. 2005. 28:239-47. PMID:16015458.	Independent Variable, Sample Size
13	Ariza AJ,Chen EH,Binns HJ,Christoffel KK. Risk factors for overweight in five- to six-year-old Hispanic-American children: a pilot study. J Urban Health. 2004. 81:150-61. PMID:15047793.	Independent Variable, Sample Size
14	Aroian KJ,Peters RM,Rudner N,Waser L. Hypertension prevention beliefs of Hispanics. J Transcult Nurs. 2012. 23:134-42. PMID:22294336.	Study Design
15	Arredondo EM,Elder JP,Ayala GX,Campbell N,Baquero B,Duerksen S. Is parenting style related to children's healthy eating and physical activity in Latino families?. Health Educ Res. 2006. 21:862-71. PMID:17032706.	Independent Variable, Outcome
16	Arredondo EM,Elder JP,Ayala GX,Slymen D,Campbell NR. Association of a traditional vs shared meal decision-making and preparation style with eating behavior of Hispanic women in San Diego County. J Am Diet Assoc. 2006. 106:38-45. PMID:16390665.	Study Design, Independent Variable
17	August KJ,Sorkin DH. Racial/ethnic disparities in exercise and dietary behaviors of middle-aged and older adults. J Gen Intern Med. 2011. 26:245-50. PMID:20865342.	Independent Variable
18	Austin JL,Smith JE,Gianini L,Campos-Melady M. Attitudinal familism predicts weight management adherence in Mexican-American women. J Behav Med. 2013. 36:259-69. PMID:22487966.	Study Design, Independent Variable
19	Ayala GX,Baquero B,Arredondo EM,Campbell N,Larios S,Elder JP. Association between family variables and Mexican American children's dietary behaviors. J Nutr Educ Behav. 2007. 39:62-9. PMID:17346653.	Independent Variable
20	Ayala GX,Baquero B,Klinger S. A systematic review of the relationship between acculturation and diet among Latinos in the United States: implications for future research. J Am Diet Assoc. 2008. 108:1330-44. PMID:18656573.	Study Design
21	Ayala GX,Elder JP,Campbell NR,Slymen DJ,Roy N,Engelberg M,Ganiats T. Correlates of body mass index and waist-to-hip ratio among Mexican women in the United States: implications for intervention development. Womens Health Issues. 2004. 14:155-64. PMID:15482966.	Sample Size
22	Ayala GX,Mueller K,Lopez-Madurga E,Campbell NR,Elder JP. Restaurant and food shopping selections among Latino women in Southern California. J Am Diet Assoc. 2005. 105:38-45. PMID:15635343.	Outcome
23	Ayala GX,Rogers M,Arredondo EM,Campbell NR,Baquero B,Duerksen SC,Elder JP. Away-from-home food intake and risk for obesity: examining the influence of context. Obesity (Silver Spring). 2008. 16:1002-8. PMID:18309297.	Independent Variable, Outcome

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	Citation	Reason for Exclusion
24	Babington L,Patel B. Understanding child feeding practices of Vietnamese mothers. MCN Am J Matern Child Nurs. 2008. 33:376-81. PMID:18997574.	Study Design, Outcome
25	Baker E,Balistreri KS,Van Hook J. Maternal employment and overweight among Hispanic children of immigrants and children of natives. J Immigr Minor Health. 2009. 11:158-67. PMID:17963041.	Independent Variable
26	Banna JC,Kaiser LL,Drake C,Townsend MS. Acculturation, physical activity and television viewing in Hispanic women: findings from the 2005 California Women's Health Survey. Public Health Nutr. 2012. 15:198-207. PMID:21794203.	Outcome
27	Banna JC,Townsend MS. Assessing factorial and convergent validity and reliability of a food behaviour checklist for Spanish-speaking participants in US Department of Agriculture nutrition education programmes. Public Health Nutr. 2011. 14:1165-76. PMID:21338552.	Study Design, Independent Variable
28	Baquero B,Ayala GX,Arredondo EM,Campbell NR,Slymen DJ,Gallo L,Elder JP. Secretos de la Buena Vida: processes of dietary change via a tailored nutrition communication intervention for Latinas. Health Educ Res. 2009. 24:855-66. PMID:19339374.	Study Design, Independent Variable
29	Barnes DM,Almasy N. Refugees' perceptions of healthy behaviors. J Immigr Health. 2005. 7:185-93. PMID:15900419.	Outcome
30	Barrera M Jr.,Toobert D,Strycker L,Osuna D. Effects of acculturation on a culturally adapted diabetes intervention for Latinas. Health Psychol. 2012. 31:51-4. PMID:21859212.	Study Design, Unhealthy Subjects
31	Baruffi G,Hardy CJ,Waslien CI,Uyehara SJ,Krupitsky D. Ethnic differences in the prevalence of overweight among young children in Hawaii. J Am Diet Assoc. 2004. 104:1701-7. PMID:15499358.	Independent Variable
32	Batis C,Hernandez-Barrera L,Barquera S,Rivera JA,Popkin BM. Food acculturation drives dietary differences among Mexicans, Mexican Americans, and Non-Hispanic Whites. J Nutr. 2011. 141:1898-906. PMID:21880951.	Independent Variable
33	Bauer KW,Larson NI,Nelson MC,Story M,Neumark-Sztainer D. Socio-environmental, personal and behavioural predictors of fast-food intake among adolescents. Public Health Nutr. 2009. 12:1767-74. PMID:19105866.	Independent Variable
34	Beagan BL,Chapman GE. Meanings of food, eating and health among African Nova Scotians: 'certain things aren't meant for Black folk'. Ethn Health. 2012. 17:513-29. PMID:22348428.	Country
35	Beech BM,Kumanyika SK,Baranowski T,Davis M,Robinson TN,Sherwood NE,Taylor WC,Relyea G,Zhou A,Pratt C,Owens A,Thompson NS. Parental cultural perspectives in relation to weight-related behaviors and concerns of African-American girls. Obes Res. 2004. 12 Suppl:7S-19S. PMID:15489463.	Independent Variable
36	Benbenek MM,Garwick AW. Enablers and barriers to dietary practices contributing to bone health among early	Study Design

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	Citation	Reason for Exclusion
	adolescent Somali girls living in Minnesota. J Spec Pediatr Nurs. 2012. 17:205-14. PMID:22734874.	
37	Bender MS,Nader PR,Kennedy C,Gahagan S. A culturally appropriate intervention to improve health behaviors in Hispanic mother-child dyads. Child Obes. 2013. 9:157-63. PMID:23514697.	Study Design, Independent Variable
38	Bermudez OI,Hernandez L,Mazariegos M,Solomons NW. Secular trends in food patterns of Guatemalan consumers: new foods for old. Food Nutr Bull. 2008. 29:278-87. PMID:19227052.	Country, Independent Variable
39	Bersamin A,Zidenberg-Cherr S,Stern JS,Luick BR. Nutrient intakes are associated with adherence to a traditional diet among Yup'ik Eskimos living in remote Alaska Native communities: the CANHR Study. Int J Circumpolar Health. 2007. 66:62-70. PMID:17451135.	Independent Variable, Outcome
40	Bhupathiraju SN,Lichtenstein AH,Dawson-Hughes B,Tucker KL. Adherence index based on the AHA 2006 diet and lifestyle recommendations is associated with select cardiovascular disease risk factors in older Puerto Ricans. J Nutr. 2011. 141:460-9. PMID:21270369.	Independent Variable
41	Bjerregaard P,Dahl-Petersen IK. How well does social variation mirror secular change in prevalence of cardiovascular risk factors in a country in transition?. Am J Hum Biol. 2011. 23:774-9. PMID:21932405.	Country
42	Bolstad AL,Bungum T. Diet, acculturation, and BMI in Hispanics living in southern Nevada. Am J Health Behav. 2013. 37:218-26. PMID:23026103.	Independent Variable
43	Bothwell EK,Ayala GX,Conway TL,Rock CL,Gallo LC,Elder JP. Underreporting of food intake among Mexican/Mexican-American Women: rates and correlates. J Am Diet Assoc. 2009. 109:624-32. PMID:19328257.	Independent Variable, Outcome
44	Bowen RL,Devine CM. "Watching a person who knows how to cook, you'll learn a lot". Linked lives, cultural transmission, and the food choices of Puerto Rican girls. Appetite. 2011. 56:290-8. PMID:21172395.	Study Design
45	Brock KE,Ke L,Tseng M,Clemson L,Koo FK,Jang H,Seibel MJ,Mpofu E,Fraser DR,Mason RS. Vitamin D status is associated with sun exposure, vitamin D and calcium intake, acculturation and attitudes in immigrant East Asian women living in Sydney. J Steroid Biochem Mol Biol. 2013. 136:214-7. PMID:23262263.	Country
46	Burgess D,Fu SS,Joseph AM,Hatsukami DK,Solomon J,van Ryn M. Understanding smoking and cessation among Hmong smokers. J Health Care Poor Underserved. 2008. 19:442-51. PMID:18469415.	Study Design, Outcome
47	Burgess-Champoux TL,Larson NI,Neumark-Sztainer DR,Hannan PJ,Story MT. Longitudinal and secular trends in adolescent whole-grain consumption, 1999-2004. Am J Clin Nutr. 2010. 91:154-9. PMID:19906803.	Independent Variable
48	Buscemi J,Beech BM,Relyea G. Predictors of obesity in Latino children: acculturation as a moderator of the relationship between food insecurity and body mass index percentile. J Immigr Minor Health. 2011. 13:149-54. PMID:19472054.	Sample Size

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	Citation	Reason for Exclusion
49	Carmichael SL,Shaw GM,Song J,Abrams B. Markers of acculturation and risk of NTDs among Hispanic women in California. Birth Defects Res A Clin Mol Teratol. 2008. 82:755-62. PMID:18985703.	Outcome
50	Carrera PM,Gao X,Tucker KL. A study of dietary patterns in the Mexican-American population and their association with obesity. J Am Diet Assoc. 2007. 107:1735-42. PMID:17904933.	Independent Variable
51	Carter BJ,Birnbaum AS,Hark L,Vickery B,Potter C,Osborne MP. Using media messaging to promote healthful eating and physical activity among urban youth. J Nutr Educ Behav. 2005. 37:98-9. PMID:15882488.	Independent Variable
52	Casey D,Murphy K,Lawton J,White FF,Dineen S. A longitudinal qualitative study examining the factors impacting on the ability of persons with T1DM to assimilate the Dose Adjustment for Normal Eating (DAFNE) principles into daily living and how these factors change over time. BMC Public Health. 2011. 11:672. PMID:21878104.	Unhealthy Subjects
53	Castro FG,Marsiglia FF,Kulis S,Kellison JG. Lifetime segmented assimilation trajectories and health outcomes in Latino and other community residents. Am J Public Health. 2010. 100:669-76. PMID:20167890.	Sample Size
54	Cha E,Yang K,Lee J,Min J,Kim KH,Dunbar SB,Jennings BM. Understanding cultural issues in the diabetes self-management behaviors of Korean immigrants. Diabetes Educ. 2012. 38:835-44. PMID:23019236.	Unhealthy Subjects
55	Chaparro MP,Langellier BA,Kim LP,Whaley SE. Predictors of accurate maternal perception of their preschool child's weight status among Hispanic WIC participants. Obesity (Silver Spring). 2011. 19:2026-30. PMID:21546937.	Independent Variable, Outcome
56	Chapman DJ,Perez-Escamilla R. Acculturative type is associated with breastfeeding duration among low-income Latinas. Matern Child Nutr. 2013. 9:188-98. PMID:21787375.	Outcome
57	Chapman DJ,Perez-Escamilla R. US national breastfeeding monitoring and surveillance: current status and recommendations. J Hum Lact. 2009. 25:139-50. PMID:19286840.	Independent Variable
58	Cheah CS,Van Hook J. Chinese and Korean immigrants' early life deprivation: an important factor for child feeding practices and children's body weight in the United States. Soc Sci Med. 2012. 74:744-52. PMID:22265872.	Independent Variable, Sample Size
59	Chen JL,Kennedy C. Factors associated with obesity in Chinese-American children. Pediatr Nurs. 2005. 31:110-5. PMID:15934563.	Sample Size
60	Chen JL,Weiss S,Heyman MB,Cooper B,Lustig RH. The efficacy of the web-based childhood obesity prevention program in Chinese American adolescents (Web ABC study). J Adolesc Health. 2011. 49:148-54. PMID:21783046.	Study Design, Independent Variable
61	Chen JL,Weiss S,Heyman MB,Lustig R. Risk factors for obesity and high blood pressure in Chinese American	Sample Size

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	Citation	Reason for Exclusion
	children: maternal acculturation and children's food choices. J Immigr Minor Health. 2011. 13:268-75. PMID:19757055.	
62	Chen JL,Wu Y. Cardiovascular risk factors in Chinese American children: associations between overweight, acculturation, and physical activity. J Pediatr Health Care. 2008. 22:103-10. PMID:18294579.	Sample Size
63	Chen JL. Household income, maternal acculturation, maternal education level and health behaviors of Chinese-American children and mothers. J Immigr Minor Health. 2009. 11:198-204. PMID:18306042.	Sample Size
64	Choudhary N,Parthasarathy D. Is migration status a determinant of urban nutrition insecurity? Empirical evidence from Mumbai city, India. J Biosoc Sci. 2009. 41:583-605. PMID:19508740.	Country
65	Clarkin PF. Adiposity and height of adult Hmong refugees: relationship with war-related early malnutrition and later migration. Am J Hum Biol. 2008. 20:174-84. PMID:18172871.	Independent Variable
66	Coronado GD,Thompson B,Tejeda S,Godina R,Chen L. Sociodemographic factors and self-management practices related to type 2 diabetes among Hispanics and non-Hispanic whites in a rural setting. J Rural Health. 2007. 23:49-54. PMID:17300478.	Unhealthy Subjects
67	Croteau-Chonka DC,Marvelle AF,Lange EM,Lee NR,Adair LS,Lange LA,Mohlke KL. Genome-wide association study of anthropometric traits and evidence of interactions with age and study year in Filipino women. Obesity (Silver Spring). 2011. 19:1019-27. PMID:20966902.	Country, Independent Variable
68	Cuy Castellanos D,Downey L,Graham-Kresge S,Yadrick K,Zoellner J,Connell CL. Examining the diet of post-migrant Hispanic males using the precede-proceed model: predisposing, reinforcing, and enabling dietary factors. J Nutr Educ Behav. 2013. 45:109-18. PMID:23103256.	Study Design
69	Dave JM,Evans AE,Saunders RP,Watkins KW,Pfeiffer KA. Associations among food insecurity, acculturation, demographic factors, and fruit and vegetable intake at home in Hispanic children. J Am Diet Assoc. 2009. 109:697-701. PMID:19328265.	Independent Variable
70	Davis MF,Adam M,Carvajal S,Sechrest L,Reyna VF. Using Rasch modeling to measure acculturation in youth. J Appl Meas. 2011. 12:324-38. PMID:22357155.	Study Design, Outcome
71	Dekker LH,Snijder MB,Beukers MH,de Vries JH,Brants HA,de Boer EJ,van Dam RM,Stronks K,Nicolaou M. A prospective cohort study of dietary patterns of non-western migrants in the Netherlands in relation to risk factors for cardiovascular diseases: HELIUS-Dietary Patterns. BMC Public Health. 2011. 11:441. PMID:21649889.	Country
72	Delajara M,Rodriguez-Segura M. Why are Mexican American boys so much taller now?. Econ Hum Biol. 2010. 8:212-22. PMID:20678742.	Independent Variable, Outcome

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73	Delavari M,Sonderlund AL,Swinburn B,Mellor D,Renzaho A. Acculturation and obesity among migrant populations in high income countries--a systematic review. BMC Public Health. 2013. 13:458. PMID:23663279.	Study Design
74	Delisle H. Findings on dietary patterns in different groups of African origin undergoing nutrition transition. Appl Physiol Nutr Metab. 2010. 35:224-8. PMID:20383237.	Study Design
75	Delisle HF,Vioque J,Gil A. Dietary patterns and quality in West-African immigrants in Madrid. Nutr J. 2009. 8:3. PMID:19166606.	Country, Independent Variable
76	Derby CA,Wildman RP,McGinn AP,Green RR,Polotsky AJ,Ram KT,Barnhart J,Weiss G,Santoro N. Cardiovascular risk factor variation within a Hispanic cohort: SWAN, the Study of Women's Health Across the Nation. Ethn Dis. 2010. 20:396-402. PMID:21305828.	Independent Variable
77	Desilets MC,Rivard M,Shatenstein B,Delisle H. Dietary transition stages based on eating patterns and diet quality among Haitians of Montreal, Canada. Public Health Nutr. 2007. 10:454-63. PMID:17411465.	Country
78	Dharod JM,Croom JE,Sady CG. Food insecurity: its relationship to dietary intake and body weight among Somali refugee women in the United States. J Nutr Educ Behav. 2013. 45:47-53. PMID:23084983.	Independent Variable
79	Dhokarh R,Himmelgreen DA,Peng YK,Segura-Perez S,Hromi-Fiedler A,Perez-Escamilla R. Food insecurity is associated with acculturation and social networks in Puerto Rican households. J Nutr Educ Behav. 2011. 43:288-94. PMID:20952259.	Independent Variable, Outcome
80	Diaz H,Marshak HH,Montgomery S,Rea B,Backman D. Acculturation and gender: influence on healthy dietary outcomes for Latino adolescents in California. J Nutr Educ Behav. 2009. 41:319-26. PMID:19717114.	Outcome
81	Dixit AA,Azar KM,Gardner CD,Palaniappan LP. Incorporation of whole, ancient grains into a modern Asian Indian diet to reduce the burden of chronic disease. Nutr Rev. 2011. 69:479-88. PMID:21790614.	Study Design
82	Dounias E,Selzner A,Koizumi M,Levang P. From sago to rice, from forest to town: the consequences of sedentarization for the nutritional ecology of Punan former hunter-gatherers of Borneo. Food Nutr Bull. 2007. 28:S294-302. PMID:17658075.	Country
83	Dubowitz T,Acevedo-Garcia D,Salkeld J,Lindsay AC,Subramanian SV,Peterson KE. Lifecourse, immigrant status and acculturation in food purchasing and preparation among low-income mothers. Public Health Nutr. 2007. 10:396-404. PMID:17362536.	Study Design, Outcome
84	Duerksen SC,Elder JP,Arredondo EM,Ayala GX,Slymen DJ,Campbell NR,Baquero B. Family restaurant choices are associated with child and adult overweight status in Mexican-American families. J Am Diet Assoc. 2007. 107:849-53. PMID:17467384.	Independent Variable, Outcome

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85	Edmonds VM. The nutritional patterns of recently immigrated Honduran women. J Transcult Nurs. 2005. 16:226-35. PMID:15980050.	Study Design
86	Elder JP,Ayala GX,Campbell NR,Slymen D,Lopez-Madurga ET,Engelberg M,Baquero B. Interpersonal and print nutrition communication for a Spanish-dominant Latino population: Secretos de la Buena Vida. Health Psychol. 2005. 24:49-57. PMID:15631562.	Study Design, Independent Variable
87	Elder JP,Ayala GX,Slymen DJ,Arredondo EM,Campbell NR. Evaluating psychosocial and behavioral mechanisms of change in a tailored communication intervention. Health Educ Behav. 2009. 36:366-80. PMID:18077657.	Study Design, Independent Variable
88	El-Sayed AM,Galea S. The health of Arab-Americans living in the United States: a systematic review of the literature. BMC Public Health. 2009. 9:272. PMID:19643005.	Study Design
89	Erber E,Beck L,Hopping BN,Sheehy T,De Roose E,Sharma S. Food patterns and socioeconomic indicators of food consumption amongst Inuvialuit in the Canadian Arctic. J Hum Nutr Diet. 2010. 23 Suppl 1:59-66. PMID:21158963.	Country
90	Erber E,Hopping BN,Beck L,Sheehy T,De Roose E,Sharma S. Assessment of dietary adequacy in a remote Inuvialuit population. J Hum Nutr Diet. 2010. 23 Suppl 1:35-42. PMID:21158960.	Country
91	Espinosa de Los Monteros K,Gallo LC,Elder JP,Talavera GA. Individual and area-based indicators of acculturation and the metabolic syndrome among low-income Mexican American women living in a border region. Am J Public Health. 2008. 98:1979-86. PMID:18799765.	Sample Size
92	Evans A,Seth JG,Smith S,Harris KK,Loyo J,Spaulding C,Van Eck M,Gottlieb N. Parental feeding practices and concerns related to child underweight, picky eating, and using food to calm differ according to ethnicity/race, acculturation, and income. Matern Child Health J. 2011. 15:899-909. PMID:19771501.	Outcome
93	Feng D,Reed DB,Esperat MC,Uchida M. Effects of TV in the bedroom on young Hispanic children. Am J Health Promot. 2011. 25:310-8. PMID:21534833.	Independent Variable, Outcome
94	Ferland A,Lamarche B,Chateau-Degat ML,Counil E,Anassour-Laouan-Sidi E,Abdous B,Dewailly E. Dairy product intake and its association with body weight and cardiovascular disease risk factors in a population in dietary transition. J Am Coll Nutr. 2011. 30:92-9. PMID:21730217.	Country
95	Fichter MM,Quadflieg N,Georgopoulou E,Xepapadakos F,Fthenakis EW. Time trends in eating disturbances in young Greek migrants. Int J Eat Disord. 2005. 38:310-22. PMID:16254871.	Country
96	Fitzgerald N,Damio G,Segura-Perez S,Perez-Escamilla R. Nutrition knowledge, food label use, and food intake patterns among Latinas with and without type 2 diabetes. J Am Diet Assoc. 2008. 108:960-7. PMID:18502226.	Study Design, Independent Variable

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97	Fitzgerald N,Himmelgreen D,Damio G,Segura-Perez S,Peng YK,Perez-Escamilla R. Acculturation, socioeconomic status, obesity and lifestyle factors among low-income Puerto Rican women in Connecticut, U.S., 1998-1999. Rev Panam Salud Publica. 2006. 19:306-13. PMID:16805972.	Independent Variable
98	Fitzgerald N,Hromi-Fiedler A,Segura-Perez S,Perez-Escamilla R. Food insecurity is related to increased risk of type 2 diabetes among Latinas. Ethn Dis. 2011. 21:328-34. PMID:21942166.	Independent Variable, Unhealthy Subjects
99	Fitzgibbon ML,Gapstur SM,Knight SJ. Results of Mujeres Felices por ser Saludables: a dietary/breast health randomized clinical trial for Latino women. Ann Behav Med. 2004. 28:95-104. PMID:15454356.	Study Design, Independent Variable
100	Franzen L,Smith C. Differences in stature, BMI, and dietary practices between US born and newly immigrated Hmong children. Soc Sci Med. 2009. 69:442-50. PMID:19556047.	Sample Size
101	Franzen L,Smith C. Food system access, shopping behavior, and influences on purchasing groceries in adult Hmong living in Minnesota. Am J Health Promot. 2010. 24:396-409. PMID:20594097.	Study Design, Outcome
102	Fuentes-Afflick E,Hessol NA. Overweight in young Latino children. Arch Med Res. 2008. 39:511-8. PMID:18514096.	Sample Size
103	Gallagher MR,Gill S,Reifsnider E. Child health promotion and protection among Mexican mothers. West J Nurs Res. 2008. 30:588-605. PMID:18612095.	Study Design, Independent Variable
104	Gallagher MR. Maternal perspectives on lifestyle habits that put children of Mexican descent at risk for obesity. J Spec Pediatr Nurs. 2010. 15:16-25. PMID:20074110.	Study Design
105	Gao X,Scott T,Falcon LM,Wilde PE,Tucker KL. Food insecurity and cognitive function in Puerto Rican adults. Am J Clin Nutr. 2009. 89:1197-203. PMID:19225117.	Independent Variable, Outcome
106	Garduno-Diaz SD,Khokhar S. South Asian dietary patterns and their association with risk factors for the metabolic syndrome. J Hum Nutr Diet. 2013. 26:145-55. PMID:22943473.	Country
107	George GC,Hanss-Nuss H,Milani TJ,Freeland-Graves JH. Food choices of low-income women during pregnancy and postpartum. J Am Diet Assoc. 2005. 105:899-907. PMID:15942539.	Independent Variable
108	Gibson MV,Diaz VA, 3rd Mainous AG,Geesey ME. Prevalence of breastfeeding and acculturation in Hispanics: results from NHANES 1999-2000 study. Birth. 2005. 32:93-8. PMID:15918865.	Outcome
109	Gilbert PA,Khokhar S. Changing dietary habits of ethnic groups in Europe and implications for health. Nutr Rev. 2008. 66:203-15. PMID:18366534.	Study Design, Country
110	Gonzalez HM,Tarraf W,Haan MN. The metabolic syndrome, biomarkers, and the acculturation-health relationship among older Mexican Americans. J Aging Health. 2011. 23:1101-15. PMID:21948772.	Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
111	Gordon NP,Iribarren C. Health-related characteristics and preferred methods of receiving health education according to dominant language among Latinos aged 25 to 64 in a large Northern California health plan. BMC Public Health. 2008. 8:305. PMID:18782454.	Independent Variable, Outcome
112	Gordon-Larsen P,Adair LS,Nelson MC,Popkin BM. Five-year obesity incidence in the transition period between adolescence and adulthood: the National Longitudinal Study of Adolescent Health. Am J Clin Nutr. 2004. 80:569-75. PMID:15321794.	Independent Variable
113	Gorman JR,Madlensky L,Jackson DJ,Ganiats TG,Boies E. Early postpartum breastfeeding and acculturation among Hispanic women. Birth. 2007. 34:308-15. PMID:18021146.	Outcome
114	Gregory-Mercado KY,Staten LK,Gillespie C,Ranger-Moore J,Thomson CA,Giuliano AR,Will JC,Ford ES,Marshall J. Ethnicity and nutrient intake among Arizona WISEWOMAN participants. J Womens Health (Larchmt). 2007. 16:379-89. PMID:17439383.	Sample Size
115	Gregory-Mercado KY,Staten LK,Ranger-Moore J,Thomson CA,Will JC,Ford ES,Guillen J,Larkey LK,Giuliano AR,Marshall J. Fruit and vegetable consumption of older Mexican-American women is associated with their acculturation level. Ethn Dis. 2006. 16:89-95. PMID:16599354.	Sample Size
116	Grimm KA,Blanck HM. Survey language preference as a predictor of meeting fruit and vegetable objectives among Hispanic adults in the United States, Behavioral Risk Factor Surveillance System, 2009. Prev Chronic Dis. 2011. 8:A133. PMID:22005626.	Independent Variable
117	Grin BM,Gayle TL,Saravia DC,Sanders LM. Use of farmers markets by mothers of WIC recipients, Miami-Dade County, Florida, 2011. Prev Chronic Dis. 2013. 10:E95. PMID:23764344.	Independent Variable, Outcome
118	Groleau D,Souliere M,Kirmayer LJ. Breastfeeding and the cultural configuration of social space among Vietnamese immigrant woman. Health Place. 2006. 12:516-26. PMID:16157504.	Study Design, Outcome
119	Gu W,Rennie KL,Lin X,Wang Y,Yu Z. Differences in bone mineral status between urban and rural Chinese men and women. Bone. 2007. 41:393-9. PMID:17604245.	Country, Independent Variable
120	Guendelman MD,Cheryan S,Monin B. Fitting in but getting fat: identity threat and dietary choices among U.S. immigrant groups. Psychol Sci. 2011. 22:959-67. PMID:21653909.	Study Design
121	Guevarra JS,Kwate NO,Tang TS,Valdimarsdottir HB,Freeman HP,Bovbjerg DH. Acculturation and its relationship to smoking and breast self-examination frequency in African American women. J Behav Med. 2005. 28:191-9. PMID:15957574.	Outcome
122	Hadley C,Patil CL,Nahayo D. Difficulty in the food environment and the experience of food insecurity among	Independent Variable,

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	refugees resettled in the United States. Ecol Food Nutr. 2010. 49:390-407. PMID:21888578.	Outcome
123	Hadley C,Sellen D. Food security and child hunger among recently resettled Liberian refugees and asylum seekers: a pilot study. J Immigr Minor Health. 2006. 8:369-75. PMID:16924410.	Outcome
124	Hadley C,Zodhiates A,Sellen DW. Acculturation, economics and food insecurity among refugees resettled in the USA: a case study of West African refugees. Public Health Nutr. 2007. 10:405-12. PMID:17362537.	Study Design, Outcome
125	Hamner HC,Cogswell ME,Johnson MA. Acculturation factors are associated with folate intakes among Mexican American women. J Nutr. 2011. 141:1889-97. PMID:21865570.	Outcome
126	Hamner HC,Tinker SC,Flores AL,Mulinare J,Weakland AP,Dowling NF. Modelling fortification of corn masa flour with folic acid and the potential impact on Mexican-American women with lower acculturation. Public Health Nutr. 2013. 16:912-21. PMID:23113948.	Outcome
127	Hanni KD,Garcia E,Ellemberg C,Winkleby M. Targeting the taqueria: implementing healthy food options at Mexican American restaurants. Health Promot Pract. 2009. 10:91S-99S. PMID:19454755.	Study Design, Independent Variable
128	Harley K,Eskenazi B. Time in the United States, social support and health behaviors during pregnancy among women of Mexican descent. Soc Sci Med. 2006. 62:3048-61. PMID:16403596.	Independent Variable
129	Harley K,Stamm NL,Eskenazi B. The effect of time in the U.S. on the duration of breastfeeding in women of Mexican descent. Matern Child Health J. 2007. 11:119-25. PMID:17279324.	Outcome
130	Harrison GG,Kagawa-Singer M,Foerster SB,Lee H,Pham Kim L,Nguyen TU,Fernandez-Ami A,Quinn V,Bal DG. Seizing the moment: California's opportunity to prevent nutrition-related health disparities in low-income Asian American population. Cancer. 2005. 104:2962-8. PMID:16276535.	Study Design
131	Haughton J,Gregorio D,Perez-Escamilla R. Factors associated with breastfeeding duration among Connecticut Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) participants. J Hum Lact. 2010. 26:266-73. PMID:20689103.	Outcome
132	Hawkins SS,Lamb K,Cole TJ,Law C. Influence of moving to the UK on maternal health behaviours: prospective cohort study. BMJ. 2008. 336:1052-5. PMID:18403500.	Country
133	Hjelm K,Bard K,Berntorp K,Apelqvist J. Beliefs about health and illness postpartum in women born in Sweden and the Middle East. Midwifery. 2009. 25:564-75. PMID:18206281.	Study Design, Country
134	Hofmann ET. The burden of culture? Health outcomes among immigrants from the former Soviet Union in the United States. J Immigr Minor Health. 2012. 14:315-22. PMID:21221807.	Study Design, Independent Variable
135	Hopkinson J,Konefal Gallagher M. Assignment to a hospital-based breastfeeding clinic and exclusive	Study Design, Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	breastfeeding among immigrant Hispanic mothers: a randomized, controlled trial. J Hum Lact. 2009. 25:287-96. PMID:19436060.	
136	Hopping BN,Erber E,Mead E,Roache C,Sharma S. High levels of physical activity and obesity co-exist amongst Inuit adults in Arctic Canada. J Hum Nutr Diet. 2010. 23 Suppl 1:110-4. PMID:21158969.	Country
137	Hopping BN,Erber E,Mead E,Sheehy T,Roache C,Sharma S. Socioeconomic indicators and frequency of traditional food, junk food, and fruit and vegetable consumption amongst Inuit adults in the Canadian Arctic. J Hum Nutr Diet. 2010. 23 Suppl 1:51-8. PMID:21158962.	Country
138	Hopping BN,Mead E,Erber E,Sheehy C,Roache C,Sharma S. Dietary adequacy of Inuit in the Canadian Arctic. J Hum Nutr Diet. 2010. 23 Suppl 1:27-34. PMID:21158959.	Country
139	Horodynski MA,Olson B,Baker S,Brophy-Herb H,Auld G,Van Egeren L,Lindau J,Singleterry L. Healthy babies through infant-centered feeding protocol: an intervention targeting early childhood obesity in vulnerable populations. BMC Public Health. 2011. 11:868. PMID:22085421.	Study Design, Age
140	Hromi-Fiedler A,Bermudez-Millan A,Segura-Perez S,Perez-Escamilla R. Nutrient and food intakes differ among Latina subgroups during pregnancy. Public Health Nutr. 2012. 15:341-51. PMID:21729472.	Sample Size
141	Hu D,Taylor T,Blow J,Cooper TV. Multiple health behaviors: patterns and correlates of diet and exercise in a Hispanic college sample. Eat Behav. 2011. 12:296-301. PMID:22051363.	Independent Variable, Outcome
142	Hu FB. Globalization of diabetes: the role of diet, lifestyle, and genes. Diabetes Care. 2011. 34:1249-57. PMID:21617109.	Study Design
143	Hwang JY,Lee SE,Kim SH,Chung HW,Kim WY. Psychological distress is associated with inadequate dietary intake in Vietnamese marriage immigrant women in Korea. J Am Diet Assoc. 2010. 110:779-85. PMID:20430141.	Country, Independent Variable
144	Idris I,Deepa R,Fernando DJ,Mohan V. Relation between age and coronary heart disease (CHD) risk in Asian Indian patients with diabetes: A cross-sectional and prospective cohort study. Diabetes Res Clin Pract. 2008. 81:243-9. PMID:18495288.	Unhealthy Subjects
145	Jafar TH,Qadri Z,Islam M,Hatcher J,Bhutta ZA,Chaturvedi N. Rise in childhood obesity with persistently high rates of undernutrition among urban school-aged Indo-Asian children. Arch Dis Child. 2008. 93:373-8. PMID:17942586.	Country
146	Jasti S,Lee CH,Doak C. Gender, acculturation, food patterns, and overweight in Korean immigrants. Am J Health Behav. 2011. 35:734-45. PMID:22251764.	Sample Size
147	Johansen KS,Bjorge B,Hjellset VT,Holmboe-Ottesen G,Raberg M,Wandel M. Changes in food habits and	Country

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	motivation for healthy eating among Pakistani women living in Norway: results from the InnvaDiab-DEPLAN study. Public Health Nutr. 2010. 13:858-67. PMID:19941691.	
148	Johnson-Kozlow M,Matt GE,Rock CL,de la Rosa R,Conway TL,Romero RA. Assessment of dietary intakes of Filipino-Americans: implications for food frequency questionnaire design. J Nutr Educ Behav. 2011. 43:505-10. PMID:21705276.	Independent Variable
149	Jorgensen ME,Moustgaard H,Bjerregaard P,Borch-Johnsen K. Gender differences in the association between westernization and metabolic risk among Greenland Inuit. Eur J Epidemiol. 2006. 21:741-8. PMID:17077992.	Country, Independent Variable
150	Joshi SR,Mohan V,Joshi SS,Mechanick JI,Marchetti A. Transcultural diabetes nutrition therapy algorithm: the Asian Indian application. Curr Diab Rep. 2012. 12:204-12. PMID:22354498.	Study Design
151	Jurkowski JM,Mosquera M,Ramos B. Selected cultural factors associated with physical activity among Latino women. Womens Health Issues. 2010. 20:219-26. PMID:20457410.	Outcome
152	Kahan D. Arab American college students' physical activity and body composition: reconciling Middle East-West differences using the socioecological model. Res Q Exerc Sport. 2011. 82:118-28. PMID:21462692.	Study Design
153	Kaholokula JK,Townsend CK,Ige A,Sinclair K,Mau MK,Leake A,Palakiko DM,Yoshimura SR,Kekauoha P,Hughes C. Sociodemographic, behavioral, and biological variables related to weight loss in native Hawaiians and other Pacific Islanders. Obesity (Silver Spring). 2013. 21:E196-203. PMID:23404724.	Independent Variable
154	Kalil A,Chen JH. Mothers' citizenship status and household food insecurity among low-income children of immigrants. New Dir Child Adolesc Dev. 2008. 2008:43-62. PMID:18792952.	Independent Variable, Outcome
155	Kalra P,Srinivasan S,Ivey S,Greenlund K. Knowledge and practice: the risk of cardiovascular disease among Asian Indians. Results from focus groups conducted in Asian Indian communities in Northern California. Ethn Dis. 2004. 14:497-504. PMID:15724768.	Study Design
156	Kaplan MS,Huguet N,Newsom JT,McFarland BH. The association between length of residence and obesity among Hispanic immigrants. Am J Prev Med. 2004. 27:323-6. PMID:15488363.	Independent Variable
157	Kaufman-Shriqui V,Fraser D,Friger M,Bilenko N,Vardi H,Abu-Saad K,Elhadad N,Mor K,Feine Z,Shahar DR. Factors associated with childhood overweight and obesity among acculturated and new immigrants. Ethn Dis. 2013. 23:329-35. PMID:23914419.	Country
158	Kepka D,Ayala GX,Cherrington A. Do Latino immigrants link self-rated health with BMI and health behaviors?. Am J Health Behav. 2007. 31:535-44. PMID:17555384.	Independent Variable
159	Kieffer EC,Welmerink DB,Sinco BR,Welch KB,Schumann CY,Uhley V. Periconception diet does not vary by	Independent Variable,

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	duration of US residence for Mexican immigrant women. J Acad Nutr Diet. 2013. 113:652-8. PMID:23474270.	Sample Size
160	Kilanowski JF. Patterns and correlates of nutrition among migrant farm-worker children. West J Nurs Res. 2012. 34:396-416. PMID:20935214.	Sample Size
161	Kim E,Wolpin S. The Korean American family: adolescents versus parents acculturation to American culture. J Cult Divers. 2008. 15:108-16. PMID:19025199.	Outcome
162	Kim J,Chan MM. Acculturation and dietary habits of Korean Americans. Br J Nutr. 2004. 91:469-78. PMID:15005833.	Sample Size
163	Kim MJ,Lee SJ,Ahn YH,Bowen P,Lee H. Dietary acculturation and diet quality of hypertensive Korean Americans. J Adv Nurs. 2007. 58:436-45. PMID:17442024.	Sample Size
164	Kleiser C,Mensink GB,Neuhauser H,Schenk L,Kurth BM. Food intake of young people with a migration background living in Germany. Public Health Nutr. 2010. 13:324-30. PMID:19656441.	Country
165	Ko GT,So WY,Chow CC,Wong PT,Tong SD,Hui SS,Kwok R,Chan A,Chan CL,Chan JC. Risk associations of obesity with sugar-sweetened beverages and lifestyle factors in Chinese: the 'Better Health for Better Hong Kong' health promotion campaign. Eur J Clin Nutr. 2010. 64:1386-92. PMID:20823900.	Country, Independent Variable
166	Kollannoor-Samuel G,Chhabra J,Fernandez ML,Vega-Lopez S,Perez SS,Damio G,Calle MC,D'Agostino D,Perez-Escamilla R. Determinants of fasting plasma glucose and glycosylated hemoglobin among low income Latinos with poorly controlled type 2 diabetes. J Immigr Minor Health. 2011. 13:809-17. PMID:21181446.	Unhealthy Subjects
167	Kremmyda LS,Papadaki A,Hondros G,Kapsokefalou M,Scott JA. Differentiating between the effect of rapid dietary acculturation and the effect of living away from home for the first time, on the diets of Greek students studying in Glasgow. Appetite. 2008. 50:455-63. PMID:17997195.	Country
168	Kruger R,Kruger HS,Macintyre UE. The determinants of overweight and obesity among 10- to 15-year-old schoolchildren in the North West Province, South Africa - the THUSA BANA (Transition and Health during Urbanisation of South Africans; BANA, children) study. Public Health Nutr. 2006. 9:351-8. PMID:16684387.	Country
169	Kruseman M,Barandereka NA,Hudelson P,Stalder H. Post-migration dietary changes among african refugees in Geneva: a rapid assessment study to inform nutritional interventions. Soz Praventivmed. 2005. 50:161-5. PMID:16010815.	Country
170	Kumar NB,Yu D,Akinremi TO,Odedina FT. Comparing dietary and other lifestyle factors among immigrant Nigerian men living in the US and indigenous men from Nigeria: potential implications for prostate cancer risk reduction. J Immigr Minor Health. 2009. 11:391-9. PMID:19225888.	Independent Variable

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
171	Landrine H,Klonoff EA. Culture change and ethnic-minority health behavior: an operant theory of acculturation. J Behav Med. 2004. 27:527-55. PMID:15669443.	Study Design
172	Lara M,Gamboa C,Kahramanian MI,Morales LS,Bautista DE. Acculturation and Latino health in the United States: a review of the literature and its sociopolitical context. Annu Rev Public Health. 2005. 26:367-97. PMID:15760294.	Study Design
173	Lawrence JM,Devlin E,Macaskill S,Kelly M,Chinouya M,Raats MM,Barton KL,Wrieden WL,Shepherd R. Factors that affect the food choices made by girls and young women, from minority ethnic groups, living in the UK. J Hum Nutr Diet. 2007. 20:311-9. PMID:17635308.	Study Design, Country
174	Lee WP,Lingard J,Bermingham M. Change in diet and body mass index in Taiwanese women with length of residence in Australia. Asia Pac J Clin Nutr. 2007. 16:56-65. PMID:17215181.	Country
175	Leon DA,Moser KA. Low birth weight persists in South Asian babies born in England and Wales regardless of maternal country of birth. Slow pace of acculturation, physiological constraint or both? Analysis of routine data. J Epidemiol Community Health. 2012. 66:544-51. PMID:21118952.	Country
176	Lim ES,Ko YK,Ban KO. Prevalence and risk factors of metabolic syndrome in the Korean population--Korean National Health Insurance Corporation Survey 2008. J Adv Nurs. 2013. 69:1549-61. PMID:23009023.	Country, Independent Variable
177	Lim S,Zoellner JM,Ajrouch KJ,Ismail AI. Overweight in childhood: the role of resilient parenting in African-American households. Am J Prev Med. 2011. 40:329-33. PMID:21335265.	Independent Variable
178	Lind C,Mirchandani GG,Castrucci BC,Chavez N,Handler A,Hoelscher DM. The effects of acculturation on healthy lifestyle characteristics among Hispanic fourth-grade children in Texas public schools, 2004-2005. J Sch Health. 2012. 82:166-74. PMID:22385089.	Independent Variable
179	Liou D,Bauer KD. Exploratory investigation of obesity risk and prevention in Chinese Americans. J Nutr Educ Behav. 2007. 39:134-41. PMID:17493563.	Study Design, Independent Variable
180	Liu A,Berhane Z,Tseng M. Improved dietary variety and adequacy but lower dietary moderation with acculturation in Chinese women in the United States. J Am Diet Assoc. 2010. 110:457-62. PMID:20184998.	Sample Size
181	Lobb R,Gonzalez Suarez E,Fay ME,Gutheil CM,Hunt MK,Fletcher RH,Emmons KM. Implementation of a cancer prevention program for working class, multiethnic populations. Prev Med. 2004. 38:766-76. PMID:15193897.	Study Design, Independent Variable
182	Lora KR,Lewis NM,Eskridge KM,Stanek-Krogstrand K,Travnicek DA. Correlation of omega-3 fatty acids intakes with acculturation and socioeconomic status in midwestern Latinas. J Immigr Minor Health. 2011. 13:111-8. PMID:20094794.	Outcome, Sample Size

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
183	Lorenzo-Blanco EI,Unger JB,Ritt-Olson A,Soto D,Baezconde-Garbanati L. Acculturation, gender, depression, and cigarette smoking among U.S. Hispanic youth: the mediating role of perceived discrimination. J Youth Adolesc. 2011. 40:1519-33. PMID:21293915.	Independent Variable
184	Lovejoy JC,Champagne CM,de Jonge L,Xie H,Smith SR. Increased visceral fat and decreased energy expenditure during the menopausal transition. Int J Obes (Lond). 2008. 32:949-58. PMID:18332882.	Independent Variable
185	Ludwig AF,Cox P,Ellahi B. Social and cultural construction of obesity among Pakistani Muslim women in North West England. Public Health Nutr. 2011. 14:1842-50. PMID:21208481.	Country
186	Lujan J,Ostwald SK,Ortiz M. Promotora diabetes intervention for Mexican Americans. Diabetes Educ. 2007. 33:660-70. PMID:17684167.	Unhealthy Subjects
187	Lv N,Cason KL. Dietary pattern change and acculturation of Chinese Americans in Pennsylvania. J Am Diet Assoc. 2004. 104:771-8. PMID:15127063.	Sample Size
188	Lynch WC,Heil DP,Wagner E,Havens MD. Ethnic differences in BMI, weight concerns, and eating behaviors: comparison of Native American, White, and Hispanic adolescents. Body Image. 2007. 4:179-90. PMID:18089263.	Independent Variable
189	Lyu JE,Yang YJ,Lee SE,Chung HW,Kim MK,Kim WY. Nutritional status of Vietnamese female marriage immigrants to Korea in relation to length of residence in Korea. Ann Nutr Metab. 2009. 55:317-24. PMID:19828942.	Country
190	Mainous AG 3rd,Diaz VA,Geesey ME. Acculturation and healthy lifestyle among Latinos with diabetes. Ann Fam Med. 2008. 6:131-7. PMID:18332405.	Unhealthy Subjects
191	Marquis M,Shatenstein B. Food choice motives and the importance of family meals among immigrant mothers. Can J Diet Pract Res. 2005. 66:77-82. PMID:15975196.	Country, Outcome
192	Martinez AD. Reconsidering acculturation in dietary change research among Latino immigrants: challenging the preconditions of US migration. Ethn Health. 2013. 18:115-35. PMID:22731980.	Study Design
193	Matt GE,Rock CL,Johnson-Kozlow M. Using recall cues to improve measurement of dietary intakes with a food frequency questionnaire in an ethnically diverse population: an exploratory study. J Am Diet Assoc. 2006. 106:1209-17. PMID:16863716.	Study Design, Outcome
194	Mattei J,Noel SE,Tucker KL. A meat, processed meat, and French fries dietary pattern is associated with high allostatic load in Puerto Rican older adults. J Am Diet Assoc. 2011. 111:1498-506. PMID:21963016.	Independent Variable
195	McDade TW,Rutherford JN,Adair L,Kuzawa C. Population differences in associations between C-reactive protein concentration and adiposity: comparison of young adults in the Philippines and the United States. Am J Clin Nutr. 2009. 89:1237-45. PMID:19225115.	Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
196	McDonald JT,Kennedy S. Is migration to Canada associated with unhealthy weight gain? Overweight and obesity among Canada's immigrants. Soc Sci Med. 2005. 61:2469-81. PMID:15972242.	Country
197	McNeill LH,Stoddard A,Bennett GG,Wolin KY,Sorensen GG. Influence of individual and social contextual factors on changes in leisure-time physical activity in working-class populations: results of the Healthy Directions-Small Businesses Study. Cancer Causes Control. 2012. 23:1475-87. PMID:22806257.	Independent Variable, Outcome
198	Mejean C,Traissac P,Eymard-Duvernay S,Delpeuch F,Maire B. Influence of acculturation among Tunisian migrants in France and their past/present exposure to the home country on diet and physical activity. Public Health Nutr. 2009. 12:832-41. PMID:18647429.	Country
199	Melgar-Quinonez HR,Kaiser LL. Relationship of child-feeding practices to overweight in low-income Mexican-American preschool-aged children. J Am Diet Assoc. 2004. 104:1110-9. PMID:15215770.	Independent Variable
200	Mier N,Smith ML,Carrillo-Zuniga G,Wang X,Garza N,Ory MG. Personal and cultural influences on diabetes self-care behaviors among older Hispanics born in the U.S. and Mexico. J Immigr Minor Health. 2012. 14:1052-62. PMID:22729288.	Unhealthy Subjects
201	Misra A,Ganda OP. Migration and its impact on adiposity and type 2 diabetes. Nutrition. 2007. 23:696-708. PMID:17679049.	Study Design, Independent Variable
202	Moayad N,Balcazar H,Pedregon V,Velasco L,Bayona M. Do acculturation and family cohesiveness influence severity of diabetes among Mexican Americans?. Ethn Dis. 2006. 16:452-9. PMID:17682248.	Unhealthy Subjects
203	Montoya JA,Salinas JJ,Barroso CS,Mitchell-Bennett L,Reininger B. Nativity and nutritional behaviors in the Mexican origin population living in the US-Mexico border region. J Immigr Minor Health. 2011. 13:94-100. PMID:20401536.	Study Design, Independent Variable
204	Moore JB,Gaffney KF,Pawloski LR,Jaimovich SP,Campos MC. Maternal-child nutrition practices and pediatric overweight/obesity in the United States and Chile: a comparative study. J Pediatr Nurs. 2012. 27:e44-9. PMID:21945927.	Country, Independent Variable
205	Morello MI,Madanat H,Crespo NC,Lemus H,Elder J. Associations among parent acculturation, child BMI, and child fruit and vegetable consumption in a Hispanic sample. J Immigr Minor Health. 2012. 14:1023-9. PMID:22392140.	Sample Size
206	Morrison SD,Haldeman L,Sudha S,Gruber KJ,Bailey R. Cultural adaptation resources for nutrition and health in new immigrants in Central North Carolina. J Immigr Minor Health. 2007. 9:205-12. PMID:17245656.	Independent Variable, Outcome
207	Mulasi-Pokhriyal U,Smith C,Franzen-Castle L. Investigating dietary acculturation and intake among US-born and	Sample Size

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	Thailand/Laos-born Hmong-American children aged 9-18 years. Public Health Nutr. 2012. 15:176-85. PMID:21806862.	
208	Murtaugh MA,Herrick JS,Sweeney C,Baumgartner KB,Guiliano AR,Byers T,Slattery ML. Diet composition and risk of overweight and obesity in women living in the southwestern United States. J Am Diet Assoc. 2007. 107:1311-21. PMID:17659896.	Independent Variable
209	Mussap AJ. Acculturation, body image, and eating behaviours in Muslim-Australian women. Health Place. 2009. 15:532-9. PMID:18952486.	Country
210	Myong JP,Kim HR,Jung-Choi K,Baker D,Choi B. Disparities of metabolic syndrome prevalence by age, gender and occupation among Korean adult workers. Ind Health. 2012. 50:115-22. PMID:22293725.	Country
211	Narayan KM,Aviles-Santa L,Oza-Frank R,Pandey M,Curb JD,McNeely M,Araneta MR,Palaniappan L,Rajpathak S,Barrett-Connor E. Report of a National Heart, Lung, And Blood Institute Workshop: heterogeneity in cardiometabolic risk in Asian Americans In the U.S. Opportunities for research. J Am Coll Cardiol. 2010. 55:966-73. PMID:20202512.	Study Design
212	Neighbors CJ,Marquez DX,Marcus BH. Leisure-time physical activity disparities among Hispanic subgroups in the United States. Am J Public Health. 2008. 98:1460-4. PMID:18048795.	Outcome
213	Ngo J,Gurinovic M,Frost-Andersen L,Serra-Majem L. How dietary intake methodology is adapted for use in European immigrant population groups - a review. Br J Nutr. 2009. 101 Suppl 2:S86-94. PMID:19594968.	Study Design
214	Nicolaou M,Doak CM,van Dam RM,Brug J,Stronks K,Seidell JC. Cultural and social influences on food consumption in dutch residents of Turkish and moroccan origin: a qualitative study. J Nutr Educ Behav. 2009. 41:232-41. PMID:19508928.	Country
215	Nicolaou M,van Dam RM,Stronks K. Acculturation and education level in relation to quality of the diet: a study of Surinamese South Asian and Afro-Caribbean residents of the Netherlands. J Hum Nutr Diet. 2006. 19:383-93. PMID:16961685.	Country
216	Nobari TZ,Wang MC,Chaparro MP,Crespi CM,Koleilat M,Whaley SE. Immigrant enclaves and obesity in preschool-aged children in Los Angeles County. Soc Sci Med. 2013. 92:1-8. PMID:23849273.	Independent Variable
217	Norman S,Castro C,Albright C,King A. Comparing acculturation models in evaluating dietary habits among low-income Hispanic women. Ethn Dis. 2004. 14:399-404. PMID:15328942.	Sample Size
218	Novotny R,Oshiro CE,Wilkens LR. Prevalence of Childhood Obesity among Young Multiethnic Children from a Health Maintenance Organization in Hawaii. Child Obes. 2013. 9:35-42. PMID:23373877.	Independent Variable

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The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
219	Novotny R,Williams AE,Vinoya AC,Oshiro CE,Vogt TM. US acculturation, food intake, and obesity among Asian-Pacific hotel workers. J Am Diet Assoc. 2009. 109:1712-8. PMID:19782170.	Duplicate Study
220	O'Brien MJ,Davey A,Alos VA,Whitaker RC. Diabetes-related behaviors in Latinas and non-Latinas in California. Diabetes Care. 2013. 36:355-61. PMID:22961569.	Independent Variable
221	Odegaard AO,Koh WP,Yuan JM,Gross MD,Pereira MA. Western-style fast food intake and cardiometabolic risk in an Eastern country. Circulation. 2012. 126:182-8. PMID:22753304.	Country
222	Olvera N,Bush JA,Sharma SV,Knox BB,Scherer RL,Butte NF. BOUNCE: a community-based mother-daughter healthy lifestyle intervention for low-income Latino families. Obesity (Silver Spring). 2010. 18 Suppl 1:S102-4. PMID:20107454.	Study Design, Independent Variable
223	Oster A,Yung J. Dietary acculturation, obesity, and diabetes among Chinese immigrants in New York City. Diabetes Care. 2010. 33:e109. PMID:20668145.	Sample Size
224	Osypuk TL,Diez Roux AV,Hadley C,Kandula NR. Are immigrant enclaves healthy places to live? The Multi-ethnic Study of Atherosclerosis. Soc Sci Med. 2009. 69:110-20. PMID:19427731.	Independent Variable
225	Padilla R,Steiner JF,Havranek EP,Beaty B,Davidson AJ,Bull S. A comparison of different measures of acculturation with cardiovascular risk factors in Latinos with hypertension. J Immigr Minor Health. 2011. 13:284-92. PMID:21221808.	Unhealthy Subjects
226	Park SY,Murphy SP,Sharma S,Kolonel LN. Dietary intakes and health-related behaviours of Korean American women born in the USA and Korea: the Multiethnic Cohort Study. Public Health Nutr. 2005. 8:904-11. PMID:16277807.	Independent Variable
227	Park Y,Neckerman K,Quinn J,Weiss C,Jacobson J,Rundle A. Neighbourhood immigrant acculturation and diet among Hispanic female residents of New York City. Public Health Nutr. 2011. 14:1593-600. PMID:21414245.	Independent Variable
228	Park Y,Quinn J,Florez K,Jacobson J,Neckerman K,Rundle A. Hispanic immigrant women's perspective on healthy foods and the New York City retail food environment: A mixed-method study. Soc Sci Med. 2011. 73:13-21. PMID:21658831.	Study Design
229	Patil CL,Hadley C,Nahayo PD. Unpacking dietary acculturation among new Americans: results from formative research with African refugees. J Immigr Minor Health. 2009. 11:342-58. PMID:18253832.	Study Design
230	Peek MK,Cutchin MP,Salinas JJ,Sheffield KM,Eschbach K,Stowe RP,Goodwin JS. Allostatic load among non-Hispanic Whites, non-Hispanic Blacks, and people of Mexican origin: effects of ethnicity, nativity, and acculturation. Am J Public Health. 2010. 100:940-6. PMID:19834005.	Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
231	Perez-Escamilla R,Hromi-Fiedler A,Vega-Lopez S,Bermudez-Millan A,Segura-Perez S. Impact of peer nutrition education on dietary behaviors and health outcomes among Latinos: a systematic literature review. J Nutr Educ Behav. 2008. 40:208-25. PMID:18565462.	Study Design
232	Perez-Escamilla R,Putnik P. The role of acculturation in nutrition, lifestyle, and incidence of type 2 diabetes among Latinos. J Nutr. 2007. 137:860-70. PMID:17374645.	Study Design
233	Perez-Escamilla R,Song DS,Taylor CA,Mejia A,Melgar-Quinonez H,Balcazar HG,Anders RL,Segura-Perez S,Duarte-Gardea MO,Ibarra JM. Place of residence modifies the association between acculturation and dietary tools knowledge among Latina WIC participants: a multi-state study. J Immigr Minor Health. 2011. 13:299-308. PMID:20549357.	Outcome
234	Perez-Escamilla R. Acculturation, nutrition, and health disparities in Latinos. Am J Clin Nutr. 2011. 93:1163S-7S. PMID:21367946.	Study Design
235	Perez-Escamilla R. Dietary quality among Latinos: is acculturation making us sick?. J Am Diet Assoc. 2009. 109:988-91. PMID:19465179.	Study Design
236	Peterman JN,Silka L,Bermudez OI,Wilde PE,Rogers BL. Acculturation, education, nutrition education, and household composition are related to dietary practices among Cambodian refugee women in Lowell, MA. J Am Diet Assoc. 2011. 111:1369-74. PMID:21872700.	Sample Size
237	Pierce BL,Austin MA,Crane PK,Retzlaff BM,Fish B,Hutter CM,Leonetti DL,Fujimoto WY. Measuring dietary acculturation in Japanese Americans with the use of confirmatory factor analysis of food-frequency data. Am J Clin Nutr. 2007. 86:496-503. PMID:17684224.	Study Design, Independent Variable
238	Raberg M,Kumar B,Holmboe-Ottesen G,Wandel M. Overweight and weight dissatisfaction related to socio-economic position, integration and dietary indicators among south Asian immigrants in Oslo. Public Health Nutr. 2010. 13:695-703. PMID:19807936.	Country
239	Ramirez AS,Rutten LJ,Oh A,Vengoechea BL,Moser RP,Vanderpool RC,Hesse BW. Perceptions of cancer controllability and cancer risk knowledge: the moderating role of race, ethnicity, and acculturation. J Cancer Educ. 2013. 28:254-61. PMID:23355279.	Outcome
240	Rawlins E,Baker G,Maynard M,Harding S. Perceptions of healthy eating and physical activity in an ethnically diverse sample of young children and their parents: the DEAL prevention of obesity study. J Hum Nutr Diet. 2013. 26:132-44. PMID:22827466.	Study Design
241	Regev-Tobias H,Reifen R,Endevelt R,Havkin O,Cohen E,Stern G,Stark A. Dietary acculturation and increasing	Country

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

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	Citation	Reason for Exclusion
	rates of obesity in Ethiopian women living in Israel. Nutrition. 2012. 28:30-4. PMID:21763107.	
242	Renzaho AM,Swinburn B,Burns C. Maintenance of traditional cultural orientation is associated with lower rates of obesity and sedentary behaviours among African migrant children to Australia. Int J Obes (Lond). 2008. 32:594-600. PMID:18253161.	Country
243	Reyes-Ortiz CA,Ju H,Eschbach K,Kuo YF,Goodwin JS. Neighbourhood ethnic composition and diet among Mexican-Americans. Public Health Nutr. 2009. 12:2293-301. PMID:19254428.	Independent Variable
244	Reyes-Ortiz CA,Ju H,Inniss A,Eschbach K,Kuo YF,Goodwin JS. Acculturation and serum nutrients thought to be involved with cancer prevention among Mexican American men in the United States. Cancer Control. 2009. 16:169-75. PMID:19337203.	Outcome
245	Ricciardelli LA,Mellor D,McCabe MP,Mussap AJ,Hallford DJ,Tyler M. Promoting fit bodies, healthy eating and physical activity among Indigenous Australian men: a study protocol. BMC Public Health. 2012. 12:28. PMID:22236166.	Country
246	Rodriguez F,Peralta CA,Green AR,Lopez L. Comparison of C-reactive protein levels in less versus more acculturated Hispanic adults in the United States (from the National Health and Nutrition Examination Survey 1999-2008). Am J Cardiol. 2012. 109:665-9. PMID:22169128.	Independent Variable, Outcome
247	Rodriguez-Moran M,Guerrero-Romero F,Brito-Zurita O,Rascon-Pacheco RA,Perez-Fuentes R,Sanchez-Guillen MC,Gonzalez-Ortiz M,Martinez-Abundis E,Simental-Mendia LE,Madero A,Revilla-Monsalve C,Flores-Martinez SE,Islas-Andrade S,Cruz M,Wacher N,Sanchez-Corona J. Cardiovascular risk factors and acculturation in Yaquis and Tepehuanos Indians from Mexico. Arch Med Res. 2008. 39:352-7. PMID:18279710.	Country
248	Rondinelli AJ,Morris MD,Rodwell TC,Moser KS,Paida P,Popper ST,Brouwer KC. Under- and over-nutrition among refugees in San Diego County, California. J Immigr Minor Health. 2011. 13:161-8. PMID:20505992.	Study Design
249	Rosas LG,Harley K,Fernald LC,Guendelman S,Mejia F,Neufeld LM,Eskenazi B. Dietary associations of household food insecurity among children of Mexican descent: results of a binational study. J Am Diet Assoc. 2009. 109:2001-9. PMID:19942017.	Independent Variable
250	Rosenmoller DL,Gasevic D,Seidell J,Lear SA. Determinants of changes in dietary patterns among Chinese immigrants: a cross-sectional analysis. Int J Behav Nutr Phys Act. 2011. 8:42. PMID:21592378.	Country
251	Roshania R,Narayan KM,Oza-Frank R. Age at arrival and risk of obesity among US immigrants. Obesity (Silver Spring). 2008. 16:2669-75. PMID:18846044.	Independent Variable
252	Rutt CD,Coleman KJ. Examining the relationships among built environment, physical activity, and body mass	Independent Variable

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

	Citation	Reason for Exclusion
	index in El Paso, TX. Prev Med. 2005. 40:831-41. PMID:15850885.	
253	Sandy JM,Anisfeld E,Ramirez E. Effects of a prenatal intervention on breastfeeding initiation rates in a Latina immigrant sample. J Hum Lact. 2009. 25:404-11; quiz 458-9. PMID:19487705.	Study Design, Outcome
254	Sarkar S,Das M,Mukhopadhyay B,Chakrabarti CS,Majumder PP. High prevalence of metabolic syndrome and its correlates in two tribal populations of India and the impact of urbanization. Indian J Med Res. 2006. 123:679-86. PMID:16873911.	Country
255	Sawanyawisuth K,Palinkas LA,Ancoli-Israel S,Dimsdale JE,Loredo JS. Ethnic differences in the prevalence and predictors of restless legs syndrome between Hispanics of Mexican descent and non-Hispanic Whites in San Diego county: a population-based study. J Clin Sleep Med. 2013. 9:47-53. PMID:23319904.	Outcome
256	Seth JG,Evans AE,Harris KK,Loyo JJ,Ray TC,Spaulding C,Gottlieb NH. Preschooler feeding practices and beliefs: differences among Spanish- and English-speaking WIC clients. Fam Community Health. 2007. 30:257-70. PMID:17563487.	Outcome
257	Sharkey JR,Johnson CM,Dean WR. Nativity is associated with sugar-sweetened beverage and fast-food meal consumption among Mexican-origin women in Texas border colonias. Nutr J. 2011. 10:101. PMID:21962014.	Independent Variable
258	Sharma S,Cao X,Roache C,Buchan A,Reid R,Gittelsohn J. Assessing dietary intake in a population undergoing a rapid transition in diet and lifestyle: the Arctic Inuit in Nunavut, Canada. Br J Nutr. 2010. 103:749-59. PMID:19840421.	Country
259	Sharma S,Gittelsohn J,Rosol R,Beck L. Addressing the public health burden caused by the nutrition transition through the Healthy Foods North nutrition and lifestyle intervention programme. J Hum Nutr Diet. 2010. 23 Suppl 1:120-7. PMID:21158971.	Country
260	Sharma S. Assessing diet and lifestyle in the Canadian Arctic Inuit and Inuvialuit to inform a nutrition and physical activity intervention programme. J Hum Nutr Diet. 2010. 23 Suppl 1:5-17. PMID:21158957.	Country
261	Sheehy T,Roache C,Sharma S. Eating habits of a population undergoing a rapid dietary transition: portion sizes of traditional and non-traditional foods and beverages consumed by Inuit adults in Nunavut, Canada. Nutr J. 2013. 12:70. PMID:23724920.	Independent Variable
262	Sheikh N,Egeland GM,Johnson-Down L,Kuhnlein HV. Changing dietary patterns and body mass index over time in Canadian Inuit communities. Int J Circumpolar Health. 2011. 70:511-9. PMID:22152598.	Country
263	Shetty P. Nutrition transition and its health outcomes. Indian J Pediatr. 2013. 80 Suppl 1:S21-7. PMID:23412985.	Study Design
264	Singh GK,Kogan MD,Dee DL. Nativity/immigrant status, race/ethnicity, and socioeconomic determinants of	Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

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	Citation	Reason for Exclusion
	breastfeeding initiation and duration in the United States, 2003. Pediatrics. 2007. 119 Suppl 1:S38-46. PMID:17272583.	
265	Slattery ML,Sweeney C,Edwards S,Herrick J,Murtaugh M,Baumgartner K,Guiliano A,Byers T. Physical activity patterns and obesity in Hispanic and non-Hispanic white women. Med Sci Sports Exerc. 2006. 38:33-41. PMID:16394951.	Independent Variable, Outcome
266	Smith C,Franzen-Castle L. Dietary acculturation and body composition predict American Hmong children's blood pressure. Am J Hum Biol. 2012. 24:666-74. PMID:22836226.	Sample Size
267	Smith NR,Kelly YJ,Nazroo JY. The effects of acculturation on obesity rates in ethnic minorities in England: evidence from the Health Survey for England. Eur J Public Health. 2012. 22:508-13. PMID:21697245.	Country
268	Smith WE,Day RS,Brown LB. Heritage retention and bean intake correlates to dietary fiber intakes in Hispanic mothers--Que Sabrosa Vida. J Am Diet Assoc. 2005. 105:404-11; discussion 411-2. PMID:15746828.	Outcome, Sample Size
269	Song Y,Joung H,Engelhardt K,Yoo SY,Paik HY. Traditional v. modified dietary patterns and their influence on adolescents' nutritional profile. Br J Nutr. 2005. 93:943-9. PMID:16022765.	Country
270	Springer AE,Lewis K,Kelder SH,Fernandez ME,Barroso CS,Hoelscher DM. Physical activity participation by parental language use in 4th, 8th, and 11th grade students in Texas, USA. J Immigr Minor Health. 2010. 12:769-80. PMID:19365728.	Outcome
271	Staffileno BA,Tangney CC,Wilbur J,Marquez DX,Fogg L,Manning A,Bustamante EE,Morris MC. Dietary approaches to stop hypertension patterns in older Latinos with or at risk for hypertension. J Cardiovasc Nurs. 2013. 28:338-47. PMID:22722473.	Sample Size
272	Starling Washington P,Reifsnider E,S LB,Domingeaux Ethington M,R ER. Changes in family variables among normal and overweight preschoolers. Issues Compr Pediatr Nurs. 2010. 33:20-38. PMID:20121578.	Independent Variable
273	Steffen PR,Smith TB,Larson M,Butler L. Acculturation to Western society as a risk factor for high blood pressure: a meta-analytic review. Psychosom Med. 2006. 68:386-97. PMID:16738069.	Study Design
274	Stimpson JP,Urrutia-Rojas X. Acculturation in the United States is associated with lower serum carotenoid levels: Third National Health and Nutrition Examination Survey. J Am Diet Assoc. 2007. 107:1218-23. PMID:17604755.	Outcome
275	Sujoldzic A,De Lucia A. A cross-cultural study of adolescents--BMI, body image and psychological well-being. Coll Antropol. 2007. 31:123-30. PMID:17598390.	Country, Independent Variable
276	Sukalakamala S,Brittin HC. Food practices, changes, preferences, and acculturation of Thais in the United States. J Am Diet Assoc. 2006. 106:103-8. PMID:16390673.	Sample Size

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

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	Citation	Reason for Exclusion
277	Sungurova Y,Johansson SE,Sundquist J. East-west health divide and east-west migration: Self-reported health of immigrants from Eastern Europe and the former Soviet Union in Sweden. Scand J Public Health. 2006. 34:217-21. PMID:16581715.	Country
278	Sussner KM,Lindsay AC,Greaney ML,Peterson KE. The influence of immigrant status and acculturation on the development of overweight in Latino families: a qualitative study. J Immigr Minor Health. 2008. 10:497-505. PMID:18373200.	Study Design
279	Sussner KM,Lindsay AC,Peterson KE. The influence of acculturation on breast-feeding initiation and duration in low-income women in the US. J Biosoc Sci. 2008. 40:673-96. PMID:18045509.	Outcome
280	Sussner KM,Lindsay AC,Peterson KE. The influence of maternal acculturation on child body mass index at age 24 months. J Am Diet Assoc. 2009. 109:218-25. PMID:19167948.	Sample Size
281	Tam CY,Martin LJ,Hislop G,Hanley AJ,Minkin S,Boyd NF. Risk factors for breast cancer in postmenopausal Caucasian and Chinese-Canadian women. Breast Cancer Res. 2010. 12:R2. PMID:20053286.	Country
282	Tami SH,Reed DB,Boylan M,Zvonkovic A. Assessment of the effect of acculturation on dietary and physical activity behaviors of Arab mothers in Lubbock, Texas. Ethn Dis. 2012. 22:192-7. PMID:22764642.	Study Design
283	Tarnutzer S,Bopp M. Healthy migrants but unhealthy offspring? A retrospective cohort study among Italians in Switzerland. BMC Public Health. 2012. 12:1104. PMID:23259829.	Country
284	Tautolo el S,Schluter PJ,Paterson J,McRobbie H. Acculturation status has a modest effect on smoking prevalence among a cohort of Pacific fathers in New Zealand. Aust N Z J Public Health. 2011. 35:509-16. PMID:22151156.	Country, Outcome
285	Teo K,Chow CK,Vaz M,Rangarajan S,Yusuf S. The Prospective Urban Rural Epidemiology (PURE) study: examining the impact of societal influences on chronic noncommunicable diseases in low-, middle-, and high-income countries. Am Heart J. 2009. 158:1-7 e1. PMID:19540385.	Independent Variable
286	Tovar A,Hennessy E,Pirie A,Must A,Gute DM,Hyatt RR,Kamins CL,Hughes SO,Boulos R,Sliwa S,Galvao H,Economos CD. Feeding styles and child weight status among recent immigrant mother-child dyads. Int J Behav Nutr Phys Act. 2012. 9:62. PMID:22642962.	Independent Variable
287	Tovar A,Must A,Metayer N,Gute DM,Pirie A,Hyatt RR,Economos CD. Immigrating to the US: what Brazilian, Latin American and Haitian women have to say about changes to their lifestyle that may be associated with obesity. J Immigr Minor Health. 2013. 15:357-64. PMID:22736266.	Study Design
288	Tseng M,Byrne C,Evers KA,London WT,Daly MB. Acculturation and breast density in foreign-born, U.S. Chinese women. Cancer Epidemiol Biomarkers Prev. 2006. 15:1301-5. PMID:16835327.	Outcome

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

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	Citation	Reason for Exclusion
289	Tseng M,Fang CY. Socio-economic position and lower dietary moderation among Chinese immigrant women in the USA. Public Health Nutr. 2012. 15:415-23. PMID:21806866.	Independent Variable
290	Tseng M,Fang CY. Stress is associated with unfavorable patterns of dietary intake among female chinese immigrants. Ann Behav Med. 2011. 41:324-32. PMID:21384248.	Independent Variable
291	Tseng M,Olufade TO,Evers KA,Byrne C. Adolescent lifestyle factors and adult breast density in U.S. Chinese immigrant women. Nutr Cancer. 2011. 63:342-9. PMID:21391125.	Outcome
292	Van Hook J,Balistreri KS. Immigrant generation, socioeconomic status, and economic development of countries of origin: a longitudinal study of body mass index among children. Soc Sci Med. 2007. 65:976-89. PMID:17570571.	Independent Variable
293	Venkatesh S,Weatherspoon LJ,Kaplowitz SA,Song WO. Acculturation and glycemic control of Asian Indian adults with type 2 diabetes. J Community Health. 2013. 38:78-85. PMID:22744164.	Unhealthy Subjects
294	Vorster HH,Kruger A,Venter CS,Margetts BM,Macintyre UE. Cardiovascular disease risk factors and socio-economic position of Africans in transition: the THUSA study. Cardiovasc J Afr. 2007. 18:282-9. PMID:17957323.	Country, Independent Variable
295	Vue W,Wolff C,Goto K. Hmong food helps us remember who we are: perspectives of food culture and health among Hmong women with young children. J Nutr Educ Behav. 2011. 43:199-204. PMID:20980205.	Study Design
296	Weiss JW,Mouttapa M,Cen S,Johnson CA,Unger J. Longitudinal effects of hostility, depression, and bullying on adolescent smoking initiation. J Adolesc Health. 2011. 48:591-6. PMID:21575819.	Independent Variable
297	Wilson WM,Bulkan J,Piperata BA,Hicks K,Ehlers P. Nutritional status of Makushi Amerindian children and adolescents of Guyana. Ann Hum Biol. 2011. 38:615-29. PMID:21675938.	Country
298	Windle M,Grunbaum JA,Elliott M,Tortolero SR,Berry S,Gilliland J,Kanouse DE,Parcel GS,Wallander J,Kelder S,Collins J,Kolbe L,Schuster M. Healthy passages. A multilevel, multimethod longitudinal study of adolescent health. Am J Prev Med. 2004. 27:164-72. PMID:15261905.	Independent Variable
299	Winham DM. Growth status among low-income Mexican and Mexican-American elementary school children. Am J Hum Biol. 2012. 24:690-5. PMID:22836381.	Sample Size
300	Wirtz AL,Madanat HN. Westernization, intuitive eating, and BMI: an exploration of Jordanian adolescents. Int Q Community Health Educ. 2012. 33:275-87. PMID:23896036.	Country, Sample Size
301	Wojcicki JM,Jimenez-Cruz A,Bacardi-Gascon M,Schwartz N,Heyman MB. Bimodal distribution of risk for childhood obesity in urban Baja California, Mexico. J Urban Health. 2012. 89:628-38. PMID:22669641.	Country
302	Wojcicki JM,Schwartz N,Jimenez-Cruz A,Bacardi-Gascon M,Heyman MB. Acculturation, dietary practices and risk	Sample Size

Excluded Articles: Acculturation, Dietary Intake, & Health Outcomes

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	Citation	Reason for Exclusion
	for childhood obesity in an ethnically heterogeneous population of Latino school children in the San Francisco bay area. J Immigr Minor Health. 2012. 14:533-9. PMID:22101726.	
303	Yang EJ,Chung HK,Kim WY,Bianchi L,Song WO. Chronic diseases and dietary changes in relation to Korean Americans' length of residence in the United States. J Am Diet Assoc. 2007. 107:942-50. PMID:17524714.	Sample Size
304	Yang EJ,Kerver JM,Song WO. Dietary patterns of Korean Americans described by factor analysis. J Am Coll Nutr. 2005. 24:115-21. PMID:15798078.	Sample Size
305	Yeh MC,Viladrich A,Bruning N,Roye C. Determinants of Latina obesity in the United States: the role of selective acculturation. J Transcult Nurs. 2009. 20:105-15. PMID:18948450.	Study Design
306	Zeljko H,Skaric-Juric T,Narancic NS,Salihovic MP,Klaric IM,Barbalic M,Starcevic B,Lauc LB,Janicijevic B. Traditional CVD risk factors and socio-economic deprivation in Roma minority population of Croatia. Coll Antropol. 2008. 32:667-76. PMID:18982735.	Country
307	Zimmer Z,Wen M,Kaneda T. A multi-level analysis of urban/rural and socioeconomic differences in functional health status transition among older Chinese. Soc Sci Med. 2010. 71:559-67. PMID:20621749.	Country