Mindless Eating as a Predictor of Body Mass Index

This study investigated mindless eating as a predictor of a person’s Body Mass Index (BMI). Results indicated that childhood and adulthood eating patterns and mindless eating behaviors were strongly correlated. Overall, findings suggest a connection between mindless eating and adult behaviors.

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Many studies have been conducted, and numerous theories have been formulated regarding causes of obesity (Faith, Johnson, & Allison, 1997; Gable & Lutz, 2000; Hewitt, 1997; Wadden, Brownell, & Foster, 2002), an epidemic plaguing people across the country. National surveys support these findings (Liebman et al., 2003). In general, Americans enjoy the abundance and variety of foods available, the automation of tasks both personally and professionally, and leisure activities are for the large part, effortless (Centers for Disease Control and Prevention [CDCP], 2006a).

The food pyramid is one way for people to manage their dietary intake, yet diet must be defined for each individual according to gender, age, and activity level in order to maintain a successful health plan (United States Department of Agriculture, n.d.). Mistakenly, some people tend to focus on certain foods and do not diversify their intake to create a healthy balance of nutrients. For example, people may consume vegetables by way of French fries and potato chips and grains may be consumed via pasta, tortillas, and hot dog buns. To complicate food consumption further, mindless eating patterns cause disruption in both intake and selection of foods. When food choices are coupled with mindless eating behaviors, such as eating while watching television or when bored, patterns of inconsistent eating and lack of control over the amount of food consumed become prevalent (Foster, Gore, & West, 2006).

Physical activity is a necessary and useful weight management tool (CDCP, 2007). However, people often opt not to participate in even the simplest activities. For example, people can take deliberate actions to park a longer distance from their destination for the purpose of exercising. The number of individuals who incorporate this activity into their daily routine is small. Similarly, exercise can be incorporated into many other routine activities, but this approach to exercise has not been widely used.

Obesity

It is estimated that 60 million American adults, age 20 and over, are classified as obese; a body mass index (BMI) greater than or equal to 30. This represents an increase of nine percent from previous calculations (CDCP, 2006d). Obesity is being defined as an epidemic as it increases a multitude of health issues including heart disease, strokes, and Type II diabetes (CDCP, 2006c). The CDCP is working to bring down
these high percentages to a more reasonable level of approximately 15 percent by the year 2010 (CDCP, 2006c). To meet this goal, it is important that physicians and psychologists focus attention on further analysis, to discover the root of obesity.

Children, as well as adults, are fighting the weight battle. The current figures indicate children are increasingly being classified as either overweight or obese (CDCP, 2006a). Children experiencing excessive weight issues are at greater risk of experiencing obesity as adults, resulting in severe implications for both their quality and quantity of life (CDCP, 2006a). An example of these implications is the CDCP’s (2006b) prediction that one-third of all children born in the year 2000 will become diabetic.

The CDCP (2006a) places great emphasis on children learning appropriate eating and physical activity behaviors that will assist in a healthy lifestyle through adulthood, thus avoidance of severe negative health consequences. To further emphasize appropriate learning behaviors for children, one study determined that when children are not guided in their food preference and activity choices, the children might develop poor habits and attitudes regarding these important aspects of their overall wellness (Johnson, Brownell, St. Jeor, Brunner, & Worby, 1996). This information exemplifies the importance of family origin as a direct reflection of potential obesity.

Researchers posit that environment has a more prominent effect than genetic factors on obesity (Faith, Johnson, & Allison, 1997). If people choose to be more sedentary and do not reduce their food intake, this type of behavior will cause an overall increase in the person’s BMI (Hewitt, 1997). Therefore, it is important to address the significance of how family behaviors dictate available food choices, how these food choices are consumed, and the type of physical activities promoted within the family unit (Gable & Lutz, 2000). To better understand the complexities of adults’ struggle with being either overweight or obese, it is important to investigate whether family of origin plays a role. Analyzing what children struggle with, relevant to weight issues, may hold clues to similar struggles with weight in adulthood.

Eating Behaviors

In a recent study, Steinberg et al. (2004) investigated whether parents and children, both normal and overweight, responded the same when questioned about various eating behaviors and patterns relating to the children. Two separate and validated self-report questionnaires (i.e., Questionnaire on Eating and Weight Patterns-Parent and Questionnaire on Eating and Weight Patterns-Adolescent) were used and resulted in non-agreement between the two groups. Consistent with previous results, Steinberg et al. (2004) found that parents had underestimated the eating habits of their children. Because of the lack of concurrence among what children and their parents report for eating behaviors, it is important to recognize the necessity of parents gaining a greater awareness of their children’s eating patterns.

Field, Gillman, Rosner, Rockett, and Colditz (2003) investigated the intake of fruits and vegetables among preadolescent and adolescent Americans. They discovered that 75 percent of these adolescents fall into a pattern of inadequacies relative to healthy food selections. Adolescents were eating less than the daily fruit and vegetable intake established by nutritional standards (United States Department of Agriculture, n.d.). These results compound the necessity for parents to have a clear understanding of both their adolescent’s daily caloric intake and what foods constitute their overall caloric consumption. Socioeconomic status further complicates food choices, as research has demonstrated that foods high in fat content cost less than a healthier diet consisting of fruits and vegetables (Caballero, 2004). Because of the difference in food costs, families that are of low-income fall short of attaining appropriate food choices and ultimately suffer from higher rates of obesity.

Bruss et al. (2005) addressed factors such as a lack of understanding by parents as they attempt to determine what their children should eat as well as how much they should be eating. Cultural factors are particularly important because parents of various ethnicities often mistakenly compare their children to other children in terms of size and weight (Bruss et al., 2005). Further, from a culturally based socialized perspective, food is utilized as a message of hospitality, therefore it is a custom difficult to ignore. Parents seemed to lack an understanding of what constitutes sweet versus non-sweet foods, along with the same confusion for fat versus low-fat or non-fat foods (Bruss et al., 2005). They further noted that if a parent felt their child looked thin and of a relatively normal weight, there was no reason why the child could not consume fatty foods. This type of attitude can have grave implications for a child’s health risks.

Mindless Eating Behaviors

An important consideration of eating patterns is an examination of activities and behaviors being performed by an individual while consuming food. For instance, a mindless eating pattern may involve a person eating because of being bored or eating while watching television. When these behaviors simultaneously exist, it is possible for a person to have
less focus on food choices and the amount of food consumed.

Liebman et al. (2003) studied people who were engaged in an activity while consuming food, and results indicated increased weight when people ate mindlessly. The researchers focused on how much food was consumed and concluded that attention to the television allowed for a lack of control over the amount of food eaten. People appeared to be focused on the activity and essentially lost focus on the quantity of food intake. However, they did not specifically indicate whether there was a control present for the nutritional aspects of foods consumed. Another indication of a connection between BMI and eating patterns was noted with respect to eating meals together as a family. While higher BMI participants were less likely to eat breakfast meals with their families, these same findings were not found with respect to eating dinner together.

Carolli, Argentieri, Cardone, and Masi (2004) discussed the implication of food advertisements influencing food choices. Unhealthy food selections, including a variety of snack foods and junk foods, are splashed across the television in a manner that seems to increase these types of foods being selected for consumption. Because of this, it is plausible to consider the implications of foods being consumed while watching television. If a person watches a great deal of television and is continually overwhelmed by unhealthy food advertisements, they may be inclined to eat these foods during television viewing. Although eating while watching television has its implications for the control of satiety factors, it appears that defining exactly what foods are being consumed during a mindless behavior is as important.

Activity Behaviors

Coupled with the necessity to appropriately manage food behaviors is the importance of physical activity. Children and adolescents are continually growing and they require active and positive attention in these areas, as they are key to productive development. Epstein and Wing (1987) discussed the need for children to have a stable exercise plan, consisting of caloric intake balanced with caloric expenditure. Children require a certain amount of food for effective growth and development. If the amount of food is exceeded, then appropriate physical activity must compensate for the excess food intake. Further, children and adolescents must maintain adherence to keeping their caloric and physical activities in equilibrium. A plan that exceeds what the child can realistically achieve may result in an ineffective lifestyle both nutritionally and physically.

Physical activity has been widely recognized as an important component in deterring obesity (Caballero, 2004). Parents play a key role in assisting their children with the adherence of a healthy lifestyle. Parents must be educated on techniques to influence their child’s health and be actively involved in their child’s overall eating and exercise behaviors (Epstein & Wing, 1987). Controlling these behaviors in childhood is critical to minimizing obesity in adulthood (Magnusson, Hulthen, & Kjellgren, 2005).

Long-term considerations of physical activity throughout the lifespan have greater potential for maintaining healthy weight, than activity designed to lose weight during a designated period. Sharpe, Granner, Hutto, Ainsworth, and Cook (2004) investigated the connection between BMI and recommendations for physical activity. They found that people classified as either overweight or obese were not participating in adequate daily physical activities when compared to persons of normal BMI levels. Recommendations for physical activity were based on energy expenditure offsetting caloric intake. Sharpe et al. noted the importance of moderate activities spanning a person’s life, with the necessity to make continued activity attainable. If people have a plan they believe is achievable on a continued basis, they will be more inclined to maintain a beneficial healthy lifestyle. Jequier (2002) emphasized behavior modification over genetic factors, noting that people do not become obese by food consumption alone, but rather via a combination of unhealthy food choices of high calories mixed with a lack of energy output to establish a proportionate balance. In addition, environmental aspects seem to promote an increase in unhealthy choices, therefore countering a person’s path to a healthy balance of food and fitness.

Family Behaviors

Prior to Jequier’s (2002) investigation of obesity, Gable and Lutz (2000) discussed implications of obesity and noted that people do not immediately become obese, but rather develop this over time through unhealthy behaviors. How parents generally discipline their children was correlated with discipline relating to their children’s food selections and overall intake. The more permissive the parents were in general, the more lenient they were with respect to their child’s diets. Parents that were more strict in their discipline were more restrictive with sweets and junk food, and more focused on their child’s health. The same pattern was revealed when physical activity was examined. In other words, the more controlled the discipline, the greater the level of physical engagement in healthy activity.
In addition to the previous findings, Gable and Lutz (2002) separately examined the amount of television viewed by children and the amount of snack foods they consume. Their results indicated an increase in BMI of children who watched a greater amount of television. A correlation between unhealthy snacks and an increase in BMI was also revealed. Both of these correlations indicate that food choices and sedentary behavior have an effect on children’s weight.

Like children, adults struggle with the same lifestyle complexities of obesity. Goss and Grubbs (2005) conducted a study that compared food consumption and physical activity to the body mass of both lean and obese individuals. They compared Florida counties with the highest BMI rates to Florida counties with the lowest BMI rates via a state health survey. Their results revealed a positive correlation of a lower BMI to a higher consumption of fruits and vegetables and increased physical activity with the reverse occurring among the obese counties (Goss & Grubbs). Goss and Grubbs further emphasized the importance of educating adults in essential food and activity behavior modification that could result in a healthier lifestyle.

If adults obtain the appropriate tools and techniques necessary to counter weight gain, then it is plausible to consider that adults should have an influence on children having the ability to offset weight gain. Golan, Weizman, Apter, and Fainaru (1998) researched this influence by examining parents as a unit of change as opposed to allowing the child to be the exclusive agent of change. Participants were divided into a control group consisting of the child being responsible for their own behavior and the experimental group with the parents being responsible for the child’s behavior. What the researchers discovered was that although both groups of obese children lost weight, the experimental group lost more, formulating a conclusion that parent decisions assisted in the child’s food intake and activity level (Golan et al.). They noted that there were disagreements between parents, with one parent adhering to certain guidelines for change, while the other parent lacked consistency. This appeared to cause confusion for the child as he or she attempted to adhere to the program, which suggests the importance of the family working together in all aspects of food consumption and dedication to adequate physical activity. Furthermore, if an obese child or adult strives to lose weight with unhealthy snacks and lack of exercise prevalent in their home, the difficulty for a person to sustain any type of program is significantly deterred.

**Limitations of Previous Research**

A limitation of previous research is that studies tend to focus on very specific potential causes of obesity. For instance, fast foods, snack foods, and television have been investigated separately as potential factors of weight gain. Although there is evidence for these factors, typically more than one variable influences weight gain. Furthermore, additional investigation is needed when comparing and contrasting these variables such as examination of eating while watching television. With increased automation and family lifestyles more fast-paced, it is necessary to formulate an understanding of how eating, mindless eating patterns, and physical activity are extending from childhood to adulthood. This is especially true because an abundance of research clearly states that a child suffering from obesity is highly susceptible to suffering from obesity as an adult (CDCP, 2006a). There appears to be considerable literature on childhood obesity and adult obesity but they remain separated into distinct categories. Family behaviors appear to have a significant influence on healthy and unhealthy food choices as well as living active or sedentary lifestyles. Although there is some research on family influence, there is a need for further clarity defining a connection between childhood behaviors and the extent that they are carried over into adulthood.

**Current Study**

This study examines the effects of mindless eating as a predictor of a person’s BMI. For the purposes of this study, we examined physical activity, eating behaviors, and mindless eating. Our interest was to compare the behaviors of participants from their childhood to their behaviors today. This is important because many learned behaviors occur in a person’s childhood and tend to transfer into adulthood (Wardle, Guthrie, Sanderson, Birch, & Plomin, 2001). We further examined how each of these areas compares to their current BMI. Specifically, it was hypothesized that behaviors from childhood, (i.e., physical activity, eating, or mindless eating), would be positively correlated with behaviors in adulthood. Furthermore, it was hypothesized that these behaviors would positively correlate with current BMI, therefore, the greater the frequency of behavior, the higher the participants BMI.

An analysis of the influence of family was measured by a questionnaire. Questions pertained to physical activity, eating, and mindless eating behaviors during childhood and adulthood. Responses were calculated by a frequency scale of behavior ranging from 1 to 5. A score of 1 indicated that the participant never engaged in the behavior, while a score of 5 indicated that they always engaged in the behavior. Participant’s
BMI was calculated with standards published by the Centers for Disease Control and Prevention (2006b).

**Method**

**Participants**

Participants volunteered from the general population of undergraduate students (N = 49) and data collection took place in a psychology department classroom. Of the 49 participants, 43 were women and 6 were men with an age range between 18 and 59 (M = 23.93, SD = 9.50). Participant’s ethnic origin consisted of 37 Caucasians, 7 African-Americans, 1 Hispanic, and 4 people that indicated another race. Body Mass Index (BMI) ranged from 17 to 47. For adults, a BMI below 18.5 is considered underweight and a BMI above 30.0 is considered obese.

Because all participants were derived from one campus, data collection was a convenience sample. Students were instructed that participation in this research was not required and they were free to withdraw from the study at any time without penalty. Each participant received one extra credit slip to be utilized towards coursework, at the discretion of his or her instructor.

**Instrumentation**

**Forms.** Participants were issued a consent form (see Appendix A) prior to administration of the questionnaire. Participant demographics collected (see Appendix B) included age, gender, and ethnicity. The participants were also asked to record their height and weight whereby the information was used to calculate their BMI (BMI = weight/height² x 703), as well as their highest weight known (the highest weight they remember being in their lifetime).

**Questionnaire.** I developed a 22-item Family Behavior Questionnaire (see Appendix C) adapted from the Family Eating and Activity Habits Questionnaire (Golan & Weizman, 1998) to collect data on physical activity, eating, and mindless eating habits. Specifically, questions were derived from the validated measure but formulated to address the participants in this study. The questionnaire was divided into two separate sections. The first 11 questions referenced behaviors while the participant was growing up (e.g., Growing-up, how often did you watch television) and the second 11 questions referenced similar behaviors in their current state (e.g., Currently, how often do you watch television). Questions pertained to behavioral characteristics concerning levels of and exposure to various physical activities as well as eating practices relevant to exposure and styles of eating. Additional questions involved mindless eating behaviors such as eating while viewing television and when feeling bored. Responses to behavioral statements were scored using a frequency ranking scale. Possible scores for individual statements range from 1 (never) to 5 (always) occurring. Lower scores indicated positive behaviors and higher scores correspond to negative behaviors. The questionnaires took approximately ten minutes to complete.

**Items reflecting different aspects of physical activity (i.e., 3a, 3b, 3c, 3d, 4, 5) were summed and comprised a physical activity subscale with reverse scoring for item 5. Items reflecting different aspects of eating (i.e., 6, 7, 8, 9, 10) were summed and comprised an eating subscale. Items reflecting different aspects of mindless eating practices (i.e., 11a, 11b, 11c, 11d, 11f, 11h, 11j) while growing-up and (i.e., 11a, 11c, 11d, 11e, 11g, 11h, 11i) currently were summed and comprised a mindless subscale with reverse scoring for item 11a.

**Procedure**

**Sign-up.** A research flyer and sign-up sheet were posted on a bulletin board outside the psychology departments main office located in the Social Science building. Participants voluntarily signed up for a designated time and day for data collection. Specified time slots allowed the researchers to dedicate ample time to work with each participant individually and avoid potential disruption while collecting data.

**Forms and questionnaire.** Upon arrival, each participant sat in one of the classroom chairs and was handed a packet of documents consisting of two copies of the informed consent, the demographic data sheet, and the questionnaire. After reading the informed consent, the participant signed one copy, returned it to the researcher, and retained the second copy for their personal records. Next, the participant completed the demographic data sheet and then the questionnaire. Once the participant completed the demographic information and questionnaire, all documentation was returned to the researcher. The participant was thanked for their time, instructed to retain their copy of the informed consent that provided information about the study, and issued an extra credit slip.

**Results**

The first hypothesis for this study was that behaviors in childhood and adulthood would be correlated. Specifically, we examined physical activity and found that childhood and adult behaviors were not significantly correlated, r = .21, p = .138. We also examined eating behaviors, specifically snacking and fast food behaviors to determine if childhood and adulthood habits were correlated. In this case, a strong positive
correlation, \( r = .50, p = .005 \) between eating behaviors in childhood and adulthood was present. A measure of effect size, or magnitude of relationships between childhood and adulthood, was large (\( r^2 = .25 \)) indicating that 25% of the relationship between these values is explained. Similarly, engaging in eating while distracted was highly correlated between childhood and adulthood, \( r = .49, p = .005 \). The effect size associated with mindless eating in childhood and adulthood was also large, \( r^2 = .24 \).

The second hypothesis for this study was that physical activity, eating, and mindless eating behaviors would correlate to BMI. Specifically, we examined physical activity with BMI in adults and found that the data approached significance (\( r = .27, p = .059 \)). An effect size of 7% indicated a moderate relationship between adult activity and BMI. We also examined eating behaviors, specifically snacking and fast food, to determine if adulthood habits were correlated to BMI. In this case, no significant correlation (\( r = .04, p = .758 \)) was present. Similarly, engaging in eating while distracted was not correlated with BMI (\( r = .10, p = .463 \)).

One finding that did not fall within either hypothesis was a strong positive correlation between current mindless eating behaviors and current eating habits, \( r = .32, p = .024 \).

**Discussion**

**Behaviors**

In our first hypothesis, we predicted that correlations between childhood activities and adult behaviors regarding physical activity, eating, and mindless eating behaviors would be present. The analysis did not indicate a connection between physical activity from childhood to adulthood. Because children must adhere to some form(s) of physical activity in school, it makes sense that a discrepancy with current activity exists. Although children are required to participate in educational physical activity, as adults, they are not required to perform these same tasks. Therefore, the decision to be physically active is left to individual willingness.

A connection was found between eating habits and mindless eating patterns from childhood to adulthood. This confirms the prediction that behaviors developed during childhood carry-over to adult years, suggesting that environment has a direct influence on both food choices and behaviors performed while eating. These findings concur with previous studies regarding environmental factors on behavior (Johnson et al., 1996; Faith, et al., 1997; Gable & Lutz, 2000; Field, Gillman et al., 2003). Implications of this finding suggest that because children are not responsible for food selections in the home, it is important for parents to consider what they introduce as food choices to their children. Children will eat what is put in the refrigerator and cabinets or placed on the table at mealtime. If more unhealthy foods are available, (e.g., snacks and fast food), children are inclined to grow up with a lack of understanding of these unhealthy selections. Further, they will be more inclined to eat these same unhealthy selections when they are adults.

Not only are healthy food choices important but patterns of eating must be considered. If children exhibit poor discipline in their eating behaviors, they have the potential of overeating. Children that eat because they are bored, do not eat at regular meal times, or eat while watching television are more likely to lose focus on the amount of food consumed, as suggested by previous research (Liebman et al., 2003). As noted by findings in this study, these mindless eating patterns hold significant potential of being performed as an adult. Familial treatment of these behaviors play an important role in how choices are made and patterns are formed (Golan et al., 1998). Specifically, if a family takes on the task of better managing these behaviors and eating patterns, the entire family will have an opportunity to reap the benefits (Golan et al., 1998).

**Body Mass Index**

In our second hypothesis, we predicted that participants’ adult behaviors, based on family origin, would positively correlate to their current BMI. Results indicate that current adult physical activity habits are not positively correlated with BMI, however, the correlation approached significance and additional data are likely to move it to a level of significance. As previously noted, children are required to perform physical activity in school and adults have the ability to make their own decision of participating in physical activity. How much physical activity, or lack of, appears to have an influence on a person’s weight, which has also been noted in an abundance of previous research (Epstein & Wing, 1987; Magnusson et al., 2005; Sharpe et al., 2004).

Although adult physical activity approached a positive correlate with current BMI, no relationship was found between adult eating habits and mindless eating patterns and BMI. One possibility for a lack of connection between these variables may be that participants in this study compensate for their eating choices and mindless eating habits with physical activity. Further, although snacks, sweets, and fast food were included as specific foods on the questionnaire, many other foods may be consumed. Excessive caloric intake must be offset by physical activity to avoid exces-
sive weight gain. Participants may consume an excess of calories but not related to the foods referenced in this study. Exactly which foods constitute caloric intake has a connection to weight as noted in previous research (Jequier, 2002; Epstein & Wing, 1987).

**Limitations of Study**

There are potential implications to the findings in this study. First, the questionnaire utilized consisted of questions adapted from a validated measure (Golan & Weizman, 1998). Specifically, questions were derived from the validated measure but formulated to address the participants in this study. The second implication of the final data may be a reflection of participation being voluntary and of convenience, which may ultimately result in the sample not being representative of the entire population. Finally, measures (i.e., questionnaire, height, weight) were self-reported causing a potential threat to accuracy in the data.

**Future Research**

There are several ways in which obesity may be addressed, (e.g., medication, diet plans, and surgery). Because these approaches may not be reasonable for all obese people, it is important to examine other approaches to prevention, mainly involving a preventative treatment that focuses on lifestyle changes and redirection of habits (Wadden et al., 2002). As family units become more affected by technological advances and fast-paced schedules, it is necessary to educate people on the importance of healthy eating and active behaviors. Many people fall short of taking care of their bodies because of convenience and lack of discipline, resulting in a lessened quality and quantity of life. This research merely scratched the surface of bridging the obesity gap between childhood and adulthood. These preliminary findings suggest a need for expanded research in this area.

With the correlation found between current mindless eating behaviors and current eating habits, the findings suggest that adults are choosing unhealthy foods while involved in mindless eating behaviors. Along with these results, further research should be conducted by obtaining a more detailed account of specific behaviors occurring within the family unit and the direct effects on obesity. This may ultimately help thousands of families to curb the obesity epidemic, and therefore live longer, healthier lives with the assistance of overall lifestyle plans (Bacon et al., 2002).

**References**


CONSENT FORM

I, ______________________________________ agree to participate in the research entitled Mindless Eating as a Predictor of Body Mass Index, which is being conducted by an undergraduate of the Psychology department. I understand that this participation is entirely voluntary; I can withdraw my consent at any time and have the results of the participation removed the experimental records, or destroyed.

The following points have been explained to me:

1. We are investigating mindless eating and eating behaviors. There are no direct benefits associated with this study, but a general contribution to research will aid in understanding of eating behavior. I will receive an extra credit form that may be accepted by one of my instructors.
2. The procedures are as follows: I will be asked to complete a demographic data sheet and information about my family behaviors. This study should be completed within 30 minutes.
3. There are no known discomforts or stresses that may be faced during this research.
4. Participation should not entail any type of risk.
5. The results of this participation will be confidential and will not be released in any individually identifiable form without the prior consent of the participant unless required by law.

____________________________________________        __________________________________________
Signature of Investigator                               Signature of Participant

_________________________        ________________
Date

PLEASE SIGN BOTH COPIES. KEEP ONE AND RETURN THE OTHER TO THE INVESTIGATOR.

Research that involves human participants is carried out under the oversight of an Institutional Review Board. Questions or problems regarding these activities should be addressed to Chairperson of the Institutional Review Board.
APPENDIX B

Demographic Data Sheet

Date:__________________________

Age:__________________________

Gender: Male __________ Female __________

Race: African American __________

Asian __________

Hispanic __________

Native American __________

White __________

Other __________

Height:___________

Weight:___________

Considering that one’s weight is a sensitive topic to reveal, we, the researchers, would like to assure you that the utmost confidentiality will be upheld and no personal identification will be linked with the information you provide. We cannot stress enough the importance of recording your weight AS ACCURATELY AS POSSIBLE in order to ensure the validity of our study. Thank you for your cooperation.

Highest Adult Body weight: __________
# APPENDIX C

## Family Behavior Questionnaire

**Instructions**
The following questions refer to your family behaviors **while GROWING-UP**. Check the appropriate answer to each question with a scale of frequency from 1 to 5; 1 represents “Never” occurring and 5 represents “Always” occurring.

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<tr>
<td>1. Growing-up, how often did you watch television?</td>
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<td>2. Growing-up, how often did you play video games on your television?</td>
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<td>3. Growing-up, how often did you engage in the following physical activities:</td>
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<td>a. Bicycle riding</td>
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<td>b. Taking a walk</td>
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<td>c. Sports</td>
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<td>d. Other</td>
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<td>4. Growing-up, how often did you engage in participation in constructive exercise classes? (You may include physical education in school)</td>
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<td>5. Growing-up, when you were not busy, did you get bored and resort to a relaxed state as opposed to performing a physical activity?</td>
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<td>6. Growing-up, how often were snacks available in your house, such as potato chips, popcorn, nuts, corn chips, etc.?</td>
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<td>7. Growing-up, how often were you allowed to eat these same snacks?</td>
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<td>8. Growing-up, how often were sweets available in your house, such as cookies, candy, chocolate, ice cream, etc.?</td>
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<td>9. Growing-up, how often were you allowed to eat these same sweets?</td>
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<td>10. Growing-up, how often did you eat fast food?</td>
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<td>11. Growing-up, how often did you participate in the following behavior:</td>
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<td>a. Eat during regular meal times, at the table with family?</td>
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<td>b. Eat from the pot or pan the food was cooked in?</td>
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<td>c. Eat while watching television?</td>
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<td>d. Eat while playing video games?</td>
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<td>e. Eat while doing your homework?</td>
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<td>f. Eat if you were bored?</td>
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<td>g. Eat after school, prior to dinner?</td>
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<td>h. Eat late, prior to going to bed?</td>
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<td>i. Eat at your leisure and without permission?</td>
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<tr>
<td>j. Take a second helping of food because it tasted good, even though you were having somewhat full?</td>
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**Instructions**
The following questions refer to your **CURRENT** family behaviors. Check the appropriate answer to each question with a scale of frequency from 1 to 5; 1 represents “Never” occurring and 5 represents “Always” occurring.

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<tbody>
<tr>
<td>1. Currently, how often do you watch television?</td>
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<tr>
<td>2. Currently, how often do you work on your computer, either personally or professionally?</td>
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<td>3. Currently, how often do you engage in the following physical activities:</td>
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<td>a. Bicycle riding</td>
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<td>b. Taking a walk</td>
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<td>c. Sports</td>
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<tr>
<td>d. Other</td>
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<td>4. Currently, how often do you engage in participation in a constructive exercise class?</td>
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<td>5. Currently, if you get bored, do you resort to a relaxed state as opposed to performing a physical activity?</td>
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<td>6. Currently, how often are snacks available in your house, such as potato chips, popcorn, nuts, corn chips, etc.?</td>
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<td>7. Currently, how often do you eat these types of snacks?</td>
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<tr>
<td>8. Currently, how often are sweets available in your house, such as cookies, candy, chocolate, ice cream, etc.?</td>
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<td>9. Currently, how often do you eat these types of sweets?</td>
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<tr>
<td>10. Currently, how often do you eat fast food?</td>
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<td>11. Currently, how often do you eat regarding the following behaviors:</td>
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<td>a. Eat during regular meal times, at the table?</td>
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<td>b. Eat by convention, as opposed to eating during regular time intervals?</td>
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<td>c. Eat from the pot or pan the food was cooked in?</td>
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<td>d. Eat while watching television?</td>
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<td>e. Eat while working on your home computer?</td>
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<td>f. Eat throughout your work day?</td>
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<td>g. Eat if you are feeling bored?</td>
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<td>h. Eat late, prior to going to bed?</td>
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<td>i. Take a second helping of food because it tastes good, even though you are feeling somewhat full?</td>
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