Does Self-Efficacy Mediate the Relationship between Parenting Style and Adolescent Fruit and Vegetable Consumption?

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Does Self-Efficacy Mediate the Relationship between Parenting Style and Adolescent Fruit and Vegetable Consumption?

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Abstract

Background: Inadequate fruit and vegetable (FV) consumption is a serious public health issue in children and adolescents that is influenced by the type of parenting style and one’s self-efficacy.

Purpose: The purpose of the study was to determine the association between parenting style and adolescent FV consumption and whether adolescent self-efficacy mediates this relationship.

Methods: Data retrieved from the Family, Life, Activity, Sun, Health, and Eating (FLASHE) study were used to perform statistical analyses on 1,382 parent–adolescent dyads. A mediation analysis using the causal steps approach was used to determine whether adolescent self-efficacy mediated the effect of parenting style on adolescent FV consumption. Multiple linear regression and binary logistic regression were used, adjusting for confounding due to demographics.

Results: There was a significant positive association between authoritative parenting style and adolescent FV consumption (B = .127, 95% CI = .052, .203, \( p = .001 \)); however, after controlling for adolescent self-efficacy, the parenting style effect was attenuated and no longer statistically significant (B = .061, 95% CI = -.011, .133, \( p = .095 \)). The reduction in the beta coefficient indicated a partial mediation of self-efficacy on the association between parenting style and adolescent FV consumption.

Conclusion: The study showed a positive significant association between authoritative parenting and adolescent fruit and vegetable consumption, partially mediated by adolescent self-efficacy. More authoritative parenting was associated with greater adolescent FV consumption.

Healthcare professionals should encourage parents to practice an authoritative parenting style and emphasize the benefits associated with parental support and affection.

Keywords: authoritative, authoritarian, USDA, healthy, dietary habits
Does Self-Efficacy Mediate the Relationship between Parenting Style and Adolescent Fruit and Vegetable Consumption?

Inadequate consumption of fruit and vegetables is associated with an increased risk for several health conditions, such as heart disease, type 2 diabetes, cancer, and obesity (Centers for Disease Control and Prevention [CDC], 2017). Adequate consumption of fruit and vegetables is determined by the 2015 – 2020 Dietary Guidelines for Americans. The recommended amount of fruit and vegetables varies for individual diets but for a 2,000-calorie level diet, two cups of fruit and 2.5 cups of vegetables per day are recommended (U.S. Department of Agriculture [USDA], 2015).

Fruit and vegetable consumption is a serious public health issue in the United States (U.S.) as many adults and children are consuming less than the dietary guidelines. According to a Vital Signs report by the Centers for Disease Control and Prevention (CDC), fruit consumption in children ages two through 18 years increased by 67% from 2003 to 2010; vegetable consumption remained the same. Despite the increase in fruit consumption, fruit and vegetable intake levels were still considered low. Approximately 60% and 93% of children and adolescents in the U.S. reported that they do not meet the daily recommended servings of fruit and vegetables, respectively (CDC, 2014). Because most children and adolescents are consuming insufficient amounts of fruit and vegetables, addressing this issue at an early age is important as children and adolescents begin to develop dietary habits.

Inadequate fruit and vegetable consumption increases an individual’s risk for overweight and obesity (Freedman, Zuguo, Srinivasan, Berenson, & Dietz, 2007). Children and adolescents who practice an unhealthy diet have a 70-80% chance of becoming obese adults; therefore, it is important to practice and maintain a healthy diet (Freedman et al., 2007). Fruits and vegetables
contain important nutrients that our body needs. Vitamins, minerals, and fiber are beneficial and protect our bodies from many chronic diseases. Introducing children and adolescents to fruits and vegetables at a young age allows them to familiarize themselves with healthy food options. Studies found that eating habits established in childhood often carry through to adulthood (Fitzgerald, Heary, Kelly, Nixon, & Shevlin, 2013; Gaines & Turner, 2009).

In addition to insufficient fruit and vegetable intake, other factors such as parenting style and psychosocial factors may contribute to the eating behavior of children and adolescents. The type of parenting style influences whether children and adolescents practice healthy or unhealthy diets. Findings indicated a significant association between paternal parenting style and the eating behaviors of daughters. Daughters who had a caring and supportive father were found to eat more fruits and vegetables than less affectionate fathers (Berge, Wall, Loth, & Neumark-Sztainer, 2010). Parenting style may have an influential effect on fruit and vegetable consumption, as well as an individual’s self-efficacy, which also affects fruit and vegetable consumption.

**Statement of Purpose**

The purpose of this study was to explore the relationship of parenting style with fruit and vegetable consumption in parent–adolescent dyadic relationships, and how parenting style may be mediated by adolescent self-efficacy. Eating fruits and vegetables is essential for maintaining a healthy lifestyle. Sufficient daily consumption of fruits and vegetables prevents the development of certain diseases and allows for adolescents to engage in healthy behavior at a young age. Parenting style and adolescent style may affect healthy behaviors and these are assessed in the current study through parent–adolescent dyads. For this study, the two type of parenting style focused on are authoritative and authoritarian parenting style.
Literature Review

Fruit and Vegetable Consumption

The consumption of fruit and vegetables is essential for the health and development of individuals. A high intake of fruit and vegetables reduces the risk of developing several chronic diseases—cardiovascular diseases, diabetes, obesity, and respiratory diseases (Shaikh, Yaroch, Nebeling, Yeh, & Resnicow, 2008). Fruit and vegetable consumption depends on the age, gender, and level of physical activity of an individual. The estimated daily fruit and vegetable intake for male adolescents is 2.5 cups of fruits and 3.0 cups of vegetables, and 1.5 cups of fruits and 2.5 cups of vegetables for female adolescent (USDA, 2015). Despite the benefits associated with healthy eating, many individuals engage in unhealthy dietary habits. Insufficient fruit and vegetable (FV) consumption has become a major public health concern in the United States.

Health Benefits of Fruit and Vegetable Consumption

The benefits of fruit and vegetable consumption on an individual’s health have been supported in many epidemiological studies. Fruits and vegetables contain nutrients that are responsible for preventing risk factors associated with chronic diseases. Vitamin C, an antioxidant found in fruits and vegetables, inhibits cell damage through oxidation (Van Duyn & Pivonka, 2000). The oxidation of cholesterol lowers an individual’s risk for heart disease. Dark-green leafy vegetables contain a rich source of folic acid, which plays a protective role in the development of cancer (Van Duyn & Pivonka, 2000). Flavonoids are found in fruits and vegetables and inhibit the development of cancer by removing carcinogens from body cells (Van Duyn & Pivonka, 2000). Research shows that folic acid decreases homocysteine levels in the blood. Elevated homocysteine levels in the body are linked to cardiovascular diseases—stroke and congenital heart disease. The nutrients found in vegetables, such as broccoli, cauliflower,
and cabbage contain sulfur. Sulfur helps in the removal of carcinogens and other foreign substances in the body by increasing enzyme activity (Van Duyn & Pivonka, 2000). Fruits and vegetables are rich in fiber and help control cholesterol levels, decreasing lipids in the blood and lowering the risk of heart disease (Van Duyn & Pivonka, 2000). The consumption of fruits and vegetables provide an excellent supply of vitamins, minerals, and fibers to the body.

**Psychosocial Variables**

Health behavior is shaped by the dynamic interaction between a person, their behavior, and the environment. Albert Bandura (1986) defined this reciprocal relationship within the Social Cognitive Theory (SCT), a framework used to describe the significance of psychosocial factors on behavior. Self-efficacy represents a single construct of the SCT and is defined as an individual’s confidence in his or her ability to carry out a specific behavior (Fitzgerald et al., 2013). Individuals interact with various social and physical environments which influence a person’s ability to perform a behavioral action. Self-efficacy is influenced by many factors, which include: performance accomplishments, vicarious experiences, verbal persuasion, and physiologic states. These influential factors play a major role in the level of self-efficacy and one’s performance of the behavior.

Self-efficacy plays a significant role on the dietary behaviors of adolescents. The level of self-efficacy varies as it begins to develop at an early age and constantly changes through adolescence and adulthood. An individual with a high self-efficacy is more confident in his/her ability to accomplish a task compared to an individual with low self-efficacy. Dietary self-efficacy is the perceived confidence in one’s ability to engage in healthy behavior by making healthy food choices (Pearson, Ball, & Crawford, 2012). Numerous studies indicate a positive relationship between adolescent self-efficacy and making healthy food choices. Many factors
influence one’s dietary self-efficacy which predicts the following behaviors: fat intake, fruit and vegetable consumption, and weight control (Mai & Hoffman, 2012). Like self-efficacy, an individual with a high dietary self-efficacy is more confident in his/her ability to practice a healthy diet. A study interested in identifying determinants of fruit and vegetable intake among children found self-efficacy to influence fruit and vegetable intake. Higher self-efficacy was directly associated with an increase in healthy food intake (Fitzgerald et al., 2013).

The development of self-efficacy in adolescents can be influenced by parents and their unique parenting styles. In a study of 120 students aged 16 to 21 years, the influence of different types of parenting style on adolescent self-efficacy was studied. The types of parenting style included were authoritative, authoritarian, and permissive. A significant positive relationship was reported between the authoritative parenting style and adolescent self-efficacy (Tam, Chong, Kadirvelu, & Khoo, 2013). Adolescents were more likely to score high on measures of self-competence when experiencing an authoritative parenting style. Previous findings have supported this relationship indicating a positive correlation between authoritative parenting style and self-perception (Hetherington & Stanley-Hagan, 2002). Tam, Chong, Kadirvelu, and Khoo (2013) found no correlation between adolescent self-efficacy and authoritarian and permissive parenting style. The influence of parenting styles on adolescent self-efficacy plays a significant role in predicting adolescent behavior.

**Parenting Style and Fruit and Vegetable Consumption**

The interaction between a parent and child is referred to as parenting style and those interactions tend to vary by responsiveness and demands (Berge et al., 2010). Responsive parents are supportive and aware of their child’s demands and needs. Demanding parents enforce rules to try to acquire self-control and responsibility in their child. There are four types
of parenting style, which include: authoritative, authoritarian, permissive, and neglectful. The authoritative (high responsiveness, high demand) parenting style describes caring parents who have specific demands and expectations of the child (Berge et al., 2010). The parent provides warmth and support that encourages the child to engage, as well as maintain positive behavior. Authoritarian (low responsiveness, high demand) is a strict and less affectionate parenting style that is accompanied with verbal or physical warnings (Berge et al., 2010). The permissive (high responsiveness, low demand) parenting style involves parents who allow their child to make their own decisions while implementing very few rules. The neglectful (low responsiveness, low demand) parenting style involves parents who lack the proper care and communication necessary for a positive parent-child relationship (Berge et al., 2010). Each parenting style has unique characteristics in which children may experience and respond to differently.

The influential effect parenting style has on adolescent fruit and vegetable consumption has been reviewed by multiple studies. Authoritative parents create an encouraging environment for adolescents to adopt and maintain a positive behavior. Authoritarian, permissive, and neglectful parenting styles have the potential to affect a child’s ability to learn self-regulation; therefore, their ability to control their own food intake may be hindered (Berge et al., 2010; Kakinami, Barnett, Séguin, & Paradis, 2015). Parents not responding to their child’s dietary needs and/or controlling their child’s dietary intake prevents children from regulating their own food intake (Frankel et al., 2012). Parenting style shares a direct relationship with adolescent fruit and vegetable consumption, as well as with adolescent self-efficacy.

**Authoritative parenting style: parent support.** Social support offered by parents and/or caregivers influences adolescent fruit and vegetable consumption. Supportive parents can encourage their adolescents to engage in healthy behavior, and they can provide nutritious food
options for their adolescents (Dwyer et al., 2017). The supportive relationship between parents and adolescents has been proven to influence adolescents’ self-efficacy (Tam et al., 2013). An authoritative parenting style was found to be significantly associated with self-efficacy (Tam et al., 2013). Authoritative parents are considered not as controlling and have an encouraging relationship with their adolescents. Additional findings regarding authoritative parenting describe the influence it has on adolescent fruit and vegetable consumption. Authoritative parenting style was positively associated with fruit and vegetable intake among adolescents (Lytle et al., 2003). Young, Fors, and Hayes (2004) reviewed the effect self-efficacy has on the association between parent’s social support for fruit and vegetable consumption and fruit and vegetable consumption in adolescents. Perceived parental support represented a strong predictor of fruit and vegetable consumption. The relationship between perceived parental support and fruit and vegetable consumption among adolescents was mediated by self-efficacy.

**Authoritative parenting style: parent modeling.** The interaction between parents and adolescents influence adolescent fruit and vegetable consumption by parent modeling. Young et al. (2004) assessed whether adolescents’ perception of parental behaviors directly affected fruit and vegetable consumption. They hypothesized that perceived parent behavior will predict adolescent fruit and vegetable consumption. The results of parent modeling supported previous findings and was a predictor of fruit and vegetable consumption (Young, Fors, & Hayes, 2004). Fruit and vegetable availability at home may have moderated the association between parent modeling and fruit and vegetable consumption. High availability at home promotes parent modeling, increasing the parent’s fruit and vegetable consumption in front of their child. A systemic review found that parent modeling was positively associated with fruit and vegetable
Parents who are concerned about their adolescent’s health are more likely to have a supportive home environment (Pearson et al., 2012).

**Authoritarian parenting style: parent control.** Pearson, Ball, and Crawford (2012) assessed whether adolescent dietary self-efficacy affects the association between parental influences and adolescent fruit consumption. Self-completion questionnaires were administered to adolescents, aged 12 to 15 years, and their parents or care providers. A total of 1,606 adolescents participated by completing a food frequency questionnaire (FFQ) to assess self-efficacy for fruit consumption and fruit intake (Pearson et al., 2012). To determine the association between adolescent self-efficacy and parental control, the parent or care provider’s perception of control was measured. The results indicated parental control was positively associated with adolescent self-efficacy for increasing fruit consumption (Pearson et al., 2012). Parents and care givers who are more controlling and strict regarding their adolescent’s diet and eating behaviors are more likely to provide a healthy food environment and limit the intake of unhealthy or restricted foods (Pearson et al., 2012). Previous evidence on the benefits of a healthy environment support the association between parental control and adolescent self-efficacy. A healthy environment provides the opportunity for adolescents to engage in nutritious eating, potentially increasing their fruit and vegetable consumption (Tam et al., 2013).

The influence of parental control on fruit and vegetable consumption in adolescents has been studied from the adolescents’ perception, as well. Van der Horst et al. (2007) assessed the relationship between perceived parenting styles and the consumption of sugar-sweetened beverages in adolescents. They found adolescents who perceived their parents as being strict and involved with their dietary habits are more likely to engage in healthy behavior and consume less sugar-sweetened beverages (Van der Horst et al., 2007). Parents who enforce rules regarding
their adolescent’s diet, positively influence healthy behavior and the consumption of fruits and vegetables and low-sugar beverages. In addition, Pearson, Atkin, Biddle, Gorely, and Edwardson (2009) examined the association between parenting style and adolescent dietary behavior. Adolescents with authoritarian parents showed less healthy dietary behaviors than adolescents with authoritative parents.

**Research Questions (RQ)**

RQ #1: Is there a relationship between parenting style and adolescent fruit and vegetable consumption?

RQ #2: Does adolescent self-efficacy mediate the relationship between parenting style and adolescent fruit and vegetable consumption?

RQ #3: Does adolescent self-efficacy differ based on authoritative or authoritarian parenting style?

RQ #4: Does the association between self-efficacy and fruit and vegetable consumption differ between parents and adolescents?

RQ #5: Does parent self-efficacy affect adolescent fruit and vegetable consumption?
Figure 1. Model portraying the hypothesized causal relationships between parenting style, parent and adolescent self-efficacy, and fruit and vegetable consumption. Note: RQ=Research Question.

**Methods**

**Data Source and Sample**

Data were retrieved from the Family, Life, Activity, Sun, Health, and Eating (FLASHE) study, a cross-sectional, internet-based study administered by the National Cancer Institute between April and October 2014. The FLASHE study was designed to evaluate cancer preventive behaviors in parent – adolescent dyads in the United States. Researchers collected survey data with a primary focus on diet and physical activity related behaviors; however, other behaviors such as sleep, sun safety, and tobacco use were included (Oh et al., 2017). Data collection was performed through two different study procedures: Survey – Only group or a Motion Study group. A Survey – Only group represented the participants who received the online survey instrument only, whereas the Motion Study group received the same online survey, as well as an accelerometer for adolescent physical activity behavior. FLASHE received
approval by the U.S. Government’s Office of Management and Budget, the National Cancer Institute’s Special Studies IRB, and Westat’s, IRB.

Researchers studied diet and physical activity behaviors, and their correlates, to improve understanding about lifestyle behaviors that may be associated with cancer. The FLASHE sample included a parent and his/her adolescent (aged 12 to 17 years). Parent – adolescent dyads were recruited using Ipsos Consumer Opinion Panel and were required to complete a screening process to be considered for the FLASHE study. Adults were eligible for the study if they were 18 years and older, legally represented an eligible adolescent, and lived with the adolescent a majority of the time. An adolescent was eligible for the FLASHE study if he/she met the following requirements: aged 12 to 17.5 years living with a parent for more than 50% of the time. Each participant was required to complete two online surveys: diet-related behavior and physical activity-related behavior. The overall FLASHE study included 1,479 dyads who completed all the requirements.

The demographic and diet survey instruments, along with the complete datasets can be accessed from: https://cancercontrol.cancer.gov/brp/hbrb/flashe.html. Approval from the Wright State University IRB committee was not required to perform this study.

Variables of Interest

Data regarding demographic and diet characteristics were obtained through the FLASHE surveys. Fruit and vegetable consumption represented the primary outcome variable. Parents and adolescents reported the number of times they consumed fruit and vegetables during the past seven days. In this study, adolescent fruit and vegetable consumption was assessed via five items from the FLASHE set. The items asked about fruit (TDFFRUIT), salad (TDFSALAD), potatoes (TDFPOTOTH), vegetables (TDFVEG), and beans (TDFBEANS) (see Appendix C).
These items were originally scored 1 – 6; however, for this study, they were recoded (0 – 5) and then summed for a total score ranging from 0 to 25, with a greater score indicating more consumption. The total range was calculated using: (TDFFRUIT + TDFSALAD + TDFPOTOTH + TDFVEG + TDFBEANS) − 5. Similarly, parent fruit and vegetable consumption was calculated using the corresponding items in the parent diet survey (see Appendix E). Table 1 provides detail on the items that comprised the outcome, as well as the predictors and mediating variable.

Table 1

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
<th>Measured</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adolescent fruit and vegetable</td>
<td>Fruit/vegetable consumed by adolescent during the past 7 days.</td>
<td>Items: #17, 18, 20 − 22</td>
<td>1 – I did not eat ‘X’ during the past 7 days</td>
</tr>
<tr>
<td>and vegetable consumption</td>
<td></td>
<td></td>
<td>2 – 1-3 times in the past 7 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 – 4-6 times in the past 7 days</td>
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<td></td>
<td></td>
<td></td>
<td>4 – 1 time per day</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>5 – 2 times per day</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6 – 3 or more times per day</td>
</tr>
<tr>
<td>Parent fruit and vegetable consumption</td>
<td>Fruit/vegetable consumed by parent during the past 7 days.</td>
<td>Items: #20, 21, 23 − 25</td>
<td>1 – I did not eat ‘X’ during the past 7 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 – 1-3 times in the past 7 days</td>
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<td>3 – 4-6 times in the past 7 days</td>
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<td>5 – 2 times per day</td>
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<td></td>
<td></td>
<td></td>
<td>6 – 3 or more times per day</td>
</tr>
<tr>
<td>Parenting style</td>
<td>Adolescent’s perception regarding the parenting style on their fruit and</td>
<td>Items: #48: a − g</td>
<td>1 – Strongly disagree</td>
</tr>
<tr>
<td></td>
<td>vegetable consumption</td>
<td></td>
<td>2 – Somewhat disagree</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 – Neither disagree nor agree</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4 – Somewhat agree</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 – Strongly agree</td>
</tr>
<tr>
<td>Adolescent self-efficacy</td>
<td>Adolescent’s confidence in maintaining/practicing a healthy diet.</td>
<td>Items: #1: a</td>
<td>1 – Strongly disagree</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 – Somewhat disagree</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 – Neither disagree nor agree</td>
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<td>4 – Somewhat agree</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 – Strongly agree</td>
</tr>
<tr>
<td>Parent self-efficacy</td>
<td>Parent’s confidence in maintaining/practicing a healthy diet.</td>
<td>Items: #1</td>
<td>1 – Strongly disagree</td>
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<td></td>
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<td>2 – Somewhat disagree</td>
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<td>3 – Neither disagree nor agree</td>
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<td>4 – Somewhat agree</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 – Strongly agree</td>
</tr>
</tbody>
</table>
The predictor variables included parenting style and self-efficacy. Seven items measured the adolescent’s perception regarding parenting style in advocating fruit and vegetable consumption: parent(s) buy fruits and vegetables for me (TDPFVBUY), parent(s) try to eat fruits and vegetables when I’m around (TDPFVTRYEAT), parent(s) encourage me to try different kinds of fruits and vegetables (TDPFVTRYVAR), parent(s) and I decide together how many fruit and vegetables I have to eat (TDPFVDECIDE), parent(s) have to make sure that I eat enough fruits and vegetables (TDPFVENOUGH), parent(s) make me eat fruits and vegetables (TDPFVMKEAT), and it’s okay for my parent(s) to make rules about how many fruits and vegetables I can have (TDPFVMKRULE) (see Appendix C). These were recoded from 1 – 5 (see Table 1) to 0 – 4 and summed for a total score ranging from 0 – 28, where 0 is more “authoritarian” (strict/controlling) and 28 is more “authoritative” (supportive/affectionate). Some items had to be reversed to achieve consistency. Thus, parenting style was calculated using: (TDPFVBUY + TDPFVTRYEAT + TDPFVTRYVAR + TDPFVDECIDE) – 4 + (6 – TDPFVENOUGH) + (6 – TDPFVMKEAT) + (6 – TDPFVMKRULE) – 3.

Parent and adolescent self-efficacy measured an individual’s confidence in his/her ability to consume fruits and vegetables every day. Two items measured self-efficacy, one in parents and one in adolescents, and each was grouped as ‘Low’ (strongly disagree, disagree, or neutral) and ‘High’ (agree or strongly agree) (see Appendix C and Appendix E).

Adolescent self-efficacy was hypothesized to act as a mediator variable when studying the relationship between parenting style and adolescent fruit and vegetable consumption.

Potential confounders in the study included: age, sex, race/ethnicity, household income, and parent’s highest education. Age, sex, and race/ethnicity were recorded for parents and adolescents who completed the demographic survey. Additionally, parents responded to
questions about household income and highest education. Parent’s highest education was
categorized into three groups: (i) less than high school, high school degree, or GED, (ii) some
college but not a college degree, and (iii) 4-year college degree or higher.

**Statistical Analysis**

A descriptive analysis—measures of central tendency and measure of variability—was
performed to describe the variables in parents and adolescents. The mean and standard deviation
were used to summarize adolescent age, as well as parenting style and fruit and vegetable
consumption in parents and adolescents. Frequencies and proportions were used to describe
categorical variables, such as: parent age group, sex, race/ethnicity, household income, parent’s
highest education, and self-efficacy. After merging the parent and adolescent datasets, and
removing cases with missing values for any of the variables, a total of 1,382 dyads with no
missing data were available for analysis.

The top half of Figure 1 illustrates a mediation analysis using the causal steps approach to
determine whether adolescent self-efficacy mediated the effect of parenting style on adolescent
fruit and vegetable consumption. This approach consists of the following five steps:

- Step 1: Multiple linear regression was used to determine the association between
  parenting style and adolescent fruit and vegetable consumption (RQ #1).

- Step 2: Binary logistic regression was used to determine examine the effect of
  parenting style on adolescent self-efficacy (RQ #3).

- Step 3: Multiple linear regression was used to determine the association between
  adolescent self-efficacy and fruit and vegetable consumption (RQ #4).
Step 4: Multiple linear regression was used to determine the association between parenting style and adolescent fruit and vegetable consumption after controlling for self-efficacy.

Step 5: The (unadjusted) beta coefficient for parenting style from Step 1 was compared to the (adjusted) beta coefficient for parenting style from Step 3 to determine the extent to which adolescent self-efficacy was a mediator of the parenting style vs. adolescent fruit and vegetable consumption relationship (RQ #2).

All steps were adjusted for all the potential confounders (parent age and sex, adolescent age and sex, parent race/ethnicity, parent education, and household income). Each of the associations in Steps 1 to 3 must be statistically significant, and adjusting for self-efficacy must attenuate the parenting style effect, in order to conclude that a mediation effect is present (MacKinnon, Fairchild, & Fritz, 2007).

Multiple linear regression was used to determine if the association between self-efficacy and fruit and vegetable consumption differed between parents and adolescents, adjusting for sex, parent race/ethnicity, household income, and parent education (RQ #4). Unlike the other analyses, in which the parent and adolescent datasets were merged, for this analysis the datasets were stacked to obtain a total of 2,764 cases (1,382 parents and 1,382 adolescents).

Finally, multiple linear regression was used to assess the association between parent self-efficacy and adolescent fruit and vegetable consumption (RQ #5), adjusting for all confounders.

In all regression models, linear or logistic, dummy variables were created for each categorical variable. To determine whether collinearity was present, variance inflation factors were calculated, and scatterplots between the predictors were examined.
For multiple linear regression models, the assumptions were checked by looking at partial regression plots, histograms of residuals, and standardized residual plots to check linearity, normality, and homoscedasticity, respectively. In cases where the histogram of the residuals was skewed, the bootstrap method was used as a sensitivity analysis (Efron & Tibshirani, 1993).

For binary logistic regression models, the results are summarized as the adjusted odds ratio (AOR), a measure of the strength of association between the predictor and outcome variable, its 95% CI, and the p-value for the test of the null hypothesis that AOR = 1 (no relationship).

All tests were two-sided and carried out at the .05 level of significance. All data analyses were done in SPSS, version 24.0.

**Results**

**Characteristics of Study Sample**

Table 2 presents descriptive characteristics of the overall sample in this study. The sample was composed of 1,382 dyads of parents and their adolescents (ages 12 to 17 years). Parents were mostly females (74.4%), with 43.6% between the ages of 35 to 44 years and 42.3% age 45 to 59 years. The mean age of the adolescents was 14.46 years, and 64.6% of the adolescents were non-Hispanic White. Most parents (78.9%) reported an annual household income between $0 - $99,999. The most common highest educational level among parents was completing a four-year college degree or higher (47.5%). Parents attending some college but not receiving a college degree comprised 34.3% of the study sample.

The mean score for parenting style was 16.8 in which a higher number is more authoritative, and the midpoint of the scale, 14, would imply equally authoritarian and authoritative. Self-efficacy for fruit and vegetable consumption was measured among parents
and their adolescents. A high percentage of parent (77.4%) and adolescents (78.6%) agreed with the statement “I feel confident in my ability to eat fruits and vegetables every day”. Fruit and vegetable consumption was measured on a scale from 0 to 25. Parents reported a slightly higher mean score of fruit and vegetable consumption (7.13 ± 3.62) compared to the mean score of fruit and vegetable consumption for adolescents (6.24 ± 3.92). Both of these mean scores correspond, consuming a fruit or vegetable between “1 – 3 times in the past 7 days” and “4 – 6 times in the past 7 days”, but closer to “1 – 3 times in the past 7 days”.

Table 2

Descriptive Characteristics of Parents and Adolescent Dyads in the FLASHE Study

<table>
<thead>
<tr>
<th>Dyad Demographics</th>
<th>Overall N=1,382</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent Age, n (%)</td>
<td></td>
</tr>
<tr>
<td>18 – 34 years</td>
<td>150 (10.9%)</td>
</tr>
<tr>
<td>35 – 44 years</td>
<td>603 (43.6%)</td>
</tr>
<tr>
<td>45 – 59 years</td>
<td>584 (42.3%)</td>
</tr>
<tr>
<td>60 + years</td>
<td>45 (3.3%)</td>
</tr>
<tr>
<td>Adolescent Age (years), mean ± sd</td>
<td>14.46 ± 1.61</td>
</tr>
<tr>
<td>Parent Sex, n (%)</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>354 (25.6%)</td>
</tr>
<tr>
<td>Females</td>
<td>1,028 (74.4%)</td>
</tr>
<tr>
<td>Adolescent Sex, n (%)</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>687 (49.7%)</td>
</tr>
<tr>
<td>Females</td>
<td>695 (50.3%)</td>
</tr>
<tr>
<td>Parent Race/Ethnicity, n (%)</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>100 (7.2%)</td>
</tr>
<tr>
<td>Non-Hispanic Black</td>
<td>226 (16.4%)</td>
</tr>
<tr>
<td>Non-Hispanic White</td>
<td>975 (70.5%)</td>
</tr>
<tr>
<td>Other</td>
<td>81 (5.9%)</td>
</tr>
<tr>
<td>Adolescent Race/Ethnicity, n (%)</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>139 (10.1%)</td>
</tr>
<tr>
<td></td>
<td>Count</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Non-Hispanic Black</td>
<td>217</td>
</tr>
<tr>
<td>Non-Hispanic White</td>
<td>893</td>
</tr>
<tr>
<td>Other</td>
<td>133</td>
</tr>
</tbody>
</table>

Household Income, *n* (%)  

<table>
<thead>
<tr>
<th>Income Level</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0 - $99,999</td>
<td>1,090</td>
<td>78.9%</td>
</tr>
<tr>
<td>$100,000 or more</td>
<td>292</td>
<td>21.1%</td>
</tr>
</tbody>
</table>

Parent Highest Education, *n* (%)  

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than HS, HS degree or GED</td>
<td>251</td>
<td>18.2%</td>
</tr>
<tr>
<td>Some college but not a college degree</td>
<td>474</td>
<td>34.3%</td>
</tr>
<tr>
<td>4-year college degree or higher</td>
<td>657</td>
<td>47.5%</td>
</tr>
</tbody>
</table>

Parenting Style, *mean ± sd*  

<table>
<thead>
<tr>
<th>Parenting Style</th>
<th><em>mean ± sd</em></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16.80 ± 2.77</td>
</tr>
</tbody>
</table>

Parent Self-efficacy, *n* (%)  

<table>
<thead>
<tr>
<th>Self-efficacy</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>1070</td>
<td>77.4%</td>
</tr>
<tr>
<td>Other</td>
<td>312</td>
<td>22.6%</td>
</tr>
</tbody>
</table>

Adolescent Self-efficacy, *n* (%)  

<table>
<thead>
<tr>
<th>Self-efficacy</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>1086</td>
<td>78.6%</td>
</tr>
<tr>
<td>Other</td>
<td>296</td>
<td>21.4%</td>
</tr>
</tbody>
</table>

Parent FV Consumption, *mean ± sd*  

<table>
<thead>
<tr>
<th>FV Consumption</th>
<th><em>mean ± sd</em></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7.13 ± 3.62</td>
</tr>
</tbody>
</table>

Adolescent FV Consumption, *mean ± sd*  

<table>
<thead>
<tr>
<th>FV Consumption</th>
<th><em>mean ± sd</em></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6.24 ± 3.92</td>
</tr>
</tbody>
</table>

Figures 2 through 6 illustrate the distribution of fruit and vegetable consumption in parents and adolescents. The five items assessed were salads, fruit, non-fried potato, vegetable, and beans. Parent and adolescent responses showed most parents (49.1%) and adolescents (41.2%) consume a salad “1 – 3 times in the past 7 days”. Adolescents (34.3%) responded more to “I did not eat green salad during the past 7 days” than parents (16.7%) (Figure 2).
Parent and adolescent fruit consumption was more frequent than their consumption of salad, non-fried potatoes, vegetables, or beans. Most parents (29.6%) and adolescents (31.6%) consumed fruit “1 – 3 times in the past 7 days”, followed by “4 – 6 times in the past 7 days” (Figure 3).

The consumption of non-fried potatoes was not common in parent or adolescent diets, with over 50% of parents and adolescents reporting they have had potatoes only “1 – 3 times in the past 7 days”, and very few individuals reported more consumption (Figure 4).
Vegetables were most often reported to be consumed “1 – 3 times in the past 7 days” for both adolescents (39.6%) and parents (37.6%). Parents more frequently reported higher levels of consumption in the past 7 days (Figure 5).

---

**Figure 4.** Distribution of non-fried potato consumption in parents and adolescents.

**Figure 5.** Distribution of vegetable consumption in parents and adolescents.
Over 40% of both parents and adolescents did not consume beans during the past 7 days, and less than 10% reported consuming beans more than “1 – 3 times in the past 7 days” (Figure 6).

![Bean Consumption in Parents and Adolescents](image)

**Figure 6.** Distribution of bean consumption in parents and adolescents.

Overall, parent and adolescent consumption followed a similar pattern for the selected fruit and vegetable items. Higher fruit and vegetable consumption was reported in parents and adolescents compared to the consumption of salad, non-fried potatoes, and beans.

**RQ #1: Association between Parenting Style and Adolescent Fruit and Vegetable Consumption**

As shown in Table 3, a significant positive association between parenting style and adolescent fruit and vegetable consumption was found ($B = 0.127$, 95% CI = 0.052, 0.203, $p = .001$). The adjusted correlation coefficient is .197, indicating a weak relationship between parenting style and adolescent fruit and vegetable consumption.
Table 3

Multiple Linear Regression Results for the Association between Parenting Style and Adolescent Fruit and Vegetable Consumption (RQ #1)

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Coefficient</th>
<th>95% CI</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>5.231</td>
<td>(3.607, 6.854)</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Parenting Style</td>
<td>0.127</td>
<td>(0.052, 0.203)</td>
<td>.001</td>
</tr>
<tr>
<td>Parent Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ages 35 – 44 vs. Ages 18 – 34</td>
<td>-0.744</td>
<td>(-1.450, -0.039)</td>
<td>.039</td>
</tr>
<tr>
<td>Ages 45 – 59 vs. Ages 18 – 34</td>
<td>-0.887</td>
<td>(-1.612, -0.162)</td>
<td>.017</td>
</tr>
<tr>
<td>Ages 60 + vs. Ages 18 – 34</td>
<td>-1.075</td>
<td>(-2.387, 0.237)</td>
<td>.108</td>
</tr>
<tr>
<td>Adolescent Age</td>
<td>-0.045</td>
<td>(-0.176, 0.085)</td>
<td>.494</td>
</tr>
<tr>
<td>Parent Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male vs. Female</td>
<td>-0.643</td>
<td>(-1.123, -0.163)</td>
<td>.009</td>
</tr>
<tr>
<td>Adolescent Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male vs. Female</td>
<td>0.488</td>
<td>(0.079, 0.898)</td>
<td>.019</td>
</tr>
<tr>
<td>Parent Race/Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Hispanic Black vs. Hispanic</td>
<td>-0.783</td>
<td>(-1.706, 0.140)</td>
<td>.096</td>
</tr>
<tr>
<td>Non-Hispanic White vs. Hispanic</td>
<td>-0.722</td>
<td>(-1.526, 0.082)</td>
<td>.079</td>
</tr>
<tr>
<td>Other vs. Hispanic</td>
<td>-1.185</td>
<td>(-2.327, -0.042)</td>
<td>.042</td>
</tr>
<tr>
<td>Household Income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$100,000 or more vs. $0 to $99,999</td>
<td>0.349</td>
<td>(-0.185, 0.882)</td>
<td>.200</td>
</tr>
<tr>
<td>Parent Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some college but not a college degree vs. Less than HS, HS degree or GED</td>
<td>0.193</td>
<td>(-0.403, 0.789)</td>
<td>.525</td>
</tr>
<tr>
<td>4-year college degree or higher vs. Less than HS, HS degree or GED</td>
<td>0.956</td>
<td>(0.368, 1.545)</td>
<td>.001</td>
</tr>
</tbody>
</table>

RQ #2: The Mediating Role of Adolescent Self-efficacy

As described above (RQ #1) and below (RQ #3), Steps 1 and 2 of the causal steps approach both resulted in significant associations. Additionally, as seen in Table 4, adolescent self-efficacy was significantly associated with adolescent fruit and vegetable consumption (B = 3.155, 95% CI = 2.676, 3.633, p < .001), satisfying Step 3.
Table 4

*Multiple Linear Regression results for the Association between Parenting Style and Adolescent Fruit and Vegetable Consumption, Adjusted for Adolescent Self-Efficacy (RQ #2)*

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Coefficient</th>
<th>95% CI</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>3.468</td>
<td>(1.912, 5.025)</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Parenting Style</td>
<td>0.061</td>
<td>(-0.011, 0.133)</td>
<td>.095</td>
</tr>
<tr>
<td>Adolescent Self-Efficacy</td>
<td>3.155</td>
<td>(2.676, 3.633)</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Parent Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ages 35 – 44 vs. Ages 18 – 34</td>
<td>-0.393</td>
<td>(-1.061, 0.275)</td>
<td>.249</td>
</tr>
<tr>
<td>Ages 45 – 59 vs. Ages 18 – 34</td>
<td>-0.524</td>
<td>(-1.211, 0.164)</td>
<td>.135</td>
</tr>
<tr>
<td>Ages 60 + vs. Ages 18 – 34</td>
<td>-0.947</td>
<td>(-2.186, 0.292)</td>
<td>.134</td>
</tr>
<tr>
<td>Adolescent Age</td>
<td>-0.044</td>
<td>(-0.166, 0.079)</td>
<td>.488</td>
</tr>
<tr>
<td>Parent Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male vs. Female</td>
<td>-0.512</td>
<td>(-0.966, -0.059)</td>
<td>.027</td>
</tr>
<tr>
<td>Adolescent Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male vs. Female</td>
<td>0.335</td>
<td>(-0.052, 0.722)</td>
<td>.090</td>
</tr>
<tr>
<td>Parent Race/Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Hispanic Black vs. Hispanic</td>
<td>-0.956</td>
<td>(-1.827, -0.084)</td>
<td>.032</td>
</tr>
<tr>
<td>Non-Hispanic White vs. Hispanic</td>
<td>-0.609</td>
<td>(-1.369, 0.151)</td>
<td>.116</td>
</tr>
<tr>
<td>Other vs. Hispanic</td>
<td>-0.954</td>
<td>(-2.034, 0.125)</td>
<td>.083</td>
</tr>
<tr>
<td>Household Income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$100,000 or more vs. $0 to $99,999</td>
<td>0.338</td>
<td>(-0.167, 0.842)</td>
<td>.189</td>
</tr>
<tr>
<td>Parent Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some college but not a college degree vs. Less than HS, HS degree or GED</td>
<td>0.149</td>
<td>(-0.413, 0.712)</td>
<td>.603</td>
</tr>
<tr>
<td>4-year college degree or higher vs. Less than HS, HS degree or GED</td>
<td>0.921</td>
<td>(0.365, 1.477)</td>
<td>.001</td>
</tr>
</tbody>
</table>

Regarding Steps 4 and 5, Figure 2 represents the impact of the mediator variable on adolescent fruit and vegetable consumption. Comparing the results in Table 3 to those in Table 4 shows that after adjusting for adolescent self-efficacy, the parenting style effect on adolescent fruit and vegetable consumption was attenuated by over 50%, and no longer significant.

Specifically, parenting style was positively associated with adolescent fruit and vegetable consumption \( (B = 0.127, 95\% CI = 0.052, 0.203, p = .001) \); however, after controlling for
adolescent self-efficacy, the parenting style effect was attenuated ($B = 0.061$, 95% CI = -0.011, 0.133, $p = .095$) indicating a partial mediation effect of self-efficacy.

![Model Diagram]

*Figure 2.* Model describing the mediation effect on adolescent fruit and vegetable consumption.

**RQ #3: Association between Parenting Style and Adolescent Self-efficacy**

The relationship between parenting style and adolescent self-efficacy was statistically significant ($p < .001$) after adjusting for confounding. A positive association between parenting style and adolescent self-efficacy was found (adjusted OR = 1.144, 95% CI = 1.087, 1.024, $p < .001$) (see Table 5). Authoritative parenting style is associated with greater adolescent self-efficacy.
Table 5

Multiple Logistic Regression Results for the Association between Parenting Style and Adolescent Self-Efficacy (RQ #3)

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>OR</th>
<th>95% CI</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parenting Style</td>
<td>1.144</td>
<td>(1.087, 1.204)</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Parent Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male vs. Female</td>
<td>1.313</td>
<td>(0.953, 1.810)</td>
<td>.096</td>
</tr>
<tr>
<td>Adolescent Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male vs. Female</td>
<td>0.731</td>
<td>(0.561, 0.953)</td>
<td>.021</td>
</tr>
<tr>
<td>Parent Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ages 35 – 44 vs. Ages 18 – 34</td>
<td>0.433</td>
<td>(0.249, 0.752)</td>
<td>.003</td>
</tr>
<tr>
<td>Ages 45 – 59 vs. Ages 18 – 34</td>
<td>0.422</td>
<td>(0.240, 0.742)</td>
<td>.003</td>
</tr>
<tr>
<td>Ages 60 + vs. Ages 18 – 34</td>
<td>0.762</td>
<td>(0.272, 2.139)</td>
<td>.606</td>
</tr>
<tr>
<td>Adolescent Age</td>
<td>0.998</td>
<td>(0.918, 1.085)</td>
<td>.963</td>
</tr>
<tr>
<td>Parent Race/Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Hispanic Black vs. Hispanic</td>
<td>1.527</td>
<td>(0.805, 2.895)</td>
<td>.195</td>
</tr>
<tr>
<td>Non-Hispanic White vs. Hispanic</td>
<td>0.813</td>
<td>(0.477, 1.386)</td>
<td>.447</td>
</tr>
<tr>
<td>Other vs. Hispanic</td>
<td>0.657</td>
<td>(0.319, 1.356)</td>
<td>.256</td>
</tr>
<tr>
<td>Household Income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$100,000 or more vs. $0 to $99,999</td>
<td>1.009</td>
<td>(0.718, 1.418)</td>
<td>.957</td>
</tr>
<tr>
<td>Parent Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some college but not a college degree vs. Less than HS, HS degree or GED</td>
<td>1.092</td>
<td>(0.745, 1.601)</td>
<td>.653</td>
</tr>
<tr>
<td>4-year college degree or higher vs. Less than HS, HS degree or GED</td>
<td>1.074</td>
<td>(0.738, 1.561)</td>
<td>.710</td>
</tr>
</tbody>
</table>

RQ #4: Association between Self-efficacy and Fruit and Vegetable Consumption: Parents vs. Adolescents

Self-efficacy was significantly associated with greater fruit and vegetable consumption for both parents and adolescents (B = 2.480, 95% CI = 2.031, 2.930, p < .001) (see Table 6).
Table 6

*Multiple Linear Regression Results for the Generational Difference in Association between Self-efficacy and Fruit and Vegetable Consumption (RQ #4)*

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Coefficient</th>
<th>95% CI</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>3.496</td>
<td>(2.798, 4.195)</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Sex</td>
<td>-0.267</td>
<td>(-0.550, 0.016)</td>
<td>.064</td>
</tr>
<tr>
<td>Parent Race/Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Hispanic Black vs. Hispanic</td>
<td>-0.675</td>
<td>(-1.267, -0.082)</td>
<td>.026</td>
</tr>
<tr>
<td>Non-Hispanic White vs. Hispanic</td>
<td>-0.233</td>
<td>(-0.749, 0.283)</td>
<td>.376</td>
</tr>
<tr>
<td>Other vs. Hispanic</td>
<td>-0.879</td>
<td>(-1.617, -0.141)</td>
<td>.020</td>
</tr>
<tr>
<td>Household Income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$100,000 or more vs. $0 to $99,999</td>
<td>0.313</td>
<td>(-0.030, 0.657)</td>
<td>.074</td>
</tr>
<tr>
<td>Parent Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some college but not a college degree vs. Less than HS, HS degree or GED</td>
<td>0.333</td>
<td>(-0.051, 0.718)</td>
<td>.089</td>
</tr>
<tr>
<td>4-year college degree or higher vs. Less than HS, HS degree or GED</td>
<td>0.967</td>
<td>(-0.589, 1.345)</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High vs. Low</td>
<td>3.261</td>
<td>(2.804, 3.718)</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Generation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parents vs. Adolescents</td>
<td>1.469</td>
<td>(0.896, 2.041)</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>[Self-Efficacy] * [Generation]</td>
<td>-0.781</td>
<td>(-1.422, -0.140)</td>
<td>.017</td>
</tr>
</tbody>
</table>

**RQ #5: Association between Parent Self-efficacy and Adolescent Fruit and Vegetable Consumption**

A significant positive association between parent self-efficacy and adolescent fruit and vegetable consumption was found (B = 1.424, 95% CI = 0.935, 1.912, p < .001) (see Table 7).
Table 7

*Multiple Linear Regression Results for the Association between Parent Self-efficacy and Adolescent Fruit and Vegetable Consumption*

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Coefficient</th>
<th>95% CI</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>6.115</td>
<td>(4.922, 7.308)</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Parent Self-Efficacy</td>
<td>1.424</td>
<td>(0.935, 1.912)</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Parent Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ages 35 – 44 vs. Ages 18 – 34</td>
<td>-0.728</td>
<td>(-1.428, -0.028)</td>
<td>.042</td>
</tr>
<tr>
<td>Ages 45 – 59 vs. Ages 18 – 34</td>
<td>-0.813</td>
<td>(-1.532, -0.094)</td>
<td>.027</td>
</tr>
<tr>
<td>Ages 60 + vs. Ages 18 – 34</td>
<td>-1.079</td>
<td>(-2.380, 0.222)</td>
<td>.104</td>
</tr>
<tr>
<td>Adolescent Age</td>
<td>-0.004</td>
<td>(-0.132, 0.123)</td>
<td>.948</td>
</tr>
<tr>
<td>Parent Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male vs. Female</td>
<td>0.634</td>
<td>(0.158, 1.110)</td>
<td>.009</td>
</tr>
<tr>
<td>Adolescent Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male vs. Female</td>
<td>-0.537</td>
<td>(-0.943, -0.132)</td>
<td>.009</td>
</tr>
<tr>
<td>Parent Race/Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Hispanic Black vs. Hispanic</td>
<td>-0.858</td>
<td>(-1.773, 0.057)</td>
<td>.066</td>
</tr>
<tr>
<td>Non-Hispanic White vs. Hispanic</td>
<td>-0.674</td>
<td>(-1.472, 0.124)</td>
<td>.098</td>
</tr>
<tr>
<td>Other vs. Hispanic</td>
<td>-1.187</td>
<td>(-2.321, -0.054)</td>
<td>.040</td>
</tr>
<tr>
<td>Household Income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$100,000 or more vs. $0 to $99,999</td>
<td>0.231</td>
<td>(-0.300, 0.761)</td>
<td>.394</td>
</tr>
<tr>
<td>Parent Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some college but not a college degree vs. Less than HS, HS degree or GED</td>
<td>0.200</td>
<td>(-0.390, 0.791)</td>
<td>.506</td>
</tr>
<tr>
<td>4-year college degree or higher vs. Less than HS, HS degree or GED</td>
<td>0.863</td>
<td>(0.278, 1.448)</td>
<td>.004</td>
</tr>
</tbody>
</table>

**Discussion**

Parents and adolescents reported a greater consumption of fruits and vegetables compared to salad, non-fried potatoes, and beans. Overall, vegetable consumption was more often reported than fruit consumption. Additionally, vegetable consumption was more often reported in adolescents than parents, with 39.6% of adolescents consuming at least one vegetable a day compared to 37.6% of parents. Adolescents who reported the consumption of fruit at least once a day comprised 31.6% of the sample, compared to 29.6% of parents. Interestingly, parent
and adolescent consumption of fruits and vegetables “1 – 3 times in the past 7 days” followed a similar pattern, however, when comparing the consumption of salad, non-fried potatoes, and beans “1 – 3 times in the past 7 days”, parents more frequently reported this level of consumption.

**Parenting Style and Fruit and Vegetable Consumption**

More authoritative parenting was associated with greater adolescent fruit and vegetable consumption, although this relationship was weak. The average score for parenting style was 16.8 out of 28.0 indicating a more authoritative parenting style. Parents who support and encourage adolescents to engage in healthy behavior provide an environment with healthy options to choose from. A greater availability of fruit and vegetables at home increases the chance for adolescents to consume fruit and vegetables (Alsharairi & Somerset, 2015; Pearson et al., 2012). Adolescents who were raised by authoritative parents were found to consume more fruits than adolescents raised by other parenting styles (Kremers, Brug, Vries, & Engels, 2003). Additionally, Kremers et al. (2003) found adolescents were more likely to have a positive attitude towards eating fruit and vegetables with authoritative parents. The warmth and emotional support provided by authoritative parents is believed to have an influential effect on the behavioral development of children and adolescents (Schmitz, Lytle, Phillips, Murray, & Birnbaum, 2002). The results of the present study were consistent with previous findings. Authoritative parenting style was measured from an adolescent’s perception and described as buying fruits and vegetables, modeling the consumption of fruits and vegetables, encouraging trial of fruits and vegetables, and deciding fruit and vegetable intake together. Parents who practiced these measures were more likely to influence the adolescent’s eating behavior and
increase fruit and vegetable consumption through the adolescent’s imitation of the parent’s behavior.

Parents who might also be concerned about their children’s dietary behaviors but parent in a style that is strict and controlling are authoritarian parents. The present study indicated that adolescents consume lower fruit and vegetables when parents practice a more authoritarian parenting style. Many studies provide evidence that the nature of this parenting style negatively effects fruit and vegetable consumption in adolescents. The controlling child-feeding practices used have found to increase an individual’s preference for unhealthy foods, as well as their intake (Birch & Fisher, 2000). Additionally, parent’s pressure to eat fruit and vegetables and the lack of support has shown to reduce consumption in girls (Fisher, Mitchell, Smiciklas-Wright, & Birch, 2002). Although literature on parenting style provides evidence that higher fruit and vegetable consumption is associated with authoritative parenting style, additional evidence is needed to support these findings due to mixed conclusions.

**Parenting Style and Adolescent Self-Efficacy**

The association between more authoritative parenting and adolescent fruit and vegetable consumption was partially mediated by adolescent self-efficacy. Authoritative parenting style was significantly associated with adolescent self-efficacy; the more authoritative the parent, the greater the probability the adolescent will have self-efficacy for fruit and vegetable consumption. Previous literature suggests parents who eat fruit and vegetables around adolescents influence self-efficacy through vicarious experience or observational learning (Pearson et al., 2012). Similarly, vicarious experience or observational learning was part of the scale to measure the adolescent’s perception of parenting style in this study. Parents who tried to eat fruits and
vegetables around their children may influence the adolescent’s perception on engaging in healthy behavior, increasing their self-efficacy.

Parents are encouraged to act as positive role models for their children as it plays a large role in shaping their behavior (Birch, 1980). Children observe their parent’s behavior and this encourages them to practice the same behavior, influencing an adolescent’s self-perception and self-efficacy (Gregory, Paxton, & Brozovic, 2011). Several studies have found a positive association between parenting style and self-efficacy. Kremers, Brug, Vries, and Engels (2003) found that adolescents who were raised by authoritative parents had higher scores of self-efficacy and intention than adolescents from other parenting styles. In addition, studies showed that the lack of affection involved with authoritarian parenting may be related to a decrease in adolescent self-efficacy due to the lack of communication and support between the parent and adolescent (Alsharairi & Somerset, 2015).

**Self-Efficacy and Fruit and Vegetable Consumption**

Self-efficacy is a powerful antecedent to health behavior. In this study, self-efficacy had an independent relationship with fruit and vegetable consumption, as well as mediating the effect of parenting style on fruit and vegetable consumption. Self-efficacy was associated with greater fruit and vegetable consumption. The results of one study found a higher consumption of fruits in adolescents whose parents perceived a healthy diet as important (Pearson et al., 2012). Parents who believe in the benefits associated with healthy eating are more likely to provide healthy food options at home, which may lead to an increase in fruit and vegetable consumption. Although the current study concluded partial mediation of this relationship, additional evidence is needed to support these findings.
The present study found self-efficacy to be significantly associated with greater fruit and vegetable consumption for both parents and adolescents, but the association was greater for adolescents than for parents. Previous studies found that the belief in self-confidence may enhance an adolescent’s “asking skills” in which adolescents can ask their parents to buy or prepare different fruits and vegetables, thus increasing fruit and vegetable availability and accessibility (Blanchette & Brugg, 2005, p. 434). In addition, adolescent confidence to practice healthy dietary behavior allows them to choose healthy snacks and meals, increasing fruit and vegetable consumption. The results of the present study indicated a greater effect of self-efficacy on fruit and vegetable consumption in adolescents compared to parents. The reason for this finding is not clear, however, it could be due to the fact that parents tend to focus their efforts in providing a healthy environment for their children to practice healthy habits and as a result of that, may not be considering their own dietary habits in the process. In a study examining the relationship between family environment, health behaviors, and obesity, it was found that as children get older, their dietary habits are less influenced by parents and their food consumption becomes less fruits and vegetables and more energy-dense foods and beverages (Hendrie, Coveney, & Cox, 2012). The findings that show that as people age, their fruit and vegetable consumption decreases, could be the underlying reason on why the present study results showed a lower self-efficacy for parents and fruit and vegetable consumption.

Self-efficacy having a greater effect on fruit and vegetable consumption in adolescents could also be explained by peer influence. Previous studies found a significant relationship between peer support for healthy eating and self-efficacy in adolescents (Fitzgerald et al., 2013). As adolescents become older, they spend more time with their peers in which they influence each other’s behaviors. Adolescents with peers that encourage and support them to consume healthy
foods have greater self-efficacy to make healthy choices which in turn increases consumption. Furthermore, the present study found the association between parent self-efficacy and adolescent fruit and vegetable consumption to be positively significant. A parent’s confidence in his/her ability to consume fruits and vegetables may translate to the adolescent through vicarious experience, thus influencing adolescent self-efficacy. Future evidence is needed to examine the relationship between parent self-efficacy and adolescent fruit and vegetable consumption due to the lack of evidence available to support the finding.

**Study Strengths and Limitations**

The strengths of this study include the use of the FLASHE dataset, which is representative of the U.S. population, and the use of a large sample of parents and adolescents ($N = 1,382$ dyads). Several limitations in the study are related to the demographic and diet surveys the parents and adolescents completed. The survey measured fruit and vegetable consumption in the past seven days. This may result in recall bias from the respondents, effecting the results.

Parent and adolescent self-efficacy was measured via only one item. Self-efficacy is a more dynamic concept and measuring it via one item may have underestimated the variability associated with self-efficacy. If self-efficacy was asked in a different way or via more questions, it may have changed the measured associations. In addition, the inclusion of non-fried potatoes as a vegetable may cause some speculation in that many dietary guidelines classify potatoes as starchy foods and exclude them from measurements of fruit and vegetable intake (Tohill, 2005). Other limitations include self-reporting bias and that all missing data was removed from the dataset prior to statistical analysis.
Public Health Implications

Eating habits established at a young age are more likely to carry through into adulthood; therefore, it is important to introduce children and adolescents to a variety of fruits and vegetables (Fitzgerald et al., 2013; Gaines & Turner, 2009). The low levels of fruit and vegetable consumption has become a serious issue as most children and adolescents do not meet the dietary guidelines. It is important for healthcare professionals to promote the importance of fruit and vegetable consumption and its beneficial role on child and adolescent health.

Current research indicates that parenting style and self-efficacy are associated with adolescent fruit and vegetable consumption. Although further research is needed, previous studies indicate the important role that specific parenting styles have on adolescent fruit and vegetable consumption. It is important for healthcare professional to encourage parents to practice an authoritative parenting style. Healthcare professionals should also emphasize the benefits associated with the support and affection that is associated with authoritative parenting as it has an influential effect on self-efficacy.

Conclusion

The study showed a positive significant association between authoritative parenting and adolescent fruit and vegetable consumption, partially mediated by adolescent self-efficacy. Parenting style is a strong predictor of adolescent self-efficacy and a significant association between parenting style and self-efficacy was found in the study. Adolescents were more likely to agree with the statement “I feel confident in my ability to eat fruits and vegetables every day” if they had parents who practiced a more authoritative style. The self-efficacy and fruit and vegetable consumption relationship differed between generations, and was stronger for
adolescents. Lastly, parent self-efficacy was significantly associated with greater adolescent fruit and vegetable consumption.
References


http://cdrwww.who.int/dietphysicalactivity/publications/f&v_weight_management.pdf

http://health.gov/dietaryguidelines/2015/guidelines/


Appendix A: Human Subjects Regulations Decision Chart

[Diagram of decision-making process related to human subjects regulations, involving questions about research, human subjects, and identifiable information.]
**FLASHE Annotated Teen Demographic Survey**

**Notes about this instrument:**
- This annotated instrument is designed to provide question content, variable names, labels and response values. It does NOT represent the actual survey completed by respondents because skip patterns and other programming for web-based administration are not presented. For a full list of variables included in each dataset, as well as missing data codes, please reference the codebook. Screen shots of the surveys as administered are available upon request at email [nolfashd@mail.nih.gov](mailto:nolfashd@mail.nih.gov).

- The variable information in all capitals is the VARIABLE NAME. Following the variable name is the VARIABLE LABEL.

- Survey instrument is indicated by the starting letters of the variable name:
  - T = Teen Demographic survey
  - TD = Teen Diet survey
  - TP = Teen Physical Activity Survey
  - P = Parent Demographic Survey
  - PD = Parent Diet Survey
  - PP = Parent Physical Activity Survey

- Some variables were constructed to facilitate data analyses. These variables are indicated by variable names beginning with "X." Some of these X variables can be found in this instrument and others can be found in the codebook.

- Federal Laws govern the protection of individual respondents participating in federally-sponsored studies and surveys. In order to ensure that FLASHE was in compliance with these regulations, a risk assessment study was conducted. Data that was determined to pose too great a risk of exposure for personal identifiable information to respondents were modified to ensure confidentiality. The types of changes made included:
  - Recoding some responses to combine response categories due to small cell sizes. Variable names that include “RC” have been recoded.
  - Removing some data from the public use dataset. These data are indicated with the statement "Information not available on the public use dataset."

1. Now think in general about your relationship with your parent(s). Please select how much you disagree or agree with each of the statements listed below.

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Neither agree nor disagree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. My parent(s) expect me to follow family rules</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>TFOLOFAIRUL: T_ParentingStyle_FollowFamilyRules</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. My parent(s) don’t like me to tell them my troubles</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>TNOTTELLTRB: T_ParentingStyle_NotTellTroubles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. My parent(s) respect my privacy</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>TRESPCPRIV: T_ParentingStyle_RespectPrivacy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. My parent(s) make most of the decisions about what I can do</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>TMKMOSTDEC: T_ParentingStyle_MakeMostDecisions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. I can count on my parent(s) to help me out if I have a problem</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>TCOUNTONPAR: T_ParentingStyle_CountOnParent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. My parent(s) let me get away with things</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>TGETAWAY: T_ParentingStyle_GetAwayWith</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
We are interested in some general information about you. Your answers to these questions are important to us. They will help us better understand your answers to other parts of the survey.

2. What is your age?
   \[\text{TAGE: T\_Age}\]
   \(\square\) 11 years old
   \(\square\) 12 years old
   \(\square\) 13 years old
   \(\square\) 14 years old
   \(\square\) 15 years old
   \(\square\) 16 years old
   \(\square\) 17 years old
   \(\square\) 18 years old

   \textit{Note: respondents who marked 11 years old or 18 years old were not included in the public use dataset.}

3. Are you male or female?
   \[\text{TSEX: T\_Sex}\]
   \(\square\) 1 Male
   \(\square\) 2 Female

4. What grade are you in?
   \[\text{TGRADE: T\_Grade}\]
   \(\square\) 1 6th grade or less
   \(\square\) 2 7th grade
   \(\square\) 3 8th grade
   \(\square\) 4 9th grade
   \(\square\) 5 10th grade
   \(\square\) 6 11th grade
   \(\square\) 7 12th grade
   \(\square\) 8 Ungraded or other grade

5. During the past school year, what kind of school were you enrolled in/are you now enrolled in?
   \[\text{TSCHLTYPE: T\_SchoolType}\]
   \(\square\) 1 Public School
   \(\square\) 2 Private School
   \(\square\) 3 Home-schooled
   \(\square\) 4 Another kind of school

6. In general, would you say your health is...
   \[\text{THEALTHSTAT: T\_HealthStatus}\]
   \(\square\) 1 Excellent
   \(\square\) 2 Very good
   \(\square\) 3 Good
   \(\square\) 4 Fair
   \(\square\) 5 Poor

7. What is your height and weight without shoes?
   \[\text{XHEIGHTCM\_RC: Recorded TEEN height in centimeters}\]
   \[\text{XWEIGHTKG\_RC: Recorded TEEN weight in kilograms}\]
   Height: \[
   \begin{array}{c}
   \hline
   \text{Feet} \\
   \text{Inches} \\
   \hline
   \end{array}
   \]
   Weight: \[
   \begin{array}{c}
   \hline
   \text{Pounds} \\
   \hline
   \end{array}
   \]
   \text{Continuous variable in centimeters, rounded to 2 decimal places}
   \text{Continuous variable in kilograms, rounded to 2 decimal places}
8. Overall, how would you rate your current weight?
    TWIGHTSTAT: T_WeightStatus
    □ 1  I'm very overweight
    □ 2  I'm a little overweight
    □ 3  My weight is just right
    □ 4  I'm a little underweight
    □ 5  I'm very underweight

9. Are you currently trying to...
    TWEIGHTCHNG: T_WeightChange
    □ 1  Lose weight
    □ 2  Gain weight
    □ 3  Stay the same weight

IF RESPONDENT IS MALE, RESPONDENT SKIPPED TO QUESTION 12

10. How old were you when you had your first menstrual period?
    Were you...
    TAGEMENSTR: T_MenstrualAge
    □ 1  Younger than 10
    □ 2  10 to 12
    □ 3  13 to 15, or
    □ 4  16 or older?
    □ 5  I haven't had my first menstrual period yet

11. Are you now pregnant?
    Information not available on the public use dataset
    □ Yes
    □ No

12. Are you Hispanic, Latinx or Spanish origin?
    Recoded to combine with item 13 below
    □ Yes
    □ No

13. Which one or more of the following would you say is your race? Please select all that apply.
    TETHRAC_RC: Recorded Teen race/ethnicity
    □ American Indian or Alaska Native
    □ Asian
    □ Black or African American
    □ Native Hawaiian or Other Pacific Islander
    □ White
    □ Hispanic
    □ Non-Hispanic Black or African American Only
    □ Non-Hispanic White only
    □ Non-Hispanic Other

14. Were you born in the United States?
    TNatIVITY: T_Nativity
    □ 1  Yes
    □ 2  No

IF YES, RESPONDENT SKIPPED TO QUESTION 16

15. In what year did you come to live in the United States?
    Information not available on the public use dataset
    _______ Year
16. What languages do you usually speak at home?
   Please select all that apply.
   XTLANGHOME_RC: Recoded XTLANGHOME
   □ English
   □ Spanish
   □ Cantonese
   □ Vietnamese
   □ Tagalog
   □ Mandarin
   □ Korean
   □ Asian Indian languages
   □ Russian
   □ Other language: __________________
   1  English only
   2  Not English only

17. How would you rate your ability to read English?
   TLITERACY_T_Literacy
   □ 1  Very good
   □ 2  Good
   □ 3  Okay
   □ 4  Poor
   □ 5  Very poor

18. How many hours a week do you get paid to work?
   TWOHRHRS_RC: Recoded TWOHRHRS
   □ 1  I don’t work for pay
   □ 2  1-9 hours
   □ 3  10-19 hours
   □ 5  20-29 hours
   □ 6  30-36 hours
   □ 5  40 hours
   □ 6  More than 40 hours
Appendix C: FLASHE Teen Diet Survey

FLASHE – Annotated Teen Diet Survey

Notes about this instrument:

• This annotated instrument is designed to provide question content, variable names, labels and response values. It does NOT represent the actual survey completed by respondents because skip patterns and other programming for web-based administration are not presented. For a full list of variables included in each dataset, as well as missing data codes, please reference the codebook. Screen shots of the surveys as administered are available upon request at email notflashe@msd.nlm.nih.gov

• The variable information in all capitals is the VARIABLE NAME. Following the variable name is the VARIABLE LABEL.

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• Some variables were constructed to facilitate data analyses. These variables are indicated by variable names beginning with “X.” Some of these X variables can be found in this instrument and others can be found in the codebook.

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  • Removing some data from the public use dataset. These data are indicated with the statement “Information not available on the public use dataset.”

Section 1: Your Attitudes & Opinions

This first set of questions asks you about your views on certain types of foods.

1. Please select how much you disagree or agree with each of the statements listed below.

   a. I feel confident in my ability to eat fruits and vegetables every day
      TDEFFFY: TDEFFFY
      Strongly disagree □ 1 □ 2 □ 3 □ 4 □ 5

   b. My friends eat fruits and vegetables most days of the week
      TDNORMFY: TDNORMFY
      □ 1 □ 2 □ 3 □ 4 □ 5

1 FLASHE Annotated Teen Diet Survey
2. There are lots of reasons why people might eat fruits and vegetables every day. Please select how much you disagree or agree with how true each of these reasons is for YOU.

I would eat fruits and vegetables every day because...

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Neither disagree nor agree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. I would feel bad about myself if I didn't TDFVBA: TD_MotivationFV_FeelBadMyself</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>b. I have thought about it and decided that I want TDFVWANT: TD_MotivationFV_WantToEat to eat fruits and vegetables every day</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>c. Others would be upset with me if I didn't TDFVUPST: TD_MotivationFV_OthersUpset</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>d. It's an important thing for me to do TDFVIMP: TD_MotivationFV_ImportantToDo</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
</tbody>
</table>

3. About how many servings of fruits and vegetables does the government recommend that teenagers should eat each day?

TDKNFV: TD_KnowFV

__________ servings each day

☐ I'm not really sure.
TDKNFVNS: TD_KnowFV_NotSure
  0  Not checked
  1  Checked

4. There are lots of reasons why people might not eat fruits and vegetables as much as they'd like to. Please select how much you disagree or agree with how true each of these reasons is for YOU.

I don't eat fruits and vegetables as much as I like to because...

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Neither disagree nor agree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. They often spoil before I get a chance to eat TDFVSPL: TD_BARRIERFV_SpoilBeforeEat them</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>b. They aren't filling enough TDFVNTFL: TD_BARRIERFV_NotFillingEnough</td>
<td>□ 1</td>
<td>□ 2</td>
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</tr>
<tr>
<td>c. The restaurants I go to don't serve fruits and TDFVREST: TD_BARRIERFV_RestaurantNotServe vegetables</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
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<tr>
<td>d. I just don't think of fruits and vegetables when TDFVDTHINK: TD_BARRIERFV_DontThinkOf I'm looking for something to eat</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
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<tr>
<td>e. They are not packed in my lunch TDFVNI: TD_BARRIERFV_NotPackedInLunch</td>
<td>□ 1</td>
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</table>
This next set of questions asks about your views on junk food and sugary drinks. Junk foods are foods that are high in calories and usually have added sugars and fat and include candy, cookies, potato chips, French fries, etc. Sugary drinks include regular soda, sports drinks, fruit drinks, sweetened teas and other drinks with added sugar.

5. Please select how much you disagree or agree with each of the statements listed below.

   a. I feel confident in my ability to limit the amount of junk food and sugary drinks I eat and drink
   TDEFFPB: TD_EfficacyFB
      | Strongly disagree | Somewhat disagree | Neither disagree nor agree | Somewhat agree | Strongly agree |
      | 1                | 2                | 3                        | 4             | 5             |

   b. My friends eat junk food or drink sugary drinks on most days of the week
   TDNORMFB: TD_NormFB
      | Strongly disagree | Somewhat disagree | Neither disagree nor agree | Somewhat agree | Strongly agree |
      | 1                | 2                | 3                        | 4             | 5             |

6. There are lots of reasons why people might limit the amount of junk food and sugary drinks they have. Please select how much you disagree or agree with how true each of these reasons is for YOU.

   I would try to limit how much junk food and sugary drinks I have because...

   a. I would feel bad about myself if I didn’t
   TDMFBSAD: TD_MotivationFB_FeelBadMyself
      | Strongly disagree | Somewhat disagree | Neither disagree nor agree | Somewhat agree | Strongly agree |
      | 1                | 2                | 3                        | 4             | 5             |

   b. I have thought about it and decided that I want to limit junk food and sugary drinks
   TDMEFBWANT: TD_MotivationFB_WantToLimit
      | Strongly disagree | Somewhat disagree | Neither disagree nor agree | Somewhat agree | Strongly agree |
      | 1                | 2                | 3                        | 4             | 5             |

   c. Others would be upset with me if I didn’t
   TDMEFBUPST: TD_MotivationFB_OthersUpset
      | Strongly disagree | Somewhat disagree | Neither disagree nor agree | Somewhat agree | Strongly agree |
      | 1                | 2                | 3                        | 4             | 5             |

   d. It’s an important thing for me to do
   TDMFBIMP: TD_MotivationFB_ImportantToDo
      | Strongly disagree | Somewhat disagree | Neither disagree nor agree | Somewhat agree | Strongly agree |
      | 1                | 2                | 3                        | 4             | 5             |

7. There are lots of reasons why you might start eating or continue eating when you aren’t hungry. How often do YOU start or continue to eat when YOU’RE not hungry because...

   a. You feel sad and depressed?
   TDEHISAD: TD_EatWhenHungry_Sad
      | Never | Rarely | Sometimes | Often | Always |
      | 1     | 2      | 3         | 4     | 5      |

   b. You feel anxious or nervous?
   TDEHNHAX: TD_EatWhenHungry_Anxious
      | Never | Rarely | Sometimes | Often | Always |
      | 1     | 2      | 3         | 4     | 5      |
8. These next questions are about how you regulate and manage your emotions. Please select how much you disagree or agree with each of the statements listed below.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Neither disagree nor agree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. I keep my emotions to myself</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
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<td>TDEMXPSELF: TD_EmotionReg_KeepToMyself</td>
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<td>b. When I am feeling POSITIVE emotions, I am careful not to express them</td>
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<td>TDEMPOSNE: TD_EmotionReg_PositiveNotExpress</td>
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<td>c. I control my emotions by NOT EXPRESSING THEM</td>
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<td>☐ 5</td>
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<tr>
<td>TDEMCONTE: TD_EmotionReg_ControlNotExpress</td>
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<td>d. When I am feeling NEGATIVE emotions, I make sure not to express them</td>
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<tr>
<td>TDEMNEGNE: TD_EmotionReg_NegativeNotExpress</td>
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</table>

9. Please think about messages you see or hear on television, magazines, radio, internet or billboards about foods and drinks. Please mark how much you disagree or agree with each of the statements listed below.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Neither disagree nor agree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
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</thead>
<tbody>
<tr>
<td>a. I want to try the advertised foods or drinks.</td>
<td>☐ 1</td>
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<td>TDADTRY: TD_Ads_WantToTry</td>
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<td>b. I think the advertised foods or drinks will taste good.</td>
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<td>☐ 5</td>
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<tr>
<td>TDAWTST: TD_Ads_WillTasteGood</td>
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<td>c. I trust the messages advertised</td>
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<td>TDTRUST: TD_Ads_TrustMessages</td>
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Section 2: What You Eat and Drink

These questions ask about what you DRANK DURING THE PAST 7 DAYS. Think about everything you drank from the time you got up until you went to bed. Be sure to count what you drank at home, school, restaurants or anywhere else. Also think about drinks you had in a can, bottle or glass.

10. DURING THE PAST 7 DAYS, how many times did you drink SWEETENED FRUIT DRINKS and teas like Capri Sun, Sunny D, Arizona Tea, etc.? DON'T COUNT 100% pure fruit juice or artificially sweetened or diet drinks.

<table>
<thead>
<tr>
<th>TD8FRUTDRE: TD_Bev_FruitDrink</th>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Neither disagree nor agree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
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11. DURING THE PAST 7 DAYS, how many times did you drink 100% PURE FRUIT JUICE like orange, apple, grape, etc.? DON'T COUNT fruit-flavored drinks with added sugar like Capri Sun, etc.

<table>
<thead>
<tr>
<th>TD8FRUJO: TD_Bev_FruitJuice</th>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Neither disagree nor agree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
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</table>
12. DURING THE PAST 7 DAYS, how many times did you drink regular SODA or pop like Coke, Pepsi, Sprite, Dr. Pepper, etc.? DON'T COUNT diet or zero calorie sodas.

**TDBSODA: TD_Bev_Soda**

- 1. I did not drink soda during the past 7 days
- 2. 1 – 3 times in the past 7 days
- 3. 4 – 6 times in the past 7 days
- 4. 1 time per day
- 5. 2 times per day
- 6. 3 or more times per day

13. DURING THE PAST 7 DAYS, how many times did you drink ENERGY DRINKS like Rockstar, Red Bull, etc.? These drinks usually have caffeine.

**TDBENERGY: TD_Bev_EnergyDrink**

- 1. I did not drink energy drinks during the past 7 days
- 2. 1 – 3 times in the past 7 days
- 3. 4 – 6 times in the past 7 days
- 4. 1 time per day
- 5. 2 times per day
- 6. 3 or more times per day

14. DURING THE PAST 7 DAYS, how many times did you drink SPORTS DRINKS like Gatorade, Powerade, etc.? DON'T COUNT low-calorie sports drinks like G2, Powerade Zero, etc.

**TDBSPORT: TD_Bev_SportDrink**

- 1. I did not drink sports drinks during the past 7 days
- 2. 1 – 3 times in the past 7 days
- 3. 4 – 6 times in the past 7 days
- 4. 1 time per day
- 5. 2 times per day
- 6. 3 or more times per day

15. DURING THE PAST 7 DAYS, how many times did you drink any WATER that is not sweetened like tap water, filtered water, bottled water or sparkling water?

**TDBWATER: TD_Bev_Water**

- 1. I did not drink water during the past 7 days
- 2. 1 – 3 times in the past 7 days
- 3. 4 – 6 times in the past 7 days
- 4. 1 time per day
- 5. 2 times per day
- 6. 3 or more times per day

16. DURING THE PAST 7 DAYS, how many times did you drink MILK or have it on your cereal? COUNT milk you drank at school. COUNT other types of milk, like soy, rice, almond, etc. DON'T COUNT flavored or sweetened milk OR small amounts of milk added to coffee or tea.

**TDBMILK: TD_Bev_Milk**

- 1. I did not drink milk during the past 7 days
- 2. 1 – 3 times in the past 7 days
- 3. 4 – 6 times in the past 7 days
- 4. 1 time per day
- 5. 2 times per day
- 6. 3 or more times per day
These questions ask about the food you ATE DURING THE PAST 7 DAYS. Think about all the meals and snacks you ate from the time you got up until you went to bed. Be sure to count foods that you ate at home, school, restaurants or anywhere else.

17. DURING THE PAST 7 DAYS, how many times did you eat fruit like apples, bananas, melon, etc.? COUNT fresh, frozen, canned and dried fruit. DON'T COUNT fruit juices.
   TDFFRUIT: TD_Food_Fruit
   □ 1 I did not eat fruit during the past 7 days
   □ 2 1 – 3 times in the past 7 days
   □ 3 4 – 6 times in the past 7 days
   □ 4 1 time per day
   □ 5 2 times per day
   □ 6 3 or more times per day

18. DURING THE PAST 7 DAYS, how many times did you eat a GREEN SALAD, with or without other vegetables?
   TDFSALAD: TD_Food_Salad
   □ 1 I did not eat green salad during the past 7 days
   □ 2 1 – 3 times in the past 7 days
   □ 3 4 – 6 times in the past 7 days
   □ 4 1 time per day
   □ 5 2 times per day
   □ 6 3 or more times per day

19. DURING THE PAST 7 DAYS, how many times did you eat FRIED POTATOES like French fries, tater tots, hash brown potatoes, etc.?
   TDFPOTFROTD_Food_PotatoesFried
   □ 1 I did not eat fried potatoes during the past 7 days
   □ 2 1 – 3 times in the past 7 days
   □ 3 4 – 6 times in the past 7 days
   □ 4 1 time per day
   □ 5 2 times per day
   □ 6 3 or more times per day

20. DURING THE PAST 7 DAYS, how many times did you eat any OTHER KIND OF POTATOES that aren't fried like baked, boiled, mashed or potatoes used in soups and stews?
   TDFPOTOTH: TD_Food_PotatoesOther
   □ 1 I did not eat non-fried potatoes during the past 7 days
   □ 2 1 – 3 times in the past 7 days
   □ 3 4 – 6 times in the past 7 days
   □ 4 1 time per day
   □ 5 2 times per day
   □ 6 3 or more times per day

21. DURING THE PAST 7 DAYS, how many times did you eat other NON-FRIED VEGETABLES like carrots, broccoli, collards, green beans, corn, etc.? DON'T COUNT green salad or potatoes.
   TDFVEG: TD_Food_Vegetables
   □ 1 I did not eat non-fried vegetables during the past 7 days
   □ 2 1 – 3 times in the past 7 days
   □ 3 4 – 6 times in the past 7 days
   □ 4 1 time per day
   □ 5 2 times per day
   □ 6 3 or more times per day
22. DURING THE PAST 7 DAYS, how many times did you eat refried beans, baked beans, pinto beans, black beans or other COOKED BEANS? DON'T COUNT green beans or string beans.

**TDFFBEANS: TD_Food_Beans**

- **1** I did not eat cooked beans during the past 7 days
- **2** 1 – 3 times in the past 7 days
- **3** 4 – 6 times in the past 7 days
- **4** 1 time per day
- **5** 2 times per day
- **6** 3 or more times per day

23. DURING THE PAST 7 DAYS, how many times did you eat PIZZA like frozen, fast food or homemade pizza?

**TDFFPIZZA: TD_Food_Pizza**

- **1** I did not eat pizza during the past 7 days
- **2** 1 – 3 times in the past 7 days
- **3** 4 – 6 times in the past 7 days
- **4** 1 time per day
- **5** 2 times per day
- **6** 3 or more times per day

24. DURING THE PAST 7 DAYS, how many times did you eat tacos, burritos, nachos or other dishes like these?

**TDFTACOS: TD_Food_Tacos**

- **1** I did not eat these dishes during the past 7 days
- **2** 1 – 3 times in the past 7 days
- **3** 4 – 6 times in the past 7 days
- **4** 1 time per day
- **5** 2 times per day
- **6** 3 or more times per day

25. DURING THE PAST 7 DAYS, how many times did you eat foods that you HEAT AND SERVE or make from a box like fried mozzarella sticks, Hot Pockets, macaroni and cheese, etc.? COUNT foods that are made at home or purchased out.

**TDFFHTSERV: TD_Food_HeatServe**

- **1** I did not eat foods that you heat and serve during the past 7 days
- **2** 1 – 3 times in the past 7 days
- **3** 4 – 6 times in the past 7 days
- **4** 1 time per day
- **5** 2 times per day
- **6** 3 or more times per day

26. DURING THE PAST 7 DAYS, how many times did you eat PROCESSED MEAT like bologna or other kinds of lunch meat, hot dogs, bacon, etc.?

**TDFFPROCM: TD_Food_ProcessedMeat**

- **1** I did not eat processed meat during the past 7 days
- **2** 1 – 3 times in the past 7 days
- **3** 4 – 6 times in the past 7 days
- **4** 1 time per day
- **5** 2 times per day
- **6** 3 or more times per day

27. DURING THE PAST 7 DAYS, how many times did you eat HAMBURGERS OR CHEESEBURGERS?

**COUNT** fast food burgers like Big Maces, Whoppers, etc.

**TDFFBURGERS: TD_Food_Burgers**

- **1** I did not eat hamburgers or cheeseburgers during the past 7 days
- **2** 1 – 3 times in the past 7 days
- **3** 4 – 6 times in the past 7 days
- **4** 1 time per day
- **5** 2 times per day
- **6** 3 or more times per day
28. DURING THE PAST 7 DAYS, how many times did you eat FRIED CHICKEN like chicken nuggets, breaded chicken strips or breaded chicken patties? COUNT only chicken that has been fried.
   TD_FoodFriedChicken
   □ 1 I did not eat fried chicken during the past 7 days
   □ 2 1 – 3 times in the past 7 days
   □ 3 4 – 6 times in the past 7 days
   □ 4 1 time per day
   □ 5 2 times per day
   □ 6 3 or more times per day

29. DURING THE PAST 7 DAYS, how many times did you eat WHOLE GRAIN BREAD like toast, rolls or sandwich bread? COUNT whole wheat, rye, oatmeal and pumpernickel bread. DON’T COUNT white bread.
   TD_FoodBread
   □ 1 I did not eat whole grain bread during the past 7 days
   □ 2 1 – 3 times in the past 7 days
   □ 3 4 – 6 times in the past 7 days
   □ 4 1 time per day
   □ 5 2 times per day
   □ 6 3 or more times per day

30. DURING THE PAST 7 DAYS, how many times did you eat brown rice, whole grain/white wheat pasta, or other COOKED WHOLE GRAINS? COUNT bulgur, cracked wheat and millet. DON’T COUNT white rice or regular pasta.
   TD_FoodBread
   □ 1 I did not eat cooked whole grains during the past 7 days
   □ 2 1 – 3 times in the past 7 days
   □ 3 4 – 6 times in the past 7 days
   □ 4 1 time per day
   □ 5 2 times per day
   □ 6 3 or more times per day

31. DURING THE PAST 7 DAYS, how many times did you eat any type of CANDY OR CHOCOLATE?
   COUNT candy bars, lollipops/ sucker, sour candies, etc. DON’T COUNT sugar-free candy.
   TD_FoodCandy
   □ 1 I did not eat candy or chocolate during the past 7 days
   □ 2 1 – 3 times in the past 7 days
   □ 3 4 – 6 times in the past 7 days
   □ 4 1 time per day
   □ 5 2 times per day
   □ 6 3 or more times per day

32. DURING THE PAST 7 DAYS, how many times did you eat cookies, cakes, cupcakes, doughnuts, brownies, pop-tarts, etc.? COUNT homemade and packaged treats like Little Debbie, Hostess Twinkies, etc.
   TD_FoodCakes
   □ 1 I did not eat any of these during the past 7 days
   □ 2 1 – 3 times in the past 7 days
   □ 3 4 – 6 times in the past 7 days
   □ 4 1 time per day
   □ 5 2 times per day
   □ 6 3 or more times per day

33. DURING THE PAST 7 DAYS, how many times did you eat ice cream or other FROZEN DESSERTS like frozen yogurt, ice cream bars, etc.? DON’T COUNT sugar-free kinds.
   TD_FoodDesserts
   □ 1 I did not eat frozen desserts during the past 7 days
   □ 2 1 – 3 times in the past 7 days
   □ 3 4 – 6 times in the past 7 days
   □ 4 1 time per day
   □ 5 2 times per day
   □ 6 3 or more times per day
34. DURING THE PAST 7 DAYS, how many times did you eat regular POTATO CHIPS, corn chips or cheese puffs like Lays, Doritos, Cheetos, etc.? DON'T COUNT baked varieties and don't count pretzels.

- **TDCHIP:** TD_Food_Chips
  - 1: I did not eat chips during the past 7 days
  - 2: 1 – 3 times in the past 7 days
  - 3: 4 – 6 times in the past 7 days
  - 4: 1 time per day
  - 5: 2 times per day
  - 6: 3 or more times per day

35. DURING THE PAST 7 DAYS, how many times did you eat SUGARY CEREALS like Cap'n Crunch, Froot Loops, Frosted Flakes, etc.? DON'T COUNT non-sugarcoated kinds like Shredded Wheat or regular Cheerios.

- **TDFGESUGR:** TD_Food_CerealSugar
  - 1: I did not eat sugary cereals during the past 7 days
  - 2: 1 – 3 times in the past 7 days
  - 3: 4 – 6 times in the past 7 days
  - 4: 1 time per day
  - 5: 2 times per day
  - 6: 3 or more times per day

36. DURING THE PAST 7 DAYS, how many times did you eat NON-SUGARY CEREALS like regular Cheerios, Chex, Corn Flakes, etc.? DON'T COUNT sugary cereals like Froot Loops or Frosted Flakes.

- **TDFERNSUG:** TD_Food_CerealNoSugar
  - 1: I did not eat non-sugarcoated cereals during the past 7 days
  - 2: 1 – 3 times in the past 7 days
  - 3: 4 – 6 times in the past 7 days
  - 4: 1 time per day
  - 5: 2 times per day
  - 6: 3 or more times per day

### Section 3: Food Away From Home

37. Are there vending machines at your school?

- **TDSCHLVNDG:** TD_SchoolVending
  - 1: Yes
  - 2: No

**IF NO, RESPONDENT SKIPPED TO QUESTION 39**

38. Do they sell sodas, salty snacks and/or candy?

- **TDSCHLSD:** TD_SchoolVending_Sodas
  - 1: Yes
  - 2: No

39. Does your school have working water fountains or dispensers?

- **TDSCHLW:** TD_SchoolWater
  - 1: No, none work
  - 2: Yes, only a few
  - 3: Yes, widely available
  - 4: There are no water fountains or dispensers
40. Think about the local area around your school, within a 10-15 minute walk in any direction. Do you have any of the following in walking distance from your school? Please select all that apply.

- Convenience/Corner store/small grocery store/bodega
- Supermarket/mid-size grocery store
- Fruit/Vegetable market/Farmer’s market/co-op/Community Supported Agriculture (CSA)
- Fast food restaurant
- Non-fast food restaurant

41. How often do you go to each of the following that's in walking distance from your school?

- Convenience/Corner store/small grocery store/bodega
- Supermarket/mid-size grocery store
- Fruit/Vegetable market/Farmer’s market/co-op/Community Supported Agriculture (CSA)
- Fast food restaurant
- Non-fast food restaurant

Think about all the meals and snacks you ate and drank AWAY FROM HOME in the past 7 days, from the time you got up until you went to bed. COUNT breakfast, lunch, dinner and snacks.

42. During the past 7 days, ON HOW MANY DAYS did you eat at least one meal or snack AWAY FROM HOME at...

- A fast food restaurant like McDonald’s, Taco Bell or KFC?
- A full service pizza restaurant like Pizza Hut, Godfather’s or CiCi’s Pizza?
- A convenience store like 7-Eleven or Express Mart?
- A full service restaurant like Rod Lobster, TGI Fridays, Chilli’s or an independent restaurant?
Section 4: Food in Your Home

The next few questions ask about food in your home. For this survey, home means the place where you and your parent(s) have lived together for most of the time in the PAST 12 MONTHS.

Again, "PARENT" means the adult who takes care of you. It could be your birth mother or father or your adopted mother or father. It could also be your guardian, an adult relative or an adult who isn’t related to you.

43. Please think about the evening meals eaten AT YOUR HOME in the past 7 days. On how many of the past 7 days was the evening meal...

   a. Purchased from a fast food restaurant and eaten AT HOME?
      TDM=FASTFD.TD_MealsHome_FastFood
      □ 0 □ 1 □ 2 □ 3 □ 4 □ 5 □ 6 □ 7

   b. Delivered to your HOME like pizza or Chinese food?
      TDM=DELLVR.TD_MealsHome_Delivered
      □ 0 □ 1 □ 2 □ 3 □ 4 □ 5 □ 6 □ 7

   c. Made from a HEAT AND SERVE or box meal like Spaghetti-O’s, a microwave meal or frozen pizza, and eaten AT HOME?
      TDM=HTSERV.TD_MealsHome_HotServe
      □ 0 □ 1 □ 2 □ 3 □ 4 □ 5 □ 6 □ 7

   d. Cooked from scratch or a recipe and eaten AT HOME?
      TDM=COOK.TD_MealsHome_Cooked
      □ 0 □ 1 □ 2 □ 3 □ 4 □ 5 □ 6 □ 7

44. How often are the following foods and drinks available in your home?

   a. Fruits or vegetables
      TDAFV.TD_Avail_FV
      □ Never □ Rarely □ Sometimes □ Often □ Always

   b. Sweets like candy, cookies, cake, ice cream, etc.
      TDSWEET.TD_Avail_Sweets
      □ 1 □ 2 □ 3 □ 4 □ 5

   c. Sugary drinks like regular soda, sports drinks, fruit drinks, sweetened teas and other drinks with added sugar
      TDAUSGRDRKT.DA_Avail_SugarDrinks
      □ 1 □ 2 □ 3 □ 4 □ 5

   d. Regular potato chips, corn chips or cheese puffs like Lays, Doritos, Cheetos, etc.
      TDACHIPST.DA_Avail_Chips
      □ 1 □ 2 □ 3 □ 4 □ 5
Section 5: Family Meals

For these next questions, think about meal times with your family.

45. Please select how much you disagree or agree with each of the statements listed below.

In my family...

a. It is important that we eat at least one meal a day together
   TDFTMTGOTH: TD_FamilyMeals_EatTogether

   □ 1  □ 2  □ 3  □ 4  □ 5

b. We often watch TV while eating dinner
   TDFTMT: TD_FamilyMeals_WatchTV

   □ 1  □ 2  □ 3  □ 4  □ 5

c. I often eat alone
   TDFMEATALON: TD_FamilyMeals_EatAlone

   □ 1  □ 2  □ 3  □ 4  □ 5

Section 6: Your Preferences

The questions in this section ask about your food and drink preferences.

46. Please select one box for how much you DISLIKE or LIKE each of the drinks and foods listed below.

a. Sugar sweetened drinks like Capri Sun, Sunny D, Arizona Tea, etc.
   TDPFRTDRK: TD_Pref_FruitDrink

   □ 1  □ 2  □ 3  □ 4  □ 5  □ 6

b. Regular soda or pop like Coke, Pepsi, Sprite, Dr. Pepper, etc.
   TDFPSODA: TD_Pref_Soda

   □ 1  □ 2  □ 3  □ 4  □ 5  □ 6

c. Any water that is not sweetened like tap water, filtered water, bottled water or sparkling water
   TDFWTR: TD_Pref_Water

   □ 1  □ 2  □ 3  □ 4  □ 5  □ 6

d. Fruit like apples, bananas, melon, etc. Count fresh, frozen, canned or dried fruit
   TDFRFTR: TD_Pref_Fruit

   □ 1  □ 2  □ 3  □ 4  □ 5  □ 6

e. A green salad, or other non-fried vegetables like carrots, broccoli, green beans, corn, etc.
   TDFPEG: TD_Pref_Vegetables

   □ 1  □ 2  □ 3  □ 4  □ 5  □ 6

How much do you disagree or agree with the statement listed below?

47. I eat a healthy diet
   TDHTLTHDIET: TD_HealthyDiet

   □ 1  Strongly disagree
   □ 2  Somewhat disagree
   □ 3  Neither disagree nor agree
   □ 4  Somewhat agree
   □ 5  Strongly agree
Section 8: Your Parents

Again, "PARENT" means the adult who takes care of you. It could be your birth mother or father or your adopted mother or father. It could also be your guardian, and adult relative or an adult who isn’t related to you.

48. How much do you disagree or agree with each of the statements listed below regarding WHAT YOUR PARENT(S) SAY AND DO when it comes to eating fruits and vegetables?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Neither disagree nor agree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. My parent(s) buy fruits and vegetables for me</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>TDPFVBUY: TD_ParentingFV_Buy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. My parent(s) try to eat fruits and vegetables when I’m around</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>TDPFVTREYEAT: TD_ParentingFV_TryToEat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. My parent(s) encourage me to try different kinds of fruits and vegetables</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>TDPFVTRYVAR: TD_ParentingFV_TryVariety</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. My parent(s) and I decide together how many fruits and vegetables I have to eat</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>TDPFVDECIDE: TD_ParentingFV_DecideTogether</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. My parent(s) have to make sure that I eat enough fruits and vegetables</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>TDPFVENOUGH: TD_ParentingFV_EatEnough</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. My parent(s) make me eat fruits and vegetables</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>TDPFVMKEAT: TD_ParentingFV_MakeEat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. It's okay for my parent(s) to make rules about how many fruits and vegetables I can have</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>TDPFVMKRULE: TD_ParentingFV_MakeRules</td>
<td></td>
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</tr>
</tbody>
</table>
These questions ask about junk food and sugary drinks that you may eat or drink. Remember that JUNK FOODS are foods that are high in calories and usually have added sugars and fat and include candy, cookies, potato chips, French fries, etc. SUGARY DRINKS include regular soda, sports drinks, fruit drinks, sweetened teas and other drinks with added sugar.

49. How much do you disagree or agree with each of the statements listed below regarding WHAT YOUR PARENT(S) SAY AND DO when it comes to eating junk food or drinking sugary drinks?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Neither disagree nor agree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. If I've had a bad day, my parent(s) let me have junk food or sugary drinks to make me feel better</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>TDPFBADDAY: TD_ParentingFB_BadDay</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. My parent(s) don't buy a lot of junk food or sugary drinks for me</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>TDPFBNOTBUY: TD_ParentingFB_NotBuyA lot</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. My parent(s) try to avoid eating junk food or drinking sugary drinks when I'm around</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>TDPFBAVOID: TD_ParentingFB_TryToAvoid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. My parent(s) and I decide together how much junk food or sugary drinks I can have</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>TDPFBDECIDE: TD_ParentingFB_DecideTogether</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. My parent(s) have to make sure that I don't eat too much junk food or drink too many sugary drinks</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>TDPFBNOTEAT: TD_ParentingFB_NotEatTooMuch</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. My parent(s) decide how much junk food or sugary drinks I can have</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>TDPFBPARDICT: TD_ParentingFB_ParentDecideHowMuch</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. It's okay for my parent(s) to make rules about how much junk food or sugary drinks I have</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>TDPFBMKRULE: TD_ParentingFB_MakeRules</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Appendix D: FLASHE Parent Demographic Survey

### FLASHE Annotated Parent Demographic Survey

**Notes about this instrument:**
- This annotated instrument is designed to provide question content, variable names, labels and response values. It does NOT represent the actual survey completed by respondents because skip patterns and other programming for web-based administration are not presented. For a full list of variables included in each dataset, as well as missing data codes, please reference the codebook. Screen shots of the surveys as administered are available upon request at email: nclflehe@email.nih.gov
- The variable information in all capital is the VARIABLE NAME. Following the variable name is the VARIABLE LABEL.
- Survey Instrument is indicated by the starting letters of the variable name:
  - T = Teen Demographic survey
  - TD = Teen Diet survey
  - TP = Teen Physical Activity Survey
  - P = Parent Demographic Survey
  - PD = Parent Diet Survey
  - PP = Parent Physical Activity Survey
- Some variables were constructed to facilitate data analyses. These variables are indicated by variable names beginning with "X." Some of these X variables can be found in this instrument and others can be found in the codebook.
- Federal Laws govern the protection of individual respondents participating in federally-sponsored studies and surveys. In order to ensure that FLASHE was in compliance with these regulations, a risk assessment study was conducted. Data that was determined to pose too great a risk of exposure for personal identifiable information to respondents were modified to ensure confidentiality. The types of changes made included:
  - Recording some responses to combine response categories due to small cell sizes. Variable names that include "RC" have been recoded.
  - Removing some data from the public use dataset. These data are indicated with the statement "Information not available on the public use dataset."

### Section 1: Your Teenager

1. Now think in general about how you parent (TEEN). Please select how much you disagree or agree with each of the statements listed below:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Neither disagree nor agree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. I expect my teenager to follow family rules</td>
<td>[ ] 1</td>
<td>[ ] 2</td>
<td>[ ] 3</td>
<td>[ ] 4</td>
<td>[ ] 5</td>
</tr>
<tr>
<td>PFOLFAMRL: P_ParentingStyle_FollowFamilyRules</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. I don't like for my teenager to tell me his/her troubles</td>
<td>[ ] 1</td>
<td>[ ] 2</td>
<td>[ ] 3</td>
<td>[ ] 4</td>
<td>[ ] 5</td>
</tr>
<tr>
<td>PNOTTELLTRB: P_ParentingStyle_NotTellTroubles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. I respect my teenager's privacy</td>
<td>[ ] 1</td>
<td>[ ] 2</td>
<td>[ ] 3</td>
<td>[ ] 4</td>
<td>[ ] 5</td>
</tr>
<tr>
<td>PRESPCPRV: P_ParentingStyle_RespectPrivacy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. I make most of the decisions about what my teenager can do</td>
<td>[ ] 1</td>
<td>[ ] 2</td>
<td>[ ] 3</td>
<td>[ ] 4</td>
<td>[ ] 5</td>
</tr>
<tr>
<td>PMKMOSTDEC: P_ParentingStyle_MakeMostDecisions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. My teenager can count on me if he/she has a problem</td>
<td>[ ] 1</td>
<td>[ ] 2</td>
<td>[ ] 3</td>
<td>[ ] 4</td>
<td>[ ] 5</td>
</tr>
<tr>
<td>PCOUNTONPAR: P_ParentingStyle_CountOnMe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. I let my teenager get away with things</td>
<td>[ ] 1</td>
<td>[ ] 2</td>
<td>[ ] 3</td>
<td>[ ] 4</td>
<td>[ ] 5</td>
</tr>
<tr>
<td>PGETAWAY: P_ParentingStyle_GetAwayWith</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2. What is (TEEN)'s height and weight without shoes?
   XPTHEIGHTCM_RC: Recoded Parent-reported TEEN height in centimeters
   XPTWEIGHTKG_RC: Recoded Parent-reported TEEN weight in kilograms

   Height:               and                
   Feet                     Inches

   Continuous variable in centimeters, rounded to 2 decimal places

   Weight:                
   Pounds

   Continuous variable in kilograms, rounded to 2 decimal places

3. Has (TEEN) ever been diagnosed as having cancer?
   Information not available on the public use dataset
   Yes
   No

   IF NO, RESPONDENT SKIPPED TO QUESTION 8

4. What type of cancer did (TEEN) have?
   Information not available on the public use dataset
   Select all that apply.
   Bladder cancer
   Bone cancer
   Breast cancer
   Cervical cancer (cancer of the cervix)
   Colon cancer
   Endometrial cancer (cancer of the uterus)
   Head and neck cancer
   Hodgkin's lymphoma
   Leukemia/Blood cancer
   Liver cancer
   Lung cancer
   Melanoma
   Non-Hodgkin lymphoma
   Oral cancer
   Ovarian cancer
   Pancreatic cancer
   Pharyngeal (throat) cancer
   Prostate cancer
   Rectal cancer
   Renal (kidney) cancer
   Skin cancer, non-melanoma

5. At what age was (TEEN) first told that he/she had cancer?
   Information not available on the public use dataset
   Age

6. Does (TEEN) have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicaid?
   PTCURRCOV_P_HealthInsurance_CurrentCoverage_T
   1 Yes
   2 No

   IF 2, RESPONDENT SKIPPED TO QUESTION 8.

7. Is (TEEN) insured by Medicaid or the State Children's Health Insurance Program, S-CHIP?
   PTMEDCAID_P_HealthInsurance_MedicaidSCHIP_T
   1 Yes
   2 No
8. During the past 12 months, was there any time when (TEEN) was not covered by ANY health insurance?
   PTNCHLTHCOV: P_HealthInsurance_NotCovered_T
   □ 1  Yes
   □ 2  No

RESPONDENT SKIPPED TO QUESTION 10.

9. During the past 12 months, was there any time when (TEEN) had health care coverage?
   PTHEALTHCOV: P_HealthInsurance_Covered_T
   □ 1  Yes
   □ 2  No

Section 2: General Information About You

We are interested in some general information about you. Your answers to these questions are important to us. They will help us better understand your answers to other parts of the survey.

10. What is your age?
    PAGE_RC: Recoded P_Age
    □   Age
        1  Ages 16 - 34
        2  Ages 35 - 44
        3  Ages 45 - 59
        4  Ages 60 +

11. Are you male or female?
    PSEX_P_Sex
    □ 1  Male
    □ 2  Female

12. What is the highest grade or level of education you completed?
    PHEIGHTED: P_HighestEduc
    □ 1  Less than a high school degree
    □ 2  A high school degree or GED
    □ 3  Some college but not a college degree
    □ 4  A 4-year college degree or higher

13. What is your marital status?
    PMARITAL_RC: Recoded P_MaritalStatus
    □ 1  Married
    □ 2  Divorced
    □ 3  Widowed
    □ 4  Separated
    □ 5  Never married
    □ 6  A member of an unmarried couple

14. In general, would you say your health is...
    PHEALTHSTAT: P_HealthStatus
    □ 1  Excellent
    □ 2  Very good
    □ 3  Good
    □ 4  Fair
    □ 5  Poor
15. What is your height and weight without shoes?

Height: __________ and __________ Feet and Inches

Continuous variable in centimeters, rounded to 2 decimal places

Weight: __________ Pounds

Continuous variable in kilograms, rounded to 2 decimal places

16. Overall, how would you rate your current weight?

P_WEIGHTSTAT_P.WeightStatus

☐ 1 I'm very underweight
☐ 2 I'm a little underweight
☐ 3 My weight is just right
☐ 4 I'm a little overweight
☐ 5 I'm very overweight

17. Are you currently trying to...

P_WEIGHTCHNG_P.WeightChange

☐ 1 Lose weight
☐ 2 Gain weight
☐ 3 Stay the same weight

18. Have you ever been diagnosed as having cancer?

☐ Yes
☐ No

IF NO, RESPONDENT SKIPPED TO QUESTION 21

19. What type of cancer did you have? Please select all that apply.

XPCANCER_RC: Recoded PARENT CANCER - Multiple or Single Cancer Only

☐ Bladder cancer
☐ Bone cancer
☐ Breast cancer
☐ Cervical cancer (cancer of the cervix)
☐ Colon cancer
☐ Endometrial cancer (cancer of the uterus)
☐ Head and neck cancer
☐ Hodgkin's lymphoma
☐ Leukemia/Blood cancer
☐ Liver cancer
☐ Lung cancer
☐ Melanoma
☐ Non-Hodgkin lymphoma
☐ Oral cancer
☐ Ovarian cancer
☐ Pancreatic cancer
☐ Pharyngeal (throat) cancer
☐ Prostate cancer
☐ Rectal cancer
☐ Renal (kidney) cancer
☐ Skin cancer, nonmelanoma
☐ No cancer type indicated

☐ 0 Single cancer
☐ 2 Multiple cancers

4  FLASHE Annotated Parent Demographic Survey
20. At what age were you first told that you had cancer?
   Information not available on the public use dataset
   ☐ Age

21. Are you Hispanic, Latino/a or Spanish origin?
   Recoded to combine with item 22 below
   ☐ Yes
   ☐ No

22. Which one or more of the following would you say is your race? Please select all that apply.
   PETHRAC_RC: Recoded Parent Race/Ethnicity
   ☐ American Indian or Alaska Native
   ☐ Asian
   ☐ Black or African American
   ☐ Native Hawaiian or Other Pacific Islander
   ☐ White
   1 Hispanic
   2 Non-Hispanic Black or African American only
   3 Non-Hispanic White only
   4 Non-Hispanic Other

23. Were you born in the United States?
   P NATIVITY: P_Nativity
   ☐ 1 Yes
   ☐ 2 No

IF 1, RESPONDENT SKIPPED TO QUESTION 25

24. If not, in what year did you come to live in the United States?
   PNATIVAGE_RC: Recoded number of years since nativity
   ☐ Year
   1 0-15 years since nativity
   2 More than 15 years since nativity

25. About how long have you lived at your current address?
   XPTIMECADDRMM_RC: Recoded Time at address [in years]
   ☐ Years ☐ Months
   1 0 to 3 years
   2 More than 3 up to 10 years
   3 More than 10 up to 15 years
   4 More than 15 years

26. Can you tell me just the name of the street you live on?
   Information not available on the public use dataset
   __________________________ Street

27. And what is the name of the nearest cross street?
   Information not available on the public use dataset
   __________________________ Street

28. Do you currently rent or own your home?
   PHOMEOWN_RC: Recoded P_OwnHome
   ☐ 1 Own
   ☐ 2 Rent
   ☐ 2 Occupied without paying monetary rent
29. How often in the past 12 months would you say you were worried or stressed about having enough money to pay for your rent or mortgage?  
   PHOUSINGSEC.P_HousingSecurity  
   □ 1 Never  
   □ 2 Almost never  
   □ 3 Sometimes  
   □ 4 Fairly often  
   □ 5 Very often  

30. Can you tell me just the name of the street the TEEN’s school is on?  
   Information not available on the public use dataset  
   ___________________________________________ Street  

31. And what is the name of the nearest cross street?  
   Information not available on the public use dataset  
   ___________________________________________  

32. What is your current employment status? Are you...  
   PWORKSTAT.P_WorkStatus  
   □ 1 Employed for wages  
   □ 2 Self-employed  
   □ 3 Out of work for more than 1 year  
   □ 4 Out of work for less than 1 year  
   □ 5 A homemaker  
   □ 6 A student  
   □ 7 Retired  

IF 3, 4, 5, 6 OR 7, RESPONDENT SKIPPED TO QUESTION 34  

33. About how many hours do you work per week at all of your jobs and businesses combined?  
   PWORKHRS_RC.Recode.P_WorkHours  
   □ 0-14 hours  
   □ 15-30 hours  
   □ 31-40 hours  
   □ 41+ hours  

34. Thinking about members of your family living in your household, what is your combined annual income, meaning the total pre-tax income from all sources earned in the past 12 months?  
   PHSEHLDINCM_RC.Recode.P_HouseholdIncome  
   □ 0 to $6,999  
   □ $10,000 to $14,999  
   □ $15,000 to $19,999  
   □ $20,000 to $24,999  
   □ $25,000 to $29,999  
   □ $30,000 to $34,999  
   □ $35,000 to $39,999  
   □ $40,000 to $44,999  
   □ $45,000 to $49,999  
   □ $50,000 to $54,999  
   □ $55,000 to $59,999  
   □ $60,000 to $69,999  
   □ $70,000 to $79,999  
   □ $80,000 to $89,999  
   □ $90,000 to $99,999  
   □ $100,000 to $119,999  
   □ $120,000 to $139,999  
   □ $140,000 to $159,999  
   □ $160,000 to $179,999  
   □ $180,000 to $199,999  
   □ $200,000 or more
35. What languages do you usually speak at home? Please select all that apply.
   [ ] English
   [ ] Spanish
   [ ] Cantonese
   [ ] Vietnamese
   [ ] Tagalog
   [ ] Mandarin
   [ ] Korean
   [ ] Asian Indian languages
   [ ] Russian
   [ ] Other language: ____________________
   1. English only
   2. Not English only

30. In what languages are the TV shows, radio stations or newspapers that you usually watch, listen to or read?
   PMEDIALANG: P_MediaLanguage
   [ ] 1. Only English
   [ ] 2. More English than another language
   [ ] 3. Another language and English about the same
   [ ] 4. More of another language than English
   [ ] 5. Only Another language

37. How would you rate your ability to read English?
   P:LITERACY:Recoded P_Literacy
   [ ] 1. Very good
   [ ] 2. Good
   [ ] 3. Okay
   [ ] 4. Poor
   [ ] 5. Very poor

36. How often do you need to have someone help you read written material from your doctor or pharmacy?
   PHEALTHLIT: P_HealthLiteracy
   [ ] 1. Never
   [ ] 2. Rarely
   [ ] 3. Sometimes
   [ ] 4. Often
   [ ] 5. Always

39. How many children under the age of 18 live in your household?
   PKIDSLNdHOME_RC: Recoded P_KidsHousehold
   [ ] 1. Children under 18
   1. 1 child in home
   2. 2 children in home
   3. 3 or more children in home

IF RESPONDENT IS MALE, END SURVEY.

40. Are you now pregnant?
    Information not available on the public use dataset
    [ ] Yes
    [ ] No
FLASHE – Annotated Parent Diet Survey

Notes about this instrument:

- This annotated instrument is designed to provide question content, variable names, labels and response values. It does NOT represent the actual survey completed by respondents because skip patterns and other programming for web-based administration are not presented. For a full list of variables included in each dataset, as well as missing data codes, please reference the codebook. Screen shots of the surveys as administered are available upon request at email nfsflashe@mail.nih.gov

- The variable information in all capitals is the VARIABLE NAME. Following the variable name is the VARIABLE LABEL.

- Survey instrument is indicated by the starting letters of the variable name:
  - T = Teen Demographic survey
  - TD = Teen Diet survey
  - TP = Teen Physical Activity Survey
  - P = Parent Demographic Survey
  - PD = Parent Diet Survey
  - PP = Parent Physical Activity Survey

- Some variables were constructed to facilitate data analyses. These variables are indicated by variable names beginning with “X.” Some of these X variables can be found in this instrument and others can be found in the codebook.

- Federal Laws govern the protection of individual respondents participating in federally-sponsored studies and surveys. In order to ensure that FLASHE was in compliance with these regulations, a risk assessment study was conducted. Data that was determined to pose too great a risk of exposure for personal identifiable information to respondents were modified to ensure confidentiality. The types of changes made included:
  - Recoding some responses to combine response categories due to small cell sizes. Variable names that include “RC” have been recoded.
  - Removing some data from the public use dataset. These data are indicated with the statement “Information not available on the public use dataset.”

Section 1: Your Attitudes & Opinions

This first set of questions asks about your views on certain types of foods.

1. Please select how much you disagree or agree with this statement:
   I feel confident in my ability to eat fruits and vegetables every day.
   PDEFFPV: PD_EfficacyP
   - [ ] 1 Strongly disagree
   - [ ] 2 Somewhat disagree
   - [ ] 3 Neither disagree nor agree
   - [ ] 4 Somewhat agree
   - [ ] 5 Strongly agree
2. There are lots of reasons why people might eat fruits and vegetables every day. Please select how much you disagree or agree with how true each of these reasons is for **YOU**.

I would eat fruits and vegetables every day because...

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Neither disagree nor agree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>b.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>c.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>d.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

3. About how many servings of fruits and vegetables does the government recommend that adults should eat each day?

<table>
<thead>
<tr>
<th></th>
<th>servings each day</th>
</tr>
</thead>
<tbody>
<tr>
<td>I'm not really sure</td>
<td>PDKNFVNS: PD_KnowFV_NotSure</td>
</tr>
<tr>
<td>Not checked</td>
<td>1 Checked</td>
</tr>
</tbody>
</table>

4. There are lots of reasons why people might not eat fruits and vegetables as much as they'd like to. Please select how much you disagree or agree with how true each of these reasons is for **YOU**.

I don't eat fruits and vegetables as much as I like to because...

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Neither disagree nor agree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>b.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>c.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>d.</td>
<td>1</td>
<td>2</td>
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<td>4</td>
<td>5</td>
</tr>
<tr>
<td>e.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>f.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>g.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
This next set of questions asks about your views on junk food and sugary drinks. Junk foods are foods that are high in calories and usually have added sugars and fat and include candy, cookies, potato chips, French fries, etc. Sugary drinks include regular soda, sports drinks, fruit drinks, sweetened teas and other drinks with added sugar.

5. Please select how much you disagree or agree with this statement:
I feel confident in my ability to limit the amount of junk food and sugary drinks I eat and drink.

- [ ] 1. Strongly disagree
- [ ] 2. Somewhat disagree
- [ ] 3. Neither disagree nor agree
- [ ] 4. Somewhat agree
- [ ] 5. Strongly agree

6. There are lots of reasons why people might limit the amount of junk food and sugary drinks they have. Please select how much you disagree or agree with how true each of these reasons is for YOU.

I would try to limit how much junk food and sugary drinks I have because...

- a. I would feel bad about myself if I didn’t
  - [ ] 1. Strongly disagree
  - [ ] 2. Somewhat disagree
  - [ ] 3. Neither disagree nor agree
  - [ ] 4. Somewhat agree
  - [ ] 5. Strongly agree

- b. I have thought about it and decided that I want
  - [ ] 1. Strongly disagree
  - [ ] 2. Somewhat disagree
  - [ ] 3. Neither disagree nor agree
  - [ ] 4. Somewhat agree
  - [ ] 5. Strongly agree

- c. Others would be upset with me if I didn’t
  - [ ] 1. Strongly disagree
  - [ ] 2. Somewhat disagree
  - [ ] 3. Neither disagree nor agree
  - [ ] 4. Somewhat agree
  - [ ] 5. Strongly agree

- d. It’s an important thing for me to do
  - [ ] 1. Strongly disagree
  - [ ] 2. Somewhat disagree
  - [ ] 3. Neither disagree nor agree
  - [ ] 4. Somewhat agree
  - [ ] 5. Strongly agree

7. There are lots of reasons you might start eating or continue eating when you aren’t hungry.

How often do YOU start or continue to eat when YOU’RE not hungry because...

- a. You feel sad or depressed?
  - [ ] 1. Never
  - [ ] 2. Rarely
  - [ ] 3. Sometimes
  - [ ] 4. Often
  - [ ] 5. Always

- b. You feel anxious or nervous?
  - [ ] 1. Never
  - [ ] 2. Rarely
  - [ ] 3. Sometimes
  - [ ] 4. Often
  - [ ] 5. Always

8. These next questions are about how you regulate and manage your emotions. Please select how much you disagree or agree with each of the statements listed below.

- a. I keep my emotions to myself
  - [ ] 1. Strongly disagree
  - [ ] 2. Somewhat disagree
  - [ ] 3. Neither disagree nor agree
  - [ ] 4. Somewhat agree
  - [ ] 5. Strongly agree

- b. When I am feeling POSITIVE emotions, I am careful not to express them
  - [ ] 1. Strongly disagree
  - [ ] 2. Somewhat disagree
  - [ ] 3. Neither disagree nor agree
  - [ ] 4. Somewhat agree
  - [ ] 5. Strongly agree

- c. I control my emotions by NOT EXPRESSING THEM
  - [ ] 1. Strongly disagree
  - [ ] 2. Somewhat disagree
  - [ ] 3. Neither disagree nor agree
  - [ ] 4. Somewhat agree
  - [ ] 5. Strongly agree

- d. When I am feeling NEGATIVE emotions, I make sure not to express them
  - [ ] 1. Strongly disagree
  - [ ] 2. Somewhat disagree
  - [ ] 3. Neither disagree nor agree
  - [ ] 4. Somewhat agree
  - [ ] 5. Strongly agree

FLASHE Annotated Parent Diet Survey
12. Please think about messages you see or hear on television, magazines, radio, internet or billboards about foods and drinks. Please select how much you disagree or agree with each of the statements listed below.

<table>
<thead>
<tr>
<th>When I see advertisements for foods or drinks...</th>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Neither disagree nor agree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. I want to try the advertised foods or drinks</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>PDATETRY: PD_Ads_WantToTry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. I think the advertised foods or drinks will taste good.</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>PDATESGTE: PD_Ads_WillTasteGood</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. I trust the messages advertised</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>PDATRUST: PD_Ads_TrustMessages</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These questions ask about what you DRANK DURING THE PAST 7 DAYS. Think about everything you drank from the time you got up until you went to bed. Be sure to count what you drank at home, work, restaurants or anywhere else. Also think about drinks you had in a can, bottle or glass.

13. DURING THE PAST 7 DAYS, how many times did you drink SWEETENED FRUIT DRINKS and teas like Capri Sun, Sunny D, Arizona Tea, etc.? DON'T COUNT 100% pure fruit juice or artificially sweetened or diet drinks.

   PDBFRTDRIK: PD_Bev_FruitDrink
   □ 1 I did not drink sweetened fruit drinks during the past 7 days
   □ 2 1–3 times in the past 7 days
   □ 3 4–6 times in the past 7 days
   □ 4 1 time per day
   □ 5 2 times per day
   □ 6 3 or more times per day

14. DURING THE PAST 7 DAYS, how many times did you drink 100% PURE FRUIT JUICE like orange, apple, grape, etc.? DON'T COUNT fruit-flavored drinks with added sugar like Capri Sun, etc.

   PDBFRJTJC: PD_Bev_FruitJuice
   □ 1 I did not drink 100% pure fruit juice during the past 7 days
   □ 2 1–3 times in the past 7 days
   □ 3 4–6 times in the past 7 days
   □ 4 1 time per day
   □ 5 2 times per day
   □ 6 3 or more times per day

15. DURING THE PAST 7 DAYS, how many times did you drink regular SODA or pop like Coke, Pepsi, Sprite, Dr. Pepper, etc.? DON'T COUNT diet or zero calorie sodas.

   PDBSODA: PD_Bev_Soda
   □ 1 I did not drink soda during the past 7 days
   □ 2 1–3 times in the past 7 days
   □ 3 4–6 times in the past 7 days
   □ 4 1 time per day
   □ 5 2 times per day
   □ 6 3 or more times per day

16. DURING THE PAST 7 DAYS, how many times did you drink ENERGY DRINKS like Rockstar, Red Bull, etc.? These drinks usually have caffeine.

   PDBENERGY: PD_Bev_EnergyDrink
   □ 1 I did not drink energy drinks during the past 7 days
   □ 2 1–3 times in the past 7 days
   □ 3 4–6 times in the past 7 days
   □ 4 1 time per day
   □ 5 2 times per day
   □ 6 3 or more times per day
17. DURING THE PAST 7 DAYS, how many times did you drink SPORTS DRINKS like Gatorade, Powerade, etc.? DON'T COUNT low-calorie sports drinks like G2, Powerade Zero, etc.
   PD_B_SPORT: PD_Bev_SportDrink
   ☐ 1 I did not drink sports drinks during the past 7 days
   ☐ 2 1 – 3 times in the past 7 days
   ☐ 3 4 – 6 times in the past 7 days
   ☐ 4 1 time per day
   ☐ 5 2 times per day
   ☐ 6 3 or more times per day

18. DURING THE PAST 7 DAYS, how many times did you drink any WATER that is not sweetened like tap water, filtered water, bottled water or sparkling water?
   PD_B_WATER: PD_Bev_Water
   ☐ 1 I did not drink water during the past 7 days
   ☐ 2 1 – 3 times in the past 7 days
   ☐ 3 4 – 6 times in the past 7 days
   ☐ 4 1 time per day
   ☐ 5 2 times per day
   ☐ 6 3 or more times per day

19. DURING THE PAST 7 DAYS, how many times did you drink MILK or have it on your cereal? COUNT other types of milk, like soy, rice, almond, etc. DON'T COUNT flavored or sweetened milk OR small amounts of milk added to coffee or tea.
   PD_B_MILK: PD_Bev_Milk
   ☐ 1 I did not drink milk during the past 7 days
   ☐ 2 1 – 3 times in the past 7 days
   ☐ 3 4 – 6 times in the past 7 days
   ☐ 4 1 time per day
   ☐ 5 2 times per day
   ☐ 6 3 or more times per day

These questions ask about the food you ATE DURING THE PAST 7 DAYS. Think about all the meals and snacks you ate from the time you got up until you went to bed. Be sure to count foods that you ate at home, work, restaurants or anywhere else.

20. DURING THE PAST 7 DAYS, how many times did you eat FRUIT like apples, bananas, melon, etc.? COUNT fresh, frozen, canned and dried fruit. DON'T COUNT fruit juices.
    PD_F_FRUIT: PD_Food_Fruit
    ☐ 1 I did not eat fruit during the past 7 days
    ☐ 2 1 – 3 times in the past 7 days
    ☐ 3 4 – 6 times in the past 7 days
    ☐ 4 1 time per day
    ☐ 5 2 times per day
    ☐ 6 3 or more times per day

21. DURING THE PAST 7 DAYS, how many times did you eat a GREEN SALAD, with or without other vegetables?
    PD_F_SALAD: PD_Food_Salad
    ☐ 1 I did not eat green salad during the past 7 days
    ☐ 2 1 – 3 times in the past 7 days
    ☐ 3 4 – 6 times in the past 7 days
    ☐ 4 1 time per day
    ☐ 5 2 times per day
    ☐ 6 3 or more times per day
22. DURING THE PAST 7 DAYS, how many times did you eat FRIED POTATOS like French fries, tater tots, hash brown potatoes, etc.?

   PD_FriedPotatoesFried
   1. I did not eat fried potatoes during the past 7 days
   2. 1 – 3 times in the past 7 days
   3. 4 – 6 times in the past 7 days
   4. 1 time per day
   5. 2 times per day
   6. 3 or more times per day

23. DURING THE PAST 7 DAYS, how many times did you eat any OTHER KIND OF POTATOES that aren't fried like baked, boiled, mashed or potatoes used in soups and stews?

   PD_PotatoesOther
   1. I did not eat non-fried potatoes during the past 7 days
   2. 1 – 3 times in the past 7 days
   3. 4 – 6 times in the past 7 days
   4. 1 time per day
   5. 2 times per day
   6. 3 or more times per day

24. DURING THE PAST 7 DAYS, how many times did you eat other NON-FRIED VEGETABLES like carrots, broccoli, collard, green beans, corn, etc. DON'T COUNT green salad or potatoes.

   PD_Vegetables
   1. I did not eat non-fried vegetables during the past 7 days
   2. 1 – 3 times in the past 7 days
   3. 4 – 6 times in the past 7 days
   4. 1 time per day
   5. 2 times per day
   6. 3 or more times per day

25. DURING THE PAST 7 DAYS, how many times did you eat refried beans, baked beans, pinto beans, black beans or other COOKED BEANS? DON'T COUNT green beans or string beans.

   PD_Beans
   1. I did not eat cooked beans during the past 7 days
   2. 1 – 3 times in the past 7 days
   3. 4 – 6 times in the past 7 days
   4. 1 time per day
   5. 2 times per day
   6. 3 or more times per day

26. DURING THE PAST 7 DAYS, how many times did you eat PIZZA like frozen, fast food or homemade pizza?

   PD_Pizza
   1. I did not eat pizza during the past 7 days
   2. 1 – 3 times in the past 7 days
   3. 4 – 6 times in the past 7 days
   4. 1 time per day
   5. 2 times per day
   6. 3 or more times per day

27. DURING THE PAST 7 DAYS, how many times did you eat TACOS, burritos, nachos or other dishes like these?

   PD_Tacos
   1. I did not eat these dishes during the past 7 days
   2. 1 – 3 times in the past 7 days
   3. 4 – 6 times in the past 7 days
   4. 1 time per day
   5. 2 times per day
   6. 3 or more times per day
28. DURING THE PAST 7 DAYS, how many times did you eat foods that you HEAT AND SERVE or make from a box like fried mozzarella sticks, Hot Pockets, macaroni and cheese, etc.? COUNT foods that are made at home or purchased out.

PDFRT: PD_Food_HeatServe
   1  I did not eat foods that you heat and serve during the past 7 days
   2  1--3 times in the past 7 days
   3  4--6 times in the past 7 days
   4  1 time per day
   5  2 times per day
   6  3 or more times per day

29. DURING THE PAST 7 DAYS, how many times did you eat PROCESSED MEAT like bologna or other kinds of lunch meat, hot dogs, bacon, etc.?

PDFRT: PD_Food_ProcessedMeat
   1  I did not eat processed meat during the past 7 days
   2  1--3 times in the past 7 days
   3  4--6 times in the past 7 days
   4  1 time per day
   5  2 times per day
   6  3 or more times per day

30. DURING THE PAST 7 DAYS, how many times did you eat HAMBURGERS OR CHEESEBURGERS? COUNT fast food burgers like Big Mac, Whoppers, etc.

PDFRT: PD_Food_Burgers
   1  I did not eat hamburgers or cheeseburgers during the past 7 days
   2  1--3 times in the past 7 days
   3  4--6 times in the past 7 days
   4  1 time per day
   5  2 times per day
   6  3 or more times per day

31. DURING THE PAST 7 DAYS, how many times did you eat FRIED CHICKEN like chicken nuggets, breaded chicken strips or breaded chicken patties? COUNT only chicken that has been fried.

PDFRT: PD_Food_FriedChicken
   1  I did not eat fried chicken during the past 7 days
   2  1--3 times in the past 7 days
   3  4--6 times in the past 7 days
   4  1 time per day
   5  2 times per day
   6  3 or more times per day

32. DURING THE PAST 7 DAYS, how many times did you eat WHOLE GRAIN BREAD like toast, rolls or sandwich bread? COUNT whole wheat, rye, oatmeal and pumpernickel bread. DON'T COUNT white bread.

PDFRT: PD_Food_WholeGrainBread
   1  I did not eat whole grain bread during the past 7 days
   2  1--3 times in the past 7 days
   3  4--6 times in the past 7 days
   4  1 time per day
   5  2 times per day
   6  3 or more times per day

33. DURING THE PAST 7 DAYS, how many times did you eat brown rice, whole grain/whole wheat pasta, or other COOKED WHOLE GRAINS? COUNT bulgur, cracked wheat and millet. DON'T COUNT white rice or regular pasta.

PDFRT: PD_Food_WholeGrainCooked
   1  I did not eat cooked whole grains during the past 7 days
   2  1--3 times in the past 7 days
   3  4--6 times in the past 7 days
   4  1 time per day
   5  2 times per day
   6  3 or more times per day
34. DURING THE PAST 7 DAYS, how many times did you eat any type of CANDY OR CHOCOLATE? COUNT candy bars, lollipops, suckers, sour candies, etc. DON'T COUNT sugar-free candy.

**PDF:CANDY: PD_Food_Candy**

1. I did not eat candy or chocolate during the past 7 days
   - 2. 1 – 3 times in the past 7 days
   - 3. 4 – 6 times in the past 7 days
   - 4. 1 time per day
   - 5. 2 times per day
   - 6. 3 or more times per day

35. DURING THE PAST 7 DAYS, how many times did you eat cookies, cakes, cupcakes, doughnuts, brownies, pop-tarts, etc.? COUNT homemade and packaged treats like Little Debbie, Hostess Twinkies, etc.

**PDF:CAKE: PD_Food_Cake**

1. I did not eat any of these during the past 7 days
   - 2. 1 – 3 times in the past 7 days
   - 3. 4 – 6 times in the past 7 days
   - 4. 1 time per day
   - 5. 2 times per day
   - 6. 3 or more times per day

36. DURING THE PAST 7 DAYS, how many times did you eat ice cream or other FROZEN DESSERTS like frozen yogurt, ice cream bars, etc.? DON'T COUNT sugar-free kinds.

**PDF:DESSERT: PD_Food_Desserts**

1. I did not eat frozen desserts during the past 7 days
   - 2. 1 – 3 times in the past 7 days
   - 3. 4 – 6 times in the past 7 days
   - 4. 1 time per day
   - 5. 2 times per day
   - 6. 3 or more times per day

37. DURING THE PAST 7 DAYS, how many times did you eat regular POTATOES CHIPS, corn chips or cheese puffs like Lays, Doritos, Cheez-it, etc.? DON'T COUNT baked varieties and don't count pretzels.

**PDF:CHIPS: PD_Food_Chips**

1. I did not eat chips during the past 7 days
   - 2. 1 – 3 times in the past 7 days
   - 3. 4 – 6 times in the past 7 days
   - 4. 1 time per day
   - 5. 2 times per day
   - 6. 3 or more times per day

38. DURING THE PAST 7 DAYS, how many times did you eat SUGARY CEREALS like Cap'n Crunch, Frosted Loops, Frosted Flakes, etc.? DON'T COUNT non-sugarcoated kinds like Shredded Wheat or regular Cheerios.

**PDF:CERESUG: PD_Food_CerealSugar**

1. I did not eat sugary cereals during the past 7 days
   - 2. 1 – 3 times in the past 7 days
   - 3. 4 – 6 times in the past 7 days
   - 4. 1 time per day
   - 5. 2 times per day
   - 6. 3 or more times per day

39. DURING THE PAST 7 DAYS, how many times did you eat NON-SUGARY CEREALS like regular Cheerios, Chex, Corn Flakes, etc.? DON'T COUNT sugary cereals like Frosted Loops or Frosted Flakes.

**PDF:CERENOSUG: PD_Food_CerealNoSugar**

1. I did not eat non-sugarcoated cereals during the past 7 days
   - 2. 1 – 3 times in the past 7 days
   - 3. 4 – 6 times in the past 7 days
   - 4. 1 time per day
   - 5. 2 times per day
   - 6. 3 or more times per day
Organic foods are grown and processed without the use of toxic pesticides and fertilizers.

40. DURING THE PAST 7 DAYS, how many times did you eat ORGANIC FRUITS OR VEGETABLES?

PFCORGCFV: PD_Food_OrganicFV
- 1 (I did not eat organic fruits or vegetables during the past 7 days)
- 2 (1 – 3 times in the past 7 days)
- 3 (4 – 6 times in the past 7 days)
- 4 (1 time per day)
- 5 (2 times per day)
- 6 (3 or more per day)

Section 2: Food Away From Home

41. In the past month, how often did you get food from the following places:

<table>
<thead>
<tr>
<th>Place</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convenience/Corner Store/Small Grocery Store/Corner Store</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Supermarket/Shopping Center/Mid-Size Grocery Store</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Fruit/vegetable market/Farmer's market/Co-op/Community Supported Farm</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Warehouse Club Store (such as Costco) or Discount Superstore (such as !</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

42. Think about your neighborhood, which is the local area around your home, within a 10-15 minute walk in any direction. Which of the following do you have in your neighborhood? Please select all that apply.

<table>
<thead>
<tr>
<th>Place</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convenience/Corner Store/Small Grocery Store/Corner Store</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Supermarket (or mid-size grocery store)</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Fruit/vegetable market (or Farmer's market/Co-op/Community Supported</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Agriculture (CSA)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fast food restaurant</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Non-fast food restaurant</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
Think about all the meals and snacks you ate and drank AWAY FROM HOME in the past 7 days, from the time you got up until you went to bed. Please count breakfast, lunch, dinner and snacks.

43. During the past 7 days, ON HOW MANY DAYS did you eat at least one meal or snack AWAY FROM HOME at...

<table>
<thead>
<tr>
<th>Option</th>
<th>On 0 days</th>
<th>On 1 day</th>
<th>On 2 days</th>
<th>On 3 days</th>
<th>On 4 days</th>
<th>On 5 days</th>
<th>On 6 days</th>
<th>On 7 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. A fast food restaurant like McDonald’s, Taco Bell or KFC?</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>PDM_AFDSTFD: PD_MealsAway_FastFoodRest</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. A full service pizza restaurant like Pizza Hut, Godfather’s or Cici’s Pizza?</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>PDM_AFDSTPD: PD_MealsAway_PizzaRest</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. A convenience store like 7-Eleven or Express Mart?</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>PDM_AFDSTNV: PD_MealsAway_ConvenienceStore</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. A full service restaurant like Red Lobster, TGI-Fridays, Chili's or an independent restaurant?</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>PDM_AFDSTRE: PD_MealsAway_FullServiceRest</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Section 3: Food in Your Home

The next few questions ask about food in your home. For this survey, home means the place where you and (TEEN) have lived for most of the time in the PAST 12 MONTHS.

44. Please think about the evening meals eaten AT YOUR HOME in the past 7 days. On how many of the past 7 days was the evening meal...

<table>
<thead>
<tr>
<th>Option</th>
<th>On 0 days</th>
<th>On 1 day</th>
<th>On 2 days</th>
<th>On 3 days</th>
<th>On 4 days</th>
<th>On 5 days</th>
<th>On 6 days</th>
<th>On 7 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Purchased from a fast food restaurant and eaten AT HOME?</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>PDM_HFDSTFD: PD_MealsHome_FastFood</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Delivered to your HOME like pizza or Chinese food?</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>PDM_HFDLIVR: PD_MealsHome_Delivered</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Made from a HEAT AND SERVE or box meal like Spaghetti-O’s, a microwave meal or frozen pizza, and eaten AT HOME?</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>PDM_HFHSERV: PD_MealsHome_HeatServe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Cooked from scratch or a recipe and eaten AT HOME?</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>PDM_HCOKK: PD_MealsHome_Cooked</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
45. How often are the following foods and drinks available in your home?

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Fruits or vegetables</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>PDADFV: PD_Avail_FV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Sweets like candy, cookies, cake, ice cream, etc.</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>PDASWEET: PD_Avail_Sweets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Sugary drinks like regular soda, sports drinks, fruit drinks, sweetened teas and other drinks with added sugar</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>PDASUGDRDK: PD_Avail_SugaryDrinks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Regular potato chips, corn chips or cheese puffs like Lays, Doritos, Cheetos, etc.</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>PDACHIPS: PD_Avail_Chips</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These next questions are about the food eaten in your household in the PAST 12 MONTHS and whether you were able to afford the food you needed.

For each of the statements below, please select whether the statement was NEVER true, SOMETIMES true, or OFTEN true for you or someone in your household in the PAST 12 MONTHS.

46. We worried whether our food would run out before we got money to buy more.

| PDFSRUNOUT: PD_FoodSecurity_FoodRunOut |
| ☐ 1 Never true |
| ☐ 2 Sometimes true |
| ☐ 3 Often true |

47. The food that we bought just didn’t last, and we didn’t have money to get more.

| PDFSNOTLAST: PD_FoodSecurity_FoodNotLast |
| ☐ 1 Never true |
| ☐ 2 Sometimes true |
| ☐ 3 Often true |

Section 4: Family Meals

For these next questions, think about meal times with your family.

Please select how much you disagree or agree with each of the statements listed below.

48. In my family, it is important that we eat at least one meal a day together.

| PDFTOGETHR: PD_FamilyMeals_EatTogether |
| ☐ 1 Strongly disagree |
| ☐ 2 Somewhat disagree |
| ☐ 3 Neither disagree nor agree |
| ☐ 4 Somewhat agree |
| ☐ 5 Strongly disagree |

49. In my family, we often watch TV while eating dinner.

| PDFTV: PD_FamilyMeals_WatchTV |
| ☐ 1 Strongly disagree |
| ☐ 2 Somewhat disagree |
| ☐ 3 Neither disagree nor agree |
| ☐ 4 Somewhat agree |
| ☐ 5 Strongly disagree |
For the following question, please select how often you read food labels or nutrition facts.

50. How often do you read the detailed food labels or nutrition facts?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>1</td>
</tr>
<tr>
<td>Rarely</td>
<td>2</td>
</tr>
<tr>
<td>Sometimes</td>
<td>3</td>
</tr>
<tr>
<td>Often</td>
<td>4</td>
</tr>
<tr>
<td>Always</td>
<td>5</td>
</tr>
</tbody>
</table>

Section 5: Your Preferences

The questions in this section ask about your food and drink preferences.

51. Please select one box for how much you DISLIKE or LIKE each of the drinks and foods listed below.

<table>
<thead>
<tr>
<th>Drink/Food</th>
<th>Strongly dislike</th>
<th>Somewhat dislike</th>
<th>Neither dislike nor like</th>
<th>Somewhat like</th>
<th>Strongly like</th>
<th>Never tried it</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Sweetened fruit drinks and teas like Capri Sun, Sunny D, Arizona Tea, etc.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>b. Regular sodas or pop, like Coke, Pepsi, Sprite, Dr. Pepper, etc.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>c. Any water that is not sweetened like tap water, filtered water, bottled water or sparkling water</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>d. Fruit like apples, bananas, melon, etc.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>e. A green salad, or other non-fried vegetables like carrots, broccoli, green beans, corn, etc.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

Section 6: General Information About You

We are interested in some general information about you. Your answers to these questions are important to us. They will help us better understand your answers to other parts of the survey.

52. Are you currently receiving food stamp assistance, such as Supplemental Nutrition Assistance Program (SNAP), Women, Infants and Children (WIC), Temporary Assistance for Needy Families (TANF) or Supplemental Security Income (SSI)?

<table>
<thead>
<tr>
<th>Assistance</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>I don’t know</td>
<td>3</td>
</tr>
</tbody>
</table>

53. Does (TEEN) currently receive free or reduced price lunch at school?

<table>
<thead>
<tr>
<th>Lunch Program</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>I don’t know</td>
<td>3</td>
</tr>
</tbody>
</table>
Section 7: Your Teenager

This next part of the survey asks you to think about (TEENS)’s eating habits. Remember to answer only for (TEEN).

54. How much do you disagree or agree with each of the statements listed below regarding your views on fruits and vegetables for (TEEN)?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Neither disagree nor agree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. I have to make sure that my teenager eats enough fruits and vegetables</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>PDPFVENGH: PD_ParentingFV_EatEnough</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. I buy fruits and vegetables for my teenager</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>PDPFVBUY: PD_ParentingFV_Buy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. I try to eat fruits and vegetables when my teenager is around</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>PDPFVTRYEAT: PD_ParentingFV_TryToEat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. I encourage my teenager to try different kinds of fruits and vegetables</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>PDPFVTTRYVAR: PD_ParentingFV_TryVariety</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. My teenager and I decide together how many fruits and vegetables he/she has to eat</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>PDPFVDECIDE: PD_ParentingFV_DecideTogether</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. I make my teenager eat fruits and vegetables</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>PDPFVMEAT: PD_ParentingFV_MakeEat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. It’s okay for me to make rules about how many fruits and vegetables my teenager can have</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>PDPFVMKRULE: PD_ParentingFV_MakeRules</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
These questions ask about junk food and sugary drinks that your teenager may eat or drink. Remember that JUNK FOODS are foods that are high in calories and usually have added sugars and fat and include candy, cookies, potato chips, French fries, etc. SUGARY DRINKS include regular soda, sports drinks, fruit drinks, sweetened teas and other drinks with added sugar.

55. How much do you disagree or agree with each of the statements listed below regarding your views on junk food and sugary drinks for (TEEN)?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Neither agree nor disagree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. If my teenager has a bad day, I let him/her have junk food and sugary drinks to feel better</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>PDPFBBADDAY: PD_ParentingFB_BadDay</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. I don’t buy a lot of junk food or sugary drinks for my teenager</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>PDPFBNOTBUY: PD_ParentingFB_NotBuyAlot</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. I try to avoid buying junk food or drinking sugary drinks when my teenager is around</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>PDPFBAVOID: PD_ParentingFB_TryToAvoid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. My teenager and I decide together how much junk food or sugary drinks he/she can have</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>PDPFBDISCIDE: PD_ParentingFB_DecideTogether</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. I have to make sure that my teenager doesn’t eat too much junk food or drink too many sugary drinks</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>PDPFBNOTEAT: PD_ParentingFB_NotEatTooMuch</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. I decide how much junk food or sugary drinks my teenager can have</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>PDPFBDISDECIE: PD_ParentingFB_DecideHowMuch</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. It’s okay for me to make rules about how much junk food or sugary drinks my teenager can have</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>PDPFBMIRULE: PD_ParentingFB_MakeRules</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix F: List of Competencies Met in Integrative Learning Experience

**Wright State Program Public Health Competencies Checklist**

<table>
<thead>
<tr>
<th>Competency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assess and utilize quantitative and qualitative data.</td>
</tr>
<tr>
<td>Apply analytical reasoning and methods in data analysis to describe the health of a community.</td>
</tr>
<tr>
<td>Apply behavior theory and disease prevention models to develop community health promotion and</td>
</tr>
<tr>
<td>intervention programs.</td>
</tr>
<tr>
<td>Communicate public health information to lay and/or professional audiences with linguistic and cultural</td>
</tr>
<tr>
<td>sensitivity.</td>
</tr>
<tr>
<td>Engage with community members and stakeholders using individual, team, and organizational opportunities.</td>
</tr>
<tr>
<td>Evaluate and interpret evidence, including strengths, limitations, and practical implications.</td>
</tr>
<tr>
<td>Demonstrate ethical standards in research, data collection and management, data analysis, and</td>
</tr>
<tr>
<td>communication.</td>
</tr>
<tr>
<td>Explain public health as part of a larger inter-related system of organizations that influence the health</td>
</tr>
<tr>
<td>of populations at local, national, and global levels.</td>
</tr>
</tbody>
</table>

**Concentration Specific Competencies Checklist**

**Health Promotion and Education:**

**Area 4: Conduct Evaluation and Research Related to Health Education**

<table>
<thead>
<tr>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 Create purpose statement</td>
</tr>
<tr>
<td>4.2 Develop evaluation/research questions</td>
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<td>4.3 Assess the merits and limitations of qualitative and quantitative data collection for</td>
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<td>4.4 Critique existing data collection instruments for research</td>
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<td>4.5 Create logic model to guide the evaluation process</td>
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<td>4.6 Develop data analysis plan for research</td>
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<td>4.7 Write new items to be used in data collection for research</td>
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<td>4.8 Evaluate feasibility of implementing recommendations from evaluation</td>
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<td>4.9 Disseminate research findings through professional conference presentations</td>
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