

AN ACTION RESEARCH STUDY USING PHOTOVOICE: COLLEGE STUDENTS'  
PERCEPTIONS OF EATING HABITS DURING  
CHILDHOOD

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## DEDICATION

I dedicate this dissertation to my parents, Jamie Mason and Marilyn Mason, for their ongoing commitment and faith in my completion of this degree. Without the support of my mother this would not be possible. Nothing is stronger than the bond of a family. I am so blessed to have the opportunity to share this experience with my little girls, Kylan Hope and McKayla Brooke. In loving memory of Kyle Matthew Caraway.

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## ABSTRACT

MAN'DEE K. MASON

### AN ACTION RESEARCH STUDY USING PHOTOVOICE: COLLEGE STUDENTS' PERCEPTIONS OF EATING HABITS DURING CHILDHOOD

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The family unit influences a child's development along with his or her external surroundings. These interactions have an impact on subsequent behaviors during the child's life. Connectivity of family members, including roles in meal planning, grocery purchases, and meal preparation, directly impresses upon the eating habits of children. The purpose of this research was to provide a greater understanding of consumption habits of college students from a developmental perspective. Qualitative action research was conducted using group and individual childhood questions, and PhotoVoice technology. PhotoVoice was used as a visual, verbal, and analytic tool for college student participants to illustrate obstacles to healthy eating. Results indicated that during childhood the participants were influenced by family dynamics of meal planning, parental food selection, and socializing factors related to peer interaction. Subsequently in college, results revealed factors including availability of healthy options, time, finances, resources, and access impacted the students' eating habits. This study acted to identify information in two areas. The first was childhood eating habit development from group and individual interviews. The second area focused on obstacles to healthy eating as college students. This also addressed students' cognitions about their food options on and

off campus. Findings indicated students would prefer healthier food and drink options. Students in this sample indicated a desire for food that is of better quality and easier access to better meal options.

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## CHAPTER I

### INTRODUCTION

An increased awareness of the development of childhood eating habits is necessary due to the escalation of obesity and consumption-related health issues in the United States. Nutritional intake has been found to impact both physical and psychological health in children (Hartmann, Czaja, Rief, & Hilbert, 2012; Noble, Stead, Jones, McDermott, & McVie, 2007; Quick, Wall, Larson, Haines, & Neumark-Sztainer, 2013; Ventura & Birch, 2008). “Obesity in the United States has increased over the past 20 years and rates remain high. One-third of U.S. adults (35.7%) and approximately 17% (or 12.5 million) of children and adolescents aged 2-19 years are obese” (Centers for Disease Control [CDC], 2012, p. 3).

With the increase of health-related issues due to dietary and lifestyle choices, it is important to gain understanding of how eating habits develop during childhood and adolescence in an effort to prevent these consumption-related issues before they begin. The complications from unhealthy consumption patterns, including food choices with little to no nutritional value and overeating, also lead to an increase in diabetes, heart disease, and other effects that compromise well-being. Heart disease is currently the number one cause of death among both men and women (CDC, 2014). Diabetes is becoming more common during childhood and can be correlated with high levels of sugar intake (LeClair, Marquis, Villalon, & Strychar, 2010; Quick et al., 2013; Skafida,

2013; Ventura & Birch, 2008). Eating disorders impact a large segment of the adolescent and young adult populations (Barker & Galambos, 2007; House, Su, & Levy-Milne, 2006; Huang et al., 2003; Matthews, Zullig, Ward, Horn, & Huebner, 2012). Also, attention deficit disorders and the severity of their symptoms have been linked to dietary choices (Pelsser et al., 2009). All of these health-related issues contribute to the current social epidemic that will impact the health of future generations and the way healthcare is delivered.

The adolescent stage of life spans from 12 to 20 years and encompasses a time of solidifying eating habits and health-related practices (Fismen, Samdal, & Torsheim, 2012; Hare-Bruun, Togo, Anderson, & Heitmann, 2011; Skafida, 2013; Worthington-Roberts & William, 2000). This significant life stage constitutes the link between childhood and young adulthood. Traditionally aged college students are in the adolescent stage of life and are unique in the sense that they are in a transition phase. Their level of autonomy and independence is increasing and early childhood experiences are still easily retrievable (Brannen & Fletcher, 1999). Thus, this population can be self-reflective regarding child rearing and home life experiences in terms of parental roles and nutritional intake.

Maternal figures in the family unit are more influential to nutritional intake as they are traditionally the primary caregivers and are more likely to purchase food for the family (Noble et al., 2007; Rasanen et al., 2001; Ventura & Birch, 2008). Parents provide the foundation for numerous behaviors or habits that set the stage for adult decision making processes regarding nutrition, symbolic meaning of food, and significance of

intake regarding overall health (Fisman et al., 2012; Peters, Sinn, Campbell, & Lynch, 2012; Ventura & Birch, 2008). Studies by Hare-Brunn et al. (2011) and Rasanen et al. (2001) indicated that a family's socioeconomic status, parents' levels of education, and access to healthy foods can all have an impact on food selection for their children.

Additionally, from a behavioral perspective, children are products of their environment (Cooke, 2004). Arcan et al. (2007) indicated that parent eating behaviors and meal planning are highly influential in terms of children's consumption of fruits, vegetables, and dairy. De Backer (2013) addressed the significance of passing eating habits from generation to generation within family units. Thus, familial nutritional selection choices determine dietary intake for children in the home. The selected college student demographic can provide insight to the salient factors related to childhood experiences with parents concerning nutritional intake and eating choices.

Social and peer relationships have an impact on a number of different childhood and adolescent behaviors (Terre, Drabman, Meydrech, & Hsu, 1992; Venditti et al., 2009). Rawlins (2009) indicated that the act of having meals together is a social event and a popular way of spending time with both friends and family members. Opportunities to engage in social activity rely on the existence of peer relationships, financial culpability, and availability of nutritional resources. Peer relationships can have an influence on food selection in the school lunchroom environment as well. Studies suggested that during childhood and adolescence it is important for the developing individual to "fit in" with their peer group (Agron, Takada, & Purcell, 2002; Rawlins,

2009; Terre et al., 1992). The influence of peers during childhood and adolescence can at times take precedence over parental influence (Rawlins, 2009).

The developmental progression of symbolic food meanings is influenced by those most significant in the child's life (McKinley et al., 2005). Children create schemas of food early in life based on experiences and interactions with different types of food (Borra, Kelly, Shirreffs, Neville, & Geiger, 2003; Luck, Waller, Meyer, Ussher, & Lacey, 2005). Food choices can also have an emotional component. The emotional significance of certain types of food typically is tied to early childhood experiences (Hartmann et al., 2012; Skafida, 2013). Symbolic meaning of food has been linked to one's cultural, familial and personal experiences (Fisman et al., 2012; McKinley et al., 2005). Food symbolism can be identified through parental and family relationships. The cultural and personal experiences are a reflection of the society in which a child is reared. Thus, the type of interactions addressed above have an impact on both the meaning of food and its overall significance when equated to healthy nutritional choices.

The goal of this research was to gain understanding of both the formation and current eating habits in an undergraduate college student population age 18-20 years using an ecological approach. Ecological research provides an understanding of human experiences through the lens of environmental systems in which one exists (Bronfenbrenner, 1986, 2005). Additionally, the study was conducted using qualitative action research and PhotoVoice to provide insight as to how college students develop food choices during childhood and the significance of food meaning from their perspective. The action research study seeks to obtain information from the college

student population as they are in a transitional stage of development and solidifying values regarding health and eating habits. Findings from this study can be used to modify current nutrition options accessible to students at the college campus. This will facilitate the promotion of healthy lifestyle choices related to eating habits among college students. This age group will be valuable for this study as research has indicated college students have an awareness of their development as it relates to the establishment of healthy behaviors related to nutrition (House et al., 2006; Huang et al., 2003).

### **Statement of the Problem**

According to the United States Department of Agriculture (USDA), there is limited awareness of the establishment of consumption habits during childhood and the subsequent relationship to the development or absence of health-related eating behaviors (2013). The agency also reported that currently 2 out of 3 Americans over the last 30 years have been identified as obese or overweight according to current health guidelines (USDA, 2013). The CDC identified that adults with a “Body mass index (BMI) greater than or equal to 30 are obese” (2012, p. 6).

Childhood obesity rates have also increased drastically. According to the CDC, “children with a body mass index (BMI) greater than or equal to the age and sex specific 95<sup>th</sup> percentiles of the 2000 growth charts are obese” (2012, p. 6). The national health and nutrition survey (NHNS) was conducted between 2009 and 2010. The survey indicated a total of 12.5 million United States children and adolescents were obese (CDC, 2012). Gender specific results were found by surveying children and adolescents between age 2

and 19 years. Findings indicated that over 5 million females and 7 million males were categorized as obese (CDC, 2012).

According to the National Association of Anorexia Nervosa and Associated Disorders (ANAD, 2015), “Thirty million people of all ages and genders suffer from an eating disorder (anorexia, bulimia, and binge eating) in the United States” (p. 1). Healthy decision making with regard to food choices during childhood is dependent on knowledge of nutrition needs and available food resources. The social environment in which children develop provides the framework for decision making regarding consumption patterns as they are influenced by numerous systems.

Current society has experienced an overall increase in obesity and weight related health issues in all developmental stages (USDA, 2013). There are a number of factors related to health-related weight issues including home environment, socioeconomic status, and availability of nutritional food sources. Additionally, as a result of reduced physical activity requirements in K-12 educational programs and an increase in social media activities, more people are leading sedentary lifestyles (Guinhouya et al., 2007). The lack of holistic health education programs, and limited access to healthy food in rural and inner cities containing children with low SES, are all contributors to the deficiency of vital health resources (Agron et al., 2002; Fisman et al., 2012; Hanson & Olson, 2013; Quick et al., 2013; Skouteris et al., 2011).

### **Research Question**

The following question was posed to provide insight into the development of eating habits from an ecological perspective.

How do college students perceive their current eating habits through the lens of childhood experiences?

### **Delimitations**

The population for this study included full-time male and female college students aged 18-20 years. The student participants were from a rural university in the southwestern part of the United States. All students signed consent forms to participate in the research process as listed in Appendix A, B, & C. The research study explored only the students' self-reported current and retrospective individual childhood experiences regarding the establishment of eating habits using an ecological approach.

### **Theoretical Framework**

The current qualitative study sought to gain understanding of how undergraduate college students formed eating practices using the ecological theory of development to guide the process. The ecological systems perspective provided the opportunity to examine influences existing in the home, community, peer group, culture, and other formative environmental variables that impacted eating habits of each participant. The key underpinning of the ecological approach is the interdependence between an individual and the environment (Bronfenbrenner, 1986, 2005). Each systematic environment identified by Bronfenbrenner related key factors that influence the ways in which one develops.

Each system was addressed in the research study from the group and individual interview addressing influences on childhood eating habits. Additionally, the theory was continually addressed in the PhotoVoice portion of the study as students address a



multitude of environmental factors that impact their current eating habits. Research of one's microsystem provides a more intimate insight regarding the influence of individual close relationships including family, peers, and home environment (Bronfenbrenner, 1986, 2005).

The mesosystem gave an understanding of the connectivity between home and community or the child's educational system. This was addressed when discussing each participant's school and community and how they influenced food selection. The exosystem addressed political forces including public policy that have an impact on numerous aspects of development. This aspect of ecological theory was addressed as students began discussing food options in secondary school and how changes in meal options were impacted by government decisions regarding nutrition of food offered in school lunch programs. This system further revealed connections of SES, employment, and community environment as highly relevant to the range of individual decision making and choices.

Investigation of the macrosystem aided in understanding the cultural influences that impact options and selection of nutritional intake. The university or campus culture was highlighted as a significant factor in food choice. A final comprehension of how all systems are interconnected and have a powerful influence on decision making choices was further investigated through the chronosystem (Bronfenbrenner, 1986, 2005). The chronosystem provided an investigative lens to gain understanding of how food habits are developed in totality. This portion of the theory allowed for the integration of all information obtained from the participants to reveal the "big picture" regarding eating

habit development and the interaction with current behaviors. Overall, this theoretical prospective was a functional backdrop for the study. It provided the opportunity to illustrate the significance of childhood, adolescence, and influence on developmental interactions related to eating habits extending into adult life.

Beyond the guidance of theory, the study employed an action research and PhotoVoice model to obtain information regarding the significance of each system depicted in Bronfenbrenner's ecological theory. Action research recognizes the significance of personal experience with the underlying goal of gaining information to improve the quality of life for others (Miles & Huberman, 1994). PhotoVoice provided the opportunity for college students participating in the study to give life to their eating habits with a visual and verbal interpretation of their most significant experiences. The combined use of PhotoVoice and action research approach led to open-ended communication with college students regarding the development of their eating habits including noteworthy factors influencing each system in their lives. Thus, a variety of investigative procedures were employed to obtain detailed data regarding the factors most salient to the development of eating habits among college students.

### **Definition of Terms**

To increase understanding of terms related to this research study, the following definitions were provided:

- Adolescence – Period of time comprising the chronological age group of (10-19) years, includes aspects of physical, emotional, psychological, and social development; also defined as encompassing the onset of puberty to

the achievement of economic independence (American Psychological Association, 2002).

- Body Mass Index (BMI) – A numeric value calculated by a person’s weight and height that is a reliable determination of body fat. The calculation of BMI is considered the preferred way to assess populations in areas of overweight and obesity (CDC, 2012).
- Obesity (children) – “Body mass index (BMI) greater than or equal to the age- and sex-specific 95<sup>th</sup> percentiles of the 2000 CDC growth charts” (CDC, 2010, p. 6).
- Obesity (adults) - “Body mass index (BMI) greater than or equal to 30. BMI is calculated as weight in kilograms divided by height in meters squared, rounded to one decimal place” (CDC, 2010, p. 6).
- PhotoVoice – A tool used in participatory action research that incorporates the use of photography to create and encourage social change (Wang, 2006). Appendices D, E, and F contain all components of PhotoVoice research including methods, training, and photo analysis questions.
- Poverty income ratio (PIR) – The ratio of household income to the poverty threshold after accounting for inflation and family size. In 2008, a (PIR) was equivalent to approximately \$29,000 for a family of four. Families living below the poverty level in 2008 totaled 13.2% (CDC, 2010, p. 6).

## **Summary**

The research question was examined using group and individual interview questions along with PhotoVoice to facilitate conversations from a personal, familial experience, and university cultural viewpoint using each system of the ecological perspective as a guiding framework. Both methods provided in-depth information regarding college student perceptions of their childhood eating habit development and subsequent food choices. PhotoVoice is a research method that provided the ability to gain an enhanced understanding of social issues and concerns with an insider perspective (Wang & Burris, 1997; Wang, 2006). Along with the interviews, the use of PhotoVoice by research participants facilitated knowledge regarding important issues regarding their eating habits through interactive discussion. Ultimately, the information obtained from the photographs provided a visual representation of the students' current experiences. PhotoVoice allowed the opportunity to identify areas of concern in the selected population and facilitated conversations to understand their needs to provide a framework to promote social change (Wang & Burris, 1997; Wang, 2006).

The definitions provided aided in understanding specific aspects of the adolescent stage of life, identified the baseline for body makeup (Body Mass Index), guidelines for obesity, threshold SES for household poverty, as all key terms are addressed in the literature review. Additionally, to gain personal understanding of participants' individual childhood eating habits, specific questions were developed as listed in Appendix G. Elements of the definitions are addressed in this area of the study. The sample population provided insight to their influences on health-related behaviors.

The data obtained from college students participating in the study will be used to improve college campus health programs. This includes providing nutritional food and drinks; access to nutritional resources; and education regarding healthy eating, meal planning, and meal preparation. This study will give rise to evidence-based educational practices regarding college student nutrition and eating habits in the area of higher education.

Information obtained from the group and individual childhood experience interviews provide a greater understanding of factors to facilitate healthy childhood eating. This also gave a foundation for understanding subsequent health-related consumption choices of participants at the university level. The aim was to gain understanding of the most salient influences on both positive and negative health behaviors among the sample of college students who participated in this study.

Key areas of focus included parental, peer, and social roles in childhood eating pattern development. Additionally, the health impact of college student eating habits as they relate to negative health impacts on both an individual and social level were addressed in this study. Understanding the salient aspects of family life, personal experience, and social factors that are influential during childhood provided insight regarding future healthy lifestyle choices. These variables ultimately impacted health decisions made by the college student population used in this sample.

## CHAPTER II

### REVIEW OF THE LITERATURE

Children are experiencing health-related complications due to inadequate nutritional intake at alarming rates (CDC, 2014; LeClair et al., 2010; Quick et al., 2013; Skafida, 2013; Ventura & Birch, 2008). The vast increase of obesity in both children and adults is making headlines in media reports (CDC, 2013; Guinhouya et al., 2007; Hartmann et al., 2012; Reish & Gwozdz, 2011; Skouteris et al., 2011). From this research there is a growing concern regarding the health implications for current and future generations. The following literature review addresses the growth of health-related consumption issues. The areas included heart disease, diabetes, eating disorders, and ADHD. Each has spawned concern on the impact of eating behaviors as related to longevity, physical, and mental wellness when addressing quality of life.

A number of internal and external factors influence the development of one's food selection patterns and eating habits. Internal factors are related to family of origin and family functioning. Family dynamics and the role of parents selecting food items in the home is noted as a significant variable (Arcan, 2007; De Backer, 2013; Fismen et al., 2012; Noble et al., 2007; Peters et al., 2012; Skafida, 2013). External factors include all components of the ecological system beyond the home and family dynamics in which one exists. It has been found that the external environment, including the geographic location and culture in which one develops, also plays a role in food selection (Counihan, 1992; Fismen et al., 2012; Hanson & Olson, 2013; Quick et al., 2013; Rawlins, 2009).

Likewise, within the social context of the external environment, the role of peers and social groups cannot be ignored in the formation of eating habits as food is an integral component of human interaction (Agron et al., 2002; Branen & Fletcher, 1999; Hanson & Olson, 2013; Hartmann et al., 2012; Quick et al., 2013; Terre et al., 1992). Additionally, the schemas developed as children regarding the meaning of food and psychological ties to certain types of food also influence food selection and eating habits (Borra et al., 2003; Branen & Fletcher, 1999; Cooke, 2004; House et al., 2006; Luck et al., 2006; McKinley et al., 2005; Rasanen et al., 2001).

### **The Current Study**

The current study sought to obtain information regarding eating habits in a qualitative format among college students. Previous studies have identified relationship factors between childhood eating habits and college student food choices (Branen & Fletcher, 1999; De Backer, 2013; Hare-Brun et al., 2011; House et al., 2006). Other studies focus on maladaptive patterns of health behaviors with a focus on disordered eating among the college student population (Barker & Galambos, 2007; Danner, Evers, Stok, van Elburg, & de Ridder, 2012; Deshpande, Basil, & Basil, 2009). The relationship between childhood experiences and subsequent health habits in adulthood is evident in all studies identified.

### **Research Focus**

The areas of interest for this research study surround aspects of college student participants' current interaction with food and during childhood through the lens of the ecological systems perspective. The selected focus areas and research methods provided

insight to the influence of each system on eating habits during childhood and college. An area of interest included college student cognitions regarding impressionable influences on childhood eating experiences. This was accomplished by their stories of childhood memories and PhotoVoice image descriptions from college regarding their eating habits.

Using a research format with interviews and PhotoVoice, the following areas were discussed with the participants. The value of primary caregiver interaction in terms of the establishment of eating habits was explored. The interplay of childhood food selection compared to college student food choices was analyzed for connections in terms of developmental behavior patterns in eating. Additionally, the role of other relevant systems including peer groups, social environment, and SES was investigated to gain understanding of their influence on the formation of eating habits.

The ecological perspective has been used to identify factors related to a number of developmental aspects among children, adolescents, and young adults. For the current study, each system aided in the identification of variables related to the establishment of eating habits based on both environmental and nurturing factors. Bronfenbrenner's (2005) perspective provided a framework for gaining insight to the research areas of interest. Specifically, the following research question was used to guide the qualitative study:

### **Research Question**

How do college students perceive their current eating habits through the lens of childhood experiences?



### **Childhood Experience and Parental Influence Eating Habits**

As primary caregivers, the parental role is a powerful factor in determining the course of their children's eating habits (Peters et al., 2012). Parents are highly influential in the home environment and are a significant part of the child's micro and mesosystem (Fisman et al., 2012). Primary caregivers select and purchase the food options that are available to children in the home environment (Noble et al., 2007). Thus, the options a child has in regard to nutritional intake and food choices relied heavily on the parents' choices when shopping for food.

Skafida (2013) used data from the Scotland longitudinal cohort survey of young children to conduct a mixed methods study to disseminate information regarding diet and meal habits from 2,277 participants. Structured face-to-face interviews and surveys were conducted with the maternal figure when children were 58 months old. The goal was to gain understanding of the quality of children's diets. Parents were asked to reflect on meal occurrence, meal habits, meal enjoyment, and quality of diets. All responses were based on family interaction, home environment characteristics, and sociodemographic variables that have been found to influence nutrition knowledge and availability (Skafida, 2013).

Findings revealed aspects of the family unit that were and were not related to children's nutrition. The study indicated that eating with family during meal time was not a strong predictor of adequate nutrition (Skafida, 2013). However, the family dynamic of being a single parent was an area related to children having more snacks than consuming meals on a regular basis. Additionally, being economically disadvantaged impacted the

quality of nutritional options. Skafida (2013) concluded the level of parental awareness of nutritional food, education regarding dietary needs of children, and socioeconomic status were factors that predicted consumption habits of children.

These findings suggest that children may have healthier eating habits when meals are planned and consumed in a consistent pattern (Skafida, 2013). Parents who were more nutritionally savvy and offered a balanced meal while facilitating meal time as a happy communal occurrence had better outcomes in terms of their child's health habits. Conversely, families that were disadvantaged socioeconomically and educationally were less likely to have a structured meal time and more likely to consume meals or snacks in alternate locations than a family dining area. The variable of meal time being related to as a time for families to share their experiences and discuss healthy eating behaviors is significant when addressing quality consumption patterns (Skafida, 2013).

Pedersen, Gronhoj, and Bech-Larsen (2012) found that family knowledge and education regarding nutritional needs influenced their children's awareness of healthy eating. Discussing food intake needs along with identifying unhealthy foods were factors of interest in communications between parent and child. Discussions and cognitive interpretations regarding healthy eating patterns among children and parents following their participation in a healthy eating intervention were assessed using a variety of qualitative methods (Pedersen et al., 2012).

The qualitative research study took place in Denmark with 38 families (Pedersen et al., 2012). Semi-structured interviews with children and their families three months following participation in a healthy eating intervention were used. Focal points included

family habits during meals, leisure behaviors, physical activity, grocery purchases, and cooking. Underlying areas of interest included the role of responsibility, motivation, and initiative. The overall focus centered on interaction between parent and child along with the influence children have on family in terms of healthy eating (Pedersen et al., 2012).

Studying the sources and nature of family members' awareness of healthy eating habits in relation to healthy eating socialization was the overall goal (Pedersen et al., 2012). Findings indicated that healthy influences from peer interaction, understanding the difference between unhealthy and healthy food choices, communication about healthy practices, and planning meals were all related to making better choices for nutritional intake. Pictures of healthy food options and appropriate portion sizes were also found to be positive variables for children in terms of creating healthy eating practices (Pedersen et al., 2012). From the study findings, it is clear that more research is needed regarding the cognitions of children's views on healthy eating.

Berge et al. (2014) conducted a quantitative study focusing on the role of parenting styles, emotional connectivity, and family functioning during adolescence in relation to eating habits. Data from the EAT (Eating and Activity in Teens) 2010 population study were used. The data were collected from a racial, ethnic, and SES diverse population of 2,793 adolescents between the ages of 11-19 years in Minnesota. The EAT survey contained 235 items related to weight status and weight behaviors among the adolescent population. Ecological and social cognitive perspectives were used to guide the study (Berge et al., 2014).

Findings indicated that family functioning and parenting practices are highly influential to adolescent eating habits (Berge et al., 2014). Overall, females reported higher levels of disordered eating than males with dysfunctional family units and lower emotional connectivity. The level of family functioning was a predictor of disordered eating with higher functioning families reporting fewer cases of dysfunction. Areas of familial interest included emotional connection, knowledge of adolescent behavior, and levels of psychological control (Berge et al., 2014).

Of the three areas highlighted, psychological control of the adolescent from one or both parents produced a negative impact on eating habits (Berge et al., 2014). The high levels of psychological control among parents were also associated with elevated levels of disordered eating practices. The results of this study support previous research in terms of positive parental interaction and lower levels of dieting and unhealthy eating habits among adolescents (Berge et al., 2014). Thus, findings indicated an interrelated nature of the formation of functional or dysfunctional adolescent eating habits as related to the level of family discord.

De Backer (2013) conducted survey research focused on the significance of family meal traditions and the role that the time a parent spends cooking plays on meal consumption patterns. The goal was to understand ways students of each gender reflected on the influence of their parents' cooking behaviors during childhood. The study was conducted at two Belgian universities using a convenience sample of 104 undergraduate (38 male, 66 female) students between the age of 18-26 years (De Backer, 2013).

Students were surveyed with questions created by De Backer using a three-part process. Initial surveys were related to current eating and cooking habits for each meal and their occurrence (De Backer, 2013). Students were asked to comment on whether meals consumed were with others or alone. Students were further prompted to identify the types of food consumed (eating out, pre-made meals, meals prepared by others at home, or home cooked meals prepared independently). They were also asked to identify the rate each category of eating occurred (De Backer, 2013).

Part two focused on parent and grandparent cooking habits and childhood eating practices (De Backer, 2013). Frequency of home cooked meals, meal times, and number of family recipes they possessed and used were also addressed. The final survey dealt with demographic questions, number of family members, and current living situation (De Backer, 2013).

Regression analyses were used with findings indicating that current dinner practices were related to childhood eating experiences, whereas breakfast and lunch habits were not impacted (De Backer, 2013). Recipes passed down from generations were more likely from the maternal side. More daughters had possession of family recipes than sons. Male students reported higher numbers of cooking in college when fathers cooked during childhood. Likewise, when mothers cooked more homemade meals or used family recipes, the children were more likely to cook for themselves as adolescents and young adults (De Backer, 2013). This study indicated that family values clearly impact childhood eating habits and subsequent behaviors in early adulthood.

Another aspect of family influence is related to the development of obesity. According to Huang et al. (2003) obesity has become a major issue in the United States and is increasingly prevalent during adolescence. This quantitative study aimed to address the rate of overweight and obesity, diet, and physical activity in a sample of college students. The purpose of the study was to create a basis to conduct larger scale studies for overweight and obesity prevention interventions (Huang et al., 2003).

Huang et al. (2003) surveyed 738 college students aged 18 to 27 years old at the University of Kansas. Dietary habits were assessed using the Berkley Fruit, Vegetable, and Fiber Screener. Frequency intake of fruit juice, fruits, vegetable juice, salad, potatoes, vegetable soups, cooked vegetables, fiber cereals, beans, and dark bread were measured. The authors selected three questions from the Youth Risk Behavior Survey to assess physical activity levels. Specifically they were interested in levels of engaging in exercise or sport activities resulting in sweating, heavy breathing, increased muscle tone, strength, or participating in a physical education class (Huang et al., 2003).

Lastly, BMI was calculated with respondents' self-reported height and weight. Results indicated most students did not meet the recommended amount for servings of both fruit and vegetables (Huang et al., 2003). Physical activity levels were low, particularly in students 20 years or older, and most students did not meet the recommended amount of physical activity per day. Overall, results indicated that a high percentage of the students were overweight and had poor dietary habits and low physical activity. Findings suggested greater needs for intervention, especially by colleges and universities during a major developmental period for students (Huang et al., 2003).

Additionally, family intervention has been found to be an effective method to prevent childhood obesity (Eli, Howell, Fisher, & Nowicka, 2014). However, parents are often hesitant to talk about their children's weight within the family or with the child. Eli et al. (2014) conducted a qualitative study examining how parents and grandparents became aware of their body weight as children. Eli et al. (2014) analyzed feelings, sources, and experiences associated with first time body weight awareness, and how these experiences potentially framed eating practices in adulthood. Participants in the study were 49 parents and grandparents from 16 low income families with children who were 3-5 years of age (Eli et al., 2014). Participant interviews were conducted, recorded, and analyzed for themes demonstrating sources of their body weight awareness as a child, and subsequent emotions associated with this awareness.

Of the 49 participants, 25 reported becoming aware of their body weight as a child (Eli et al., 2014). The findings of this study demonstrated none of the participants associated becoming aware of body weight as a child as a positive experience. A number of participants reported their negative feelings about body weight during childhood came from comments made by parents and/or peers. The influence of their comments impacted their self-esteem as an adult and decision to avoid discussions of weight with their own child (Eli et al., 2014).

The results of this study suggested that parental and peer comments have a lasting effect on the developing child's body image and cognitions about weight. Results also suggested interventions and open discussion about body weight with children should

occur in a positive manner. The findings promote a shift towards an affirmative health-focused intervention (Eli et al., 2014).

The studies identified in this section indicated the influential role of parents in the development of childhood eating habits. This included both positive and negative impacts to the child. The maternal role is a prevailing influence on eating habits during childhood as a result of being the primary shopper for the home. Additionally, family interaction during mealtimes, significance of eating together, and communication about healthy eating are all powerful in children's view of food and subsequent eating habits.

### **The College Perspective: Childhood Peers and Social Environment**

The power of peer relationships transcends beyond peer pressure and risk taking. Peers also influence children's consumption habits and choices (Quick et al., 2013). The peer group a child affiliates with is part of the child's micro and mesosystem. Additionally, the environment in which one develops, including available monetary resources, is highly influential in food selection habits of children (Fisman et al., 2012). The family social status can impact the availability and options for food resources. Factors related to socioeconomic status, the community in which one develops, and available resources have a reciprocal influence on all ecological systems. During elementary and middle school years, children are influenced by peers in a number of ways. The group structure of lunch hour in public schools has a role in facilitating peer influence on consumption patterns (Hanson & Olson, 2013). The stage of adolescence is a pivotal point in the development of food and drink habits.



To investigate this important developmental period, Quick et al. (2013) conducted a 10 year quantitative longitudinal study during the transition from adolescence to young adulthood to identify predictors of being overweight or obese. The goal was to assess factors related to obesity including personal, behavioral and socio-environmental areas. Data were collected from Project EAT (Eating and Activity in Teens and Young Adults) which included 2,134 diverse participants during two waves, one at 15 years and one at 25 years of age. At the 10 year follow-up, 51% of the population was overweight when compared to their baseline weight (Quick et al., 2013). This percentage is significant and warrants further research for prevention of weight gain related health issues.

Among the adolescent population studied, issues with body satisfaction, worrying about weight, unhealthy consumption behaviors (fasting, purging, dieting, binging), teasing from peers, and parental weight concerns were all predictors of being overweight as young adults (Quick et al., 2013). In terms of gender, females eating breakfast and dinner on a regular basis with higher intake of whole grain food sources were less likely to be overweight. Males consuming more vegetables were less likely to be overweight. However, teasing about weight by peers was a negative factor for weight gain at the 10 year follow-up in both genders (Quick et al., 2013).

According to Quick et al. (2013), peer influence was found to be a significant variable in consumption habits among this age group. The relationship with peers also impacted drink selection. Peers are also significant in the selection of snacks and other food consumed in school environments (Quick et al., 2013). This is a significant variable as adolescents and young adults often consume both lunch and snacks together. Peer

groups can play a powerful role in the school environment when children make decisions, thus impacting eating habits during adolescence.

According to McKinley et al. (2005), adolescence is an influential period that can determine behaviors and habits that carry into adulthood, particularly eating behavior. It is a period of time that involves education and spending more time with peers, both of which impact decision making processes. The overall objective of McKinley et al. (2005) study was to gain insight into children's views of food along with factors that influence food choices and eating behaviors.

The participants in this study were 106 boys and girls, aged 11-12 years, from 11 primary schools in Northern Ireland and England (McKinley et al., 2005). Each school group participated in two focus group discussions. The first group discussion concentrated on lifestyle factors. The goal was to understand areas of greatest influence in the areas of food and nutrition. The second discussion was set up as a brainstorming exercise where the immediate responses of the group to words associated with food, nutrition, and body image were provoked (McKinley et al., 2005).

The results of the first discussion indicated children had mainstream attitudes and preferences to television shows, movies, magazines and clothes all of which were influenced by peers (McKinley et al., 2005). The second discussion revealed that major barriers and motivations for healthy eating were convenience/availability, taste, mood, cost, filling power, appearance, and image/weight concerns. Many children recognized a key barrier to healthy eating was personal laziness. In terms of gender, boys tended to be

more influenced by sports while girls were more influenced by physical appearance (McKinley et al., 2005).

This study revealed many barriers and motivations for healthy eating behaviors in children (McKinley et al., 2005). These factors should be taken into account for nutrition and health interventions among children. Findings indicate education regarding healthy behavioral practices for children should be conducted in a positive manner. Some factors identified in this study can be easily addressed, such as perception of healthy food and nutrition education, while other factors such as availability and affordability of food in schools will be more difficult to accomplish (McKinley et al., 2005). Overall findings indicated eating habits developed during childhood carryover to future stages of development.

From the identified studies, the component of peer influence has impacted many aspects of adolescent behavior. Peers are visible in multiple parts of the ecological systems. Acknowledging the role of peer influence in the development of eating habits is an important component when creating effective measures to educate the population of children, adolescents, and young adults. This is especially important when the influence of peers impacts the sense of self including one's self-esteem, as many studies have cited the overall sense of personal well-being as a factor in the development of maladaptive eating habits.

### **Impact of Community and Geographic Locations on Eating Habits**

The social environment in which one develops has an impact on many aspects of life. Living in a metropolitan or rural area offers a diverse array of options and

restrictions when selecting nutritional options. Additionally, economic resources play an active role in the selection of food choices. Geographic location and resources influence all areas of one's ecological system. Many of the healthier food options often come with a higher price, especially when selecting organic products or fresh food selections.

Availability of foods due to geographic location is also a factor in nutritious food choices. The student population in the following study was derived from diverse backgrounds. The multitude of environments in which college students came from can provide insight to the challenges and advantages to living in rural or heavily populated areas. Bodor, Rose, Farley, Swalm, and Scott (2008) indicated that growing up in inner cities where access to quality fruits and vegetables is limited can play a role in unhealthy food selection.

The objective of the Bodor et al. (2008) study was to investigate the relationship between in-store food availability and consumption. The goal was to determine the potential affiliation with fruit and vegetable consumption in urban neighborhoods. The research process included the selection of four census tracts in New Orleans, Louisiana and surveyed 102 residents about their vegetable and fruit intake. Proximity proved to play a role in consumption practices of vegetables and fruit. Results indicated that greater vegetable availability, measured in linear shelf space, within 100 meters was a predictor of positive vegetable intake (Bodor et al., 2008).

The findings of this study suggest fresh produce availability in small neighborhoods may play a role in affecting diet, specifically vegetable and fruit intake (Bodor et al., 2008). Greater local fruit and vegetable availability may be important for

low SES households which may rely more on nearby small food or convenience stores. Thus, when limited resources are available, families are less likely to grocery shop and more likely to purchase quick meals that are often less healthy (Bodor et al., 2008).

Similiarly, children growing up in isolated rural areas also experience a lack of nutritional options and resources (Hendrickson, Smith, & Eikenberry, 2006). It has been suggested that low income is associated with having higher mortality and morbidity rates and poor diets that may be due to limited access to necessary foods. The mixed methods study investigated issues with food access and consumer perception of food availability for low-income residents (Hendrickson et al., 2006).

Hendrickson et al. (2006) selected two urban communities and two rural communities in Minnesota based on poverty levels and food issues. Data were collected from focus group discussions, consumer surveys, and inventory of food available in grocery stores located in the communities. Results indicated that food costs were higher in low-income communities and low-income households paid more for groceries than higher income households. It was found that urban community individuals more frequently felt food quality and variety was poor, where rural individuals were more likely to be satisfied with food quality and variety (Hendrickson et al., 2006).

Participants from both rural and urban communities were concerned that healthy food and high quality food choices were not affordable and that it affected the health of community members (Hendrickson et al., 2006). Findings indicated that low-income urban residents' food choices were diminished by small selection, poor quality, and high costs. Additionally, low-income rural residents may have a wider variety of food choice,

while suffering from high costs and transportation problems. Hendrickson et al. (2006) suggested food issues of this type hinder low-income residents' ability to maintain a healthy lifestyle. Thus, the connection of food resources to health was evident among the participants, while lack of resources and availability overshadowed healthy options. The significance of poverty and the overall impact on food resources in both rural and suburban areas is evident.

### **The Influence of Culture and Resources on Eating Habits**

According to the Centers for Disease Control (2013) approximately 19.9% of children in the United States are living at or below the poverty level, many of whom are in single parent homes. Families living at this level of economic disadvantage are less likely to have adequate nutrition or healthy food choices available to children at home (Nyberg et al., 2015). When economic resources are limited, access to many basic care needs are often ignored including routine care needs for dental and physical health.

Nyberg et al. (2015) conducted an action research based study using 243 students, age six, in schools from Stockholm County, Sweden from low-medium SES groups. This age group was selected due to the fact that it is a transition phase of life, bringing forth autonomy, while still under strong parental influence. Participant BMI, physical activity, SES, and parent level of education were all measured. Interviews were recorded and checklists were used to determine frequency of physical activity and intake of a variety of healthy versus unhealthy food items. Overall program effectiveness was evaluated qualitatively (Nyberg et al., 2015).

In terms of educating parents and children regarding the health benefits of physical activity, post intervention significance was only found among girls' total physical activity on weekends (Nyberg et al., 2015). More importantly, there was a significant change in consumption of vegetables among children. The effect was still consistent among males during the six-month follow up. Thus, providing education to parents regarding healthy eating habits and educating children in school are beneficial. Nyberg et al. (2015) proposed that the longevity of health-related behavior change is relative to the amount of healthy eating education provided. To improve family resources, it is important to identify levels of education and awareness regarding healthy levels of activity and consumption patterns during childhood.

The development of eating habits includes the influence of multiple systems including primary caregivers, peers, socioeconomic status, and location. According to a quantitative study conducted by Fismen et al. (2012), events that occur in childhood have a powerful influence on future life choices. Previous studies have suggested adolescence is a critical period for establishing food habits and preferences that carry into adulthood. Education, occupation and income are contributing factors to dietary inequality. The purpose of the study was to determine if material capital and cultural capital are independent determinants and predictors of eating habits among adolescents in Norway (Fismen et al., 2012).

The participants of this study included 3,318 boys and 3,129 girls, ages 11 to 16 years old, attending school in Norway (Fismen et al., 2012). Data were gathered and analyzed from the Health Behaviour in School-Aged Children survey, using the Family

Affluence Scale along with the number of books present in the household. Eating habits were measured by the reported frequency of consuming fruit, vegetables, sweets, and sugary soft drinks. Meal frequency was also measured by how regularly students ate breakfast or dinner (Fismen et al., 2012).

Findings of the study indicated that increased material and cultural capital each contribute independently to health (Fismen et al., 2012). Results furthermore suggested that limited cultural capital was more strongly associated with poor consumption of fruit and vegetables and irregular breakfast and dinner meal frequencies. Lower cultural capital was also a stronger predictor than material capital in consumption of sweets and sugared soft drinks. Thus, adolescents with families of high cultural capital are more likely to learn how to eat healthy at home. Overall, promotion of healthy eating should emphasize education, habits, and consciousness of a healthy diet. Additionally, promoting healthy eating should also focus on reducing the high cost of fruit and vegetables in Norway (Fismen et al., 2012). Familial resources, including cultural and material have an impact on healthy eating behaviors for children.

Overall, the development of eating habits is multi-faceted and involves many interactive systems which can be explained by use of Bronfenbrenner's ecological theory. The described studies highlight the significance of economic stability, geographic location and availability of healthy food options. The role of the primary caregiver's educational level and employment opportunities cannot be ignored when addressing factors related to children's food intake. Education of the primary caregiver regarding



healthy nutritional intake for children has also been cited in a number of articles as a variable of household consumption habits (Fisman et al., 2012; Skafida, 2013).

### **The College Student View of Eating Habits**

The perspective of the college student age group is valuable in that their developmental stage of life encompasses both adolescence and young adulthood. Traditional college students are at a phase in life in which they experience independence and freedom, and it is referred to as a time to solidify personal choices and values (Counihan, 1992). Values stem from numerous aspects of development including home life experiences and peer influences. As cited in many studies and in the media, weight concerns during college may become an issue for many young adults (Barker & Galambos, 2007; Gruber, 2008; House et al., 2006; Huang et al., 2003; Matthews et al., 2013). Coincidentally, the likelihood of becoming obese is a concern as it has reached epidemic levels in current society. Social support has been shown to be an effective source to change behavior, promoting healthy diets and weight loss.

Gruber (2008) conducted a quantitative study of social support as it relates to frequency of exercise and dietary habits among the college student population. The study explored the potential of using social support as an intervention tool for healthy eating and exercise. The intervention tool studied three contexts: diet and exercise, friends and peer influence, and gender makeup of the friend/peer context (Gruber, 2008).

To conduct the study, a Friend/Peer Support for Healthy Eating and Physical Activity Scale (FPS-HEPAS) was developed to measure social support for a healthy lifestyle (Gruber, 2008). It assessed two scales, one for friend support and one for peer

support. A sample of 410 undergraduate college students ages 18-24 from an African American minority university completed the FPS-HEPAS. Participants were also asked reasons they were exercising or following a diet. The gender influence portion of the survey included two questions asking the gender makeup of their friends and peers (Gruber, 2008).

The results revealed that females in the study sample received more encouragement and support for diet and exercise than males did, and females were more likely to exercise for weight loss (Gruber, 2008). When examining gender differences in friend and peer groups, it was found that females in the sample received more support for proactive exercise and dietary habits. However, an increase in criticism was noted regarding exercise habits when peer groups were predominately male. On the other hand, males were found to report more support for diet and exercise when peers were mostly female. Thus, gender differences in support do appear to exist and impact overall health practices among the college population sample used (Gruber, 2008).

Vella-Zarb and Elgar (2010) conducted a meta-analysis by gathering 24 studies about weight gain in the freshman year of college. The goal was to estimate the amount of weight gain by freshman college students based on previous research and to identify potential predictors of weight gain among freshman for future research. Vella-Zarb and Elgar (2010) identified there is no defined methodology for measuring weight gain during the freshman year of college and few guidelines existed for future research.

Vella-Zarb and Elgar (2010) researched articles published between 1985 and 2008 using MEDLINE, Web of Science and PsychINFO databases to gain data from all

disciplines addressing freshman weight gain. The study collected data including: sample size, significant change in weight, degree of weight gained, duration of study, gender, reporting method, and predictors of weight gain. The analysis revealed that of the 24 studies selected, the mean weight gain in college freshman was actually closer to 3.86 pounds (Vella-Zarb & Elgar, 2010).

Studies that examined predictors of weight gain found several contributing factors including: decreased or low physical activity throughout the year, high junk food consumption, recent dieting, evening snacking, high baseline weight, high stress levels, and dietary restraint due to living in dorms (Vella-Zarb & Elgar, 2010). The study suggested future research should focus on quantity of weight gain among freshman, predictors of weight gain, and gender differences. Findings suggested the call for presenting accurate information to students about potential weight gain while offering healthy lifestyle tips associated with weight gain during college (Vella-Zarb & Elgar, 2010). Thus, education regarding current behaviors and habits of college students is necessary as their choices can have an impact on food selection and overall health.

Branen and Fletcher (1999) compared the current eating habits of college students to their childhood eating habits instilled by their caregivers using quantitative methodology. The goal was to gain insight of the stability of eating and food habits from childhood into late adolescence. It was hypothesized that high parental control during childhood results in low self-control in older adolescence. Types of food habits studied include eating dessert, cleaning one's plate, and eating regularly scheduled meals (Branen & Fletcher, 1999).

A total of 1,000 undergraduate students were randomly selected from the 11,000 students enrolled at a Northwestern University (Branen & Fletcher, 1999). Students were surveyed on parental control of feeding relationships and subsequent eating habits. Questions concerned current eating habits, recall of eating experiences as elementary children, caregiver feeding style, and demographics. Recalled caregiver feeding style was categorized as: adult-controlled, child-controlled, and cooperative feeding. Of the 1000 surveys mailed, 546 surveys were completed (Branen & Fletcher, 1999).

Statistical analyses revealed that participants' current eating habits were dependent on childhood food practices such as eating dessert, cleaning one's plate, and eating regularly scheduled meals (Branen & Fletcher, 1999). The habit of cleaning one's plate caused concern. It was found that those required to clean their plates during childhood had a higher mean BMI when compared to those who were not. Additionally, parents who used food as an incentive had a higher mean BMI as well. The majority of the respondents indicated a cooperative feeding style. Although no differences were found in BMI of feeding style, cooperative feeding style is recommended as it results in better development of self-control. The survey results of this study support the theory that high parental control during childhood results in reduced self-control in older adolescence (Branen & Fletcher, 1999).

Deshpande, Basil, and Basil (2009) highlighted the importance of how beliefs concerning health can impact healthy eating behaviors in college students by applying the health belief model (HBM). The study extends the HBM model applicability to predict eating behavior in college students by studying the following variables: perception of

current dietary quality, perceived importance of eating a healthy diet, environmental variables, and self-efficacy. The purpose of this study was to test the predictive ability of the HBM and the likelihood of the participants to eat healthy in a two week period (Deshpande et al., 2009).

The study sample included 194 Canadian university undergraduate students, 18 to 25 years old (Deshpande et al., 2009). The participants completed an HBM survey including independent and dependent measures. The independent measures consisted of perceived severity, perceived susceptibility, cues to action, importance of eating a healthy diet, food features, benefits of healthy eating, barriers to healthy eating, and efficacy to healthy eating. The dependent measure was the participants' likelihood of eating healthy. Results indicated there was influence by gender, dietary status, value of a healthy diet, food features, and cues to eat healthy (Deshpande et al., 2009).

Surprisingly, there was no significance in the likelihood to eat healthy based on food price, taste, ease of preparation, or convenience on barriers and efficacy. Results indicated that males had a lower intention to eat healthy than females (Deshpande et al., 2009). Findings recommend that universities implement social change campaigns tailored to each gender promoting healthy eating among college students. They suggest that campaigns for females focus on the severity of not eating a healthy diet, while males' campaigns should focus on increasing perceptions of susceptibility (Deshpande et al., 2009).

## **Summary**

All previously reviewed studies highlighted the role of parental, familial, and environmental influences on the development of eating habits. Each can be connected to the systems in Bronfenbrenner's ecological model as elements of the home, school, peer, and family interaction are addressed in the articles. The initial set of studies focused on childhood and adolescence. The emphasis is on the interrelated aspects of each system and how the family unit impacts food selection, resources, and opportunity. The period of childhood is highly influential in terms of parents, family, and peers. It is a time for developing values related to health and consumption habits. Environmental factors including one's socioeconomic status, education regarding healthy eating, and accessibility to food resources are emphasized as being significant when making decisions about consumption. The concluding articles focused on college student health habits during the transition from late adolescence and early adulthood. These articles further established the impact of each system on eating habits from a developmental perspective.

The significance of education among children and parents regarding healthy eating practices is noteworthy in terms of proactive health choices. Additionally, the family socioeconomic status plays a role in food selection, availability, and planning of meals. The predominating methodology used to conduct each study was mixed methods or quantitative research. Very few studies in the area of childhood eating habits have used qualitative methods. No studies have been identified that have used PhotoVoice methodology to gain understanding of eating habits among the college student

population. For this reason, a basis for the need of a study conducted using qualitative action research is justified.

## CHAPTER III

### METHODOLOGY

This qualitative study focused on the impact of childhood experiences of college students' current eating habits. Participants were asked to communicate about their childhood eating patterns in a variety of formats. Specific focus was placed on the home environment and interactions with parents. Another area of interest was the influence of the participants peer group during adolescence on consumption patterns. They were also asked to communicate about their current eating habits and the relationship of these habits to their childhood experiences.

The goal was to disseminate the most salient aspects that contributed to the development and maintenance of their health-related eating habits from childhood to their current stage of life as college students. Learning about college student experiences during childhood and their current eating habits provided insight to issues in both developmental phases of life. This knowledge provided insight to create more effective approaches for educating the adolescent and parent population regarding proactive interaction to facilitate healthy lifestyles.

This action research study used group and individual interviews guided by PhotoVoice methodology to increase knowledge about the participants life experiences related to their eating habits. The population of students that participated in this study was able to shed light on the needs of the university in terms of providing healthy food



options and resources to students experiencing college life for the first time as illustrated in the photographs they selected. Many universities, including the focused educational institution of this study, require incoming freshman students to live on campus the first two years of college.

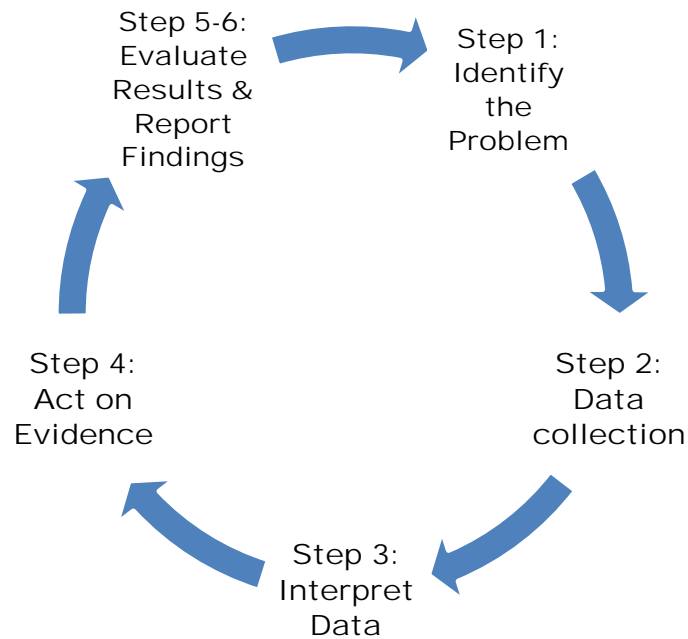
Thus, not only the developmental influence of family and environment of each college student was significant, but the campus environment and food resources available had an impact on the eating habits of college student participants. The goal was to gain understanding of health and consumption behaviors from the college students' perspective using visual images and verbal discourse regarding their development of eating habits during childhood. Information obtained from the study was multi-faceted. The participants' childhood experiences and current college environmental variables were explored to gain a better understanding of their eating habits and decision making processes regarding nutrition. The action research portion of this study was informed by this methodology. The goal is to improve nutritional options for students at the rural southwestern university by providing insight on student needs to the Healthy Campus 2020 initiative.

Action research embraced the need for collaboration between researcher and participants (McNiff & Whitehead, 2005; Mertler, 2006). This approach provided insight regarding the development of eating habits in terms of cognitive processes, family interactions, and peer relationships. The purpose of using action research was to provide an integrated view of eating habits with participants acting as co-researchers in the process. Additionally, this approach can be applicable to purposely-selected samples

(Mertler, 2006) and will provide a platform to use PhotoVoice to gain understanding of the development of eating habits during childhood.

The action research methodology provided the opportunity to obtain insight to improve eating habits among the college population. Ferrance (2000) illustrated the steps to conduct action research. The first step involved the recognition and establishment of the problem. This led to collecting information from a number of sources that are relevant to the problem. Following data collection, the researcher used a systematic format to analyze and evaluate the information. From analyzing the data, a plan of action was made to promote change in the area of interest. The plan will be implemented and evaluated to determine if selected measures resulted in improvement in the area of interest.

According to Ferrance (2000), the process is cyclical in nature and research is repeated to facilitate improvement in the area of interest. Below is Figure 1 of the action research process adapted from Ferrance (2000).



*Figure 1.* Steps to conduct action research.

Overall, the use of an action research approach with PhotoVoice methodology provided insight to the realities of eating habit development based on the perceptions of individual experience.

### **Research Question**

For the research study, the following question is posed to gain understanding of how ecological systems interact to facilitate the development of eating habits during childhood. The goal is to understand the fluidity of eating habits from childhood to early adulthood.

Research Question:

How do college students perceive their current eating habits through the lens of childhood experiences?

### **Method of Study**

An action oriented, qualitative approach was selected for this study for several reasons. Qualitative research aids in understanding participants' feelings, values, and perceptions that influence behavior in their natural environment (Denzin & Lincoln, 1994). Qualitative research also provides the opportunity to understand needs of the selected population using an interpersonal, interpretative approach. The researcher sought to gain understanding of the influential factors during childhood that manifest influence on eating habits among the participants age 18-20 years at a rural southwestern university.

Thus, this understanding required personal stories of each participant's experiences as he or she developed during childhood. The goal was to obtain 8-10 college students from a rural southwestern university age 18-20 years to participate in the qualitative study. Gaining understanding from this demographic can be beneficial to developing educational programs for both parents and children to facilitate healthy eating habits. Additionally, with the action research portion of the study, findings can be used to inform university policy to facilitate change if necessary in regard to access to healthy food and drink options for the student population.

Additionally, there are few research studies qualitative in nature regarding the development of eating habits. Quantitative studies related to eating and health-related choices often miss aspects of life that allow one to understand the dynamic nature in which events and personal choices unfold. Use of qualitative methodology provided the opportunity to gain understanding of the influence of home environments, mealtime, and

familial and peer influences, as well as the social environment in which one develops. For these reasons, the researcher determined qualitative methodology using an action research approach and PhotoVoice was the best avenue for participants to reveal salient life experiences that influenced their eating habits.

### **What is PhotoVoice?**

With advances in technology, new methodologies have been developed to gain understanding of components related to human behavior. This study sought to use PhotoVoice technology to gain visual representations of participant food selections associated with being healthy or unhealthy based on interactions during childhood, peer groups, family, and environment. PhotoVoice is a form of action research that directly involves participant input in the data collection and meaning of the content (Wang, 2006; Wang & Burris, 1997; Wang & Pies, 2004). A complete step-by-step PhotoVoice methodology as described by Wang (2006), with examples of how it was used in the research study, is included in Appendix D.

This methodology provided the opportunity to gather individual data to disseminate in interviews, develop themes, and ultimately reveal experiences related to the research area of interest (Wang & Burris, 1997; Wang & Pies, 2004). Participants were asked to photograph food; locations associated with eating in respect to childhood, peer, and family; and environmental influences. The resulting images were situated in a format with each category represented. According to Wang (2006) the SHOWeD method (Appendix F) provides an opportunity to address each photo in a uniform format with

each participant to insure all members discussed common areas when interviewed. The SHOWeD method with questions developed by Wang (2006) is included in Appendix F.

PhotoVoice technology and the SHOWeD method facilitated discussions during individual interviews, and subsequent reflective interviews to validate transcribed data and further develop themes (Wang, 2006; Wang & Burris, 1997; Wang & Pies, 2004). The individual interviews provided an intimate opportunity to discuss PhotoVoice images obtained on a personal level. The participants also had the opportunity to answer the individual interview questions (Appendix G) related to their childhood experiences with eating habit development as well. Subsequent individual interviews validated transcribed data and themes of college students' views of childhood eating habits along with their overall perspective of the research experience. Both interview processes were used to establish the reliability of the common themes among the selected population and complete the triangulation process. This was accomplished by the process of acquiring a rich level of data in multiple formats and repeated use of member checking to validate the study findings.

The goal was to obtain information regarding the influence of participants' childhood social interactions including caregiver and peer relationships. Additionally, Bronfenbrenner's (2005) ecological theory was used to guide the research process. Each system assisted in organizing data and provided insight regarding the influence of the many interworking systems that impact childhood eating habits. Questions were developed from the literature review encompassing areas of each system to facilitate the understanding of the development of childhood eating habits. The individual questions

(Appendix G) were used during the initial interview along with the SHOWeD method (Appendix F) to provide an in-depth discussion of the photographs each participant has selected.

PhotoVoice technology provided a visual representation of the participant perspective complete with a written explanation of the content (Wang & Burris, 1997; Wang & Pies, 2004). It was noted that the written content can vary in length but should capture the essence of subjective meaning in a literary/visual format (Wang & Burris, 1997; Wang & Pies, 2004). This qualitative data assisted in identifying themes among participants. PhotoVoice provided the opportunity to reflect on eating habits showing both strengths and areas of concern for healthy lifestyle choices among the participants. Photographs have an impact that differs from rhetoric in that photos reached both large and small groups and hopefully will impact education for healthy eating practices (Wang & Burris, 1997; Wang & Pies, 2004).

## **Research Participants**

### **Selection Process**

After IRB approval was obtained at two universities to conduct the study, the researcher used convenience sampling methods to recruit 8-10 participants. Convenience sampling is a participant selection process that focused on obtaining group membership based on accessibility and proximity to the source of the research project (Miles & Huberman, 1994). The researcher obtained nine students to participate in the qualitative study. The selected group size aligns with best practices in qualitative research (Mertler, 2006). All students age 18-20 years were potential candidates for the study as each

student requires food for survival and thus has developed eating habits. This number aligns with best practices in PhotoVoice research, as Wang and Burris (1997) indicated that participants for PhotoVoice should contain a maximum of ten members.

Student interest was encouraged in two ways. First, an email was sent (Appendix I) to all undergraduate students at the selected rural southwestern university requesting participation in the qualitative research study of the development of eating habits. Second, participant research request fliers (Appendix H) were placed in all academic buildings on the campus to encourage participation in the study. The research participation email and research request fliers (Appendix H & I) also illustrated a monetary reinforcer to increase student interest in the study. Students were offered a \$10 gift card upon completion of the study to spend at a location of their choice. Alternately, the researcher offered to donate \$10 to a local food pantry of the participant's choice.

Students interested in participating in the research study: (a) responded to the email expressing interest or (b) contacted the researcher from the flier information using the email address or contact number provided. Word of mouth or snowball sampling was also encouraged among potential students who responded with a desire to participate. The use of emails, fliers, and word of mouth, and the option of obtaining a gift card or donation provided adequate levels of participation to conduct the study.

After a sufficient amount of students expressed interest in the study, follow-up information regarding the initial meeting was provided by the researcher via email or phone. The follow-up contact format was dependent on the initial contact used by the students that expressed interest in the study. The initial meeting time and location were



provided to each student who participated in all or part of the research study. The researcher contacted students who expressed interest by responding to their emails with the initial meeting time.

Students who called expressing interest received a phone call with information regarding the initial meeting time and location. The researcher requested a confirmation from the participant acknowledging his or her ability to attend the initial meeting. The researcher had nine students express interest in participating and all nine participants (six females and three males) attended the initial group interview session. It is important to note that only eight participants (six females and two males) returned the disposable cameras and participated in the remainder of the study.

### **Student Demographics**

Students who participated in the research study were obtained from a rural southwestern university. The students who agreed to participate in the research study of eating habits were 18-20 years of age. The study began with a group meeting that included nine participants, with three males and six females. One male student did not return the camera or respond to emails regarding the individual interviews. Among the eight students that completed the study, two were Caucasian males, five were Caucasian females, and one was a Hispanic female. They were all enrolled as full-time undergraduate freshman or sophomore students at a rural university in the southwestern portion of the United States. The goal was to obtain both males and females to participate in the study. In order to prevent coercion, the researcher did not permit students enrolled in her courses to participate in the study.

### **The Initial Research Information and Training Session**

The initial meeting occurred at the rural southwestern university in a meeting space in an academic building and the focus was to discuss the parameters of the study (Appendix E). The study parameters included the time investment for interviews; taking photographs for the PhotoVoice portion of the study regarding participants' eating habits; subsequent interviews using the SHOWeD method to discuss the images obtained and individual interview questions related to participants' childhood eating habits; and a final interview to code data, validate emergent themes, and transcribe data content. In the initial group interview the researcher addressed the use of PhotoVoice (Appendix D); SHOWeD method (Appendix F); student use of the disposable cameras, which were handed out after signing of consent forms; and interview protocol for the individual and follow-up interview sessions.

Specifically, during the initial group meeting participants were provided with a description of the action research study format, use of PhotoVoice (Appendix D) and the SHOWeD method, and explanation of the consent forms (Appendix A, B, & C). This included the following: the consent form to participate (Appendix A), consent to use PhotoVoice (Appendix B), and the consent to publish photos (Appendix C). After explaining the parameters of the qualitative study, students chose to participate in the study and sign the consent forms (Appendix A, B, & C) or opt out of the research study and leave the meeting.

Those who elected to participate and signed the three consent forms were then provided with disposable cameras along with instructions for their use and timeline to

return them for development of photographs. They then participated in the audio recorded and transcribed group brainstorming session to determine initial themes or focus areas for the photographs they would take for the PhotoVoice portion of the study. The final component of the meeting included individual sign-up times for interviews to discuss the photographs each participant had taken for the study. Participants were provided with a calendar of prospective dates to sign up for individual interviews during this time. Individual interviews entailed a discussion facilitated by the SHOWeD method (Appendix F) of the PhotoVoice images captured by each participant. The individual interview was further facilitated by use of the individual interview questions developed in (Appendix G).

### **The Research Process**

Following the information session regarding the study (Appendix E) students that agreed to participate signed the consent forms (Appendix A, B, & C). This portion of the meeting was to provide participants with understanding of action research, the use of PhotoVoice to inform the research study, and the SHOWeD method for analysis of photographs. Following the discussion of the constraints of the research process, participant questions were answered and information was clarified to ensure understanding of all aspects of the research study. After questions were answered the researcher presented the participants with FUJIFILM quicksnap waterproof 27 exposure disposable cameras. Participants were given instructions on how to operate the cameras and any questions they had were answered by the researcher.

Wang (1999) indicated participants should be instructed to take as many photos as desired depicting the area of interest. When photos are reviewed for discussion, Wang (1999) suggested the selection of 5-7 photos by each participant to discuss. Overall, the goal was to obtain 5-7 photographs from each participant that gave a visual image of social and interpersonal factors related to childhood eating experiences, college eating experiences, and emotional responses to eating. The photographs provided insight on an individual level regarding participants' personal experiences with eating and further informed the needs of the university regarding healthy eating options for incoming students.

After discussing the use of the disposable cameras and the timeframe to complete the photographs, the researcher facilitated the audio recorded and transcribed brainstorming session. The purpose of the brainstorming session was for the participants to determine their initial themes for taking photographs as described in PhotoVoice methodology by Wang (2006) in Appendix D. The themes developed by participants were related to their eating habits. All initial themes were uniquely developed by each participant and this process was explained during the initial meeting as outlined in Appendix E. Photographs were taken in respect to the group themes developed with the following constraints: participant cognitions, familiar locations, and food items associated with participants' perspectives of eating; not of themselves or other individuals. Structuring the photos not to include human images is important to obtain approval to use this type of technology for qualitative research purposes. Overall, the photographs were decided to be taken among the group in the following areas: participant

influences on childhood eating habits, social contexts of eating on and off campus, types of food available, resources related to cooking facilities, time, money, and their college experience as students.

Following the brainstorming session, each participant was issued a user identification number to place on his or her camera to increase anonymity. Each participant was given seven days to take photographs and return the disposable camera to the researcher to develop the film. Cameras were returned to the researcher in her faculty office. The researcher developed all film for the study. Participants also signed up for individual interview times with their names modified to user identification numbers to be used for the remainder of the research study. The user identification numbers were outlined in the approved IRB for both universities to ensure confidentiality of participant information. Examples of participant identification numbers are A1100, B2100, etc. Sign-up times were offered at the end of the meeting and all participants were given a reminder card and emailed with their meeting time. All meetings related to this research study occurred in the same location at the university to reduce confusion.

The reality of the study through the lens of participant experience was revealed during the individual interviews and discussion of their photographs. The use of PhotoVoice provided the opportunity for participants to comment on their selected images as it relates to their personal experiences (Wang & Pies, 2004) with eating and developing eating habits over the lifespan. The individual interviews and images captured from the participant's personal view provided rich detail in terms of ways eating habits are established and an impetus for conversation between researcher and each participant

during the individual meetings. The use of SHOWeD methodology provided consistency in responses as this gave the opportunity to ask the same questions to all participants to gain insight of the meanings associated with each photograph they selected to discuss. Additionally, questions in Appendix G were used to insure that all areas of interest were addressed in the individual interview as this set of questions was directly related to their childhood experiences and the related ecological systems that influenced their development.

During the individual interviews participants reviewed all of the developed photographs they had taken. Then they selected 5-7 of the photographs they wished to discuss. The number of photographs is based on PhotoVoice research by Wang (1999) which indicated that 5-7 was the optimal number of images for each participant to discuss. The researcher had the film developed in two formats: physical pictures for the participants to view to and decide what they wanted to discuss, and on a disc that provided the option to view the images on a projector screen, enhancing the visibility and discussion of each photograph. At this time the meeting was audio recorded for later transcription of the information obtained regarding their interpretation of each photograph using the SHOWeD method (Appendix F) and the individual interview questions (Appendix G).

All photographs of interest were discussed using the SHOWeD method and individual interview questions were answered in the initial meeting. During this process, initial themes were further developed and validated by the co-researcher. Following completion of the individual interviews, the researcher scheduled a follow-up meeting

time with each participant to review the transcribed interview, validate themes, and determine the accuracy of the content. At that time, participants provided any additional information they wanted to share regarding their experience as a co-researcher in the study while reflecting on the accuracy of the transcribed data and themes that were developed. All information obtained from the interviews were transcribed verbatim.

### **The Researcher's Perspective**

The point of conducting a qualitative research study on eating habits was to collect individual data from college student participants to learn more about influential life elements that relate to their childhood behaviors. From my perspective, understanding the forces that impacted childhood decision making in the area of eating habits is relevant to enhance education for both parents and children to develop healthy eating habits. This knowledge derived at the individual level can both impact and influence the family unit in a positive way. If awareness is increased in the area of eating habits and the ways they are developed, necessary changes can be made to further prevent obesity and other health-related issues associated with maladaptive eating habits seen in current research.

Additionally, the action research and PhotoVoice portion of this study will be used to inform university settings in regard to the college student experience with eating in terms of obstacles to healthy options. The college student participants aged 18-20 years who were involved in this study are at a pivotal stage in life where the influence of home life is impacting their eating choices as they transition from adolescents to young adults. The researcher is currently a member of the Healthy Campus 2020 Initiative to improve

student health and the research obtained from this study will be presented to the committee to facilitate understanding of student needs related to healthy eating at the university following completion of her degree.

As the researcher in this qualitative study, I worked in conjunction with the participants as collectors of data and we analyzed information obtained collectively. When using qualitative methodology, it is vital as the researcher to be free from prejudice, preconceived ideas, or any other elements of bias that could impact the study findings. All final elements of data analysis were accomplished by the researcher as she provided the environment, facilitated all participant interaction, and gave instructions regarding the use of PhotoVoice and the SHOWeD method for photograph analysis.

Each participant was a co-researcher in the process of conducting this study. Participants were vital as they are the sole collectors of data regarding the PhotoVoice portion of the study. Their discussion of each photograph selected using the SHOWeD method provided invaluable information to inform the study findings. Additionally, his or her responses to the individual interview questions acted to encourage each participant to examine his or her developmental experiences with family, peers, educational environment, and resources. This collaborative discussion gave the researcher a better understanding of factors related to the development of eating habits and subsequent eating behaviors in college among the participants. The collaborative environment encouraged by the researcher increased the likelihood of participant transparency and researcher-participant trust.



## **Reasons for Interest in the Study**

My interest in eating habits and behaviors started in grade school when I began to see the impact of consumption behaviors among my peers and family. At that time it was the early 1990s and eating disorders along with health-related issues connected to eating habits (heart disease, diabetes, cancer, ADHD) were becoming increasingly prevalent. The scenario has only escalated among the United States population and college campuses as time has passed. I have had the opportunity to visualize this in the process of completing my undergraduate and master's degrees at a rural southwest Texas university.

As an individual with an education in psychology and counseling, I have had the opportunity to research disorders related to eating, populations effected, and societal impact. In the last 25 years, health-related issues associated with consumption patterns and food choices have only increased among children and adults. As indicated in Chapter One, obesity rates continue to rise in childhood along with health-related complications. An alarming increase is being seen among children and adolescents. From this information, it is clear that American society is being negatively impacted by eating habits.

I have been an educator of college students for over 12 years. As an educator in the area of psychology and child development, I feel it is my obligation to conduct research of benefit to children and parents as a whole and further impart that information to my students. To foster success, I believe that it is imperative for current and future student populations to be healthy in terms of mental, physical, emotional, and psychological well-being. This not only impacts their life, but future generations. Current

research indicates people are not healthy in these areas and therefore intervention is needed. It is my belief that education regarding healthy eating and lifestyle practices is imperative to longevity and this process begins in childhood.

My previous experience as a counselor working with adolescents, and current career as an educator and academic advisor with young adults has allowed the opportunity to understand the value of imparting knowledge to others. As a believer in Erik Erikson's (1963) psychosocial stages of development, I have a vested interest in both psychological and social needs throughout the lifespan. From this perspective, I also believe development is a reciprocal process in which interactions with those most influential can have a positive or negative impact especially on the lives of children. According to Erikson (1963), during the adolescent stage of identity development, the sense of self capability and control is a key aspect of becoming a healthy adult.

A child's home environment and interaction with primary caregivers as well as peers have a great influence on the development of future behaviors and habits (Erikson, 1963). From this perspective, social development is a reciprocal process between the developing child and those closely connected to his or her environment. An important area of social development that cannot be ignored when addressing eating habits is parental education and awareness of healthy versus unhealthy food options. Additionally, the amount of available resources to a family has an immeasurable impact on eating habits. Resources can be evident in terms of access to healthy food depending on geographic location and socioeconomic status. Financial burden can impact the amount

and quality of food available in the home. It is imperative that one understands best practices for healthy habits at all developmental stages to have a full and healthy life.

As an educator I feel that it is my responsibility to share information that could facilitate personal understanding and thus promote positive health-related practices. At the university level, students are expected to live on campus 1-2 years when starting their academic career from high school. During this time, they have limited food access especially when relying on campus meal plans, experiencing limited financial resources, or having reduced access to transportation. In a rural college town, access to healthy foods is more limited on and off campus, fast food venues are closely located to the university, and dining hall options are often less than optimal in terms of being healthy and tasty food selections. Knowledge obtained from the college student participants in this study can help foster change in areas that would improve nutritional options to our students at the rural southwestern university.

### **Areas of Potential Bias**

Action research warrants the significance of working collectively during the research process (McNiff & Whitehead, 2005). Mutual collaboration is vital in developing solutions to facilitate healthy eating habits among the college student population. Thus, triangulation was used in the process of both data collection and analysis. Basically, triangulation was the selected method to ensure validity of the study findings. This was accomplished by examining the data in the initial group brainstorming interview, individual interviews using the SHOWeD method, and follow-up interviews. The process was completed with each participant and researcher to validate the accuracy

of transcribed data, themes, and codes identified during the research process (Mertler, 2006). All participants documented their experiences on a visual level as they identified variables related to the establishment of their eating habits using PhotoVoice technology. The researcher and participant co-discussed the selected PhotoVoice photographs using SHOWeD methodology. This provided a written description of the visual images each participant obtained during the process of the study.

To reach saturation in the research study, findings were discussed using the SHOWeD method in individual interviews to validate initial themes from the group session. Individual follow-up meetings refined and authenticated the codes and themes developed throughout the research process from the initial group interview and data collected to the final transcribed individual interview information. The elements in each photograph were used to describe each of the participants' personal experiences and worldview of their eating habits. Use of this technology with action research provided the opportunity for intimate personal descriptions and reflections of each participant's life events related to their eating habits. This information was be used to make interpretations on the impact that individual experiences have on the development of eating habits (Wang & Burris, 1997). Gaining this understanding will provide insight to advance a healthy campus model for students. In the future, the researcher would also like to use the research findings to further the development and efficacy of a new holistic health focused psychology seminar course for undergraduate students.

### **Plan of Analysis**

To encourage rapport and interaction with the student population participating in the study, participants were viewed as co-researchers as member checking was repeatedly used in the analysis of data to ensure accuracy. It has been found that the interactive process between researcher and participant is a significant aspect of collecting data in action research studies (McNiff & Whitehead, 2005). According to Lincoln and Guba (1985) member checking is a way to test individual data to ensure accuracy when reporting results. This was accomplished in each phase of the research including group development of initial themes, individual theme development based on their childhood and PhotoVoice images and final validation of themes in the transcript review meetings. Thus, member checking was conducted in a systematic process to establish credibility of the study findings (Lincoln & Guba, 1985).

Additionally, each PhotoVoice photograph utilized the same interview format and SHOWeD questions to increase accuracy and uniformity of information obtained from each participant. Additionally all participants were asked the same individual interview questions regarding their childhood eating habits. Data were transcribed in the same order they were obtained to increase accuracy of findings and facilitate discussion with the participant regarding the overall validity of the content.

The analysis was a step by step process. Initially, group themes and areas of interest regarding participants' eating habits were identified in the audio recorded and transcribed group brainstorming interview. After the completion of the PhotoVoice portion of the study the researcher developed all participant photographs. The SHOWeD

method was used to discuss the photographs selected by each participant individually. During this meeting the individual interview questions were also addressed. At that time all responses to the questions from the interview and for each photograph were audio recorded and transcribed. Emergent, individual themes were derived from the PhotoVoice images and individual interview question responses collected by participants.

Thus, themes were further developed and evaluated from the group brainstorming sessions on an individual level when individual interview questions related to participants' childhood eating experiences and photographs were answered. After all interview data were obtained, audio recorded, and transcribed, the researcher scheduled a final meeting with each participant. The goal was to obtain feedback regarding accuracy of each transcription, and to provide the opportunity for participants to identify themes in their responses to further prevent bias in the study.

If errors were identified among the themes, modifications were made and noted. When corrections were made, the coding process continued and areas repeatedly addressed among each participant were identified and discussed in detail. The researcher selected several photographs taken by the participants that are most reflective of their experiences as college students and their eating habits to include in the study findings.

### **Triangulation**

The goal of triangulation is to use multiple methods to address a topic in order to insure that findings are valid and consistent (McNiff & Whitehead, 2005). Initially, participants were engaged in a group interview discussion to determine areas of interest and initial themes for photographs regarding their eating habits. This meeting gave a

guideline for participants to determine the types of photographs they took for the PhotoVoice research portion of the study. Thus, participants were asked to use PhotoVoice methodology, use the disposable cameras provided, and take pictures of images related to the development of their eating habits. During the individual interview, the SHOWeD method (Appendix F) was used to facilitate discussion of the photos obtained. Additionally, participants were asked the individual interview questions (Appendix G) developed by the researcher. The questions were related to findings from the review of previous relevant studies in the research area regarding childhood eating habits.

During and after the time feedback was received from the initial group brainstorming meeting, individual interviews, and follow-up transcription validation meeting, collective emergent themes were continuously developed between researcher and participant. Validation of emergent themes occurred by member checking and changes were made if necessary during each of the final meetings.

The final evaluation and validation of transcribed data occurred during the follow-up meeting. Participant feedback during this process provided the opportunity to confirm findings or make corrections to the data. Throughout the entire process of data analysis, participants were repeatedly invited to assist as co-researchers by validating findings, making suggestions and corrections, and ultimately confirming the final analysis. Using these methods, triangulation was achieved in the analysis of data.

## **Summary**

The selected methodology for the study was action research. Elements of participant observation through use of photovoice technology, triangulation of data, and member checking were used to analyze and code data, and to further develop the research study themes. The goal was to develop themes and patterns from the group and individual interview data, answer the research question, and further inform the action research portion of the study. The use of qualitative methods was selected for this study to identify salient aspects of college students' developmental life experiences that have had the greatest impact on their eating habits. Gaining this data in an action research format will facilitate campus health initiatives. The goal is to provide students and administration with information to promote healthy eating habits and personal health at the university. Chapter Four will include data analysis and results of the action research study.



## CHAPTER IV

### DATA ANALYSIS AND RESULTS

The data analysis process of this qualitative research study is outlined in this section. This chapter provides insight regarding college students' communication of their eating habits during childhood and currently in the university environment. The data collected in this study from the initial group brainstorming interview included signed consent forms (Appendix A, B, & C) from all participants. The signed consent forms were followed by an audio recorded and transcribed group brainstorming session to determine their areas of interest or themes for photographs. These were based on each participant's experience, and view of the influences on his or her eating habits for individual photographs.

Following the initial meeting, data collected from participants' photographs for the PhotoVoice portion of the study included audio recorded and transcribed individual interviews. The individual interview questions (Appendix G) were used at the beginning of the meeting. The SHOWeD method questions (Appendix F) for each of the photographs taken were used to address the research question and action research portion of the study. All portions of the individual interviews were audio recorded and transcribed. Following the discussion of the individual interview questions and the SHOWeD method questions, participants and the researcher discussed the initial group

interview themes and compared their photographs and information provided to determine if new or different themes had emerged.

The final portion of the study included a follow-up meeting with each participant to review the transcribed interview data, themes, and subsequent codes that emerged during the transcription review process. Participants again acted as co-researchers reviewing the data to note discrepancies. All participants agreed on the accuracy of the data and themes they had previously identified. Following completion of the study each participant was given the option to receive a \$10 gift card or \$10 donation to the food pantry. Participants also received information about the study findings reported to the Healthy Campus 2020 Initiative meeting during the Fall 2016 semester. All participants will receive an email regarding the findings, publication of the research, and meeting information.

### **Theoretical Perspective**

Bronfenbrenner's Ecological Systems theory addresses the relationship between multiple systems that influence individual lives (Bronfenbrenner, 1986, 2005). The ecological perspective served as the key theory in this study. Each system was addressed from the participants' communication regarding the development of their childhood eating habits. The individual interview questions focused heavily on each participant's micro, meso, exo, and microsystems in terms of the impact each had on his or her eating habits. Overall, the role of family, socioeconomic status, community resources, and food offered within the public school systems were noted as being highly influential to participants' eating habit development.

Additionally, the systems were further addressed as the development of participants' eating habits was discussed in the university environment. This portion of the research study emphasized the chronosystem's influence on the development of eating habits. As developing young adults, the interplay of systems occurring within the family unit, community, and current university environment influenced the discussion of eating habits.

### **Research Question**

The research question that guided this study was:

How do college students perceive their current eating habits through the lens of childhood experiences?

The research question allowed opportunities to gain understanding of participant childhood eating experiences and subsequent influence on their eating habits. From the angle of using action research and PhotoVoice, many of the participants elected to photograph the types of food options and locations they have access on and off campus. The discussions of photographs reflected connections to childhood and areas of influence that were experienced as college students. Student feedback from participant eating habit development indicated childhood dynamics were source traits related to food selection. Social factors including time, access, and resources were surface traits that ultimately guided decision making processes as college students. Thus, the research question could be modified to reflect the combination of childhood and social factors that reflect the current eating habits of college students.

### **The Interactive Process**

In the process of developing this research study, the researcher determined that using an action research approach would be most suitable to facilitate understanding of eating habit development and college student resources. Also, the action research approach was most applicable to PhotoVoice methodology. The goal was to obtain information in a number of ways to provide insight regarding eating habit development among college students. Initially, the group interview and individual interview questions were used to gain a better understanding of the developmental progression of eating habits from childhood.

Subsequently, themes developed from the initial group meeting guided the focus areas for the PhotoVoice portion of the study. The information obtained was used to understand obstacles experienced with eating healthy during college. Descriptions of the PhotoVoice images illustrated a need for change at the university level to provide healthy food options for college students.

PhotoVoice has been used as a research tool to give life to human experiences by using photographs as symbols (Wang, 2006). PhotoVoice has been used with action research to provide visual media of participant experiences. The images provide for a better understanding of an issue to promote change (Wang, 2006). The use of action research and PhotoVoice allowed participants to be actively involved as co-investigators in the study.

Selection of PhotoVoice was an excellent visual research tool for this study. It provided in-depth information about food choices of the college students that

participated. The images also illustrated obstacles college student participants encounter when making food choices. Without participants acting as co-researchers and selecting the type of photographs that impacted their eating habits, rich detail of their real life experiences would not have been realized. The depth of the research study progressed from the initial theme development in the group meeting. Participant PhotoVoice images revealed elements of the daily realities college students confronted with eating healthy.

The types of data collected included an audio recorded and transcribed group interview (approximately 1 hour 15 minutes). The interview was to address childhood influences on eating habits and gauge areas of interest for taking photographs. Upon completion of the group meeting participants scheduled an individual interview and were tasked with taking disposable cameras to conduct research on eating habits. The goal was to obtain photographs to inform the proposed group themes from the initial meeting. Each participant returned the cameras within seven days for the film to be developed. After approximately one week all film was returned and developed. At that time the individual interviews commenced.

### **Initial Development of Themes with Co-Researchers**

The initial group meeting was held to determine student interest in research and obtain consent for participating in the study. Participants were informed of the study topic, PhotoVoice research methodology, and the SHOWeD method of analyzing photographs. Students had the opportunity to learn about the research process, and their roles as co-researchers in the study, and to sign consent forms for participation. After that

process was complete, the audio recorded group brainstorming session for the PhotoVoice portion of the study began.

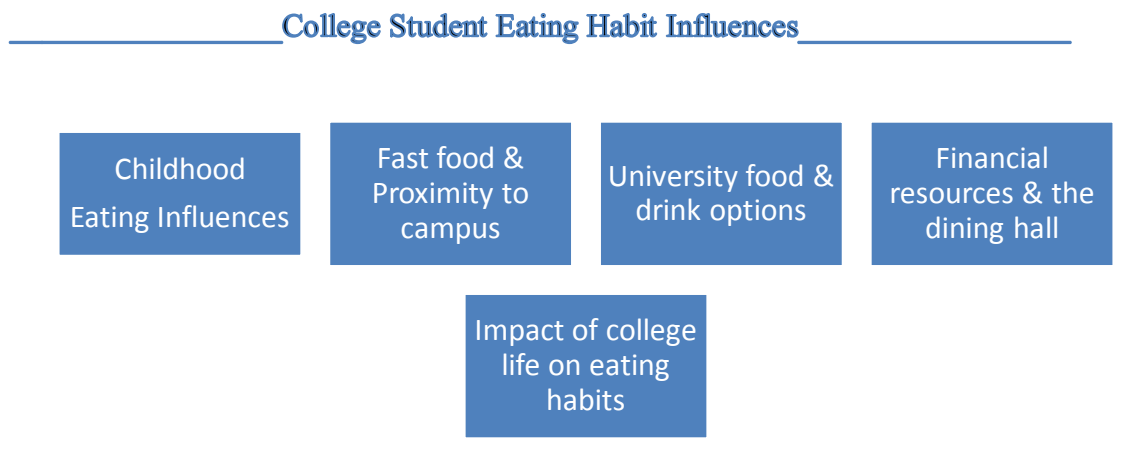
In terms of the PhotoVoice group brainstorming session, Wang and Burris (1997) identified that data analysis is a co-researcher process beginning with selection of themes. The group session was for initial theme development to provide focus areas for the PhotoVoice images. This format of initial theme development allowed student participants a foundation to select the subject matter in their photographs. Participants further guided the research process by selecting 5-7 photographs based on their view of what is most important to discuss. The data analysis process was facilitated by a discussion of the PhotoVoice content using the SHOWeD method which led to further identification and validation of themes (Wang & Burris, 1997).

The researcher started the group session by asking students to think about childhood eating experiences and current eating habits. All students agreed their parents had an influential role in the types of food and drinks they consume currently. Many reflected on liking the same types of snacks as they had during childhood. They also related that financial and time constraints impacted their food choices. This was addressed along with availability of healthy food options at the rural southwest university. Students then embarked on a discussion of the campus environment and eating habits as college students. This topic initiated a discussion of the areas of importance or initial themes for PhotoVoice photographs.

The next portion of the study surrounded the initial themes developed by the participants as a group. The focus was correlated to the college environment in many

areas. Additionally the influences of childhood seemed to set the stage for schema development of foods that were both liked and disliked, healthy and unhealthy.

The following focus areas or initial themes in Figure 2 were developed by the co-researchers based on experiences from childhood to the current developmental stage in college. Areas of interest rely heavily on the current living environment experienced as college students. While childhood influenced their cognitions and beliefs about food, the environment was more predictive of current food selections. Thus, pictures depicted the current lifestyle as college students. The impact of childhood eating practices is reflected in student themes related to the options available and food consumed.



*Figure 2.* Initial group developed themes for PhotoVoice images.

### **Comparing Childhood Influences to Current Eating Habits**

The students began by discussing similarities and differences in childhood eating habits and current eating habits as college students. Many were quick to identify that having scheduled meals at home as children did not occur in college. Several noted that breakfast was always prepared by their parents during childhood. Currently, many

indicated they did not eat breakfast as college students due to time constraints and economic resources. Overall, everyone agreed they had healthier food growing up than they are currently consuming as college students.

In terms of reflecting on childhood eating experiences and current college life, students made the following comments, “I didn’t have the amount of processed foods as a child compared to now.” Another stated, “My food was always home cooked as a child.” One reflected, “I am eating the same things as I did when I was a child, but we always ate out.” A student recalled, “My mother or father always woke us up with breakfast on the table.” Some included the impact of extended family and indicated, “We ate at my grandparents’ house several times each week and they always had a big meal like it was the holidays!” The group discussion of childhood dynamics provided insight into early eating habits, ways meals were consumed, and primary familial influences.

### **Fast Food and Proximity to Campus**

The students addressed an interest in photographing local fast food places in close proximity to the university as that was an area they often consumed meals. They were quick to identify issues with healthy food options available from fast food restaurants. Healthy food was often in smaller portions, more expensive, and less visible on the menu. In comparison, there was greater visibility and marketing of less healthy and inexpensive popular items. Participants also addressed the issue of food venues near campus being unhealthy. The group felt that fast food venues appeared to cater to college students by offering lower prices on unhealthy items including pepperoni pizza and hamburgers during noon and evening hours.



A student quickly remarked, “Everything within walking distance is junk food.” One student stated the following about a nearby coffee and sandwich shop, “I spend a lot of time there and nothing displayed near the counter is healthy. I search the menu to find healthy things. They seem to focus on displaying sweets and coffees with an enormous amount of calories.” Another student addressed the significance of late night studying and eating afterward. “If you study past 11:00, Whataburger is the only place that you can get anything to eat. It’s not healthy, but it always tastes good.” The researcher then asked if they would like to photograph the inside of the described locations to give a better description of what is offered and the group agreed. This discussion provided insight to the participants’ view of their current options regarding food selection and some of the constraints to healthy eating they experienced as college students.

### **University Food and Drink Options**

Another theme was the food and drink options available to students exclusively at the university. All students indicated they consumed meals at the campus dining hall, library, or student center on a weekly basis. The primary focus of the conversation was food expense and quality of food available. Specifically, they addressed the dining hall food quality and increasing number of students eating Chick-Fil-A© in the student center. Participants also discussed finances, food, and drink options. Students emphasized the expense associated with eating on campus and meal plan requirements impacting choices and number of meals each day. In terms of academic buildings, the participants identified the issue with every single building on campus having soda and snack machines with limited healthy options.

Several students made comments about the campus Chick-Fil-A®. A female participant indicated, “I see more students with Chick-Fil-A® than anything else.” Another participant stated, “Yes, Chick-Fil-A® is easy and cheaper than it is to try and eat healthy.” The other students focused on the food quality and range of items available at Chick-Fil-A®. One stated, “It is fast and probably the best tasting food we have on campus.” Another commented, “That is only if you want the nuggets or a sandwich with waffle fries, they are usually out of the healthier wraps and salads.”

The next area discussed was campus drink options. One student commented, “I stopped drinking sodas as a New Year’s resolution and I have found that it is difficult to find bottled water in many of the vending machines, they are always out.” Another student commented, “Yes they have twice as many energy drinks and soda options as they do water or juice.” In terms of availability of drinks on campus, a student was quick to respond, “There is a soda machine in every building on this campus and they rarely offer anything that is healthy.”

### **Financial Resources and the Dining Hall**

When addressing the theme of campus eating and meal plans, students had several comments. “The meal plans are expensive and you have to eat many meals each week at the dining hall even if you have dining dollars with your plan.” When asked about dining dollars, students indicated they were available to spend at all food venues on campus outside the dining hall. Students stated that they primarily spent money on food from alternate places. A student stated, “I use my dining dollars at the library coffee and sandwich shop and Chick-Fil-A®.” Another indicated, “I use mine at the C-store

(campus store) outside the dining hall where I can buy a pre-made sandwich, chips, and drink for lunch.”

When discussing the dining hall, many negative comments were made. A student was quick to state, “I avoid eating at the dining hall most of the semester because I get sick each time that I go there.” A rumble from the group occurred almost in unison, “me too!” Many indicated the food did not taste good and had made them sick. A student stated, “They have sandwich, wrap, and smoothie lines, but it is always too long if you have class right after lunch, so we usually get hamburgers or pizza instead.”

### **The Impact of College Life on Eating Habits**

The final area of interest regarded the student housing environment and day to day lives as college students. This area was unique to each individual and provided insight regarding the resources each had available and the overall impact it had on their eating habits. Students who participated in this study had all lived on campus for at least one semester and some had lived there for over a year. Those that were living in the dorms on campus had comments about the lack of places to cook meals and appliances available in their rooms to store or prepare food.

One student commented, “You can’t bring any appliances in the dorms, we just have to share a small microwave and mini-refrigerator and it doesn’t really hold anything.” Another set of comments related to the utility of the appliances offered. “The microwave doesn’t work, it takes forever to cook... it took over 35 minutes to warm a frozen, single serve chicken pot pie.” Another student quickly stated, “You can’t turn on or plug in anything else while running the microwave or it shuts the power off, it’s really

inconvenient.” Other students focused on the community kitchens. “Some dorms have kitchens on each floor where you can prepare food, but we don’t have large enough refrigerators to store food to prepare.”

Students also addressed the impact of time available for consuming meals each day. This area was especially significant for participants working part-time. Of the nine participants, seven had part-time jobs. Among those employed, three were working at restaurants or fast food venues. Everyone employed agreed that breakfast was rarely consumed and almost all of the participants stated that they ate meals in their car weekly due to time and schedule constraints.

A student stated, “I work at Sonic with my friends which is just a block from campus and that is also where we typically eat because we only have 5 minute breaks.” Another student focused on a lack of time. “I am rushed. I get up, get dressed, and immediately come to school. After that is over, I bring my work clothes with me, change in the car, and go directly to work until closing at 10:00 p.m.”

One student commented on the transition from living on campus to an apartment.

Since we have an apartment this semester with a kitchen, we can prepare our own food. We have like pizzas, pizza rolls, and chicken nuggets in the freezer. In the refrigerator we have raw cookie dough we snack on, pickles, and lunch meats with condiments for sandwiches. We just don’t have time to eat healthy.

Each of the comments highlighted the aspect of time and resources impacting participant eating habits on a daily basis.

### **Group Consensus on Initial Themes**

After discussing the collective participant areas of interest for photovoice images, the researcher addressed the group. The researcher had taken notes during the discussion and requested participant input on the development of themes for the photographs based on the group discussion. The researcher had made notes related to each discussion area covered during the meeting.

The discussion began with a developmental focus on childhood. When asked about their childhood and current eating habits, some wished to take photographs of foods or snacks they continue to eat from childhood to college. Each of the students also expressed concerns about the food options in the rural community, including the campus, and available meal plans for students. They decided that an area of interest would be taking photographs of food options on and off campus.

Then the researcher and participants discussed the element of available resources. They decided to take photographs of their dorm appliances, kitchen areas for food preparation, and food purchased. The researcher also brought up the factor of time that was discussed as having an impact on food choice. Students decided they would take photographs based on individual schedules and burdens posed impacting their food selection. Thus, it was collectively determined that the initial themes (Figure 2) would be: childhood influences, time, fast food and campus options, financial resources, and college student schedules as they related to eating habits

### **Individual and Follow up Interviews**

During the following three weeks, participants took photographs, cameras were returned, and film was developed by the researcher. Then, participants had the previously scheduled individual interviews with the researcher. All individual interviews were also transcribed and audio recorded to verify the accuracy of information from each participant.

The purpose of the individual interviews was multi-faceted. Initially the meeting began with a discussion of the individual interview questions based on the participants' childhood eating habits (Appendix G). Afterward, 5-7 photographs selected by the participants were analyzed and discussed with the researcher using the SHOWeD method (Appendix F). During the discussion the researcher and participant co-researchers worked together to code each transcription and refine themes in the photographs. Each participant was given the opportunity to provide additional feedback about the experience of taking photographs, discussing eating habits, and the overall research experience as it related to his or her current status as college a student. After each participant finished the individual discussion, each was given a sign-up sheet to schedule a day and time for the final transcription review meeting.

The audio recorded and transcribed individual interviews began with the individual experience questions (Appendix G) regarding the participant's childhood eating habit development and maintenance. The participants addressed each question. However, many did not feel their family income or geographic location impacted their

eating habits. Thus, the discussion of each participant response to the individual questions included pertinent information related to the individual research questions.

The next portion of the meeting involved participants' reviewing photographs they had taken and discussing the 5-7 they had selected. This stage of the meeting included the SHOWeD method (Appendix F) for analyzing each PhotoVoice photograph. The SHOWeD method questions are as follows: What do you see here? What is really happening here? How does this relate to our lives? Why does this problem, concern, or strength exist? What can we do about it? The researcher and participant looked at each photograph and the questions were asked in the order listed to gain understanding of the participant's perspective.

As suggested by Wang and Burris (1997) PhotoVoice is an interactive process where participants refine themes from the initial group interview and validate themes in the study for the final transcript review. Each individual interview with salient information relating to individual experience questions and SHOWeD method questions for each photograph selected by participants will be examined. The final portion of the individual meeting was an opportunity for each student to reflect on the discussion, refine themes that had emerged from the photographs he or she had taken, and his or her experience of being part of the study.

### **Student Participant B2100**

The first participant is a 20 year old Caucasian female transfer student. She is a junior psychology major with plans to attend graduate school. She indicated that exercise and being conscious of her diet were important. She further noted that, "I work out in the

recreation center five days a week and do not consume over 1,400 calories per day.”

B2100 had an interest in photographing student food options on campus with a focus on unhealthy food and lack of produce available.

The meeting with participant B2100 began with a discussion of the individual interview questions listed in Appendix G. She indicated that as a child her parents focused on having nutritional home cooked meals and did not believe in having processed foods or soda in the home. Breakfast and dinner were eaten as a family and prepared by her mother and father. Lunch was prepared each day by her mother and carried to school to provide a healthier option than the school offered. B2100 stated that her parents were much more influential on her eating habits than her peers.

When addressing school and peer influences, B2100 indicated “School lunch was things like pizza, fish sticks, and burgers. There were several options, but nothing that was necessarily healthy.” In terms of her peer influences, B2100 indicated, “My friends would eat pizza every day and I thought it was gross and greasy. I liked the healthier stuff my mom made for me. My friends also drank a lot of soda, but I always had water.” The primary influences were her parents in school settings. She commented, “We just didn’t have things that were unhealthy at home and I still don’t eat that way.”

**Student B2100 PhotoVoice discussion.** The interview then moved to the PhotoVoice portion of the study and B2100 selected photographs to discuss using the SHOWeD method. The theme in all of the photographs taken by B2100 focused on campus food and drink options. Most of the items included were illustrating the many unhealthy options that are readily available to students. One photograph in particular



highlighted the student's creativity in trying to make the options available as healthy as possible. The participant then selected specific photographs to discuss using the SHOWeD method.



*Figure 3. Example of campus soda and snack machines.*

*Tell me what you see here and what is happening in the first photograph.* “The first photograph was of a vending machine in my dorm hall. The picture includes sodas and energy drinks in one machine and the other is candy and chips.”

*Tell me what is really happening in the photograph.* “This is easy and convenient; unhealthy, filled with fat, or sugar and appeals to college kids. Caffeine keeps students awake, the packaged candy, and chips are easy to eat on the go. All super high in calories.”

*Tell me how this relates to students' lives and what can be done.* “As college students we have no healthy options. If I were to rely on those machines, I wouldn’t get healthy nutrients. The college should have healthier options. Juice, water, protein, and cereal bars would be much better.”



*Figure 4. Campus store hot meal fast food options.*

*Let's talk about the next photograph. Tell me what you see here and what is happening.* This is in the campus store. It is to-go food shelved outside the dining hall. B2100 stated, “This is the kind of food you can get with tokens (part of meal plans). You can buy salads, sandwiches, apples, chips, and cheeses, or you can get sausages, corn dogs, or other fair food.”

*When I asked how this related to students' lives on campus, B2100 indicated,* “The only food left is the fattening and greasy options. When this picture was taken it was just 12:30 and I had just got of class.” The student viewed this as an overall concern



and addressed ways it could be improved. She stated, “I come here every day and it is always out of healthy options. It could improve if they would keep it stocked with the healthier options at least throughout lunch time.”



*Figure 5. Campus store hot meal fast food options.*

We discussed the next photograph. *Tell me what you see here and what is happening.* The next photograph is also of the C-store. “This is the biggest section of the store. It holds family size chips and dip. Instead of sharing, one student is eating all of it. Students buy them and eat the whole bag while studying or doing homework.”

The student again viewed having options like this as a problem. She reflected, “The bags hold multiple servings and the shelves are covered with them. It leaves a tiny spot for healthier options like granola and popcorn. The products offered are definitely not healthy when comparing healthy vs. unhealthy food.” We then discussed things that

could be done about the situation. She stated, “We need to offer more healthy food and stop spotlighting the unhealthy food in the store.”



Figure 6. Campus store candy options.

*Discuss the next photograph. Tell me what you see here and what is happening.*

The third photograph is the shelf at the main entrance of the C-store. “The shelves contain every type of candy imaginable and it is always full – never out of candy. Most are larger size - XL. The packaging is bright colored and you get a lot for the price.”

We then discussed how this relates to their lives as students. She stated, “Candy brings back memories of childhood. However, I know it is nothing but empty calories.” Overall B2100 indicated this photograph is another area of concern. “I never see anyone buy just one candy bar and it is being bought on a daily basis.” She feels that something



needs to be done about their food options in the C-store. “They need to reduce the overwhelming amount of candy and add more healthy options.”



*Figure 7. Library refrigerated meal and drink options.*

*Tell me what you see here and what is happening.* B2100 indicated this photograph is in the front of the library where they sell coffee, sandwiches, and snacks. This was an area that she felt had healthier options overall. “There are carrots, sushi, jello, apples and peanut butter, pineapples, sandwiches. The only thing that is unhealthy is the energy drink and Starbucks but that’s part of the coffee shop.”

She discussed how this related to students’ lives on campus. “I like this because the options for the take out are not super bad for you. If you walk out of there with half a peanut butter and jelly sandwich you are doing a lot better than 3 corn dogs.” She stated that it was a busy place that many students frequented on campus.

However, she noted some differences. “It’s a different group of people than those in the C-store. The food goes fast but it’s a small section. I see people from my classes getting healthy wraps, grapes, apples. Some people are more mindful of their eating habits.”

In terms of evaluating the photograph content it was viewed as a strength. “There could be more healthy options. The library is right by all the classes, but pretty far away from the dorms. We should have these options at more locations around campus including the dorms.”



*Figure 8. Soda machines and advanced technology in academic buildings.*

*Review the next photograph you have selected. Tell me what you see here and what is happening.*

This photograph is a new type of soda machine in the to-go area of the library. This is all sodas with a few juices. It’s all brands of sodas with

fancy technology display and touch screen. It's full of super high calorie count drinks and they are the only option for drinks in the to-go section.

There is water in the touch screen machine and water is free if you get it from there, but it is always out. There is coffee in the library but it is super sugary and high caffeine the way they make it. I hear people say they are on their 4<sup>th</sup> Dr. Pepper and I think that's not a good thing.

*How does this relate to your life as a college student?* “Students say that with the touch screen machine there are so many options and they can have whatever they are in the mood for. It's all soda though other than the water.”

*Why does this problem, concern, or strength exist and what can we do about it?* “This is a problem. Basically, everyone wants caffeine and sugar. We should limit the amount and variety of soda. The touch screen machine is right next to another regular soda vending machine.”

From the photograph and discussion it is evident that there are numerous offerings for sodas on campus. The technology used to provide the sugary caffeine drinks is counterintuitive to student health. The overabundance of machines providing soda in academic and living facilities is repeatedly identified and viewed as a problem by the participant.



*Figure 9. Student made a healthy meal using frozen vegetables and pasta.*

*Tell me about this last photograph. Tell me what you see here and what is happening.* “That’s the noodles with sauce I got from the C-store. They also have a bag of frozen veggies. I mixed the noodles and veggies to make it healthier.”

*How does this relate to your life as a college student?* “I’m using the resources the campus has to eat healthy. There is only one bag of vegetables available. These aren’t located right out front – they are hidden on a high shelf with pizza rolls.”

*Why does this problem, concern, or strength exist and what can we do about it?* “This is a problem. They should have more fruits and veggies available. There should be more healthy options available we can spend our dining dollars on.”

This discussion of the last photograph illustrated a number of strengths and issues. The creativity and lengths the participant would go to for healthy meals is a strength. However, the difficulty encountered with acquiring healthy options is noteworthy. She addressed that she had to search for the vegetables. They were not easily accessible, visible, or plentiful at a university with thousands of students on campus each day.



**B2100 theme development.** After finishing the individual and PhotoVoice interview questions, the researcher and B2100 discussed themes related to the influences on her childhood eating habits. She indicated that her parents only offering healthier food options played a powerful role in her eating habits throughout her life. B2100 also reflected that having the structure of home cooked meals, prepared lunches, and no sodas in the house influenced the types of food and drink she desires now. Thus, the parental role was the predominant theme in her development of eating habits and view of the numerous soda and snack venues on campus.

The researcher prompted student participant B2100 to identify themes in her photographs. She felt that her images portrayed the unhealthy food and drink options on campus. Predominately the food images were reflective of fast food or unhealthy snacks. The drink options highlighted the amount of sugar, calorie, and caffeine drinks that were available on campus. There were two areas of strengths in her photographs that included the healthier options in the library and her creative effort to make a pasta dish healthy by adding frozen vegetables that were difficult to find from the C-store. Her images were related to the initial group meeting and the decision to focus on campus food to identify areas of concern.

**B2100 final data review.** When asked to comment on the experience of being part of this study, reflecting on childhood eating habits, and current college life, the student made the following remarks. “Health is not the main concern of students on this campus. It’s more convenience and appealing to the audience of tired college kids.”

Overall, “I think they are stressed about school or their next class or what they are going to do that night. They just grab something familiar and don’t make mindful choices of what they are putting in their body.” She then addressed her personal thoughts on the themes from the questions related to her eating and drinking habits. “I am mindful of what I eat and drink. That came from my parents. I have a workout/food app so I keep up with calories, sodium, sugar, etc., daily. For me, I want to stay healthy.”

In reviewing the photographs and transcribed data, the participant validated that her images focus on campus issues and the obstacles she faces to eat healthy. The overabundance of unhealthy options was repeatedly addressed. Overall, her feeling about eating healthy as a college student was referred to as a “self-directed process” as she felt the options on campus “encouraged poor eating habits.” She validated that her images captured concerns with health, unhealthy aspects of convenience, and the impact of resources available on campus.

### **Student Participant E5100**

This participant is a 19 year old Hispanic female first generation college student. Her major is psychology and she is classified as a junior. She is currently a full-time student and works part-time. In terms of eating habits, she was raised having family meals with home cooked food. As a college student she consumes more snacks than meals and struggles with eating three meals a day due to her schedule. Recently she was on a diet which impacted her food selections.

Participant E5100 began the interview by discussing the individual interview questions. She started by addressing her childhood eating experiences with her parents.

We had a lot of home cooked meals and didn't eat out much. The only times we did were family celebrations or when we had a baby sitter... I remember going to McDonalds when we did. I'm not a picky eater because we learned to eat what was served. My mom cooked most meals. My grandma would cook too. When I was younger we ate together as a family at the table. When I entered high school we started separating a little because everything got busy.

*Tell me about how school and economic status impacted eating habits.*

I did eat breakfast at school. For a while I packed a lunch most of the time. The food wasn't very good at school. My mom packed the lunches most of time – sometimes I would make my own. Finances did influence eating habits. We were middle class and had good food growing up. There were kids whose families had lower incomes that would get free or reduced lunches. There were some fast food type meals at school, pizza with Cheetos and that kind of food. Overall, there were a lot of options but they didn't taste good.

*Tell me about peer influences on your eating habits.*

If you brought your lunch they sat you together in elementary, but I don't remember wanting to eat whatever my friend had. In junior high we were able to buy pizza and my friends and I would eat that and Cheetos and a drink. In high school, we had open lunch so we could eat off campus so we did eat as a group. My grandmother lived close and a lot of times I would go to her house and eat what she had. I did not take friends when I went there and I really only went there when my friends were busy or had something else to do.

Overall, family played a primary role in student E5100's eating habit development which is illustrated in her photograph selections. Her family was present in her food selections at home as well as school. The way she was raised by her parents also influences her cooking and spending habits related to her food selection as emulated in her PhotoVoice discussion.

**Student E5100 PhotoVoice discussion.** *Now we are going to look at the photos you have taken using the SHOWeD method.* Participant E5100 took photographs related to the experience of being a working college student, family interactions, and eating in her car. The photographs depict her overall view of her eating habits in terms of family influence, time, and available resources.



Figure 10. College student eating on the go in her car.

*Discuss each photograph using the SHOWeD method questions. Tell me what you see here and what is happening in the first photograph. "This was Saturday. I had just*

quit my job. I am eating in my car before I leave. I don't like to because I don't like the smell of food in close spaces. I usually roll the window down."

*How does this relate to your life?* "It relates to my life in the sense that I am always eating on the go. I do that a lot – it's more with little snacks – an apple or chips."

*Why does this problem, concern, or strength exist and what can we do about it?* "I don't see it as a problem if you don't have time to sit down and eat. It's not healthier but better than picking up something at McDonalds. It could improve with time management."



Figure 11. Influence of family and meal planning to save money.

*Tell me what you see here and what is happening in the second photograph.* "This was food for spring break in our hotel. My family makes meals on vacation when staying somewhere for a while; it saves money. We can lay around during vacation not worrying about where to eat."



*How does this relate to your life as a college student?* “This is the way I was raised and I do it as a student as well. Saving money on food by cooking is what I have learned to do.”

*Why does this problem, concern, or strength exist and what can we do about it?* “Overall, this is a strength to be honest. It saves money and is simple. A class could be offered on nutrition and saving money on food expenses. As college students many of us do not have extra money.”



*Figure 12. Childhood memories and a fruit cup.*

*Discuss the content in the third photograph. Tell me what you see here and what is happening.* “This is a childhood memory from my grandparents. They would always buy me big fruit cups like this. I remember having the fruit cup with chili powder when I was little; it was so good.”

*How does this relate to your life as a college student?* “While visiting my grandparents over spring break I had to have a fruit cup. This experience takes me back

to my childhood and happy times. It reminds me of when I was small at my grandparents.”

*Why does this problem, concern, or strength exist and what can we do about it?*

“It is a strength. It ties back to my childhood and it is healthy. I think all students enjoy some type of fruit and we should make an effort to have more fresh options on campus.”



Figure 13. Student having breakfast on the go in the car.

*Tell me what you see in this photograph and what is happening.* “This is my breakfast Panini. It’s more like lunch. This restaurant is really good. I think it’s a healthy place. I was eating in my car again before work. I did take the smoothie to work with me.”

*How does this relate to your life as a college student?* “Basically, I am always eating on the run.”

*Why does this problem, concern, or strength exist and what can we do about it?*

“It may be a problem. I don’t think someone should be eating in the car so frequently, but I don’t know how I would eat with my schedule. I could wake up earlier. That would change my situation.”

*Describe what you see in the next photograph that has limited visibility and will not be included. Tell me what you see here and what is happening.* “That’s our dorm community kitchen. It has oven, fridge, and microwave. I cook here a lot because I don’t like the dining hall. The food upsets my stomach. So it’s good to have the kitchen.”

*How does this relate to your life as a college student?* “It’s a good thing because if you are really tight on money you don’t have to go out. You can cook yourself something. The kitchen is first come first serve with no monitors.”

*Why does this problem, concern, or strength exist and what can we do about it?*

It’s a strength to have kitchens but also a problem because students are messy. We shouldn’t have someone watching us because we are near adult age. There can be a solution. Post signs requesting the kitchen be cleaned after each use and have the RL reinforce the rule.

*Tell me about this photograph from the C-store that has limited visibility and will not be included. Tell me what you see here and what is happening.* “That’s the to-go menu. They have salads, Red Bull, oranges, chips, water, cookies, and condiments. The to-go lunches are better than the D hall. Really it is faster and better so my friends and I use it more.”

*How does this relate to your life as a college student?* “It’s good for eating on the go or if eating in your dorm and you don’t feel like cooking.”



*Why does this problem, concern, or strength exist and what can we do about it?* “I view this option as a strength. I like having the ease of to go meals. Overall, it could improve by adding variety. I would like wraps or sushi, maybe Gatorade and healthier drinks.”

*Tell me about the next two photographs with limited visibility from your dorm.*  
*Tell me what you see and what is happening.*

This is our freezer in the first picture and fridge in the next one. My roommates have frozen meals. I don't like them and the microwave scares me sometimes. I put chicken or turkey in the freezer and frozen veggies. My roommates have taquitos and breakfast sandwiches. I buy fruit and veggies. I also buy 0% milk. There is a Britta water filter. We all share that. I really like it because I think it saves water bottles and money. Celery sticks, yogurt, and eggs, but they haven't been opened. This is wasteful.

*How does this relate to your life as a college student?*

As a college student, food we have is convenient where we can eat a meal in 5 minutes. The images are total college life. Hot Pockets, etc. Always on the go. I try to learn and not buy again if I don't eat it. I never really got up early enough to eat the yogurt.

*Why does this problem, concern, or strength exist and what can we do about it?*

Some of the food is a problem because it's not healthy. I don't know how to fix this. The waste is a problem. This happens because we are always on the go – to classes or work. There doesn't seem to be time to eat what you planned or we are

lazy, don't want to cook, and forget about it. It could be improved with time management and not buying food again because we didn't eat it before. I have gotten better at this. Last semester they had cooking classes for \$5. They could offer more classes and teach kids to cook. They could have awareness seminars about good nutrition to help improve student eating habits.

**E5100 theme development.** After finishing the individual and PhotoVoice interview questions, the researcher and E5100 discussed themes related to the influences on her childhood eating habits. Her family has maintained the majority influence on her eating habits and finances as they relate to food. The cohesive nature of her family meant they ate meals together prepared by her mother more than going out or eating processed meals. The influence from her mother and grandmother is expressed during her school years as they prepared her lunches or she went home to eat. Saving money and being together for meals was a family tradition throughout her childhood.

The researcher prompted student participant E5100 to identify themes in her photographs. Overall, she indicated that time was a factor in a number of her photographs. She was eating in her car in several pictures due to an overfilled schedule of school and work. Family influence on food choices and finding ways to save money on food were also repeatedly addressed in her current photographs and child development discussion.

**E5100 student final interview.** *After reflecting on your childhood eating habits, participating in this study, and the experience taking photographs in the college environment; discuss any additional thoughts you have.*

I have realized that a lot of kids don't know how to live on their own and cook their own meals or grocery shop. We need to learn to at least put some fresh produce instead of all freezer stuff in our grocery baskets. I think there are different types of college students. Those that go to the gym seem to be more aware of what they eat. Many students do not exercise or eat fresh foods. I think if you buy processed foods then you really don't connect food to health.

*After completing this study tell me your thoughts about your eating habits.*

I really feel that the biggest influence on my eating habits is my parents. We really didn't have junk food growing up. We had fruit and fresh meals. We had chips occasionally. I liked vegetables as a kid. I love home cooked meals. High school kind of ruined me because we were free to go out to eat and I got used to it. I was in sports. I could eat whatever I wanted and run it off. I'm not in sports anymore. I have to realize I can't eat everything I could before.

The final portion of the interview was to validate the themes from her childhood interview questions regarding her eating habits and PhotoVoice images. Participant E5100 felt that her parents provided good, healthy meals in her home and she was influenced by both her mother and grandmothers cooking. Other influences included being middle class and having money to spend on nutritious food. This allowed her to bring her lunch to school. As she got older the influence of school, peer, and community options played a role in her eating habits as a result of off campus lunch options.

In terms of the PhotoVoice images she selected to discuss, final validated themes of family, time, and resources were realized. Her family's influence on eating habits from

childhood and the current spring break trip shed light on the family values related to eating. The discussion of the kitchen in her dorm confirmed family impact on her decision to prepare meals in her current stage of development. Other photographs highlighted the aspect of limited time as she was repeatedly eating in her car. The final theme was related to college life and financial resources. She indicated, "It is important for me to save money. I work and I buy food to prepare so I am not constantly spending on food."

### **Student Participant C3100**

Participant C3100 is a 20 year old Caucasian female political science major. As a senior at the university she has awareness of many of the facilities on campus and food options. She was raised in a family that fostered knowledge of nutrition from an early age. C3100 makes an effort to eat a balanced diet, but often struggles to eat breakfast due to time constraints.

*Begin by discussing ways your parents influenced the development of your eating habits during childhood.*

They were really structured on how we did everything. They were all about balanced meals and having set meals at the same time every day until the weekend. School started early and mom had us eat within the first hour we were awake because apparently your metabolism gets activated. We had a lot of cereals which I find funny now because apparently starches in the morning actually make you tired. That's a little counter-productive. Lunches were turkey sandwiches,

carrots, ranch, and maybe a cookie. As I was grew up I had more snack foods.

Dinner was a lot of pastas because my dad is Italian and he cooked the most.

*Discuss ways educational resources influenced eating habits during childhood.*

During my school years I took my lunch. I would occasionally buy dessert if I brought my lunch. I drank a lot of water instead of soda. I didn't really eat when they specified lunch time because teachers let us eat in class. I ate my lunch throughout the day.

*In what ways did family income influence eating habits during childhood?*

They restricted options when I was little because they wanted me to have a healthy diet. Income wise they let me grab what I wanted or would eat. I grew up in a rural area with limited options for grocery stores. Our neighbors had chickens and cows so we would animal sit. We traded care of their animals for eggs and meat.

*Tell me about peer influences on the development of your eating habits.*

I think my friends did influence what I ate. My friends ate a lot more junk food than I was used to. Even at school they would bring it and I would want it because they had it. When I would go to their houses that was all that was available. I definitely think that diverted the path of my food/eating habits. My friend was my neighbor so we hung out all the time. Her parents had a lot of junk food and sodas. Until that time I had never had a soda. Middle school was similar, but around 8<sup>th</sup> grade people started eating healthier. I guess it was because of body image. I never really kicked the habit of junk food and still haven't. In high

school it definitely got better as I started adding lettuce to my sandwiches, carrots, and apples as a snack. I ate more fresh fruits. I never really went back to vegetables as a whole.

**Student C3100 PhotoVoice discussion.** Student C3100 selected photographs related to food and drink options on campus. The area of focus included the amount of unhealthy options of both food and drinks. Additionally, the student addressed the photographs from a marketing and business perspective. This format of discussion demonstrated how campus venues showcased unhealthy food and drinks, and encouraged increased purchases of those items.



*Figure 14. Wall of soda machines at the university.*

*Now we will look at the photographs you have selected using the SHOWeD method. Tell me what you see here and what is happening.*

This reminds me of something I learned in my marketing class last semester. This is a vending machine in the student center. There are a lot of sodas at eye level

and juices which are high in sugar. Very little water is at the bottom. Consumers are more apt to grab what is at eye level and not search for water at the bottom. I went back after lunch rush, there was no water, I asked if they were going to restock, and they said no. They were restocking sodas when I asked. Ironically soda is less expensive, but these have an addictive factor. Soda never satisfies thirst and we continue to buy and give them more money. They know what Americans and college students are more apt to grab so it's placed at eye level to increase sales.

*Tell me how this relates to your life as a college student.*

We aren't very healthy despite the fact that there was a big push for the water bottle refill stations. Nobody knew about them until professors started telling us in classes. We are about saving money and ironically sodas are cheaper than bottles of water in the machines. Even diet stuff is not towards the middle where you gravitate which I guess is ok because diet sodas are actually worse than regular sodas. Juices are high in sugar and sports drinks have a lot of salt. Both are more heavily stocked than waters and green teas.

*Tell me how you view this image.*

This is definitely a problem and concern because it's where students congregate the most. If you go during lunch it's a 30 minute line. When they don't restock water and actively restock sodas it's frustrating. The healthy options are limited while unhealthy choices are maintained. We should be concerned especially since they are not willing to restock water after a busy period. People are more apt to

buy soda. When I look around campus people always have Coke or DP on their desk. I rarely see waters. An easy step toward change would be to restock often and move the water to the middle. That would be a good start. Students would see water initially and think I can rehydrate myself and not get the empty calories.



*Figure 15. Chick-Fil-A© healthy options in the student center with empty shelves.*

*Look at the next photograph. Tell me what you see here and what is happening.*

It is the healthier options at Chick-Fil-A©. This was about 3 or 4 o'clock on Tuesday. This is another circumstance of not wanting to restock or make more food. I was asking for a grilled wrap and the only thing left on the bottom is salads. They told me they didn't plan on making any more because it takes too long to make. I ended up grabbing a salad out of convenience as it was the next best thing. The employees didn't seem to care. I'm not exactly sure why it takes



them so long to do it. They close at 7 there are 3 hours left. It happened again on Wednesday and I don't understand why.

*Discuss how this relates to our lives.*

"I don't know how many were stocked in the beginning. It shows people make an effort to be healthier since they were gone. When workers don't make more we are forced to buy the readily available fried stuff."

*Why does this problem, concern, or strength exist and what can we do about it?*

I see it as a problem and concern. It is a concern because they are not willing to make more. It is a problem because it forces you to eat more unhealthy stuff if you are trying to make an effort to be healthy. It's more convenient to make fried food. I think it's a simple fix. Maybe make extra salad and wraps. Maybe just knowing the consumer base and seeing that during certain periods we sell a lot of this and make more.



*Figure 16. Refrigerated to-go foods at the C-store.*

*Tell me what you see here and what is happening.*

This is a near empty food rack that should be filled with sandwiches, salads, and fruit cups in the campus store. This illustrates a lack of healthy options. Again, they didn't restock the healthy stuff. They actually spread stuff out on the bottom shelf to make it look full. This was about 1:00 on Tuesday. They were stocking the fridge next to that with sodas. I don't see many options if you want to grab a quick not so saturated in fat and sugar snack. I think they are not making it easy for you to grab something quick. There is usually only one employee from 12-2 and there is always a long line. People go grab candy bars or chips near the counter. Otherwise, they go to the wall and grab salty Ramen, giant bags of Cheetos, or Fritos. The store is not stocked to quickly grab stuff that is healthy.

*Tell me how this relates to our lives.*

Everything is packaged for quick convenience and easy eating when it's opened. I don't think they want us to take the healthier items. They want us to spend less money, oddly enough, on less healthy things. These are actually all way more expensive than at a store. Everything in there is pricey because they have a monopoly. The fruit was 3-5 dollars. Even if students are craving fruit and vegetables it's almost a detour to not eat fruits and veggies. Half the time the fruit doesn't even look good so on top of high prices, it's not fresh.

*Tell me how you view this image in terms of being a problem, strength, or concern and what can be done about it.*

This is a problem. There is a lack of options. They want us to pay a large amount of money for mediocre fruit and vegetables that look soggy. These kinds of foods usually look appetizing in general because of the bright colors. You look at those and think maybe I'm not craving fruit and vegetables and don't want to be healthy. Fruit and vegetables aren't that expensive so I'm not understanding the price relationship to the quality. I don't mind paying \$5 for a fruit cup but if I'm going to I want it to be decent fruit. They should restock more often and put less fruits on shelves.

*Tell me what you see in the next two photographs that have limited visibility.*

These are pictures of the only vending machine on the lower level of the business building. I pressed the button E8 for the water. E8 is also on the bottom shelf so it goes back to marketing; what's at eye level you are more likely to grab. It was \$1.25 and I thought it was kind of expensive for water and it goes along with my next picture. The vending machine was stocked, but it was rows of soda, row of juice, and then water on the bottom. All other levels but water are \$1.00. People are more apt to grab soda because it's eye level and cheaper. Overall, the water is expensive. When I saw this I thought this was super backwards. Students will buy the cheaper \$1.00 soda.

*Tell me how this relates to our lives.*

As a student I can vouch that I'm a cheap person. Because of the price, I am more likely to buy a soda even if I really want water. It could be an influence in the same way to other students. It's really easy to get sodas and we are all about things being convenient and quick.

*Why does this problem, concern, or strength exist and what can we do about it?*

Overall, this is definitely a problem and a concern. It's not easy to access the water since we can't just swipe a card. College students don't carry change anymore. We carry a card or a \$20 bill. I'm not sure what we as a university can do. If you don't drink sodas it becomes hard to get a drink here and I don't think it should be that way.

*Tell me what we can do about it.*

I think they know students are going to-go with what's cheaper and at eye level. The fact that we are trying to improve campus health is counter-productive to what is offered. This perpetuates being less healthy because we don't want to spend extra to be healthy and it shouldn't be that way. It takes no effort to put water in a bottle where you have to mix ingredients for a soda. We are paying for packaging not product. Being healthy is hard when less healthy items are readily accessible and cheap.

**C3100 theme development.** After finishing the individual and PhotoVoice interview questions, the researcher and C3100 discussed themes related to the influences on her childhood eating habits. C3100 indicated her eating habits were primarily

influenced by her parents during childhood. They allowed her to make choices on what to eat, but did not provide excess junk food. No sodas were allowed. However, her friends did consume junk food and sodas. The relationship with her friends ultimately influenced her drinking sodas and eating junk food.

The researcher prompted student participant C3100 to identify themes in her photographs. She felt that her images portrayed the unhealthy food and drink options on campus. C3100 focused on presentation, cost, and availability of healthy foods on campus. Her photographs highlighted the lack of product maintenance of healthy options across campus both in vending machines and at food venues. She took note of the placement of items in stores and machines along with cost being lower for less healthy items. Both of these factors seem to be influential to college student food purchases.

**C3100 student final interview.** In terms of influences on C3100's eating habit development during childhood, the following themes emerged. The role of family influence on meals and a structured meal plan influenced her eating choices and consumption patterns. She stated, "I feel my parents were instrumental in creating my values and thoughts toward nutrition and the food choices I make." Additionally, peer, social, and environmental influences played a role in her food selection. She noted that peers had more junk food and soda, which she began to consume in their presence. She indicated, "My friends definitely influenced my snack and junk food habits." Body image also influenced her eating habits as she entered puberty. She revealed, "I really started thinking more about what I ate when I was in middle school and friends started focusing on appearance." She reflected on her themes from college eating habit photographs.

My photographs illustrated that it is not easy to be healthy on campus and I think this is a huge issue. We push using the recreation center, being healthy, and moved parking to encourage us to exercise. Working out is one aspect of health. You also need fruits, veggies, protein, and water. No one talks about this. Here, water is so hard and inconvenient to get; we aren't going to buy it. In America we are all about convenience and cheapness. My first year here I ate at the dining hall. The healthy options, like the vegan area, salad bar, and the build your own sandwich lines were empty; they didn't restock. However, they offer pizza right by the door so when standing in line, you smell the pizza, and people automatically go there. We just don't have sufficient healthy options.

She further refined and discussed themes of healthy and unhealthy food.

It's about student lifestyles. People don't ask if you want to snack on fruit and veggies. Maybe if there were more options to be healthy we would choose that. I don't think students are for the full circle of trying to improve their overall health. I know I'm not the healthiest person in the world. I eat pizza four times a week and I acknowledge it. I think education is the best way to improve and see a difference. I took a wellness course and that shed light on improving health. Educate people on how to be healthy and take care of their bodies during this transition time of becoming an adult. I think not knowing how to live on our own perpetuates the dreaded Freshman 15 stereotype.

*After discussing all of the aspects of eating habits from your selected photographs, tell me the primary themes of your health and eating habits as a college*

*student.* Convenience, cost, proximity, and availability were named as primary factors related to her eating habits. “The campus has numerous vending machines. Few contain healthy items. The same is true with our meal venues. They may offer healthy items, but they are not replenished to give all students the opportunity to make healthy choices.”

Ultimately, the themes present in C3100’s PhotoVoice images portray the food items available on campus. Many of the options are unhealthy. Healthy items are often out of stock or expensive. Her focus on the disproportionate prices of sodas compared to bottled water and identifying that this generation of students does not carry pocket change is a sign of changing times. The unhealthy food and drink options were over-abundant at all campus locations she photographed. Overall, the images illustrated that healthy options were out of stock.

#### **Student Participant D4100**

Student D4100 is an 18 year old Caucasian male freshman majoring in agriculture services and development with teacher certification. As a new student on campus he has spent time exploring food options beyond the dining hall in search of good, home cooked meals. He tries to be aware of his consumption habits and reads labels. He indicated that his religious affiliation influenced his eating habits more as a college student. The following is a discussion of his childhood eating habits and their influence.

*Tell me about the influences from your parents on eating habits during childhood.*

Usually we ate all three meals because my mom would make it. Even if we didn’t have breakfast made we always had cereal or something before school. It was like cereal, eggs, and pancakes. For lunch we eat at school because my mom and dad

were both teachers, or we brought our lunch, that was usually turkey sandwiches. We have always eaten sugar at home and would have sugary stuff in lunches. We always drank sodas. We used to have limits. For dinner we usually had home cooked meals. My mom tried to make it really healthy. She'd always have sides that were green or healthy. We'd always go to my grandma's for meals on the weekend. We did not eat out much when I was younger.

*Tell me about the teenage years as it related to your eating habits.*

As I got older, 13-14, my mom got sick so we started eating out more and more. With the stress of that my parents really didn't pay attention to eating. We were drinking a lot of soda. I would have 6 or 7 a day. We also stopped eating breakfast and didn't wake up early. We went to school on empty stomachs. The meals at school continuously get worse and smaller. Michelle Obama did that health initiative, took away a lot of options, we had frozen food to throw in a microwave, and it never tasted good. We had fruit cups, stuff like that, but they were gross looking. Kids don't want to eat that in the first place. So we went home hungry and would eat from the time we got home, snacking, to get over hunger from rest of the day. This brought on a lot of bad habits. We still ate out a lot. Before we had limited food, the schools made homemade meals for our lunches. Then it was changed to where we had little frozen patties for hamburgers, etc. My mom passed away when I was 14. After that we had people that made stuff for us sometimes but that stopped so we started having fast food more and more. It's still like that at my house. I realized it wasn't healthy and kind of stopped.



*Tell me about the area you were raised and how that impacted eating habits.*

I was raised in a rural area. We were far from a grocery store. We only have one store in town that has any type of groceries and they sell like milk, cheese, and eggs. When we go it is 30 minutes to an hour away. We had to worry about frozen stuff melting before getting home. You have to get ice chests and stuff and it's a hassle.

*Tell me about school and how that impacted eating habits.* "We had school lunch and had one line. It wasn't filling at all and didn't taste good so I threw most of it away. I played sports throughout school and would be worn down from no energy without food."

*Tell me how your peers influenced eating habits.* "I don't think my friends influenced me at all. I ate what I wanted which was already not very good. They didn't influence me to eat healthier either. They really didn't have anything better or worse food than I did."

**Student D4100 PhotoVoice discussion.** Student D4100 selected photographs of local restaurants within walking distance from campus depicting the unhealthy options students have off-campus. The student also took photographs of churches near the campus. They offer free lunches every week and he identified them as being healthier and tasting better than campus meals. The final area of interest the student selected to take photographs of was related to campus food selections that are in the food court and used for fund raisers. The campus photographs depicted that most healthy foods are limited or unavailable whether at the food venues or fund raisers. The participant also focused on

student housing and the available appliances. He noted the size of appliances and limited capabilities students have to prepare own meals in the dorms.



Figure 17. Dairy Queen sign illustrating fast food near campus.

*Let's talk about the photographs you have selected using the SHOWeD method.*

*Tell me what you see here and what is happening.*

This is one of the only places you can walk to; it's the DQ near the business building. We have other stuff along the way, but nothing healthy in any of them. I took a picture to show the closest one. I've gone to it a couple of times and then McDonald's a lot for late night runs.

*How does this relate to your life as a college student?*

There are very limited options. If you want to get anything healthy, it's small, doesn't look that appetizing, and is more expensive. I'm very rushed most of the time. If you want to get something you have to go somewhere that is fast. There are limited places that are fast. The people know that college students will not

always want what's on campus so restaurants are placed within walking distance to get college student business.

*Why does this problem, concern, or strength exist and what can we do about it?*

“This is a concern. It provides people with options, but doesn't really accommodate everyone's needs. There is not a wide variety of healthy foods. Maybe we should encourage healthier restaurants to open closer to campus.”



*Figure 18.* Free home cooked lunch offered weekly by the local church.

*Tell me what you see in this photograph and what is happening.* “This is one of many places giving free lunch four days a week at a nearby church. All students are welcome to eat the weekly meals. It's always home cooked food and much better than anything else on campus.”

*Tell me how this relates to your life as a college student.*

Options are expanding from the dining hall which many have paid meal plans.

Many are going for the free lunch that is healthier and tastes better. Free meals

allow all people to have access to better tasting food. I think it caters to more people's needs or wants I guess. They give them something they want at a good place.

*Why does this problem, concern, or strength exist?* "I feel like this is a strength. I think they offer this to share their faith and encourage living that. They never push anybody to come to church. They just try to serve the students."

*How can we make changes from viewing this photograph?*

Have our school sponsor or donate money for food at the churches. Promote it. There is not that many people that know about it. They have these 4 days a week at several churches close to campus. The church meals are better than what is served at the dining hall or Chick-Fil-A©. We need more awareness.



Figure 19. Student center Chick- Fil-A© menu.

*Tell me about this photograph using the SHOWeD questions. What do you see here and what is happening?*

This is the Chick- Fil-A© options. There is a breakfast side that is served from 8-10. This is all that's open in this area of the student center. Lunch and dinner is just fried chicken or fried chicken in a bun. Healthier salads or wraps are in a box and you can't get a lot with it. I have gone there and wanted the healthy option but they were out. They don't restock healthy items often.

*How does this relate to your life as a college student?*

They are giving students something besides dining hall food. It is with something that is not necessarily healthy or better. I think they are trying to give more options but they are not doing a very good job. It's breakfast, lunch, and dinner for some people. Some people eat this every day, 3 times a day. I have done it a couple of times.

*Why does this problem, concern, or strength exist and what can we do about it?*

I see this as a problem. People don't want to go further to get what they need. They want to take what's easiest. Offer another section with fresh food like fruits and veggies and something other than chicken and fries. Apples are very filling. They do have grapes and cheese in little cups. There is a lot of cheese in them. Everything that is good has something bad with it.



*Figure 20. Campus organization fundraiser pancake breakfast in student center.*

*Tell me about this photograph. Tell me what you see here and what is happening.*

“This is a pancake breakfast fundraiser. We have them all the time. They also have cupcakes, cookies, and donuts.”

*How does this relate to your life as a college student?*

This is in the student center. Everyone is attracted to sweets so they are trying to get people to come in and learn about their organization or fundraiser. It’s another way to reach out to people. We have access to a lot of sugar all the time and that’s how it is on campus. You can get more and more no matter where you go.

*Why does this problem, concern, or strength exist?*

I think this is a concern. All fundraisers have unhealthy food. However, I think it can also be a strength because it can be a way to give away and promote something healthy. Apples and oranges could be given out. I have not seen them give away any fruit.



*Tell me things that can be done about this.* “We can place limits. If it’s a fundraiser that’s ok, but if giving away food, put some limitations on what they give. They have let it go on so it may be too late to pull back the reins.”



*Figure 21.* Free meal at local church with a cooking demonstration.

*Let’s look at this next photograph. Tell me what you see here and what is happening.* “This is at another local church. They have Bible study on Tuesday and before they always cook meals so they can teach the students there how to cook.”

*How does this relate to your life as a college student?*

This offers lessons on cooking where we can learn to prepare meals if we have an apartment. It is an option besides campus food. It’s a fun experience for students to be involved with. The church is close and easy to get to. It shows that if you look better options can be found besides the dining hall and food court.

*Why does this problem, concern, or strength exist and what can we do about it?*

This is a strength. I think it teaches us to be independent. We are not always going to have a meal plan and we don't need to be eating Chick-Fil-A© for the rest of our life. It provides a service to learn to cook what you want, learn to control quantity, and be healthy. We could have people that are coming to school to be chefs have demonstrations on how to cook. I have gotten emails for sign-ups to participate in cooking classes. The time it was offered was during class and cost money. More education opportunities related to food and how to prepare it would help.



*Figure 22. The only dorm appliance for student meal preparation – micro fridge.*

*Tell me about this photograph. Tell me what you see here and what is happening.*

It's a small refrigerator in my dorm that is about 2 x 3 ft. All you can put in there is little stuff and you share it with someone else. There is a microwave on top that's attached. You can't have another microwave or fridge in there because it's restricted. The microwaves take like 6 minutes to cook Ramen. It burns popcorn



and doesn't heat up pizza rolls. We aren't getting much in here. Anything you have has to be non-refrigerated. We have kept stuff in there but it's hard to put anything worth having in there. The freezer is even smaller. It's cramped.

*How does this relate to your life as a college student?*

This shows how limited we are for anything. The microwave is the only thing you can cook with. You can't bring stuff in that's electrical because it's a fire hazard and they don't give you anything to cook on. The only other thing they give is grills that are outside the dorms. Anybody can cook out there but it's a long walk, and it's weird to cook in front of everybody.

*Why does this problem, concern, or strength exist and what can we do about it?*

This is a problem. I think it's like this to save university money. They aren't worried about individual needs, more of a whole. Some people want to keep more. I can't keep a gallon of milk, watermelon, or a bag of apples. It is not helping us. If it's not helping; it's hurting us. The university needs to plan for the future. If we build more dorms, keep the amount of space practical, and have a list of options students can bring to cook. People want to have crock pots and stuff like that. If you bring in anything besides the existing fridge and microwave you can be fined \$500.

**D4100 theme development.** After finishing the individual and PhotoVoice interview questions, the researcher and D4100 discussed themes related to the influences on his childhood eating habits. D4100 felt that his life was deeply influenced by the family dynamic of losing his mother at age 14. They had meals at home, but as her health

deteriorated, more fast food and unhealthy options were consumed. Food was not a priority when the family was in crisis. Overall timing, personal situations, and location were the primary themes related to his eating habits during childhood.

The researcher prompted student participant D4100 to identify themes in his photographs. He felt that his images portrayed the unhealthy food and drink options on campus. Even the fundraisers on campus provided unhealthy options. D4100 had to search outside of the campus community to find healthy meals. Among the photographs the themes are related to unhealthy choices close to and on campus, limited access to meal preparation options, and finding ways to eat healthy in an unhealthy environment.

**D4100 final data review.** *After participating in this study, selecting focus areas for the photographs, and discussing your childhood eating habits, tell me what you have learned about college life from this experience.*

Campus health is not where it should be. Options and resources are limited. Intake of bad foods easier and we allow too much access to those types of foods. Some kids like being able to get whatever they want and add on the Freshman 15 pretty fast. It makes life hard. If you check out the recreation center, most people there are active, or athletes, and they try to eat healthy with limited options.

*Reflect on your current situation and college life.*

I feel like my current habits come from always eating what I had in front of me. What I have or what I see is what I'm going to eat. I usually ignore healthier options because the ones I've tried are gross. My sugar intake is high. I stopped drinking Cokes as much. I've been trying to drink more water but I started

drinking sweet tea. Now I'm trying to go back to just water. Looking at the actual nutrition facts makes a difference. Most of the time I try to look at labels. I have not noticed nutritional values posted at Chick- Fil-A© and that is where people seem to eat the most.

Final themes from D4100's childhood reflected the strong role of parental influence. This particular student provided insight as to how eating habits and structure of meals change when the family is altered by the loss of a parent. The change in the family environment led to changes in consumption habits in and outside the home. The influence of geographic location also impacted his food options living farther away from food resources.

D4100 reflected on his photographs and noted that he was able to make better choices by using his options around and off campus. His desire to have home cooked meals was fulfilled by having access to the weekly church sponsored meals. D4100 wanted to make it clear that healthier food options were desired by students. He also reflected on the significance of being aware of nutritional content in food, which was not visible at campus food venues. His photographs also highlighted the unhealthy food used in fund raisers and the prevalence of this type of event on campus. Limited access to cooking resources in the dorms is another factor that impacted the overall issue of unhealthy eating as a college student.

### **Student Participant A1100**

Participant A1100 is a 20 year old female Caucasian senior social work major who tries to maintain a healthy lifestyle. As a college student she finds it difficult to eat

three full meals each day with breakfast consumed less than other meals. She indicated that money plays a role in her eating habits as a college student. Her eating habits are impacted by her social interactions with others. She enjoys going out with her friends to eat on a regular basis.

*Tell me about your parents influence on eating habits during childhood.*

Breakfast wasn't a big deal. It was usually grab a pop tart and go because we were running late. Lunch we ate at school. Mom didn't like making sandwiches and I don't eat them. Dinner was usually Hamburger Helper or something like that. We didn't eat green stuff. Vegetables were not served. My mom did the cooking but my parents split when I was 11. Then my stepdad and stepmom cooked. Neither of my biological parents liked to cook so my stepparents did the cooking.

*Tell me ways financial resources and education options in your community influenced eating habits.*

Money wasn't an issue when it came to food. School lunches were pizza, chicken, sandwiches, hamburgers, with fruit, vegetables, and some kind of dessert. I drank water. I did not like milk. We lived in a city area and that provided for more food options in our big school. We had multiple food options in both middle and high school. We would have pizza catered. I didn't eat vegetables.

*Tell me about peer influences on your eating habits.* "When we started driving, we ate fast food a lot. Friends in high school influenced eating fast food. My mom is a big Dr. Pepper drinker. Our parents hung out together and we all drank Dr. Pepper."

**Student A1100 PhotoVoice discussion.** For this portion of the individual interview we examined the photographs selected using the SHOWeD method. A1100 took photographs of local restaurants near the campus. They illustrated the unhealthy food options along the street across from campus. The participant also focused on college life and daily interactions with friends. The photographs selected were related to her social gatherings and how food options impacted food selection. Another area of interest included the financial aspects of healthy eating. She also discussed available resources in the housing facilities that impacted her cooking options.



*Figure 23. Student restaurant options across the street from campus.*

*This is the first photograph you have selected. Tell me what you see here and what is happening.* “There is a Subway and Dominos. I was standing on campus when I took the picture. It’s just across the street.”

*How does this relate to your life as a college student?* “Everything that is close is fast food. Subway is kind of healthy. It is all expensive. There are not a lot of options close to campus if you don’t want to go to the dining hall.”

*Why does this problem, concern, or strength exist and what can we do about it?*

I think this is a problem. We have these types of restaurants because they’re quicker and easier and they know they will get college student business. We could change this by adding a fresh fruit market or something right across the street.

Something that you can walk to but has fresh food options would be better.

*This next photograph is dark and has limited visibility. Tell me what you see here and what is happening.* “There is an open Bible, a cup of tea, and a cookie. This is in the coffee shop across the street. Some friends and I went to grab coffee, hang out, and have a Bible study.”

*How does this relate to your life as a college student?* “The coffee shop didn’t have fruit or anything, only desserts, teas, and coffees. Our choices were limited. Most of the coffee shops like Starbucks have pastries and desserts, but they really don’t have fruit.”

*Why does this problem, concern, or strength exist and what can we do about it?*

I think this is a concern because a lot of us go in and I would get fruit with coffee or fruit flavored water but it’s not offered. I think it’s expensive to keep fresh fruit, but really cheap to have fruit flavorings. Then there is no worry about quick sales or having fruit go bad. This would be healthier if businesses weren’t so cheap. We seem to do everything the cheaper, easier way. Pastries really don’t go

bad and they aren't healthy. They can't do that with fruit even though it's healthier. They need to provide healthier options with a longer shelf life.

*Tell me about this photograph. It is difficult to see as well due to lighting in the selected location. Tell me what you see here and what is happening?*

This is a cake we bought and put foil over. In the bowl is chicken broccoli casserole. We cook at our apartment. Due to limited resources and a lot of roommates it was a really fast casserole because we didn't have much time between classes.

*How does this relate to your life as a college student?* "Even when you can cook you don't have a lot of time. Every day is always on the go."

*Why does this problem, concern, or strength exist and what can we do about it?*

I think it's a concern and a strength because we do have the kitchen and it's healthier than going to get fast food. It was just difficult time and space wise. I know my friends and I are just too busy. We just go, go, go, and then try to eat in between times we are going. I never learned how to plan meals. I think we need to teach students time management and more parenting/home classes so we know what we need to do in life. For example, you need to schedule a certain amount of time to cook a meal. We need that kind of information.



*Figure 24. Food display case at the front counter of the coffee shop off campus.*

*Tell me about the next photograph. Tell me what you see here and what is happening.*

This is the food case in the coffee and sandwich shop across the street from campus. Below it is a little display with all the flavored teas on top and all the pastries for the week. This is the first thing you see at the counter. All the desserts are decorated and there is an abundance of them. Even if you weren't planning to get dessert, you will want one.

*How does this relate to your life as a college student?* "It's the first thing you see when you walk in and it leaves an impression. Even in the dining hall it's the pizza line, so the first thing you see is unhealthy."



*Why does this problem, concern, or strength exist and what can we do about it?*

I'd say it's a strength for students that want to eat sweets. It's a concern if you are trying to eat healthy and you are being tempted by something you don't need. It appears appetizing. It's really hard to come in, look at a cookie, and not get one. Having more fruit bowls there would help to have healthy options.



*Figure 25. Student's apartment stove with multiple meals being prepared on top.*

*Tell me about this photograph. Tell me what you see here and what is happening.*

This is at our apartment. There is a medium size pan of chicken spaghetti with carrots and broccoli. There is not a lot of space at all to cook. That was a meal for three of us. The other pan was another roommate's. We were trying to cook at the same time.

*How does this relate to your life as a college student?*

We wanted to try and make our own meals. We went to a nice market to get this.

We wanted to know what it cost to cook a healthy meal. Even though we had everything we couldn't fit it on the oven. It was impossible to cook it all. We are provided kitchens. That doesn't matter if you can't use them effectively.

*Why does this problem, concern, or strength exist, and what can we do about it?*

It's a problem. It discourages cooking when it's that much of a hassle. The other two folks in this room were trying to cook too. After all the hassle we just decided to start going out to eat again. Our roommates didn't know how to cook. I think they were making Ramen so they weren't actually cooking. It's the idea that there is a kitchen, and we can cook, but we aren't actually using it. Not a lot of college kids know how to cook. Even if they did there is no room. It seems that kitchens in our housing doesn't necessarily have to be useful, it just has to be there to sell. To change this situation they could provide an adequate kitchen for the number people living there. They could also have a kitchen area on campus that students could bring their own groceries to cook. That would be really cool.

**A1100 theme development.** After finishing the individual and PhotoVoice interview questions, the researcher and A1100 discussed themes related to the influences on her childhood eating habits. Both her parents and friends influenced her consumption patterns. Her parents choosing not to cook during her childhood impacted her knowledge of cooking and going out to eat. Her childhood eating patterns of missing breakfast were

also maintained as a college student. Peer relationships further influenced her patterns of eating out and drinking sodas.

The researcher prompted student participant A1100 to identify themes in her photographs. She felt that her images portrayed the unhealthy food and drink options around campus. She also focused on apartment life, numerous roommates, and the difficulty involved with cooking in small kitchens. Overall, her themes were related to access of food options, financial means to cook, and location of food resources.

**A1100 final data review.** *After having the experience of taking photographs in the college environment and discussing childhood influences on eating habit development, tell me what you have learned about college life.*

There are students that want to be healthy. My friend and I went on a health kick and tried the Paleo diet. We didn't have access to the food necessary for the diet. Limited food options discouraged healthy choices. We encourage people to eat, offer a lot of places to eat, but they are not healthy. Our dining hall is healthy in comparison to McDonald's, but it's not healthy either. Health is important to me because I like real food. I enjoy cooking. I have a lot of friends that have no problem with fast food all day long. They do not seem concerned with their health. I don't think a lot of people make the connection because we don't see the effects yet. Currently my eating habits are probably more influenced by a lack of access to stuff. Now that I know how to cook I would more if I had a real kitchen because I love to cook. It's not feasible. It's expensive and I think access to healthy food here is an issue.

Final themes from A1100's childhood surround the fact that her biological parents did not cook. She addressed ways that change in her family dynamics offered new opportunities for meals at home. As a child, time was a factor in terms of consumption choices. Overall, her friends' and parents' consumption habits were influential on her food choices.

Themes from the PhotoVoice images were about food availability, healthy cooking options, and monetary expense. The images illustrated that fast food is localized around campus. The coffee shop displays unhealthy food items and has limited healthy options. In terms of her living environment, the apartment is ill equipped to cook for a group. She also addressed the expense associated with cooking healthy and the lack of financial resources among college students.

### **Student Participant F5100**

Student F5100 is a 20 year old Caucasian female. She currently is classified as a junior with a major in history. She indicated that her schedule is limited. She is enrolled in a full course load while working 20 hours a week or more. She indicated that eating breakfast was important to her and she made sure to eat something each morning either at the dining hall or home. As with most of the students, money was a factor in her food selection, but she made sure to eat three meals each day.

*Tell me about your parent's influence on your eating habits as a child.*

Weekends my parents made breakfast. Dinner was usually about 5:30 or 6 and it was home cooked by my mom. My parents had dinner at the table at least three nights a week because of the whole family bonding thing. For a long time we had

pizza on Friday. Then my parents went on a diet. After that there was a point I wanted pizza again. Because we had been eating so light, I threw it all up the next morning.

*Tell me about your school and peer group while growing up and how they influenced eating habits.*

In our high school we had the option to get fast food. We did that a lot junior and senior year. The area I grew up in was a medium size town. We had a fried chicken place right down the road from the high school. We had a fast food chain with hamburgers close to the high school we could walk to. In elementary school I wanted to stand in line with my friends. If everybody was going to the pizza line I didn't want to get burgers because I would be standing by myself. So, I would stand with them and get pizza instead. In high school we made a group decision about what we would eat.

**Student F5100 PhotoVoice discussion.** Participant F5100 selected photographs related to the college experience on campus. Her photographs surrounded studying, eating, and drinking habits with her peers. She also took photographs of restaurant options near campus that her friends often frequented. Another area of interest was her shopping experiences as a college student.



*Figure 26. Table with student drinks and notes at the library during a study session.*

*Tell me about each of the photographs you have selected using the SHOWeD method. Tell me what you see here and what is happening.*

We are all studying in the library. I took this to show the options we had for drinks. That is my water bottle from home. Others had coffee from downstairs and a Mountain Dew. We can either have water, coffee, or soda. Healthier juices are either apple or orange. There is not much variety.

*How does this relate to your life as a college student?*

At the time I took it we were all studying. We all got our drinks and someone came over with coffee and I asked if I could take a picture showing we only had these things to choose from. I feel like there is variety, but again there is not. For my friends we'll decide if we want to get food or if we want to stay at the library.

I've found that when we pack all our stuff and go to Chick-Fil-A© or the dining hall we are less likely to come back to study.

*Why does this problem, concern, or strength exist, and what can we do about it?*

Overall, it's a convenience, but in this particular picture I see it as a problem.

There are no juices or anything healthy besides water. There also aren't many options other than water, coffee, and soda. I'm not quite sure how to make this better. Offer more variety of juices instead of four rows of soda, one row for apple and orange juice, and one row for water.



*Figure 27. College students driving from campus to nearby food locations.*





*Figure 28. Continued images of restaurants nearby campus.*



*Figure 29. Continued images of fast food nearby campus.*

*Tell me what you see in the three related images and what is happening. “I see friends in a car driving and viewing a variety of fast food places close to campus.”*



*How does this relate to your life as a college student?* “It gives students accessibility so we don’t have to pull out our GPS we just go up and down the main road for food choices.”

*Why does this problem, concern, or strength exist and what can we do about it?*

It’s a bit of a concern, but also strength, because it gets students off campus and allows them to get moving if they aren’t driving. It’s a concern because students are hungry, but don’t want to eat at all of the unhealthy food places illustrated in the pictures. This only shows a few of the many fast food options. I don’t know where we would put healthier options or what other places could come here. Everything is on one road and it seems already full.



*Figure 30.* Vending machines at the Wal-Mart checkout near campus.

*Look at this photograph you have selected. Tell me what you see here and what is happening.*

This is a vending machine at Wal-Mart near the university. There is no water at all. This is at the express check out. There was Coke, Diet Coke, Mountain Dew, and different flavored water, but there is no water in the machine. There is nothing healthy at the quick checkout that many students use.

*How does this relate to your life as a college student?*

As a student, I make frequent trips to Wal-Mart. Right now I'm not drinking any soda. I wouldn't particularly grab anything, but if I was drinking soda, and that is the first thing I see, I would get it. Since there is no water, that's the only option. I am not going to look around at other stations for water.

*Why does this problem, concern, or strength exist and what can we do about it?*

It's a problem because students are trying to get in and out of the store quickly. This is the only drink option in quick lanes. Sodas are cheap for only a dollar, but they have a lot of sugar, and are unhealthy. I don't know how to fix this. They have every other cooler filled with water. We could get with Wal-Mart and ask that they just do one shelf of sodas on quick lanes and the rest be water.



*Figure 31. Processed meals at the grocery store.*

*Tell me what you see here and what is happening in this photograph that is difficult to see the images.*

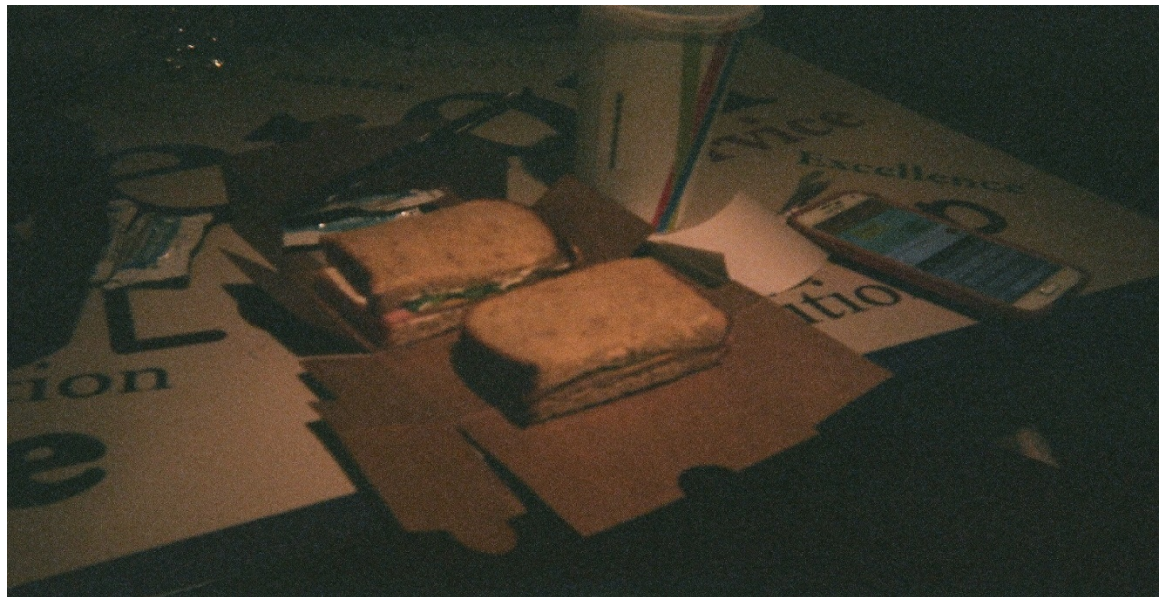
It is my go to aisle at the grocery store with quick meals. I went to Wal-Mart to pick up Ramen because I don't want to spend money on eating out and I'm not the best cook. On the left there are nicer, more expensive boxed meals that have a little more flavoring. The different options of Ramen are on the other side. A small cup of Ramen is 28 cents so it's cheaper than most anything.

*How does this relate to your life as a college student?*

The cases are actually like \$1.50. So I can get two weeks of Ramen for about the same price as one single meal. If our parents are not paying for our tuition a lot of us are very conscious about the money we are spending. We don't want to spend \$100 at grocery store. So we stock up on Ramen for \$10.

*Why does this problem, concern, or strength exist and what can we do about it?*

It's a problem because it's really cheap which encourages college students to buy it and the sodium is really high. It doesn't digest correctly in your stomach and stays there for longer than it's supposed to. It's not the best choice, but it's quick; it fills you up. I think this could change in several ways. They could offer healthier, more affordable options. Campus could offer cooking classes for students. They should provide the recipe, how to do it, and the cost at Wal-Mart. This would allow students to plan healthy meals.



*Figure 32. To-go meal at the library.*

*Look at this photograph that also has limited visibility due to lighting in the room. Tell me what you see here and what is happening.* “This was my friends to-go meal from the library which consists of a meat sandwich, fruit, cookie, and soft drink. That’s all you get for a to-go meal.”



*How does this relate to your life as a college student?*

Usually, if you go to the register I feel like you are expected to get their coffee or what they make. If you get a to-go meal I feel like they want you to go to the dining hall and then come here. I feel like you are expected to get the greasier food. There are not a lot of options that are healthy. For one of the pizzas it is \$5-6 or you pay the same price for a sandwich.

*Why does this problem, concern, or strength exist and what can we do about it?*

It's a concern and a problem because it's too expensive for the amount of food. Many students don't know about the food pantry on campus where you can get a snack for free. You don't have to be entirely poor to go to the food pantry. They will give you animal crackers, a granola bar, or things to snack on, but students are not taking advantage of that option. I really want the nice meal, but don't have \$6. Going to get this smaller thing to hold me over until I can go home to my Ramen and eat is better. Maybe we could offer something other than sandwiches and put fliers up around campus about the food pantry.



*Figure 33. Flatbread spinach pizza from the library cafe.*

*Tell me about this photograph. Tell me what you see here and what is happening.*

“That is actually one of the pizzas from the library. I get bacon spinach flatbread with sweat tea. I think this was \$8 and that’s expensive. You could get a lot of food at McDonalds for that.”

*How does this relate to your life as a college student?*

A lot of students go in here. If you sit in the library from morning until lunch you can see how it fills up and empties out. I feel like a lot of students are either closer to their classes in the library or its closer than the dining hall. Students get their food and study while eating so they can multi-task. It allows us a quick meal so we can continue to study. I like that they have the café. It’s convenient. A lot of people don’t know where the dining hall is, but they know where the café is.

*Why does this problem, concern, or strength exist and what can we do about it?*

Having the café in the library is a strength. I think it gives students that want to study the option of coffee so I can stay energized while I’m in the library. That helps us to keep studying. I feel like we could offer smaller kiosks with different things and we would have more options.

**F5100 theme development.** After finishing the individual and PhotoVoice interview questions, the researcher and F5100 discussed themes related to the influences on her childhood eating habits. Overall, themes from F5100’s childhood were related to structured meals prepared with family during childhood. School was an influence in terms of being able to leave campus. Peers influenced behavior on a social level for F5100 as they would eat similar foods to stand in the same line and sit together.

The researcher prompted student participant F5100 to identify themes in her photographs. She felt that her images portrayed the lack of healthy options on and off campus. Themes were related to access of food and drink options. F5100 spent time on campus studying before and after class which impacted her eating choices. The elements of time, access, and financial burden were emulated in her photographs repeatedly.

**F5100 final data review.** *After reflecting on your childhood eating habits, participating in this study, and take photographs in the college environment, tell me any additional thoughts you have.*

I feel like we don't want to walk to the healthiest food because we would rather have convenience and food closer to our classes. Some students go to the dining hall instead of leaving campus just to save time. There are not a lot of parking spaces and we don't want to move our cars. Overall, I feel like its convenience. We don't want to walk places to get food so we will stay in one place and get food all day. From participating in this study, none of the students I know are concerned about their health. If people want to lose weight, it's about changing your diet, and eating healthier. A lot of people are going to the gym, but they never change eating habits.

Final themes from F5100 that carryover from childhood are having meals on a schedule. It is also important to her to have food with friends. The social aspect of her congregating with friends to eat has continued as a college student. Overall, her pictures illustrate the theme of convenience and access of food choices to students. It was

important for her to note in a number of pictures that unhealthy options were easier to obtain and money was always a factor for college students eating on a budget.

### **Student Participant H1100**

Student participant H1100 is a 19 year old Caucasian male. He is an animal science major concentrating on the pre-veterinary program. He indicated that he lived on campus and uses the meal plan. As a result, his food options are limited, and he eats the same things each week. His schedule and lab courses involve him being in class early each morning and he misses the chance to eat breakfast. H1100 is committed to staying physically fit and uses the recreation center at least four days each week.

*We will start with the individual interview questions. Tell me how your parents influenced eating habits during childhood.*

They influenced all of it. They bought the food. They made my meals. I did not have a lot of say in what I did or did not eat. In middle school I picked more. I didn't eat a lot of unhealthy stuff. In high school I started buying my own food mainly for lunch.

*Discuss influences in school including financial resources and the area you lived during childhood that impacted eating habits.*

In elementary and middle school I ate lunch at school and went through the line. I went through the line in high school the first three years and my senior year I took a lunch. The food choices were not healthy. I ate a lot of chicken nuggets and mashed potatoes. That's what I remember most. I had a meal plan because it was



cheaper. We were in the city so there were more food options at home and at school.

*Discuss ways your friends influenced eating habits during childhood.* “In terms of my peers, I don’t feel like my friends influenced my eating habits at all. However, I did usually get in the same line with my friends so I guess that would influence me.”

**Student H1100 PhotoVoice discussion.** Participant H1100 took photographs of the types of food offered in the dining hall as it related to his campus experience with a meal plan. He focused on the available options, amount of daily crowding, and time between classes as areas that impacted his overall eating habits. He also took pictures of food in his dorm that was sent from family. He highlighted that the snacks sent to him were a significant part of his consumption each week.



*Figure 34. Burger and fries at the dining hall.*

*Tell me about this first photograph using the SHOWeD method questions. What do you see here and what is happening?* “This is a hamburger and French fries from the

dining hall. I got it because I was in a hurry. I like to go through the sandwich line but it's always busy so I grabbed a burger."

*How does this relate to your life as a college student?* "I'm on my own now and can eat whatever I want. If I get fat that's on me."

*Why does this problem, concern, or strength exist and what can we do about it?*

This is a concern. The sandwich line and salad bar are the only healthy options. Those are always busy. I don't want to eat a salad every day. There needs to be more healthy options. They need to have healthier options for the student body. All the freshmen coming in have never had the option to choose what they eat. They don't know how to eat on their own and they gain weight. This is why they call it the Freshmen 15.



*Figure 35. Plate lunch at the dining hall.*

*Now look at the next photograph you have selected. Tell me what you see here and what is happening.* “It is my plate at lunch at the dining hall. It is mashed potatoes, corn, and bacon bits. I chose this because it was the shortest line.”

*How does this relate to your life as a college student?* “It was the easiest option for me. I pick what I want to eat. I did not have time to wait in line for healthier options.”  
*Why does this problem, concern, or strength exist, and what can we do about it?*

It’s a concern. For healthier options like sandwiches you have to wait 30 minutes or more. No one is going to wait that long. There are always burgers and you can get them quick. They could have healthier foods that are easy and quick to get so you don’t have to wait in line so long. They could also offer healthier food at the student center. That’s all junk food. Many students have dining dollars, eat Chick-Fil-A © every day, and that is very unhealthy.



*Figure 36. Pizza, salad, chicken and yogurt from the dining hall.*

*Look at this photograph. Tell me what you see here and what is happening.* “It is another plate from lunch time. It has yogurt, pizza, and terrible chicken. This is in the dining hall.”

*How does this relate to your life as a college student?*

Basically at college, you eat what you want, with the time you have. I was busy that day. The pizza line is never busy so I grabbed pizza. I always eat a cup of yogurt. That’s another healthy option. There is another line that’s organic. I don’t know if it’s really organic, but it tastes awful. The chicken is really dry and flavorless. The line is really not that long, but the food is bad. I noticed that when the school gives tours the food is better to sell it to incoming students. Also, the ice cream machine only works on tours.

*Why does this problem, concern, or strength exist and what can we do about it?*

“This is a concern mostly because mom and dad aren’t there to tell me not to eat pizza. Maybe we should have signs posted in the dining hall that remind us to eat healthy.”



*Figure 37. Fruit and yogurt from the dining hall.*

*Tell me about what you see in this photograph.* “It’s a bowl of fruit that has yogurt in the bottom. It is strawberry yogurt. Typically, I get this about every time I go in the dining hall.”

*How does this relate to your life as a college student?* “Monday-Friday I eat lunch and dinner in the dining hall. This is one of the few healthy options. I really like this option.”

*Why does this problem, concern, or strength exist and what can we do about it?*

It’s more of a strength. It reminds me of childhood. Kids like yogurt and the fruit is usually good. I like all fruits. We need more options like this. It is mixed fruit. I guess some people might not like all of them. They could separate the fruits out. There are also only two types of yogurt – Greek and Strawberry. They could offer more.



*Figure 38.* Dining hall hamburger and fries.



*Tell me what you see in this photograph and what is happening.* “I got to the dining hall early before they started serving dinner. They always have burgers and fries so that was the only good option.”

*How does this relate to your life as a college student?* “I have to go to the dining hall for meals because I have the meal plan. Considering that was the only decent option it became my favorite thing last semester. They are not halfway bad, but not healthy.”

*Why does this problem, concern, or strength exist and what can we do about it?*

This is a concern. The fries are typically good and so are the burgers. If a student is stressed they are going to want to eat something that tastes good and makes them feel better. Unfortunately, this choice is not healthy for us. Maybe we should not have burgers and fries every single day. This is always an option.



Figure 39. Student dorm with powdered drinks and protein mix.

*Tell me what you see here and what is happening.* “This is in my dorm. It is Spark energy drink, Gatorade mix, and protein mix. The Spark I drink so I don’t sleep in class. The Gatorade mix is cheaper than the bottles. I drink protein mix after workouts.”

*How does this relate to your life as a college student?*

I’m always tired. The Spark keeps me awake. I don’t want to be drinking coffee and energy drinks. The powder Gatorade mix is cheaper and I can drink a lot more of that for the money than buying bottles. I drink the protein for the recreation center. I use the recreation center four days a week.

*Why does this problem, concern, or strength exist and what can we do about it?*

I see it as a strength. It’s what I like. Maybe it is a concern. I always drink Gatorade and water. In my dorm there is a vending machine. There is water, sodas, and energy drinks. There is no Gatorade. You don’t have the option of a healthier juice like Gatorade or Powerade. Maybe we could take some of the sodas away and have healthier options.



*Figure 40.* Cookies sent in a care package from grandma.

*Tell me what you see here and what is happening.* “My grandma sent me cookies. She makes sure I have something to eat and bakes cookies for me. They may not be the healthiest thing. I’ve been eating her cookies all my life and they are good.”

*How does this relate to your life as a college student?* “This is my #1 snack in between classes. Maybe if I miss dinner or lunch I will just eat a few cookies some days.”

*Why does this problem, concern, or strength exist and what can we do about it?*

Maybe this is a concern because it’s not the healthiest thing for me. I think in college we need to be aware of what we eat. I also think it’s a strength. I think it’s nice to have something made by my grandmother to come home to. You don’t want to eat stuff that doesn’t taste good all the time. It kind of takes me back home to my grandma’s when I get to have the cookies.



*Figure 41.* College student care package of snacks from grandma.



*Tell me about this photograph. Tell me what you see here and what is happening.*

“This is in my dorm. My grandma also sent me this. It’s full of all kinds of goods. She doesn’t want me to go hungry and I definitely don’t. I always have a snack.”

*How does this relate to your life as a college student?* “When in a hurry or late at night, I just open it, dig around, and find something I like. I imagine this happens for a lot of students. My friends also get care packages.”

*Why does this problem, concern, or strength exist and what can we do about it?*

It’s a strength. It comes in handy, especially when I don’t have time, or I’m trying to write a paper in a hurry, and I can eat a snack real quick. The campus store is overpriced. I know the healthier stuff is. We need healthier options that are not so pricey.



*Figure 42. Dining hall beef sandwich and vegetables.*

*Look at the last photograph. Tell me what you see here and what is happening.*

This is some kind of meat in a sandwich, vegetables and potatoes in the dining hall. I ate this at lunch and it was busy. Taste wise it was pretty good. I like vegetables and these were good but the potatoes were bland. The meat was dry but better than hamburgers.

*How does this relate to your life as a college student?*

The dining hall is not very busy in the evening. Lunch is definitely busy. I go with friends and I will wait for 5-15 minutes in line and eat 15-30 minutes. I have classes before and after so I have to choose quickly. That line was short and that's why I went. Time is an issue in terms of getting healthy food during lunch.

*Why does this problem, concern, or strength exist and what can we do about it?*

This is a problem. It's not the healthiest meal. The vegetables were ok. It's still a lot of carbs. We could improve by having healthier options that taste better and move through lines quicker. The sandwich area has 10 people in line who wait 20+ minutes. It takes them longer to prepare it. To solve this problem we would need to change the work area or change the lunch schedules.

**H1100 theme development.** After finishing the individual and PhotoVoice interview questions, the researcher and H1100 discussed themes from his childhood eating habits. He felt that his parents had primary control over his choices and options during childhood. Unhealthy food options were equally as prevalent during his middle and high school years. The lack of healthy options has continued to impact his food selections.

The researcher prompted student participant H1100 to identify themes in his photographs. He felt that his images primarily portrayed the unhealthy dining hall food options students have with a busy schedule on campus. His themes were related to lack of time and overcrowding of the dining hall. These both led him to unhealthy food choices to prevent him from being late to classes. The remaining themes from photographs are related to college lifestyles and limited access to options. His dorm photographs of snacks and powdered drink mixes are a reflection of limited options for healthier choices on campus.

**H1100 final data review.** *After reflecting on your childhood eating habits, participating in this study, and the taking photographs in the college environment, tell me any additional thoughts you have.*

I feel that after experiencing the dining hall, and how busy it is during lunch, with the available options, this could be a major health risk for incoming students. They don't know how to eat on their own. When I started out I was eating ice cream every day. Some people work out and burn off the calories and some just eat their food. I really think my health habits have come from my parents. They had me very active growing up. I am not quite as active as I was, but it is still important to me. They taught me how to eat healthy. From taking the photographs, maybe we need other places to eat besides dining hall and student center. We buy these meal plans and have to eat in the dining hall or we are losing money. Mine only covers Monday-Friday. I have to eat Ramen noodles, McDonalds, or something cheap on the weekend.

Overall, H1100 discussed the theme of parental influence on food eating patterns and selection over his lifespan. In his photographs the theme of limited time being equivalent to unhealthy meals was repeatedly addressed. Another theme was lack of quality in the food options at the dining hall. He noted that some of the food there did not taste good and unhealthy options were always readily available. The elements of time, resources, and access to healthy options are reflected in all of his PhotoVoice discussions.

### **Student Participant G6100**

Student participant G6100 is a 19 year old Caucasian female. She is a sophomore communications major. She indicated that she has to work while attending school and her schedule is very limited when it comes to eating. As a result, she does not eat breakfast each day. Lunch and dinner for G6100 is off campus. She is living in an apartment and does not use the campus meal plan. Her schedule is hectic and she rarely gets home from work before 10:00 each night. She indicated that with her schedule, she eats once a day, or not at all.

*Let's start with the individual experience questions related to your eating habits in childhood. Tell me about your parents influence on your eating habits.*

My parents really didn't watch us while I was growing up so I was with my grandma most of the time. She didn't have very healthy eating habits but she kept us very active. She influenced us on snacks mostly. They weren't really healthy or she would turn healthy into unhealthy. I loved the carrots and dip she gave us. She made this ranch, Italian, seasoning salt dressing to go with them. I guess that's where my salt craving came from. Now I eat that because it's what I grew up

having. My parents bounced us back and forth from their house to my grandma's house. We would either get donuts for breakfast one time a week or we would have bacon and eggs. I don't eat breakfast now. I don't have time for it.

*Tell me about your influences on eating habits at school in terms of available options and financial resources.*

When I started school we used to eat the Little Debbie snacks in the lunch line. When I started 5<sup>th</sup> grade they stopped doing that because our school district wanted to apply healthy eating habits. They changed our bread from white to whole grain. They stopped doing little pizzas and would do vegetable pizza which was gross. No kid wanted to eat at school so we started bringing our lunch. My mom kept tabs on what we ate so it was pretty healthy. We would have peanut butter and jelly sandwiches, apples, fruit snacks, and drink pouches. I rarely ate lunch in high school because I was so busy during the day. It was kind of like college. I would skip my lunch period. Occasionally I brought fruit snacks. I never ate a full meal until I was in high school. Middle school food wasn't that bad. I ate our school lunches all the way through. We had a regular lunch line, snacks, and drinks line. The snack line cost more. I would bring allowance to go through that line. My parents did not give us money for snacks. We got reduced school lunches due to our income.

*Tell me about ways the community you grew up in influenced eating habits.*

I lived on the edge of a large town so it was in between rural and city. There was access to a lot of grocery stores, fresh produce, and that sort of food. When we got

older we had these types of food. My brother was a picky eater so when we were little they would buy mostly what he would eat. I would eat anything that was put in front of me. In middle school and high school I started getting involved in sports so I wanted to eat a little healthier. I like vegetables more than I like fattening snacks. My parents always kept fresh vegetables and fruit around for us.

*Tell me how your peer group influenced eating habits.*

I wouldn't say my friends necessarily influenced my eating habits. I would see what they would have, and I would see what I had, and I would rather have mine. In the last year of middle school I began making my own lunch. I made what I wanted. When the school started trying to serve healthier options, they removed the vending machines in elementary and middle school. Those that remained had juice, water, Capri Sun, but no sodas. There was milk in the lunch line. Our high school put the vending machines with sodas back in so I had options during that time.

**Student G6100 PhotoVoice discussion.** *This portion of the interview will include a discussion of the photographs you have selected using the SHOWeD method. G6100 selected photographs related to her apartment, living environment with her friends, and work experiences as a college student. She also took photographs of food options on campus at venues and fundraisers depicting the unhealthy items available to students.*



*Figure 43. Contents of a student refrigerator in an apartment.*

*Let us begin by talking about the initial photographs you have selected. One has limited visibility, but it appears they are both from the refrigerator. Tell me what you see here and what is happening.* “These pictures are everything in my fridge. We have chocolate chip cookie dough which is not used for baking; it’s used for eating. We have essentials eggs, butter, and milk. This was also a lot of leftover food.”

*How does this relate to your life as a college student?*

My roommate and I like to cook. We put leftovers in the fridge for when we are rushing to class so we can just heat it and take in the car with us. We make pastas, salads, soups, Hamburger Helper, chips and salsa, and carrots. We have cheese, meat, and other stuff. The cookie dough is a snack. It’s a little bit of a craving for us both. For the most part we have ingredients for healthy meals. We don’t like to eat out very much because we overindulge. We try to balance out how much we

eat out and cook. The cheap and easy stuff we have in our fridge isn't necessarily what campus life is about. It seems like in college it's either super expensive where college kids can't afford it or super cheap and not good for you.

*Why does this problem, concern, or strength exist?*

I think being off campus is completely different. I resided on campus for a year and a half. I found it to be a very poor way of representing how we are trying to get fit at school. Yet they don't provide the services for us. Living off campus, not being forced to get a meal plan, and having your own food to cook is important. I know a lot of the dorms only have a microwave and small fridge. We had a kitchen but I was forced to have a meal plan. I like being able to cook at home and make food I know is good for me so the apartment is a strength.

*What can we do about it?*

Last year they had endorsements – Monster came and gave out free Monster's, Mountain Dew, and those things. Instead of providing free unhealthy drinks, they could support local farmers and give us healthy options. Otherwise we are wasting money on something we don't need on campus. In the dining hall they should have request sheets to fill out and try and plan according to what students want. They are investing money in the wrong areas.





*Figure 44. Chicken nuggets with waffle fries and dipping sauces.*

*Tell me what you see in this photograph and what is happening.* “This is from Chick-Fil-A©. It’s chicken, ranch, honey mustard, and fries. It’s fried food which is quick and easy. Even though they say it is healthier fast food, it is still not healthy.”

*How does this relate to your life as a college student?*

This is my go to when I get Chick-Fi-A©. I get sweet tea, fries, and nuggets. It is a very popular option. Students like it because it’s not Taco Bell, McDonalds, and it has waffle fries which everyone likes. It’s a somewhat cheaper fast food option. While it might be cheaper and somewhat healthier; it is still not a healthy option.

*Why does this problem, concern, or strength exist and what can we do about it?*

Just having Chick-Fil-A© on campus I don’t see as a problem. I might call it a strength in some areas because if we are going to get fast food we at least need to have a healthier option. They also sell salads and grilled chicken wraps. So they

do have healthy options. I think this option is on campus because students request it. It's fairly affordable. I think this is a good option for campus. The nuggets aren't always the main option. They do use a better oil to cook with. They have salads and there are other options for us to choose from.



*Figure 45. Fundraiser for school organization with sweet tea and cookies.*

*Tell me what you see here and what is happening.* “This picture is a bunch of sweet tea and cookies we had for a fund raiser.”

*How does this relate to your life as a college student?*

I am in a sorority on campus and we do this each month. We serve it in the student center. It's a come and go thing on the way to class that is accessible to students and faculty. The sweet tea we don't make ourselves. We buy it and bring it in for service hours. The cookies aren't healthy but we buy those from local stores. There are numerous fund raisers for different organizations. We do this because it's quick and easy. We only make \$1 on each sale.

*Why does this problem, concern, or strength exist and what can we do about it?*

The fact that this is what the campus makes accessible is why I added this picture.

I see this as a concern because we know these aren't healthy options but we provide them anyway. We know they are cheap and students will buy them. I feel like that's what our school promotes. College kids don't have a lot of money. We are buying things from what our family provides or we are buying things from our minimum wage jobs. We also have bills. Money is pretty short at the end of the month. Being honest, we live in the South and sweet tea is a very popular option. We could make it ourselves and use alternative sugar. We could make snacks in packages like carrots or fruit. Not every student likes those things. It's an easier option that we do cookies because who doesn't like cookies?



*Figure 46. Energy drink purchased off campus.*

*Tell me about this photograph. Tell me what you see here and what is happening.*

This is a refreshing energy drink. I bought it at the convenience store across the street from campus. I was getting ready for back to back to back classes so I decided this was somewhat healthier than Monster or Red Bull. It's lightly carbonated so it doesn't necessarily have all the bad ingredients that Red Bull does. I believe its 33 calories and the bottle is 8 inches tall.

*How does this relate to your life as a college student?*

I went out of my way on campus to go off campus to buy a drink and snack before classes. I had \$6 to spend. I was sick of having sodas and chips so I went to the convenience store and got this instead. This picture shows you have to go out of your way to get something that's better for you. I do not have a lot of time each day and it definitely plays a role in decisions I make.

*Why does this problem, concern, or strength exist and what can we do about it?*

Looking at this picture, I view this as a problem and a strength. It is a problem because you have to go out of your way to get healthy things. It is a strength because it's right across the street from campus. A lot of students live on campus, don't have vehicles, or time to run across campus. We should have more things like this on campus. It's not that we don't have these things because of money. They like to have expensive brands they know students like rather than providing healthy alternatives. This is actually cheaper than a Monster or Red Bull. I paid only \$2. Monster or Red Bull costs at least \$2.50 for the size I have. I think it has

to do with who provides food and drinks in vending machines and campus stores.

They would rather make extra profit than have healthy alternatives.

**G6100 theme development.** After finishing the individual and PhotoVoice interview questions, the researcher and G6100 discussed themes related to the influences on her childhood eating habits. G6100 addressed the fact that she ate a lot of snacks growing up and how that was influential in her eating habits as a college student. Additionally, her school food offerings changed to healthier options that did not taste as good which resulted in her taking food from home. Currently, she makes a daily effort to eat food from home and does not enjoy eating food from the dining hall either.

The researcher prompted student participant G6100 to identify themes in her photographs. She felt that her images portrayed the college student lifestyle. The common theme of limited time has resulted in not eating breakfast and having meals or snacks at alternate times during the day or night. Limited access to healthy items is also a theme that influences unhealthy eating habits or outsourcing when on campus to find healthier options. She noted how fund raisers primarily use unhealthy food items that are cheap to sell on campus. Thus, money is illustrated as playing a powerful role in student eating habits.

**G6100 final data review.** *After reflecting on your childhood eating habits, participating in this study, and taking photographs in the college environment tell me any additional thoughts you have.*

I think at least 50% of us don't care what we put in our bodies. We think that because we are young it doesn't matter. The truth is we buy what's accessible and



don't think about it unless we are educated. If students don't take kinesiology classes, fitness class, or nutrition they do not understand the impact. I think there is a concern on this campus because we don't provide the healthy alternatives we should. The school knows what they are doing when they buy these products for a profit. We are always told about using the recreation center and exercising. I think more students relate exercise to canceling out poor eating choices. It's up to students to make a change. I think this is all about our outlook and initiative. From this experience, I feel that my current eating habits come from the health problems I've had in the past few years. I've had to place diet restrictions on myself about what is good for me and my health. I also keep in touch with what I grew up with. There is always going to be that certain thing that feels like home. Currently, when I eat, time and convenience is definitely a factor.

When reviewing the themes from childhood she felt that her grandmother's snacks influenced her eating habits more so than peers, other family, or environmental aspects. Final themes from her photographs were primarily about convenience, time, and access. Images from her apartment, fast food options, and fund raisers all reveal the time constraints of college students. Her photographs revealed the powerful influence of consuming what is geographically close over making healthy food choices.

### **Summary of Individual Interviews**

Participants started the interview process and answered the individual experience questions (Appendix G). They were related to the environmental systems that impacted his or her childhood eating habits. This set of questions was followed by analyzing each

PhotoVoice image they had picked to discuss using the SHOWeD method (Appendix F). Students selected a variety of focus areas to take photographs. This allowed them to visually tell stories about current influences on eating habits as college students.

The final portion of the meeting was reflective in nature. The participants were asked to discuss the research experience. They were asked to think about their childhood eating habit formation and questions they had been asked. Students were also prompted to reveal meanings or themes associated with the college experience as it related to their eating habits depicted in their photographs. Overall, the researcher requested each participant's synopsis of each photograph and to identify themes in the images. When each student completed the interview he or she was asked to select a final transcript review meeting time and was provided with a reminder card of his or her upcoming meeting before the interview ended.

### **Summary of Final Individual Transcript Reviews**

After the individual interviews were completed a final interview was used to validate the information obtained. The final interviews began and proceeded through the following two weeks after all individual interviews were completed. The researcher transcribed each interview verbatim prior to meeting with each participant during this time period. Each participant met with the researcher and was given a transcribed copy of their interview to review for accuracy at the beginning of the meeting.

During each participant's opportunity to review the transcripts with his or her photographs, he or she was asked to reflect on accuracy of the individual interview questions. Participants reviewed the content of the SHOWeD questions for selected

photographs and the final reflective statements made regarding the research experience. Evaluating the mixture of data sources and participant reflection on the content assisted in finalizing the themes. The triangulation of the data sources established credibility and integrity for the findings (Mertler, 2006).

Participants acted as co-researchers in all phases of the research study. This started with the initial group interview. Participants acted collectively as developers of the focus areas for the study. From the group session, the choices they made allowed them to be the primary decision makers for selecting areas of interest to take photographs for the PhotoVoice portion of the study. The role as a co-researcher continued with the individual interviews. Each participant determined the direction of the study by selecting photographs of his or her choice to be analyzed using the SHOWeD method. Their reflections during the final interview provided themes to further understand the study of college student eating habits.

The overall purpose of the final transcript interview with each participant was to validate accuracy of the information obtained. During this meeting each participant validated common themes from the discussion of each photograph he or she had taken. The participants were provided with time to read their transcribed responses to each photograph. The researcher provided each participant with a pencil and highlighter to mark significant content for discussion.

Upon completion, each participant worked with the researcher and discussed the themes. This form of collaboration with each participant provided the opportunity to gain further insight to his or her perspective of the transcribed content and photographs. This



methodology acted to heighten both legitimacy of the content and uniformity in the findings.

The analysis of data in this study was multi-faceted. As noted by Wang and Burris (1997), data analysis of PhotoVoice research occurs in a three stage process. The initial stage begins with participants selecting photographs to take and then discuss individually. The next stage involved each participant providing background information about each photograph selected using the SHOWeD method. The final stage occurred when participants continued to act as co-researchers coding and validating themes throughout the research process (Wang & Burris, 1997).

During each interaction between researcher and student co-researchers data was further analyzed. The goal was to ascertain the most significant themes and patterns that emerged. The researcher used information obtained from each participant and coded each interview transcription. The researcher identified codes in the patterns of discussion about each photograph and resulting interview dialogue. The codes for each theme are listed below in Table 1. The themes were developed by participants and subsequent analyses of the content by the researcher. All data were validated with each participant for accuracy. The common themes of health, time, convenience, influences, and resources related to participant eating habits emerged.

Table 1

*PhotoVoice Themes and Codes in Three Emerging Categories*

<b>Healthy vs. Unhealthy Access</b>	<b>Time, Convenience, &amp; Access</b>	<b>Influences, Resources, &amp; Access</b>
Structure	Processed	Socializing
Calories	Cheap	Quick food
Parents	Sleep	Working students
Greasy food	Fast Food	Long lines
Sugary sodas	Vending machines	Class Schedules
Friends	Restaurants	Campus dining
Recreation Center	Eating in car	Library Café
Lunch time	Lazy	Walking distance
Expensive	Packaged food	Friends
Weight gain	Long lines	Parents
Few options	Location	Money
Home cooked	Running late	Store Arrangement
Planning	Shift work	Marketing
Vending machines	Appliances	Prices

**Common Themes for Individual Questions**

For the individual interview questions each participant discussed eating habits during childhood. During the final interview themes were further developed and validated by the participants related to the areas of greater significance. The primary area discussed related to home life and experiences with the primary caregiver. All of the participants found home life, meal preparation, and family to be highly influential on eating habits. Recurring terms that were coded among the participants dialogue included home cooked, eating together, and parents decision. Other participants noted that meals at home were less structured and uncommon. Terms coded in that area were related to eating out as a

common occurrence during childhood, and no one cooked, or that sodas and junk food were readily available.

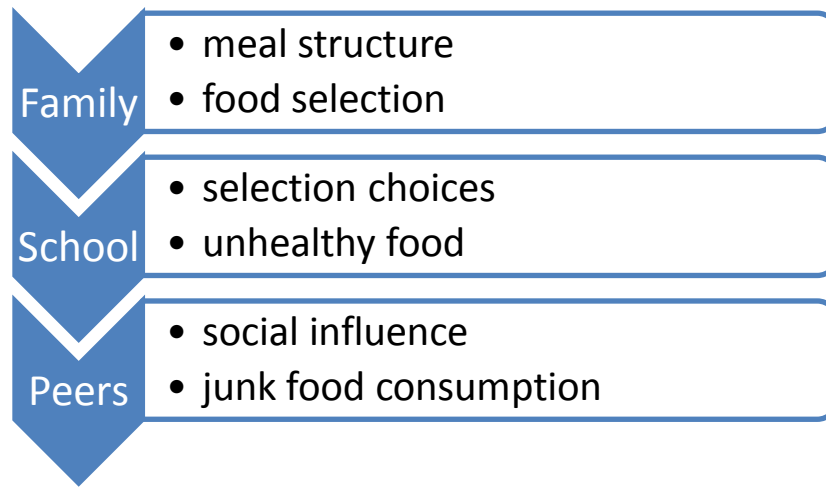
Themes were identified in the areas of education, income, and location.

Participants noted the quality and options of school lunches as a primary factor on food selection during childhood. Several participants noted the difficulty associated with having healthy food items when living in a rural area and having limited access to grocery stores. In terms of income, most students had the option to take lunch from home if desired and several students used the meal plans for reduced lunches.

The discussion of peer influences was mixed among the group. One participant noted that her peers always ate fried or unhealthy foods. She did not prefer those types of food due to the way she was raised by her parents. Other participants discussed the need to socialize with friends which influenced food choices. Several indicated that they would do what the group wanted in terms of choosing food lines at school or eating off campus. Another participant noted that her friends always drank sodas and that influenced her consumption of sodas. As a college student, she has found soda consumption to be a difficult behavior to extinguish. Overall, interaction with peers has influenced food selection. The interaction underscores the significance of eating habits and socializing. Table 2 depicts the themes identified from the participants' discussion of childhood influences on their eating habits.

Table 2

*Themes from Childhood Influences on Eating Habits*



**Common Themes for Photographs**

The PhotoVoice photographs provided a rich discussion of the reality of college student experiences with eating on and off campus. There were a number of categories that emerged. The students acted as co-researchers and determined the areas of significance. The content was reflected in his or her photograph decisions and subsequent dialogue.

Coded information from the photographs was related to types of food and drinks offered in one category. This was further separated into food and drinks on campus. Focus areas were in the dining hall, library, campus store, food court, and fund raiser offerings. The other codes were for food and drinks off campus. The areas included venues close to campus that were all fast food, free meals at the churches near campus, and grocery store food options. This led to highlighting the following terms for food: fast food, fattening, calories, fried, salty, and items with sugar. In terms of drink options, each

participant highlighted the following terms: sodas, energy drinks, caffeine, expensive, accessible, and inaccessible.

When discussing the codes for types of food and drinks the common theme of “excessive unhealthy options” emerged and was consistent among the participants. The only exception in the photographs was the free meals offered weekly at local churches. This was addressed by one participant seeking home cooked meals. It is notable that the images were of free food not offered at the university.

The next category of interest was student financial resources. Areas that were coded included campus meal plans, going out to eat versus cooking, and buying groceries. In terms of campus meal plans, the focus was on having to eat the dining hall food, the lack of quality, or taste. Additionally, the meal plan dining dollars that could be used across campus were limited. Many indicated they had run out of meals before the semester had ended. When they discussed going out to eat, many addressed the overall lack of funds to eat at places with healthier food options.

In terms of cooking, the aspect of cost of food, storage, and time was highlighted. The aspect of buying groceries was coded in areas of quick, unhealthy, and easy to make meals. The selections were often high in salt, processed, and cheap. From the discussion in this area waste of consumable items was also coded. Lack of places to prepare and consume meals with friends was also a focus area. All students discussed the social aspect involved with eating on and off campus.

When discussing the category of financial resources the theme of cheap, quick, and easy emerged. All students agreed that money played a role in food selection. The

aspect of having classes back to back required them to have foods that were accessible and quick as well. Many focused on the ease of having processed foods even though they are not healthy meal options. Table 3 depicts the primary areas of focus identified in participant photograph and content discussions related to college student eating habits.

Table 3

*Themes and Codes from Photographs*

Food & Drink Options	<ul style="list-style-type: none"> <li>• Healthy = Expensive</li> <li>• Available = Unhealthy</li> </ul>
Financial Resources	<ul style="list-style-type: none"> <li>• meal plans = unhealthy options = poor quality &amp; taste</li> <li>• Healthy = expensive / unhealthy = cheap = easy</li> </ul>
Time	<ul style="list-style-type: none"> <li>• limited cooking = poor time management</li> <li>• eating on the go = overloaded schedules = fast food</li> </ul>

### Summary

Each participant selected photographs and generated dialogue using the SHOWeD method. The discussion provided insight to the areas of concern regarding eating habits of college students. The participants had the ability to freely select the most significant aspects of their life to photograph. The content participants selected to photograph is indicative of the themes obtained from this research study. The participants provided a window into the day to day experiences as college students. Each student reflection on the significance of childhood experiences provided insight on the developmental influences of his or her current eating habits.

Overall, findings developed from participant interviews, use of PhotoVoice, SHOWeD methodology, and theme development in groups, as well as individual interviews, made this study rich with data. The in-depth information regarding this group of college students provided insight to the obstacles they have faced with healthy eating. All formats of inquiry further validated the accuracy of transcribed discussions and final themes developed with the co-researchers. The participants' eating habits were greatly impacted by lifestyle and living environments. Identifying that participants in this study have limited healthy options can lead to a trend of health advocacy on the college campus where the study was conducted. Furthermore, studies of this nature can increase awareness on the impact of campus food options and the availability of healthy food choices to college students.

## CHAPTER V

### DISCUSSION

The initial goal of this research study was to determine how college students perceive their eating habits during childhood from a developmental perspective. Thus, the qualitative research process began with each participant's discussion of childhood eating experiences. The focus areas were the roles of family, community, education, financial resources, and peers on decision making processes. This was achieved by group discussion of childhood eating habits in the initial meeting and further expounded upon using the individual interview questions. The individual interviews provided more depth from each participant of his or her perceived childhood experiences related to eating habits.

The next part of the study occurred during the individual interviews and focused on the participants current eating habits using PhotoVoice technology. The element of photographs gave life to the research process. It allowed the participants to do more than talk about eating experiences. Participants took charge and determined areas of interest as a group. Then participants independently took photographs of what they perceived to be most relevant in terms of his or her eating habits as college students.

The photographs highlighted areas of concern about both on and off campus that impacted eating habits. Photographs included nearby restaurants, food vendor offerings on campus, menu items, images of appliances, and food or drinks consumed by the



participants. Participants also gave insight to some of the individual issues that became predominant in each of his or her lives as we discussed the photographs. The SHOWeD method of analysis was used as descriptive process with all images. This method provided an understanding and uniformity for each story behind photographs taken by the participants.

Namely, participants were impacted by a lack of time, lack of resources, and lack of access to healthy options as they related to consumption habits. All of the primary themes were interrelated and visible from the dialogue related to each participant discussion of his or her photographs. Perhaps the most significant aspect of this research was the collaborative discussion among researcher and participant regarding the final SHOWeD method question for each photograph. The question related to change. Each participant provided input regarding improvement for college students in terms of eating habits. Most of the suggestions required action on the part of the university to provide healthy options that are accessible to all students. Other comments focused on education regarding healthy food, meal preparation, grocery shopping, and time management.

Participant responses focused on providing more nutritious options for an economical price. Alternately, removing more of the unhealthy options and changing the ease of access were identified as ways to promote student health. Responses were related to external, internal, and personal changes that could provide for healthier eating habits. Suggestions included budgeting money for healthier options on campus, increasing education of students regarding healthier lifestyles, and providing functional areas for cooking. Among the group of participants everyone noted the need to make better use of

his or her time to provide for healthier choices and options in day to day life as college students.

### **Answering the Research Question**

The qualitative action research study was guided by the following research question: How do college students perceive their current eating habits through the lens of childhood experiences?

This question was addressed in both group and individual formats during the study. The significance of family habits and the environment in which each participant was raised had a visible impact on thought processes about food, meal structure, and daily habits related to eating.

During the second phase of the study PhotoVoice methodology was used. The emphasis shifted to the current developmental stage in college. The use of PhotoVoice provided this group of students with the opportunity to self-direct and take pictures of their current eating habits. The content of the photographs was the areas most influential to each participant's eating habits. The element of using PhotoVoice, allowing the participants to select areas of interest and take photographs, set the stage for the realities they experienced with eating in college.

Data for this study were obtained in numerous formats. As a result the research question could have addressed the current needs of college students to have healthier eating habits. The PhotoVoice portion of the study revealed a need for social change at the university level. Student participants identified areas of concern in terms of food availability, time available with class schedules, and limited access to healthy items.

Initially, the areas of interest regarding eating habits were mapped in the group meeting. Then specific focus areas were selected by each participant as they determined images to photograph for the study. While some of the photographs were related to childhood eating habits and foods that participants remember fondly, most of the images were related to a need for change. Each participant took photographs of images that were a concern to him or her in terms of eating healthy and having healthy options accessible to them as college students. This portion of the study provided an abundance of information to inform the action research initiative to give information to the Healthy Campus 2020 Initiative.

The images gave life to the action research portion of the study in a way that discussions and surveys could not provide. Thus, the images will serve as an impetus for change at the university to offer better, healthier options to students. Key areas of influence on college student eating habits have been identified. They now can be further explored to find effective ways to promote healthy eating habits among college students through modifying the university food and drink options.

### **Areas of Concern and Limitations**

From conducting this research study a number of areas of concern have been realized. College students are the potential future leaders of society. As a university, providing education is just one aspect of developing one's potential. From conducting this study it is evident that the individual health of college students is dependent upon surroundings. Currently, there is a high level of focus on physical activity as related to student health at the university where the study was conducted. Students who participated

related that healthy consumption of food for the student population was not a focus on the campus where the study was conducted. This was repeatedly stressed and identified in the participant PhotoVoice images of soda machines, vending machines, and overabundance of processed or fried food options available on campus.

The study reduced errors in reliability and validity by adhering to PhotoVoice methodology. The process included taking and selecting photographs as co-researchers, analyzing the photographs using SHOWeD methodology, developing themes from the images, and subsequent stories told by each student (Wang & Burris, 1997). Participants acted as a group to determine the initial themes for the study. Photographs taken were a compilation of those themes and further validated by using the SHOWeD method to gain understanding of their point of view in each photograph. Validation of those findings came with code and theme development in the initial interview and continued with the individual and final transcript interview. Saturation of the data was reached using this method and a clear understanding of student issues related to healthy eating habits was revealed.

In terms of the current study, the primary issue was the use of disposable cameras. The picture quality was limited in comparison to a digital camera or smart phone camera. Additionally, transferring the pictures to a digital format was costly and time consuming compared to more technologically advanced cameras. Students could simply take photographs in a digital format, create a file, and email the photographs to the researcher instead of physically delivering the camera for the film to be developed.

A limitation of qualitative research is the population size used. In this study the campus location, gender, and age demographic of college students were all limitations. Campuses in rural areas have less community resources due to geographic location. For this study participants chose to be involved by responding via email or phone call to participate in the study. Thus, they had to open the email regarding the study or locate the flier to be aware that it was being conducted. When the research took place a total of eight participants, six of whom were female, age 18-20 years completed the study. As a result, the findings from this study may not be applied to the entire college population.

### **Implications and Recommendations**

The study findings could further be validated by using a mixed methods approach with a larger sample population. The use of a representative sample of college students on this campus and in larger cities could provide more insight to the health needs of students. Research could be used in this area to make changes in nutritional options on college campuses to improve eating habits and overall health. Surveys could be created from the themes obtained from this study to gain better understanding of the majority of college students' views on eating habits and campus life. Following use of surveys with a large sample of students, a random sample could be used for in-depth interviews and PhotoVoice to further validate the needs of college students.

Overall, the implications from this qualitative study are clear. There is a desire from some students to have healthier options both in vending machines and from university food vendors. A review of student tuition and fees associated with meal plans and subsequent food available could be conducted to determine a cost benefit analysis of

the current system. Perhaps modifying the vending machines to offer healthier drinks and food options in academic building would be helpful. Adding areas in the dining hall to provide healthier food options that served in a timely manner during the busiest hours of each day could be beneficial. Making small changes will provide insight of the effectiveness of offering healthier student meal options.

The information obtained from this study can be presented at Family and Consumer Sciences conferences. Research findings from the childhood experience questions could be used to inform secondary school programs as well. The area of eating habits and consumption patterns will continue to be a researched topic as it effects everyone in society.

A number of approaches could be further utilized to continue research in the area of college student eating habits. The findings from the individual interview regarding childhood influences on eating habits could be explored. A specific interest in family dynamics including cooking habits, grocery shopping habits, scheduling, interest in planning each meal, and familial roles in eating could be further researched. Learning more about the developmental progression and influence on one's eating habits could be helpful in modifying maladaptive behaviors that lead to health problems seen in current society.

As with all qualitative research, the results of this study are not generalized to the college student population. A group of eight students participated in the study and were unique in that they had lived or were living on campus at some point during or prior to the study. Thus, this study provides a foundation for future research on improving the

health habits of college students. The interview questions and subsequent choices students made when taking photographs that depicted eating habits could be further researched. Areas of significance could be nutrition and the financial constraints on college students when trying to eat healthy.

Continued research on the impact of college student environments and eating habits could be beneficial to university administration. This type of research could be used to obtain knowledge of the needs of students from their perspective. The information could be used to develop quality holistic health academic programs with a focus on student well-being. Comparative research could be done to determine the cost ratio of healthy food items versus those being offered currently at the university to understand the financial variation and avenues for change.

Findings from the final interview could be further researched to gain more understanding of college student views of being healthy. Perhaps a focus on the importance of exercising and diet could be further explored qualitatively. Using this focus area one could gain more in depth understanding of the cognitions of college students regarding eating, exercise, and impact on health.

The findings of this research study will be used to inform the Healthy Campus 2020 Initiative. Currently, many universities are increasing visibility by creating the niche of being student focused. Healthy changes in the types of food and drink options available on campus are just one of the steps on the ladder to making a university more appealing to students. This type of research can be a positive move toward improving student health and well-being.

The university environment serves as a role model for college students. Providing healthy, affordable, nutritious items for students is of paramount importance when promoting student health initiatives. Acknowledging and providing healthy meal options is the cornerstone of student health as their consumption patterns directly relate to their overall health and well-being. Awareness of missing elements necessary for student health is a starting point for change.



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APPENDIX A  
Informed Consent

TEXAS WOMAN'S UNIVERSITY  
CONSENT TO PARTICIPATE IN RESEARCH

Title: An Action Research Study using PhotoVoice: College Students' Perceptions of Eating Habits During Childhood

Investigator: Man'Dee K. Mason    mason@tarleton.edu    254/xxx-xxxx  
Advisor: Karen Petty, PhD    kpetty@twu.edu    940/898-2698

Explanation and Purpose of the Research

You are being asked to participate in a research study for Ms. Mason's dissertation at Texas Woman's University. The purpose of this research is to determine how childhood eating habits affect current eating habits. You have been asked to participate in this study because you have identified yourself as a college student between the ages of 18 and 20 years old.

Description of Procedures

As a participant in this study you will be asked to spend two hours in training with the research investigator; one and one-half hours in a face-to-face interview; time spent in taking photographs (up to 10 hours); and one hour for reviewing notes by the researcher of your interview. You and the researcher will decide together on a private location where and when the interview will happen. You and the researcher will decide on a code name for you to use during the interview. The researcher will ask you questions about your childhood eating habits and your current eating habits. The interview will be audio recorded and then written down so that the researcher can be accurate when studying what you have said. You will be trained in using PhotoVoice, a research method that used cameras to capture photographs that allow participants to understand and share their experiences. In order to be a participant in this study, you must be 18 years – 20 years of age and be a college student.

Potential Risks

The researcher will ask you questions about your childhood and current eating habits. A possible risk in this study is discomfort with the questions you are asked. If you become tired or upset you may take breaks as needed. You may also stop answering questions at any time and end the interview. If you feel you need to talk to a professional about your discomfort, the researcher has provided you with a list of resources.

Another risk in this study is loss of confidentiality. Confidentiality will be protected to the extent that is allowed by law. The interview will be held at a private location that you and the researcher have agreed upon. A code name, not your real name, will be used

during the interview. No one but the researcher will know your real name. The tapes and the written interview will be stored in a locked cabinet in the researcher's office. Only the researcher and her advisor will hear the tapes or read the written interview. The tapes and the written interview will be shredded within 5 years after the study is finished. The results of the study will be reported in scientific magazines or journals but your name or any other identifying information will not be included.

---

Initials

Page 1 of 2

The researcher will try to prevent any problem that could happen because of this research. You should let the researcher know at once if there is a problem and they will help you. However, TWU does not provide medical services or financial assistance for injuries that might happen because you are taking part in this research.

#### Participation and Benefits

Your involvement in this study is completely voluntary and you may withdraw from the study at any time. Following the completion of the study you will receive a \$10 gift card for your participation or a \$10 donation will be made to the local food pantry of your choice. If you would like to know the results of this study we will mail them to you.\*

#### Questions Regarding the Study

You will be given a copy of this signed and dated consent form to keep. If you have any questions about the research study you should ask the researchers; their phone numbers are at the top of this form. If you have questions about your rights as a participant in this research or the way this study has been conducted, you may contact the Texas Woman's University Office of Research and Sponsored Programs at 940-898-3378 or via e-mail at IRB@twu.edu.

---

Signature of Participant

---

Date

\*If you would like to know the results of this study tell us where you want them to be sent:

Email: \_\_\_\_\_ or Address: \_\_\_\_\_

Initials \_\_\_\_\_

Page 2 of 2

## APPENDIX B

### Consent Form for PhotoVoice

Research Participant's Name:\_\_\_\_\_

Project Title:\_\_\_\_\_

Date(s):\_\_\_\_\_

Location:\_\_\_\_\_

I will take pictures of images related to the development of my eating habits and save it as a digital file in Blackboard 9.1 for use in the project listed on this form. I acknowledge that the pictures may be printed or used for display of research findings.

By signing this form, I agree that: I am 18 years or older and I have read this form.

Participant's Signature & Date\_\_\_\_\_

## APPENDIX C

### Consent for the Publication of Photographs



### Consent for the Publication of Photographs

I give my permission for the selected pictures to appear in print, online, and other types of display for research purposed. I have reviewed all pictures that I took during the research study. I understand that my name will not be used or associated with the images published. The pictures may be seen in print, copied, displayed, copyrighted, and used and shown anywhere in the world. I understand that signing this form releases Texas Woman's University and the researcher from any claims, actions, damages, or demands of uses listed above. I acknowledge this material has not been published before in any format, either online or in print.

Title or subject photograph\_\_\_\_\_

\_\_\_\_\_

Signed \_\_\_\_\_

Date \_\_\_\_\_

Print Name\_\_\_\_\_

## APPENDIX D

### PhotoVoice Methodology

PhotoVoice is a component of participatory action research using photography to create and encourage social change. Wang (2006) presented a nine-step methodology to conduct research and meet the goals of using PhotoVoice. The nine-steps include:

**1. Select a target audience of policy makers or community leaders.** Participants select the group based on the target audience's ability to make decisions that will improve upon the problems identified through PhotoVoice activities. For the purpose of this research the target audience is educators and university administrators.

**2. Recruit PhotoVoice participants.** Wang (2006) recommended that PhotoVoice groups include six to ten people. This is beneficial in terms of collecting data and sufficient discussion to gain understanding of the development of eating habits.

**3. Introduce PhotoVoice to the participants.** The researcher initially conducts a training session with the group to explain PhotoVoice and the SHOWEd method of analyzing photographs.

**4. Obtain informed consent.** The researcher must obtain informed consent form all participants. This will be completed in the initial portion of the meeting, prior to the training session.

**5. Distribute disposable cameras.** The discussion and use of disposable cameras provided by the researcher to each participant to take photographs will occur at the training session. Each participant will be required to use the disposable camera to complete the PhotoVoice portion of the study. They will have a completion time of seven days to take photographs and return them to the researcher in her faculty office at the rural southwestern university to be developed. The researcher will develop each

participant's film from the disposable camera provided during the training session prior to the individual meetings.

**6. Brainstorm with participants.** A brainstorming activity is suggested to familiarize participants with initial themes for taking photographs. The activity can serve as a guide for the PhotoVoice activities. It will provide participants with a clearer idea of focus for their picture ideas. Brainstorming will be conducted at the training session with all participants. This portion of the meeting will be audio recorded and transcribed by the researcher.

**7. Provide time for participants to take pictures.** According to Wang (2006) the common allotted time for picture taking is seven days. The amount of time allotted provides the participant the ability to take a sufficient amount of pictures related to the research project.

**8. Meet to discuss the photographs.** After the seven days, participants are asked to return their cameras for the PI to develop them for the individual interview to discuss the photographs taken. Wang (2006) indicated the discussion is conducted individually or in groups. To increase accuracy, this study will use individual interviews for in-depth discussion of the photos using the SHOWEd method. Each participant will review their photographs and select the photographs that tell their story the best. The researcher will work with the participant to contextualize their photographs using the SHOWEd method (Wang & Pies, 2004). The facilitator and participant will collectively identify common themes found in the photographs during the interview discussion. The

common themes will be further explored and validated in the final transcript review of the individual interviews.

**9. Plan with participants a format to share photographs and stories.** The facilitator and participants will choose the target audience and optimal format to present the photographs and descriptions. Formats used previously: website, powerpoint, and poster exhibits.

## APPENDIX E

### Protocol for Initial Training Meeting

## Training Outline

(Wang and Burris, 1997; Wang, 2006)

### I. Introduction of PhotoVoice Methodology

#### A. Discuss the purpose of PhotoVoice

1. The goals of PhotoVoice
2. Responsibility of the participants

#### B. Discuss ethics of PhotoVoice research

1. Inform participants regarding what can and cannot be photographed (i.e. private vs. public property)

### II. Obtain Informed Consent

#### A. Pass out informed consent forms

1. Consent to Participate
2. Consent to Publish

#### B. Review form

1. Emphasize that participation is voluntary
2. Discuss risks and benefits of participating
3. Discuss procedures of the Consent to Publish Form

#### C. Discuss confidentiality

### III. Provide each participant with a disposable camera

#### A. Discuss timeframe of 7 days to take photographs

#### B. Participants are to return the disposable cameras to the researcher faculty office for photographs to be developed.

IV. Brainstorm initial themes and identify areas of interest (eating habits, social interaction and types of desired food)

A. Participants will discuss themes and areas of interest to focus photographs

1. Group consensus will be reached

2. Individual decisions will be made on what they wish to photograph

V. Discuss procedures after disposable cameras are used to take photographs and are returned to PI

A. Plan individual and follow up interview dates.

A. Participants will select photographs that best represent the study purpose

B. Participants will contextualize photographs using the SHOWeD method during the interview.

C. Participants and researcher will discuss and identify themes arising from photograph and interview transcriptions during the final interview.

D. Participants will be given times to review the final research study and contact information to follow up

VI. Questions



## APPENDIX F

### Method to Analyze PhotoVoice Images

The SHOWeD Method for Analyzing Photographs (Wang & Pies, 2004).

The following questions will be used to assist in contextualizing the selected photographs. Responses to the following questions will be recorded by an audio voice recorder. The responses will be transcribed for data analysis. This process will take 60-90 minutes to complete.

1. What do you see here?
2. What is really happening here?
3. How does this relate to our lives?
4. Why does this problem, concern, or strength exist?
5. What can we do about it?

## APPENDIX G

### Individual Interview Questions

Discuss beliefs and perceptions of college students regarding the significance of how childhood eating habits develop and maintained by answering the following questions:

- a. How did your parents influence the development of childhood eating habits?
- b. How have educational resources influenced your eating habits during childhood?
- c. How did your family's income influence eating habits during childhood?
- d. How did the geographic location you were raised in impact eating habits?
- e. How have your peers influenced the development of eating habits?

## Appendix H

### Flier for Research Participation



## VOLUNTEERS NEEDED FOR RESEARCH SURVEY ON EATING HABITS

In order to complete my PhD in child development, I am looking for volunteers to participate in research on your view of influences on your current eating habits thru the lens of childhood experiences. As a participant in this research, you will be asked to: a. participate in a training session (2 hours), b. take photos as many photos as necessary related to the establishment of your eating habits (7 day time period), c. participate in an individual interview to discuss your photos (2 hours) and d. participate in a follow-up interview to validate information obtained from the interview (60 minutes). The study training session and interviews will take approximately 5 hours. Participants can take as much time as needed to take photos over the 7-day period. **In appreciation of your time, you will receive a \$10 gift card or a donation to the local food pantry of your choice will be made upon completion of the study.** Keep in mind that your participation is voluntary and as a participant you may withdraw from the study at any time without penalty. If you are interested, please email [mason@tarleton.edu](mailto:mason@tarleton.edu) or call 254-xxx-xxxx. \*\* Be aware that “There is a potential risk of loss of confidentiality in all email, downloading, and internet transactions.

Thank you! Man’Dee Mason

## Appendix I

### Email for Research Participation





## Appendix J

### IRB Approval Letter



**Institutional Review Board**

Office of Research and Sponsored Programs  
P.O. Box 425619, Denton,  
TX 76204-5619 940-898-  
3378 email: IRB@twu.edu

<http://www.twu.edu/irb.html>

DATE: February 5, 2016

TO: Ms. Man'Dee K. Mason  
Family Sciences

FROM: Institutional Review Board (IRB) - Denton

*Re: Approval for An Action Research Study Using PhotoVoice: College Students'  
Perceptions of Eating Habits During Childhood (Protocol #: 18800)*

The above referenced study has been reviewed and approved by the Denton IRB (operating under FWA00000178) on 2/5/2016 using an expedited review procedure. This approval is valid for one year and expires on 2/4/2017. The IRB will send an email notification 45 days prior to the expiration date with instructions to extend or close the study. It is your responsibility to request an extension for the study if it is not yet complete, to close the protocol file when the study is complete, and to make certain that the study is not conducted beyond the expiration date.

If applicable, agency approval letters must be submitted to the IRB upon receipt prior to any data collection at that agency. A copy of the approved consent form with the IRB approval stamp is enclosed. Please use the consent form with the most recent approval date stamp when obtaining consent from your participants. A copy of the signed consent forms must be submitted with the request to close the study file at the completion of the study.

Any modifications to this study must be submitted for review to the IRB using the Modification Request Form. Additionally, the IRB must be notified immediately of any adverse events or unanticipated problems. All forms are located on the IRB website. If you have any questions, please contact the TWU IRB.

cc.Dr. Karen Petty, Family Sciences  
Graduate School

Appendix K  
IRB Approval Letter



Date: 1/25/2016

Principal Investigator: Man'Dee Mason  
T-Box: T-0820      Extension: 9814

Re: An Action Research Study Using PhotoVoice College Students' Perceptions of Eating Habits During Childhood.

Dear Ms. Mason,

Your IRB application has been approved **EXPEDITED** under rule **45 CFR 46 110(d)**.

Your IRB No. is: 2016-011216-16034

Your date of expiration is: 1/25/2017

If you wish to continue your research beyond the date of expiration, please submit a request for continuing review 45 days prior to expiration date.

Thank you for submitting your application and we wish you success in your research.

Sally Lewis, Ph.D.  
IRB Committee Chair

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