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Understanding Feeding Style and Young Children's Consumption of Food

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Walden University

2018

Abstract

Understanding Parent/Caregiver Feeding Style and Young Children's Consumption of

Food

by

Mary Bean

MA, Jackson State University, 1998

BS, Edison State University, 1986

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Health Psychology

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Abstract

Due to increased rates of childhood obesity since 2010, researchers have examined family environmental factors and family influences on children's consumption of healthy foods. While previous research has examined how factors such as food presentation and the food intake of other family members can predict a child's body mass index, there has been little research examining whether parent factors predict the amount of healthy foods children eat. This quantitative survey study examined whether certain parent factors, specifically parents' attitudes about food, parents' feeding styles, and parents' attachment styles, predicted the amount of fruits and vegetables children ate. Understanding the extent to which these factors predict children's actual consumption of healthy foods, rather than predicting their body mass index, will further inform the healthcare field about parents' role in their children's physical development. Family systems theory served as the theoretical foundation. Seventy-four parents of children ages 1 to 7 years completed an online survey containing items from the *Caregiver Feeding Styles Questionnaire*, the *Relationship Structures Attachment Questionnaire*, and the *Parent Attitudes About Food Questionnaire*. As well, they logged the amount of fruits and vegetables their child ate over a 1-week period. The results of the multiple regression analysis revealed an overall significance which suggested that the 3 parent factors together predicted the amount of fruits and vegetables that children ate; however, closer examination indicated that only parents' attachment style was a significant prediction of children's consumption of fruits and vegetables. The results of the study add to our understanding of the role that parents play in their children's eating habits and the influence of attachment on children's consumption of a nutrient-dense diet.

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Dedication

I wish first to dedicate this research to my Lord and Savior, without whom I would not have been able to complete this research. I also would like to dedicate this to my late husband, Jim Bean, and to my son, James Edward Bean, and daughter-in-law, Isela Bean, who have stood by me throughout this process. Their encouragement to continue has greatly moved me along to completion.

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Chapter 1: Introduction to the Study

The Center for Disease Control established that the prevalence of childhood obesity has increased over the last few decades (as cited in Ogden & Carroll, 2010). Obesity is defined as a body mass index greater than or equal to the 95 percentile for growth charts based on age and sex (<https://www.cdc.gov/obesity/adult/defining.html>). Between 2007 and 2008, Ogden and Carroll (2010) showed a 5.4% increase in obesity in children aged two to five and a 13.1% increase in children of ages 6 to 11 from 1976-1980 to 2007-2008. Researchers have learned that parents have control over the eating experiences of their child. Anzman, Rollins, and Birch, (2010) examined some of the parental behaviors that might have a positive impact on obesity prevention. Further research is needed to study how parents can go beyond obesity prevention and encourage self-regulatory behaviors and positive attitudes about healthful foods.

Researchers have studied the different ways that parents influence the eating habits of children. For example, Randolph, Fincham, and Radey, (2009) discussed the use of the health belief model and family systems theory to help parents increase the formation of healthful habits in children. More healthful eating behaviors occurred in children as a result of influences from the family system (Kitzman-Ulrich et al., 2010). Scholars who have used the family systems approach showed that there is a connection between parental involvement and more effective health behaviors in children (Gerards, Sleddens, Dagnelie, DeVries, & Kremers, 2011; Goosens, Braet, Van Durme, Decaluwe, & Bosmans, 2012; Gruber & Haldeman, 2009; Kime, 2008).

In this chapter, I introduce research on the influence of parents on the eating habits of children. I present the problem statement on the issue of childhood obesity and

what the researchers indicated about how parents present food their children to promote healthy eating. In this chapter, the purpose of the study and its significance to the field will be explained, and the study approach will be described. The family systems theory and attachment theory will also be discussed as the theoretical frameworks for the research. The study's assumptions, limitations, and delimitations will also be examined in this chapter.

Background

Eating more fruits and vegetables is one of the behaviors that has been shown to contribute to a healthy lifestyle (Kime, 2008). Understanding the relationship between attachment, parent feelings about food, and caregiver feeding styles will yield information as to the role parents play in encouraging children to engage in more nutrient dense eating behaviors

Previous scholars have examined the roles of caregiver feeding style, attachment, and parent attitudes about food on body mass index (Goosens et al., 2012; Hughes, Power, Fisher, Mueller, & Nicklas, 2005; Kime, 2008). The effects of positive engagement behavior on interactions between parent and child have also been studied (Ackerman, Kashy, Donnellan, & Conger, 2011). Positive engagement behavior by parents is a part of parental warmth or kindness and affection and is part of the responsiveness of caregiver feeding styles (Ackerman et al., 2011). Previous researchers have focused on whether or not there are family influences on the eating patterns of a child. The researchers examined what environmental factors contributed to the family influence on eating patterns. (Anzman et al., 2010; Goosens et al., 2012). Anzman and Goosens focused on early ages of development in this review. Their study showed that

parents determined what foods the family ate and how the foods were seasoned. The taste of foods that parents offered became familiar to the children and were related to their preferences for foods flavored in certain ways (Anzman et al., 2010). Even before birth, the foods the mother ate passed into the amniotic sac, and the baby tasted and became familiar with them (Anzman et al., 2010), indicating that children's food preference patterns could be established by parents early in life. Early introduction of vegetables can increase the likelihood that food will be accepted by the child (Anzman et al., 2010). Scholars have provided information about the ways that parents expose children to eating vegetables. Further research is needed to examine the mechanism by which parents, especially mothers, influence eating.

Caregivers will try different methods to encourage their child to eat a nutrient-dense diet. Often, parents will encourage the eating of healthful foods by offering dessert afterwards (Anzman et al., 2010). Other scholars examined what the food looks like, what it is paired in the meal, and the psychological reward of eating the food (Kennedy, Whiting, & Dixon, 2014; Tasca & Balfour, 2014). Further scholars can examine the effects of giving the child an appreciation of the good qualities of fruits and vegetables and how the family atmosphere at the table can foster this appreciation.

Various researchers have examined the effects of different family factors on the eating habits of children. Kime (2009) examined the spectrum and order of eating and found that the time of day that children ate, who in the family ate with whom, whether the same food was eaten by all in the family, and where eating took place indicated that ordered eating promoted healthier eating habits. Further study could be done on the nature of the parent-child interaction and how parents engage in food presentation.

In this study, I examined the ways in which parents present healthy food to their children, specifically in terms of their level of positive presentation. I sought knowledge of the effect of parent attachment, parents' attitudes toward food, caregiver feeding style, and parents' positive engagement behavior on the types of food that children eat. The knowledge from this study will increase the empirical understanding of how these different aspects of parenting and feeding are associated with each other.

Variables

Attachment. Some researchers have focused on the relationship between attachments to parents and what children eat due to the parents' eating patterns (Goosens et al., 2012). Goosens et al. (2012) measured attachment to parents with a Security Scale and used to the Body Mass Index scale to measure the effect of attachment on eating. There was a relationship between the type of attachment of the child to the mother and childhood concerns about restraint in eating and weight concerns (author, year). An unhealthy attachment, or insecurity about the involvement of the parent, can increase the likelihood of disordered eating as the child ages (Goosens et al., 2012).

Parent attitudes about food. The feeding practices of parents and their emotions about different types of food, such as sweets and vegetables, have an effect on how children eat (Anzman, Rollins, & Birch, 2010). These variables could also be studied in relationship to one another and to the types of food children eat. These three have not been studied together. In this study, I examined caregiver feeding style and parent-child attachment and the elements in them, like warmth, affect the types of food that children eat, especially in terms of their fruit and vegetable consumption.

Caregiver feeding styles. Other researchers have examined parenting styles in relation to feeding children (Hughes et al., 2005). For example, Hughes examined the four parenting styles: authoritative (high demands and high responses) authoritarian (high demands and low responses), indulgent style (low demands and high responses), and uninvolved (low demands and low responses). The amount of demands parents placed on their children and their level of responsiveness to their children defined the styles (Hughes et al., 2005). Statements made to control children's eating defined demands. An example might be "Try your broccoli" or "You need to eat." Demonstrating warmth and being involved with the child at meal time defined responsiveness. Hughes et al. found that this type of involvement is a part of an authoritative feeding style that promotes encouraging the child to listen. However, the authoritative parenting style, which contains elements of responsiveness to the child and behavioral expectations of the child, makes a significant difference in eating (Kitzman-Ulrich et al., 2010).

A factor that is beginning to be studied more is the effect of parenting styles with special needs children. McPherson and Lindsey (2012) examined how children with special needs understood healthful living and found that children with special needs seemed to need more education about healthy living than they were receiving.

These variables could also be studied in relationship to one another and to the types of food children eat. These three have not been studied together. In this study, I examined caregiver feeding style and parent-child attachment and the elements in them, like warmth, affect the types of food that children eat, especially in terms of their fruit and vegetable consumption.

I examined the ways in that parents present healthy food to their children, specifically in terms of their level of positive presentation. This will be discussed further in Chapter 2.

Problem Statement

I examined whether attachment, parents' attitudes about food, and caregiver feeding style predicted the amount of healthy foods (e.g., fruits and vegetables) that children eat. Although I addressed several gaps in the literature in regards to these variables, it also has implications for the social problem of increasing rates of obesity in childhood. I examined whether the variables of parent attachment, parent attitudes toward food, and parents' feeding styles predicted the extent to which children eat fruits and vegetables.

Purpose of the Study

In this quantitative study, I examined whether attachment, attitudes about food, and caregiver feeding styles predicted the amount of fruits and vegetables that the children eat. The independent variables for this study were a *Caregiver Feeding Styles Questionnaire* score a score on an attachment style questionnaire and scores on measures of their attitudes about food. The dependent variable was the amount of fruits and vegetables that parents reported that their children ate over a 1-week period. The regression analysis was used to predict which variables affect the amount eaten.

Research Question

RQ1: Will parents' attachment, attitudes about food, and caregiver feeding styles with their children predict the amount and type of foods that children eat?

Hypothesis 1: Caregiver feeding styles, attachment, and parents' attitudes about food will predict the amount of fruits and vegetables children eat.

Null Hypothesis 1: Attachment scores, parent feeding styles, and parent feelings about food will not predict the amount of fruits and vegetables children eat

The dependent variable was the amount of fruits and vegetables that the children eat as measured by parent report over a 2-week period. The independent variables were parents' attitudes about foods, positive engagement behavior scores, attachment scores, and the Caregiver Feeding Styles Questionnaire.

Theoretical and Conceptual Framework

The theoretical frameworks that served as the foundation for this study were the family systems theory and the attachment theory. Scholars use the family systems theory to examine the ways that family interactions can influence childhood eating patterns. In the home, there are many opportunities to teach healthful behaviors. There is not enough information on how to make best use of these moments. This theory was used in several programs in which parents and other family members are involved in measures to help children grow up to make healthful food and exercise choices. Some programs have examined how to help overweight children (Kitzman-Ulrich et al., 2010). These programs involved measures that could improve strategies by which parents could increase healthful behaviors in their children. The framework of the family systems theory contains the elements that can give a basis for understanding what works best to help a child learn to eat a healthful diet.

Within the family, there are many types of interactions between family members. These family members and other childcare providers are the first influences on the eating

habits of a child (Gruber & Haldeman, 2009). There are many practices within the family that influence eating. Families determine what food is eaten and how it is prepared. They influence when food is eaten and with whom and what conversations parents have with children at mealtime, when food is bought, and when food is prepared, which influence the child's eating (Gruber & Haldeman, 2008).

The family systems theory contains many variables, and some of these influence eating. One of these variables is family competence (Kitzman-Ulrich et al., 2010). This element involves how the family copes with the daily tasks that are a part of family life. One of these tasks is preparing food and serving it. How this is done within the family structure can influence eating habits. Another variable is satisfaction within the family. This element affects family eating patterns because the feelings that surround the eating experience influence eating patterns (Kitzman- Ulrich et al., 2010). Parent/caregiver behaviors can affect what and how much a child eats. Warmth or positive engagement behavior is another part of the family system. This can include parenting styles and behaviors that occur during meal times, as well as while food is being prepared, bought, and served. Family cohesion is how the family works together. This can include intergenerational interactions. This variable influences the eating environment by bringing about oneness in the values that make up family structure (Kitzman-Ulrich et al., 2010). These variables have been shown to influence eating patterns in the (Kitzman-Ulrich et al., 2010).

Another theory that played a role in this study was the attachment theory. Some researchers have aligned attachment theory with the family systems theory as a way of explaining family behavior (O'Gorman, 2012). Attachment theory has a biological basis

to explain some of the feelings that accompany family interactions (O’Gorman, 2012), and it is a factor in the quality of the relationship between parent and child that influences meal time interactions. Mothers and babies synchronize with each other during feeding, and later on, family meals show this same togetherness (Brannen, Connell, & Mooney, 2013).

Attachment between parents and children takes place on several levels. Secure attachments are those characterized by stability, in which a person can rely on the sensitivity of another in distressing situations (O’Gorman, 2012). Anxious or disorganized attachments are those in which the person feels unsure of the relationship. Subtypes of insecure attachments include anxious avoidant attachment, in which the person avoids the relationship because of the anxiety; anxious resistant attachment, in which a person resists a new situation due to anxiety; and disorganized attachments, in which a person never receives the sensitivity from the other person (O’Gorman, 2012).

Attachment disorders have been found with disordered eating patterns (Goosens et al., 2012). Attachment to mothers affects eating differently than attachment to fathers. Less secure attachment to the mother has been associated with eating restraint, which is a limitation of eating, and with eating, shape, and weight concerns in children. Concern with eating and shape involve the child paying attention to how much and what he or she eats and what he or she looks like. These situations do not exist along with insecure attachment to father (Goosens et al., 2012). Because of these relationships between children’s eating and attachment patterns, attachment theory informed this study of mother’s behavior and children’s eating of certain types of food.

Nature of the Study

In this quantitative study, I used scores on parent-completed instruments as the method of data collection. The independent variables in this study were caregiver feeding style scores, attachment style scores, and parent attitudes about food scores. These scores were derived from the *Caregiver Feeding Styles Questionnaire*, *Attachment Styles Questionnaire* and a feelings about food measure. The dependent variable was the amount of fruits and vegetables eaten as reported in a food log by the parents over a one week period. The method of analysis of the data collected was multiple regression analysis. I examined the predictability of these variables on eating

Definitions

Attachment: A bond of affection and loyalty (American College Dictionary, 1982).

Attachment theory: A method of understanding the bond between parent and child. (O’Gorman, 2012).

Family systems theory: This uses family dynamics to explore the influence of family on different elements within it. It uses the interdependency of family members to bring about changes rather than relying on the members in isolation (Kitzman-Urlich et al., 2010).

Parenting styles: Parents’ way of interacting with children in a family. It examines the levels of parental demands and responsiveness to the child (Hughes et al., 2005).

Assumptions

I assumed that the parents will report accurately the intake of fruits and vegetables by their child and will accurately report their responses to the measures used to assess parents' food presentation style, attachment, and attitudes about food. I also assumed that the participants' willingness to consent to take part does not necessarily indicate that the sample is biased.

Limitations

This study was limited to data gathered from parents' self-report, and it did not contain any direct observations. As such, a limitation of the study is that the data were dependent on the accuracy of participants' reporting. The problem of social desirability of responses was a limitation as well.

Delimitations

In this study, I focused on a regression type of analysis, and the detail that would be obtained in a qualitative study was absent. The regression relationships were able to establish causation. They determined whether or not there was predictability between variables.

Significance

I sought to fill the knowledge gap regarding the effect of presentation of food by parents on what fruits and vegetables the child will eat. Understanding the effects of positive engagement behavior, caregiver feeding styles, parents' feelings about food, and attachment styles on presentation and amount of fruits and vegetables children will eat will give parents the information needed to encourage their children to develop self-sustaining healthy eating habits.

Summary

Mothers and children bond with each other from birth, and this carries over into meal time. In this chapter, I examined the theories and concepts on which the study was based, the limitations and delimitations of the study, and the background information upon which was is founded. I also showed need for this study and the implications its findings will have for social change.

In Chapter 2, I will discuss the research strategy, the theoretical and conceptual foundation, and the literature in terms of the different variables.

Chapter 2: Literature Review

Introduction

The Center for Disease Control indicated that there has been an increase in obesity among children since 1960 (as cited in Ogden & Carroll, 2008). One of the ways to decrease this trend is to encourage children to eat more fruits and vegetables. There have been many attempts to influence eating patterns of children. Some parents will model eating vegetables and fruits, some will tell the children to eat, and some will promise dessert after eating vegetables. These methods have shown limited results in persuading children to eat fruits and vegetables (Anzman et al., 2010). One method that has not been studied as much as others is presentation of food. Food presentation can include what is said at the time of presentation, the warmth or positive engagement behaviors of the presenters, and attachment of presenters to the child. In this study, I focused on understanding the relationship between the food presentation by parents and child care providers, the amount of fruits and vegetables the child eats, and the differences between parenting styles and positive engagement behaviors of parents of children with special needs and parents of typically developing children. The knowledge gained from this study will help parents of typically developing children and children with special needs with information on how to present fruits and vegetables to their children in a way that will promote self-regulation of eating later in life.

In this chapter, I will discuss the research strategy, the theoretical and conceptual framework, and studies that have been done on the different variables.

Search Strategy

The studies that formed the basis of this review were obtained from Psychinfo database, PubMed database, Academic Search Complete/Premier, Proquest, CINAHL, and Medline. The key words used to search all relevant literature were the following: *health messages, relationship between parent communication and children's eating, parenting styles, obesity prevention, parent and child care provider influences, children's eating, eating habits, family systems theory, warmth positive engagement behavior, and meal time presentation*. Most of the studies in this review were from the years 2009-2014. A few seminal works were from an earlier date, and they describe basic psychobiology of attachment and methods of measurement of variables.

Theoretical Foundation

The theories that made up the framework of this study were the family systems theory and the attachment theory. The family systems theory involves the dynamics that take place within the family. Originally, the family went from being considered a victimizer because of the dysfunction of some of its members to being a factor that can bring about healing of individuals and the group as a whole (Guerin & Chabot, 1997). The first one to use a multigenerational approach to family systems theory was Bowen. In this approach, the relationship between mother, father, and child is triangulated like a three-legged stool (Guerin & Chabot, 1997). In the triangle, if one member became uncomfortable, they moved closer to another member. If, in the process, another member became uncomfortable, he or she would try to move toward comfort (Guerin & Chabot,

1997). It is in this way that family systems theory has been understood in the past to depict family dynamics.

Recently, family systems theory has been used to understand the process of health behavior in families. This theory has been used to study family dynamics in the area of health, eating, and exercise. The theoretical propositions of the theory exist as several variables that influence the dynamics of the family. They are family competence, satisfaction, warmth, and cohesion (Kitzman-Ulrich et al., 2010). Competence involves the ability of the members of the family to do activities of daily living in a way that supports all family members (Kitzman-Ulrich et al., 2010). Satisfaction is the contentment of the members with their life within the family (Kitzman-Ulrich et al., 2010). Warmth is the positive behavioral support of family members to each other, and cohesion is the emotional bonding or attachment of one member of the family to another. Some researchers listed another factor: parenting styles (Kitzman-Ulrich et al., 2010). These are not part of the family systems variables, but they exist alongside of them and have an influence on them. They can be considered within the family systems framework (Kitzman-Ulrich et al., 2010).

There are four feeding styles from the original parenting styles: authoritarian, authoritative, indulgent, and uninvolved (Hughes et al., 2005). They are defined by the level of demandingness and responsiveness that are demonstrated (Hughes et al., 2005). Demandingness is the term used to mean how much the caregivers try to influence the child, and responsiveness is the term used to depict how much the parents include themselves in the process and the level of warmth demonstrated (Hughes et al., 2005). The two styles that include the most demands are authoritarian and authoritative.

Authoritative style contains more responsiveness than authoritarian and approximately the same amount of demandingness (Hughes et al., 2005).

Sterrett et al. (2013) examined a democratic or authoritative method of parenting and a laissez-faire or permissive feeding style and found that the laissez-faire style brought about less healthful nutrition practices in parents whose BMI (Body Mass Index) was not in the range of overweight. In the framework of the family systems theory, the parenting style used is authoritative. It consists of democratically made decisions, reinforced boundaries, developmentally appropriate monitoring, positive engagement behaviors, and constructive resolution of disagreement (Kitzman-Ulrich et al., 2010). The family systems theory has previously been used with these variables and with authoritative parenting styles to study health behaviors in families, especially feeding behaviors.

The other theory that provided a framework for this study was the attachment theory. It originated in the work of Bowlby (1994). Bowlby tried to help children by helping their parents. Eventually, Bowlby used the concept of critical periods in embryological development to understand attachment. Bowlby later took ideas about attachment of infant to mother, grief in infancy, and separation and formed the attachment theory (Bretherton, 1994).

In recent years, the attachment theory has also been studied in terms of the biological framework which underlies it. The regulatory processes that were studied by Ainsworth have been found to be connected to biological processes (Hofer, 2006). Attachment can be thought of as a physical as well as an emotional process. Aspects of

attachment development are accompanied by maturation of brain and hormone systems in children (Hofer, 2006).

I chose these theories as frameworks for this study because they contained within them the variables that helped answer the question of how presentation of food as measured by these variables of positive engagement behavior, parenting style, attachment, and parent attitudes toward food will affect children's eating habits. The answer to this question provided knowledge about the effects of these variables to promote healthful eating.

Conceptual Framework

The concept involved in this study was the relationship of the presentation of food as defined as positive engagement behavior, parenting style, attachment, and parent attitudes toward food to the amount of fruits and vegetables that children would eat. The theory of attachment, family systems theory, and parenting style were variables in the study. The family systems theory involves the effect of the dynamics of the family on health and other behaviors.

Attachment is the bond between parent and child. It has been studied in the works of Bowlby and Bowen (Bretherton, 1994; Guerin & Chabot, 1997). Kitzman-Ulrich et al. (2010) have used the family systems theory to study health, and attachment theory has been used to study the effects of maternal attachment on the development of eating behaviors in children (Goosens, 2012). The family systems theory is used to describe the manner in which different dynamics occur in the family, and attachment is described as the bond between parent and child. In the area of family meals, they can be a vehicle of

family togetherness. These theories formed the framework for the variables used in this study

Literature Review Related to Key Variables

Variable of Caregiver Feeding Styles

The first variable to be discussed is caregiver feeding styles. The method of measurement is taken from the parenting styles of authoritarian, authoritative, indulgent and uninvolved. These styles are defined in terms of how demanding the parent is and how responsive they are to the children (Hughes et al., 2005). An authoritative parent is both demanding and responsive while an authoritarian parent is demanding without being responsive (Hughes et al., 2005). There is also the indulgent parent who is responsive without being demanding and the uninvolved parent who is neither (Hughes et al., 2005). Hughes et al. examined the feeding styles of Hispanic and African American parents using a questionnaire patterned after one showing parenting styles (Hughes et al., 2005). The study showed that the African-American parents were primarily uninvolved and the Hispanic parents were indulgent.

Another study looked at a different ethnic group and was done in the United States (Sterrett, Williams, Thompson, Johnson, Bright, Karam & Jones, 2013). In this study authoritative parenting style was compared with the laissez-faire style, or one which did not involve many demands made by the parents. The procedure was to study physical activity and nutrition in both. The results showed that the parents with the laissez-faire style who had BMI in normal range did not influence their children as much. Those who were overweight had more influence (Sterrett, et al, 2013).

A factor of parenting style which was currently studied was the effect of responsiveness on BMI (Taylor, Wilson, Slater & Mohr, 2012). In the study 158 children ages 7-11 had BMI and perceived style of their parents measured as well as self-esteem and satisfaction with their bodies. The responsiveness of parents as measured by parenting styles seemed to reflect high self-esteem and not dissatisfaction with their bodies.

Sometimes parenting style can affect the eating patterns of children when they are older. In college freshmen there can be a perception that parenting style influenced their eating habits but this is not always so. In a study, done by Barnes, Brown, McDermott, Bryant & Kromrey, (2012) college students were given a survey to determine the degree of influence they perceived their parents had on their eating habits. The survey showed that the students did not perceive a great influence from their parent (Barnes, et al, 2012).

This variable will be measured using the *Caregiver Feeding Styles Questionnaire* used by Hughes et al., (2005). In this study the participants were African American and Hispanic. A study which had some Caucasian participants was done by Sterret, et al, (2013). This shows that the questionnaire can be used with a variety of participants.

Attachment

Attachment is defined as a bond of affection. It is the interaction between organisms as each one responds to the other (Schorre, 2000). With mother and child it is created before birth. It is psychobiological expression of emotional and social behavior (Hofer, 2006). The psychobiological bond can be formed by early learning experiences. Infants can distinguish their mothers by smell, voice and sight (Hofer, 2006). A

separation from the mother at this stage can cause a strong emotional response (Hofer, 2006).

The influence which is greatest on development is that of attachment (Schoore, 2001). The stimulus which is most important to a young child is the mother's face (Schoore, 2001). The sight of her face causes the child to feel elation. (Schoore, 2001). Very early in the life of a child, there is a synergizing effect between mother and child (Schoore, 2001). The mother matches her affect to that of the child and the child does the same (Schoore, 2001; Brannen et al., 2013). This communication takes place in all aspects of the child's early life, including feeding. The connection of the mother to the child at feeding is important to look at as a variable in the model and her attachment style as measured by the *Relationship Structures Attachment Style Questionnaire* will give valuable information.

There are several reasons for using family systems theory to study eating behavior. There has not been in the past very much study of the family as a factor in children's eating patterns (Berge, Arikian, Doherty & Nuemark-Sztainer, 2012) (Kime, 2008). There is also a need to understand what specific things can be done in the family to help their members become healthier (Kime, 2008) (Gruber & Haldeman, 2009).

An aspect which parallels family systems is parenting styles. Not much is known about the intricacies of this phenomenon (Kitzman-Ulrich, et al, 2010). There are basically four styles of parenting and authoritarian has been shown to be most conducive to healthy eating, but how this happens is not clearly understood (Kitzman-Ulrich, 2010).

The ways that the different variables of family systems like warmth relate to eating has also not been examined in the context of food presentation (Berge, et al, 2012).

The importance of using the family system to study this has several aspects. The family has the most influence on children, especially in the younger years (Berge, et al, 2012). This influence is especially found in the area of health behaviors (Berge, et al, 2010) (Kime, 2008). Many family members have the same types of health concerns (Gruber & Haldeman, 2009). This can allow for all members to learn about the concern at the same time even though they are at different stages. Some may be preventing and some may be treating the condition. Also, the fact that warmth is an aspect of the family system, allows the study of its effect in food presentation. Attachment fits with Family Systems Theory in the area of eating because, as was mentioned above, attachment has a biological basis which involves the mother and child and is fostered at the time of feeding and the family is the integral unit which has been shown to effect eating behaviors (O’Gorman, 2012).

Family systems theory contains the factors of: organization, support, communication and cohesion. These factors can affect the way a family system engages with one another. It can be with or without warmth. Engagement is part of the way the family as a group acts to prevent disease and involves family members becoming active in a certain way to encourage a behavior (Kitzman-Ulrich et al, 2010). This includes the effect on children of how food is presented to them.

Caregiver feeding style is listed as an accompaniment to family systems theory because it is a characteristic of the parent rather than the relationship, but it is included because it effects the interaction. Positive engagement behavior feeding style, parent

feelings about food and attachment are all present at the time food is given and little is known about the effect of all three together or about their relationship to each other.

Studies have been done on the relationship between family interaction and eating habits. An article was written describing the ways family dynamics effect eating behavior (Gruber, et al, 2008). This article states that because family system has rules, support and encouragement as part of their dynamics, it is the proper vehicle through which to teach healthful behaviors (Gruber, et al, 2008). Caregiver feeding styles have been studied as to its effect on eating behavior and the authoritative style which contains both demands and responses eating disorders has been shown to bring about the best response from the child (Hughes et al., 2005).

In addition, Attachment Theory has been shown to be used with family systems theory (O’Gorman, 2012). It has been used to study destructive eating habits in families as well (Goossens, Braet, Van Durme, Decaluwe & Bosmans, 2012). This is the reason for including these variables in this study.

Methodology

This was a quantitative study using regression analysis. This method was used because it will help develop a theory about which variables effect which and in what order.

A recent example of how this method has been used in the area of psychology and health is a study of the part cognitive, emotional, and personality plays in how fatigue is

experienced in university students. The study examined the influence of the students' belief that their fatigue was really severe and that they should be in distress about it. The model was tested and found to have a good fit ($\chi^2 = 1.90$, $df = 4$, $p = .75$, $CFI = 1$, $TLI = 1.02$, $RMSEA = 0$) this accounted for 31% of the variance for catastrophizing and 49% of variance for emotional distress.

In this study, the variables of attachment, parent feelings about food and caregiver feeding styles will be analyzed by regression. The relationship between eating habits of the children and other factors of presentation like parent attitude toward food and attachment of children to parents will also be studied.

Summary

The thesis which was examined is the relationship between presentation of fruits and vegetables to children and their desire to eat them. Eating fruits and vegetables can help reduce the risk of overweight in children and thereby reduce the risk of overweight in adults. Since obesity and overweight can predispose children and adults to heart problems, diabetes and other illnesses, understanding more about helping children to eat a more healthful diet can help parents and teachers to decrease the risk of overweight in both children and adults. This can result in healthier individuals with a better quality of life.

Chapter 3: Introduction

The purpose of this study was to investigate whether the types of messages about food given to children by parents at mealtime as measured by attachment scores, parents' feelings about food, caregiver feeding styles scores, and positive engagement behavior or warmth scores were predictors of the amounts of fruits and vegetables the children eat. Each of these variables was regressed against each other, and against the amount of fruits and vegetables that the children ate in a one-week period. This chapter will cover the research design and its rationale, the methodology used, the population, procedures for recruitment, and study instruments. I also will discuss potential threats to validity and the ethical procedures used.

Research Design and Rationale

In this study, I used survey methods as the research design. The purpose of this design was to generalize from a sample to a larger population to infer predictability between the amount of fruits and vegetables children eat and their parents' attitudes toward food, as well as attachment style and caregiver feeding style that are present at food presentation. The dependent variable was the amount of fruits and vegetables the children eat. The independent variables were the scores from the *Caregiver Feeding Styles Questionnaire*, the *Relationship Structures Attachment Questionnaire*, and the *Parent Attitudes About Food Questionnaire*.

The research questions concerned the predictability of several variables to influence the dependent variable, namely the relationship between *Caregiver Feeding Style* scores, attachment, and *Parent Attitudes About Food* scores and the amount of fruits and vegetables the children will eat. I used regression analysis to answer the questions

about the relationships of these variables to predict each other and to the amount of fruits and vegetables children will eat through the comparison of coefficients of determination to one another.

The data for this study were gathered via online surveys, and the data of what fruits and vegetables the children eat were gathered through parent reports using food logs collected over a 1-week period. This method of data collection has been used previously in nutrition research and can answer the question of how these variables can predict the eating habits of children (Barnes et al., 2012; Berge et al., 2013; Scjiefelbein et al., 2012) Because the instruments used have been previously published, a pilot study was not done.

Methodology

Population

The sample population consisted of 74 parents of typically developing children between the ages of 1- and 7-years-old. They were recruited through convenience sampling via a flyer sent out on the Internet from Survey Monkey and from the participant pool at Walden University. There were also listservs used to recruit parents of children with special needs.

Sampling

The sample size for this study was calculated through statistical power analysis using G-power. The analysis was conducted using an alpha level of .05 and a power level of 80%. The effect size for the analysis was determined from the existing literature by using effect sizes in three different studies of eating behaviors (Ike-Chinaka, 2013;

Spring, 2010,). The mean effect size was .21. A sample size of 74 was determined to have adequate power, while taking into account participant attrition. In order to have sufficient numbers of parents of children with special needs, two recruitment flyers were used. The flyers were posted in the Walden participant pool asking that parents of children ages 1 to 7 participate.

Procedures for Recruitment and Data Collection

The participants were recruited from the Internet with flyers that were distributed by Survey Monkey and through the Walden University participant pool. In the flyers, I targeted parents of typically developing children and those of children with special needs, and these flyers were posted in the Walden participant pool and in listservs for parents with children of special needs, asking that parents of children ages 1 to 7 participate.

Each participant who participated in the survey was given a random number for identification. They were asked to keep an online record of their child's fruit and vegetable intake for 1 week on an online form provided to them. They were also asked to fill out a survey online that consisted of the *Caregiver Feeding Style Questionnaire*, the *Parent Attitudes about Food Questionnaire*, and the *Relationship Structures Attachment Style* survey. Before the study, they were given a link to a site via the Internet containing a description of the study and an informed consent form. Contact information was provided on the study site, and participants were able to use that information to ask questions before the study began. They exited the study at the end of 1 week of collecting the food intake data, and after having completed the online questionnaires. The questionnaires were accessed via Survey Monkey. As the questionnaires have been previously used in published research, a pilot study using the forms was not conducted.

Instrumentation

The parenting styles assessment was the *Caregiver's Feeding Styles Questionnaire* used in a study by Hughes et al. (2005). It is used to understand verbal and physical methods that parents and caregivers use to encourage their children to eat. It was found to have a consistency within of .74 - .86 for the different styles (Hughes et al., 2005). The instrument has been used with Hispanic and African American populations. The instrument was also used with Japanese populations in a study by Ainuki et al. (2013), and with Asian and Caucasian participants in a study by Eneli et al. (2014), and in research involving Caucasian participants by Sterrett (2013). Permission was obtained from Hughes to use this instrument in this study.

Attachment was measured by the *Relationship Structures Attachment Style* questionnaire developed by Fraley (2013). It consists of nine self-report questions that ask about different types of relationships. These are used for an overall score of the dominant relationship style. Those relationships are general. The results are given in four categories: secure, dismissive, fearful, and preoccupied. These categories, although not parent to child, will give a structure to understand the attachment style of the parents and will show how those styles relate to parenting style, positive engagement behaviors, parent feelings about food, and the quantities of fruits and vegetables eaten by the participants' children. The survey has been used by Fraley in counseling situations. Permission was obtained from Fraley to use this instrument.

The third instrument used in the study was the *Parents' Attitudes About Food* questionnaire. This measure yields data about the feelings of parents about their children eating sweets or healthy food, leaving the table when full, and learning about nutrition. It

also measures parents' feelings about bringing balance of nutrients in the diet and offering a variety of foods. This instrument was validated in two test-retest studies (Steptoe, Pollard, & Wardel, 1995) and the developer has given permission to use the instrument in this dissertation. The validation studies included African American, Caucasian, and Asian participants.

Data Analysis Plan

The software that was used for data analysis was SPSS. The data consisted of responses to three surveys. They were collected by Survey Monkey and delivered to a spread sheet to be analyzed by the SPSS regression software. Before analysis, the data was checked for normal distribution by graphing.

The research question was the following:

RQ1- Will parents' own attitudes about food, their attachment and caregiver feeding styles predict the amount and type of foods that children eat?

H_{01} : Caregiver feeding styles, attachment, and parents' feelings about food will predict the amount of fruits and vegetables children eat.

H_{11} : The attachment scores, parent feeding styles, and parent feelings about food, will not predict the amount of fruits and vegetables children eat.

The dependent variable was the amount of fruits and vegetable children eat as measured by parent report over a 1-week period. The independent variables were *Parents' Attitudes About Foods Questionnaire*, *Attachment Scores Questionnaire*, and the *Caregiver Feeding Styles Questionnaire*.

The data were analyzed using multiple regression. I attempted to establish whether values of independent variable will predict those of dependent ones. The

Caregiver Feeding Styles Questionnaire values were regressed against values from positive engagement behavior, and values of the above two variables plus scores of *Parent Feelings about Food* and *Attachment Styles Questionnaires* were regressed against values of fruits and vegetables the children ate. I stopped reviewing here. Please go through the rest of your chapter and look for the patterns I pointed out to you. I will now look at Chapter 4

Threats to Validity

One threat to internal validity could be that parents provide socially desirable responses when filling out some of the questionnaires by giving answers they think the researcher wants them to give. Another threat could be that parents inaccurately fill out the form in which they document the food intake of their children. This contains the constraint of no direct observation of children and the need to have parents answer as objectively as possible the survey questions. There could also be difficulty in correctly or completely filling out the food intake form due to missed meals or inadequate planning. These problems were addressed by providing clear explanations of how to fill out the forms and a phone number to call and an e mail address with questions. To control for socially desirable responses the responses will be numeric and equal in value and neutral. Validity of the results will be enhanced by the choice of 80% power and 95% confidence level.

External validity could be compromised if participants include those of racial or ethnic groups with whom use of the instruments has not previously been validated. For example, the *Caregiver Feeding Style Instrument* was tested with African Americans and Hispanic populations, by Hughes et al. (2005), as well as with Japanese and Caucasian

populations (Ainuki, et al, 2013) (Eneli, et al, 2014). However participation in this study was open to participants of all racial and ethnic backgrounds, and thus might contain groups with whom the instrument has not previously been used.

Ethical Procedures

The study was conducted only after receiving approval from the Walden University IRB. The IRB number is 04-05-16-00117472. Each participant was fully informed about all aspects of the study and was given a chance to ask any questions they might have prior to agreeing to participate. Data was password protected to prevent access by those who are not involved in the study. Each participant signed a consent form indicating that they are willing to be in the study. The data will be destroyed five years after the study is completed, as is typical for this type of data. Participants were informed that participation is voluntary and they can stop participating in the study at any time, without consequence.

The study did not marginalize or disempower any participants. The participants will be made to understand the true purpose of the study so no deception will be used. There was no more than minimal risk (e.g., similar to that encountered in daily life) to any participant involved in the study.

Summary

In summary, this study was done as a regression analysis to determine whether any or all of the independent variables would predict values of the dependent variable. The dependent variable was the amount of fruits and vegetables which children ate over a one week period as recorded by their parents. The scores on the different measurements were

regressed against each other and the amount of fruits and vegetables eaten. This study examined how the variables of caregiver feeding styles, parent attitudes about food, attachment and attachment predicted each other and the amount of fruits and vegetables eaten. This study provided information which will help parents to encourage their children to eat more fruits and vegetables and thereby decrease their likelihood of obesity.

Chapter 4 Results

Introduction and Purpose of the Study

In this quantitative study, I examined whether attachment, attitudes about food, and caregiver feeding styles in parents predicted the amount of fruits and vegetables that children eat. The independent variables for this study were participants' scores on the *Caregiver Feeding Styles Questionnaire* (demandingness and responsiveness of parents at feeding), the *Relationship Structures Attachment Style* (the type of attachment a parent has for a child), and *Parents' Attitudes about Foods Questionnaire* (measuring parents' feelings about different types of foods). The dependent variable was the *Comprehensive Feeding Practices* questionnaire, in which parents logged the amount of fruits and vegetables that children ate over a 1-week period. A regression analysis was used to predict which variables affected the amount of fruits and vegetables eaten. This chapter is organized around the following research question and hypotheses:

RQ1-Will parents' attachment, attitudes about food, and caregiver feeding styles with their children predict the amount and type of foods that children eat?

H_0 1: Attachment scores, parent feeding styles, and parent feelings about food will not predict the amount of fruits and vegetables children eat

H_1 1: Caregiver feeding styles, attachment, and parents' feelings about food will predict the amount of fruits and vegetables children eat.

The chapter will cover the description of the population and the data collection process. I will also describe the results of Pearson's product moment data for linearity and the reliability data for *Caregiver Feeding Styles* scores, *Relationship Structures*

Attachment Style mean scores, mean scores from the *Parent Attitudes About Food* questionnaire, as well as the data analyses and results of the study.

Data Collection

The data were collected via an online survey that parents completed through Survey Monkey Audience for a period lasting 1 week. Survey Monkey Audience is a service that a researcher pays for, and Survey Monkey administers the survey until the required number of participants are reached. In the case of this study's survey, however, Survey Monkey only administered the survey three separate times. This limit to the number of survey distributions by Survey Monkey, in part, accounted for the total sample size of 75 participants. The survey contained three sets of questions within it, each set measuring one of the independent variables. Thus, one set of questions examined caregiver feeding style, another set assessed parental attachment style, and the third set measured parents' feelings about food. The parents also filled out an online form of the *Comprehensive Feeding Practices* questionnaire, providing the number of servings of fruits and vegetables eaten by their child at each meal for the week as a measure of the dependent variable. The sampling frame was comprised of parents of children ages 1 to 7 years of age. The total of number of respondents was 74, meeting the statistical power analysis recommendation for a single group regression analysis.

The population was randomly selected from across the United States by Survey Monkey based on the parameters that participants were parents with children between the ages of 1- and 7-years-old. The questions on the *Caregiver Feeding Styles* questionnaire and the *Comprehensive Feeding Practices* questionnaire were completed by all 74 respondents. However, not all questions were answered on the *Relationship Structures*

Attachment Style questionnaire or the *Parent Attitudes about Food questionnaire*. Those measures were completed by 39 and 45 participants, respectively. Because there were not 74 complete responses for two of the variables, and the *Caregiver Feeding Styles questionnaire* divided the 74 participants into four groups for the four feeding styles (e.g., indulgent, authoritarian, authoritative, and uninvolved) for statistical analysis, the study's power might not have been sufficient, and the results of the study should be considered with that in mind.

Demographic Characteristics

The descriptive data collected through the survey included the participants' location in the United States and their gender, income, and age. Twenty-four participants completed the demographic information. According to the descriptive results, the participants were distributed across the United States with 20% of participants, the greatest number, being from the South Atlantic region. The demographic data also indicated that the participants were between the ages of 18-60, with most participants (52.8%) ranging in age from 30-44 years. Their income ranged from \$<10,000 to \$200,000, with the greatest percentage (31%) having incomes in the \$50,000-\$75,000 range. Most participants (72%) were female. See table 2 There were 50 participants who did not complete the demographic information, most likely because the survey would not let them move forward to the demographic questions, located at the end of the survey, without first completing all prior survey items for the independent and dependent variables.

Table 1

Demographic characteristics of Study Sample

Characteristics	Number	Percentage
Age		
18-29	7	9.7
30-44	19	26.4
45-59	3	4.2
60+	7	9.7
Missing	50	
Gender		
female	26	36.1
male	10	13.9
Missing	50	
Combined yearly income		
\$0-49,000	10	13.9
\$50-74,999	11	15.3
\$75,000+	9	12.5
Missing	42	
US Region		
1	3	4.2
2	3	4.2
3	5	6.9
4	4	5.8
5	7	9.7
7	3	4.2
8	5	6.9

Assumptions Testing

The *Caregiver Feeding Styles* survey showed a reliability coefficient for Cronbach's alpha of .74 -.86 across the four feeding styles in previous research, indicating that it had good reliability (Hughes et al., 2006). The *Parent Attitudes about Food* questionnaire was used in two previous test-retest studies showing a reliability score of .60, which was acceptable (Steptoe et al., 1995). The *Relationship Structures*

Attachment Styles Cronbach's Alpha score was .80 for the nine-question survey, indicating that it had good reliability (Fraley, 2013). Overall, the psychometric instruments used in this study showed acceptable reliability in previous studies when used with the study's population.

In the current study, Cronbach's alpha was .008 for the *Relationship Structure Attachment Styles*. Cronbach's alpha ranged from -.031- .115 across the four feeding styles for the *Caregiver Feeding Styles* instrument, and Cronbach's alpha was .055 for the *Parents' Attitudes about Food* measure. For the dependent variable, the *Comprehensive Feeding Practices* questionnaire, Cronbach's alpha score in this study was -.892. Because the higher the score and the closer to one the greater the possibility of covariance, all scores, but for the *Comprehensive Feeding Practices* questionnaire, were in an acceptable range and did not indicate covariance.

Tests for normality, linearity, multicollinearity, and homoscedasticity were completed. The plot of residuals was linear and so homoscedasticity was not violated. The values for the independent variables were below the multicollinearity threshold of 10, indicating no violation in the assumption of multicollinearity.

Table 2
Descriptive Statistics

Variable	<i>N</i>	Range	<i>SD</i>	<i>M</i>	Skewness	Kurtos
Fruits. & Veg.	44	10	2.892	8.23	-1.591	1.531
Demanding	72	.35	06181	.3894	-.137	1.078
Child centered	72	21.57	4.35025	19.3194	-.972	1.698
Attitudes about Food instrumental	60	19.67	4.81313	13.8361	-.402	-.434
Attitudes about Food modifiable	60	19.10	4.93172	26.4767	-.329	-.495
Attitudes about Food negative	64	16.67	4.18814	14.8385	-.845	.411
Anxiety Attach.	58	9.00	2.44906	4.8966	.397	-.515
Avoidance Attach.	58	22.83	6.35460	16.8218	.073	-1.067

In order to test linearity for the linear regression analysis, a plot was conducted of expected cumulative probability and observed cumulative probability, and the relationship was found to be linear. The skewness and kurtosis values were between -2 and +2, which indicate that there is normality (see Table 1). I stopped reviewing here. Please go through the rest of your chapter and look for the patterns I pointed out to you. I will now look at Chapter 5.

Regression Analysis

A multiple regression was calculated to determine if parents' attitudes about food, attachment, and caregiver feeding styles predicted the amount and type of foods that children eat. The dependent variable in this study was the amount of fruits and vegetables

the children ate based on the *Comprehensive Feeding Practices* questionnaire. The independent variables were scores on the *Caregiver Feeding Styles Questionnaire*, the *Attachment Questionnaire*, and the *Parents' Attitudes about Food Questionnaire*.

Attachment Styles Determination

For statistical analyses, the attachment styles were determined by taking the nine *Attachment Questionnaire* survey responses for each individual and determining the mean of each set of responses. The first six questions indicated avoidance attachment and the last three indicated anxious attachment. One of the questions for anxious attachment was omitted, however, as Survey Monkey did not accept it in the allotted number of questions.

Feeding Styles Determination

The parent feeding styles were determined by calculating the amount of responsiveness and demandingness of parents during feeding based on the *Feeding Styles Questionnaire*. Demandingness and responsiveness are two coordinates which determine feeding style. Demandingness was defined by whether the parents posed expectations on the child. Demandingness is represented by the quantity of directives given by the parent to the child in a restrictive and punitive manner. The demandingness score was obtained by taking the mean of all responses. Responsiveness was determined by whether the parents gave warm input to the child and were emotionally present for them. The responsiveness score was obtained by dividing the mean of the seven scores for items indicating child centeredness by the mean of all responses.

The demandingness and responsiveness scores determined the category of feeding style of the parent participants. The authoritarian feeding style was based on scores

indicating high demandingness and low responsiveness, representing parents who gave their child many restrictive demands while having low levels of warmth and involvement. The authoritative feeding style was based on scores indicating high demandingness and high responsiveness, representing parents who gave their child much encouragement and direction as well as had much involvement with their child. The indulgent feeding style was based on scores indicating high levels of responsiveness and low levels of demandingness, representing parents who had high levels of warmth and involvement with their child and low levels of directives. The uninvolved feeding style was based on scores indicating low levels of either demandingness or responsiveness representing parents who did not have much warmth or involvement with their child and who made few directives.

To determine which parents were categorized within each feeding style, participants' scores were plotted on a graph that determined in which quadrant each participant fell. The feeding style was determined by the location at which the demandingness and responsiveness scores intersected on the graph. The strength of the score was determined by how close the coordinates were to the cut off points of 2.8 on the x axis of demandingness and 1.16 of responsiveness on the y axis. These cut off points had been previously established by Hughes et al (2012).

Attitudes About Food Determination

The attitudes about food questionnaire contained three categories that were included in the study analyses. The categories were instrumental, which indicated that parents thought that sweets were instrumental in making a child feel better; negative,

indicating that parents' thoughts sweets were detrimental to children; and modifiable, in that parents thought children's behavior could be moderated by giving them sweets.

Attachment Determination

Attachment was determined by parent scores along the dimensions of anxious and avoidant attachment. A high level of anxious attachment represented insecurity with the relationship and a feeling that the person will not always be there. Conversely, a low level of anxious attachment indicated security with the relationship and a feeling that the person will always be there. A high level of avoidant attachment was representative of the individual moving away from the relationship, while a low level of avoidant attachment indicated a sense of staying within the relationship.

Analysis Results

Regression analysis was completed using SPSS version 21 to determine if parents' attitudes about food, caregiver feeding style, and attachment would predict the amount of fruits and vegetables children eat. The research hypothesis suggested that caregiver feeding styles, attachment, and parents' attitudes about food will significantly predict the amount of fruits and vegetables children eat. The results of the regression analysis indicate statistical significance at $F(8, 25) = 2.99, p = .017$ (Table.4.3). As a result, the null hypothesis that attachment, parents' attitudes about food, and caregiver feeding style are not predictors of the amount of fruits and vegetables children eat can be rejected.

Table 4.3

*Prediction of Fruit and Vegetable Consumption Based on Independent Variables**ANOVA*

Model	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>Sig</i>
Regression	158.085	8	19.761	2.996	.017
Residual	164.885	25	6.595		
Total	322.971	33			

Inspection of the beta weights (see Table 4.4) indicates that parents' level of anxious attachment predicted the amount of fruits and vegetables children eat ($p = .00$). However, as one value was missing from the anxiety subscale, the results should be interpreted with caution. There were no other variables showing statistically significant relationships.

Table 4.4

Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>
	<i>B</i>	<i>Std. Error</i>	Beta		
Constant	12.491	6.667		1.874	.073
Caregiver Feeding Style Typology	-.290	.709	.097	-.410	.686
Mean of demanding items on Caregiver Feeding Style	6.651	8.443	.141	.788	.438

Mean of child centered items on Caregiver Feeding Style	-.180	.187	-.263	-.963	.345
Avoidant attachment subscale	-.012	.091	-.023	-.129	.898
Anxiety attachment subscale (missing one item)	-.795	.192	-.631	-4.133	.000
Attitudes about food subscale Negative	-.097	.189	-.122	-.513	.612
Attitudes about food subscale Modifiable	.003	.137	.004	.019	.985
Attitudes about food subscale Instrumental	.184	.131	.284	1.405	.172

Dependent Variable: Number of fruits and vegetables the child ate in one week

The Pearson Product moment correlations between the instrument subscales are shown in Table. 4.5. According to Cohen's guidelines (Cohen, 1988), a Pearson correlation of $r = .10$ is considered a weak correlation, $r = .30$ is considered a moderate correlation, and $r = .50$ is considered a strong correlation. The results show a strong negative correlation between the level of anxious attachment and the amount of fruits and vegetables children eat, indicating that the less anxious the attachment, the more fruits and vegetables children consumed over the one-week period. Significant relationships were also found between subscales within the instruments that measured parents' attitudes about food and caregiver feeding styles.

Table 4. 5

Correlations among the Comprehensive Feeding Practices, Attachment Style, Parents' Attitudes about Food, and Caregiver Feeding Styles subscales-

	CFP	Avoidant Attachment	Anxious Attachment (missing 1 item)	PAF-Negative	PAF-Modifiable	PAF Instrumental	CFS Total Mean	CFS Demanding over Responsive
CFP	-	-.042	-.645**	-.037	.021	.123	-.267	.133
Avoidant attachment	.042	-	.152	-.225	.004	-.123	-.095	-.148
Anxiety Attachment (missing one item)	.645**	.152	-	.034	-.110	.080	.100	.132
PAF Negative	-.037	-.225	.034	-	.656**	.601**	.247	.013
PAF Modifiable	.021	-.004	.110	.656**	-	.616**	.113	-.041
PAF Instrumental	.123	.123	-.080	.601**	.616**	-	.244	-.190
CFS-Total Mean	-.267	-.095	.100	.247*	.113	.244	-	-.266*
CFS Demanding over Responsive score	.133	-.148	.132	.013	-.141	-.190	-.266*	-

Note. CFP=Comprehensive Feeding Practices; PAF=Parents Attitudes about Food; CFS=Caregiver Feeding Styles; * p < .05. ** p < .01.

A second regression was completed using a step wise evaluation, which was significant at the $p=000$ level, and indicated that it was the variable of anxious attachment that accounted for 81% of the variance. Regression analysis was also used to analyze the effect of all values for demanding style and responsive styles on the amount of fruits and vegetables eaten by children. The results of the analysis were not significant.

In order to examine between-subjects effects between child centered and demanding parenting styles, Pillai's Trace, Wilks Lambda, Hotelling's Trace, and Roy's Largest Root tests were conducted. The results indicated no significant relationship between the parenting styles. Between-subject tests using Pillai's Trace, Wilks' Lambda, Hotelling's Trace, and Roy's Largest Root analyses were also conducted for caregiver feeding styles, income and gender. There were no significant findings.

Summary

Chapter 4 reviewed the statistical analyses of the data and the results. Chapter 5 will interpret the findings and place them within the context of previous research and the study's theoretical framework. Chapter 5 will also include a discussion of the study's limitations, the implications of the findings for social change, and recommendations for further research.

Chapter 5: Discussion, Conclusions and Recommendations

Introduction

The purpose of this quantitative study was to determine if caregiver feeding styles, parent attachment style, and parents' attitudes about food would predict the amount of fruits and vegetables that children eat. In addition, the different subtypes of feeding styles, attitudes about food, and attachment style were examined to determine any relationships between them. In this chapter, I present a summary of the study analyses and findings, as well as discuss the relationship between previous research and the study findings. In addition, I will discuss the theoretical underpinnings of the study in relationship to the findings. Study limitations will be discussed, and the implications of the results and recommendations for future study will be examined.

Research Study

The research was designed as a regression analysis with one dependent variable, the amount of fruits and vegetables children ate, as measured by the *Comprehensive Feeding Practices* questionnaire, and three independent variables, *Caregiver Feeding Styles*, *Attachment Style*, and *Parents' Attitudes about Food*. The descriptive variables were gender, age, income level, and geographical region of the participants. I used a nonexperimental, quantitative survey approach so that numerical data could be collected and the study hypothesis could be tested. Parents influence what their children eat, but little is known about the parental factors that impact this process. The way food is presented by parents, the attachment of the parent to the child, and how the parents themselves feel about food were studied to determine to what extent those elements

predicted the amount of fruits and vegetable children eat. The research participants were parents of children ages 1-7 years who were randomly selected by Survey Monkey to complete the online study survey and to log for a week the amount and type of food that their children ate. Although 74 participants participated in the study, not all of them completed all survey items.

Summary of the Findings related to the Research Questions

The objective of this study was to determine whether caregiver feeding styles, parent's attitudes about food, and attachment styles would predict the amount of fruits and vegetables their child would eat in one week.

RQ1: Will parents' own attitudes about food, their attachment, and caregiver feeding styles predict the amount and type of foods that children eat?

H_01 : Caregiver feeding styles, attachment, and parents' attitudes about food will predict the amount of fruits and vegetables children eat.

H_11 : Caregiver feeding styles, attachment, and parent attitudes about food, will not predict the amount of fruits and vegetables children eat.

A multiple regression was conducted to examine if attachment, parent feeding styles, and parents' attitudes about food predicted the amount of fruits and vegetables children eat. The findings of the regression analysis achieved statistical significance, indicating that the independent variables predicted the amount of fruits and vegetables eaten by children. Because the regression model was statistically significant, the null hypothesis was rejected. Closer examination of the relationships between the variables indicated that it was the anxious attachment variable that seemed to account for the

significant finding, specifically indicating that lower levels of anxious attachment significantly predicted children eating more fruits and vegetables.

Significance of the Findings in Relationship to Previous Literature

Previous researchers have examined the quality of warmth and responsiveness and its effect on BMI of children. For example, Taylor et al. (2012) showed that there was an effect on BMI predicted by parents with a responsive parenting style. The more responsive parents were to their children, the lower their children's BMI. In addition, Hughes (2005) found that BMI decrease could be predicted by the authoritative parenting style, which is characterized by a high rate of responsiveness on the part of parents. In contrast, in the current study, feeding style was not a predictor of the amount of fruits and vegetables that children ate. I found that, with regard to the amount of fruits and vegetables eaten, it was parents' attachment style and parents' level of anxious attachment that predicted what type of food was consumed by their children.

I found some consistency with previous research on parenting style and children's healthy eating, however. For example, Hoerr et al. (2009) examined the type of foods that children ate over a 3-day period in relation to parenting style and found that that a subset of parents with a particular parenting style had children who ate more fruits and vegetables. In the current study, parents' attachment style and the anxious attachment style were found to predict the amount of healthy food that children eat, in that lower levels of anxious attachment predicted more eating of fruits and vegetables.

Significance of Findings Related to Theoretical Framework

The theoretical framework underpinning the study was the family systems theory, which was used to explain the relationship between family factors and eating behavior.

Family dynamics, including how tasks are performed, how satisfied the family members are in the family, and the warmth and cohesion of the family, can influence individuals' health, eating, and exercise (Guerin & Chabot, 1997). Kitzman-Ulrich et al. (2010) described the family systems theory as including the variables of competence, satisfaction, warmth, and cohesion. Hughes et al. (2005) described responsiveness as including parental warmth as well. In this study, I included measures of warmth and responsiveness within the parent factors examined in looking out how those elements predict what children eat.

Family environment does predict healthful eating (Berge et al., 2012). The results of this study were consistent with that literature, in that aspects of parent attachment style were found to predict the amount of fruits and vegetables that the participants' children ate, lending further support to the theory that parent factors influence child eating.

The family systems theory has been used as the foundation of research designed to increase an understanding of obesity (Kitzman-Ulrich et al., 2010). Positive parenting styles and an appropriate family environment during meals makes a difference in whether a child becomes obese. Furthermore, intergenerational influences (Kime, 2009) and parental influences in early eating (Anzman et al., 2010) have been shown to impact the prevention of obesity. The current study fits within this existing body of literature by suggesting that family factors, such as attachment, might be a predictor of children's healthy eating.

This study was conducted to increase an understanding of how family factors such as attachment, caregiver feeding style, and parents' attitudes about food might influence what happens in the family in terms of eating behavior. I found overall significance in

that parenting factors did predict the amount of healthy foods eaten by children, although the key factor stemmed from the anxious attachment subscale, in that less anxious attachment was associated with more healthy food consumption. Because previous researchers have indicated that a more responsive style results in decreased BMI, parenting factors in relation to children's eating is worthy of further examination. Although this study adds to the body of knowledge that family factors such as cohesion and warmth might have influence on health, more research is also needed to understand why attachment style might play a role in the type of food that children eat. I stopped reviewing here.

Limitations

This study has several limitations. One such limitation is that the amounts of fruits and vegetables eaten by the children were not observed daily by the researcher, but rather were self-reported by the parents through a food log. It is possible that some parents might not have accurately reported their children's food consumption.

Another serious limitation is that some of the participants did not fill out all of the survey questions. While participants completed the *Comprehensive Feeding Practices* questionnaire, and the *Caregiver Feeding Styles* questions, only about two-thirds of them completed the questions for *Attachment Style*, and *Parents' Attitudes about Food*. This poses a concern regarding whether there is anything systematic about those who chose to answer the questions for all measures and the parents who did not, as only the parents who completed all items were included in the study analyses.

Another limitation is that the researcher did not directly recruit participants, but rather used a service through Survey Monkey, and so parents' completion of the

questions was not directly observed. In addition, the lack of responses for the measure of *Attachment Style*, and *Parents' Attitudes about Food* could have compromise the findings due to lack of statistical power. A limitation also was that the caregiver feeding style variable, which included 74 participants, was divided into subgroups based on feeding style, with the results that each subgroup had less than the required 74 participants per group needed for statistical power. Future research to replicate this study with a larger sample size would help determine the extent to which the current sample size impacted the study findings.

Implications

This study examined the predictability of parent attachment, parents' attitudes toward food, and caregiver feeding style, to determine the amount and types of food that children eat. The knowledge gained from this study adds to the body of empirical knowledge of how these different aspects of parenting and feeding are associated with one another. If parents understand their influence on the type of foods that their children eat, they will be better informed about their role in promoting their children's healthy eating, with the potential outcome of decreasing the likelihood of child obesity.

Recommendations for Future Research

Further research is needed to tease out the role that attachment and attitudes about food play in the process of how parents encourage children to eat healthy food. Goosens (2012) examined the relationship between eating disorders and attachment and suggested that warmth and connectedness is part of attachment. The *Caregiver Feeding Styles Questionnaire* used in this study measures warmth against demandingness and its

effects, and it would be of interest to examine these constructs in relation to attachment styles in a larger population, in order to learn more about the role that attachment plays in parental warmth and responsiveness.

In addition, further study is needed to determine if any relationship exists between parental warmth and responsiveness and the types of food children eat. The different feeding styles in the *Caregiver Feeding Styles Questionnaire* measure the amount of parental warmth present. If the amount of healthy foods eaten by children could be observed in a larger population in relation to the parental feeding styles, with a breakdown of the foods by their amount and type, a more accurate picture of the role that parental warmth plays in young children's eating habits could be better understood. Given the research that shows predictability of parental warmth on Body Mass Index, parental warmth in feeding style could also be examined through a larger population to determine its role in both that amounts and types of foods that children eat and their resulting BMI.

Implications for Social Change

This study has several implications for social change. Understanding the dynamics between parent factors and children's consumption of healthy foods can help in finding ways to decrease the rates of child and adult obesity. An appetite for nutrient dense food that is instilled in early childhood can last into adulthood and reduce the likelihood of obesity and its associated diseases, which can lead to early death (Borrell & Samuel, 2014). The information from this study adds to the knowledge base about factors, such as attachment, that can predict child outcomes related to nutrition and

health. In addition, it might be the case that a child who is encouraged to voluntarily eat nutrient dense food by enjoying them with their parents, might continue to eat these foods in adulthood. One could imagine that the memory of eating nutrient dense foods with their parents in a warm secure environment might help children internalize healthy eating habits and self-regulate to eat these foods as an adult.

Conclusion

Previous research has studied family factors in relation to child outcomes, and this study adds to that literature by examining parents' role in children's healthy eating behavior. The findings of this study suggest that parent factors, particularly the type of parent attachment style predicts the amount of fruits and vegetables that children eat. While some studies have demonstrated that parent feeding styles affect BMI, only one study has previously examined the styles' effect on children's eating. This study adds to our knowledge in this area by examining whether feeding style, and the other parent factors or attachment and parental attitudes about food, predict children's eating of fruits and vegetables. While the results of this study are intriguing, further research to replicate this study with a larger sample size is recommended in order to more fully assess how parents' feeding styles, attachment, and attitudes about food might predict children's healthy food consumption outcomes.

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