

5-2022

Retrospective Reports of Parental Feeding Practices and Current Emotional Eating Behaviors among College Students

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Retrospective Reports of Parental Feeding Practices and Current Emotional Eating
Behaviors among College Students

by

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A Thesis
Submitted to the Honors College of
The University of Southern Mississippi
in Partial Fulfillment
of Honors Requirements

May 2022

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ABSTRACT

Emotional eating is a commonly reported eating behavior among United States adults; however, previous literature has indicated that the development of emotional eating is abnormal with regard to the body's typical physiologic functioning. Although several studies have shown parental feeding practices correlate to the development of emotional eating in children, little research has been done to explore the association between parental feeding practices experienced in childhood and eating behaviors present in adulthood. The purpose of this study was to explore the relationship between parental feeding practices in childhood (i.e., food as a reward, monitoring, restriction, and pressure to eat) and current eating behaviors as a young adult (i.e., food as a reward, monitoring, restriction, and emotional eating). Data were collected from undergraduate students at the University of Southern Mississippi using an online questionnaire. Results of this study show a positive correlation between parents using food as a reward in childhood and students currently using food to reward themselves. Additionally, a positive correlation existed between parents using food as a reward in childhood and current emotional eating behaviors.

Keywords: emotional eating, parental feeding practices, food as a reward, food restriction, food monitoring, BMI

DEDICATION

To my friends and family, thank you for reminding me that I can do anything that I put my mind to and being my biggest fans. I appreciate all of the support, encouragement, and hugs throughout these last four years. I love each of you dearly.

ACKNOWLEDGMENTS

I would like to thank the Honors College at the University of Southern Mississippi for an incredible four years in my academic journey. The Honors College not only afforded me the incredible opportunity to advance my research skills through the preparation and execution of this thesis but also gave me invaluable experiences that shaped me into the person I am today. Additionally, thank you to the students at USM who participated in my survey, without you I would not have been able to conduct this research project. Lastly, I would like to share my deepest gratitude for Dr. Huye. Thank you for taking the time out of your busy schedule to act as an incredible mentor as I embarked on the journey of writing my first large research paper. You have truly made an impact on my academic career. I am so grateful to have had your guidance and mentorship.

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LIST OF ABBREVIATIONS

BMI	Body Mass Index
CDC	Centers for Disease Control and Prevention
CFQC	Child Feeding Questionnaire for Children
DEBQ	Dutch Eating Behavior Questionnaire
USM	The University of Southern Mississippi

CHAPTER I: INTRODUCTION

Despite numerous interventions to promote physical activity and a balanced diet, obesity levels continue to rise among college students. Several factors may contribute to weight gain in this population including decreased parental supervision, increased consumption of calorically dense foods, and increased stress (Zagorsky & Smith, 2011). Another variable related to weight gain that is understudied in college students is emotional eating, which can be defined as “eating in response to emotional cues often as a coping response to negative emotions” (Bennett et al., 2013, p. 187). Interestingly, increased perceived stress may play a role in inducing emotional eating behaviors (Ling & Zahry, 2021). This relationship is important in understanding the risk for college students to engage in emotional eating as 82% of students report moderate to high-stress levels. However, the implementation of emotional eating in response to stress is an abnormal behavior since stress decreases gastric motility and suppresses appetite during a typical physiologic response (Gold & Chrousos, 2002). The factors leading to the development or implementation of emotional eating remain largely unexplored in college students; however, the association between emotional eating and parental feeding practices in childhood may be a potential explanation.

Parental feeding practices refer to goal-oriented behaviors that parents use to promote or limit food intake such as using food as a reward, restriction, monitoring, pressure to eat, and using food as an emotion regulator (Blissett, 2011). Parental feeding practices may contribute to the development of emotional eating behaviors via two mechanisms. First, using food as a distraction or solution to emotional distress teaches children to associate increased food intake and coping with negative emotions (Farrow et

al., 2015). Second, overly restrictive feeding practices may encourage unhealthy eating patterns by decreasing a child's ability to self-regulate eating via hunger and satiety cues. In fact, randomized controlled trials with negative mood-inducing tasks have confirmed the presence of emotional eating in children as young as 5 years of age whose parents utilized food as a reward or an emotion regulator (Blissett et al., 2010; Farrow et al., 2015). The development of emotional eating tendencies at such a young age is problematic as evidence suggests that eating behaviors track strongly across an individual's lifespan (Ashcroft et al., 2008). Therefore, emotional eating may be a learned behavior in childhood due to specific parental feeding practices that carries into young adulthood.

The current literature does suggest that a relationship may exist between parental feeding practices in childhood and emotional eating in young adulthood. Specifically, parental reports of food restriction and monitoring during childhood was associated with greater student BMI, increased tendency to emotionally eat, and decreased eating for physiologic purposes (Galloway et al., 2010). However, the only relationship to exist within the student reports of parental feeding practices was between parental monitoring and current restrained eating behaviors. Therefore, parental feeding practices have the ability to influence a child's eating behaviors well into adulthood. However, the degree to which parental practices affect current eating behaviors, including emotional eating, and the mechanisms by which this relationship occurs have not been examined.

Despite the common assumption that childhood feeding practices persist into adulthood, limited literature exists linking college students' retrospective reports of specific parental feeding practices to their current eating behaviors. The purpose of this

study is to analyze the relationship between parental feeding practices (i.e., using food as a reward, restriction, and monitoring) and emotional eating in young adulthood. This research aims to answer the following questions:

1. What is the prevalence of emotional eating among college students between 18 and 25 years of age?
2. Is there a difference in emotional eating prevalence among student body demographic variables (i.e., gender, race/ethnicity, college classification, and age)?
3. Is there a relationship between BMI based on self-reported height and weight and engaging in emotional eating?
4. Is there a relationship between BMI based on self-reported height and weight and retrospective reports of specific parental feeding practices during childhood?
5. What is the relationship between retrospective reports of specific parental feeding practices during childhood and engaging in those same behaviors as a young adult?
6. What is the relationship between self-reporting emotional eating as a young adult and retrospective reports of specific parental feeding practices during childhood?

CHAPTER II: LITERATURE REVIEW

A common strategy for the prevention and treatment of obesity involves dietary and physical activity interventions among university students, specifically in the freshman year. According to the National Health and Nutrition Examination Survey 2017 to 2020, children and adolescents ages 2 to 19 years had an obesity rate of 19.7%; whereas, obesity prevalence doubled to 39.8% among adults between 20 and 39 years (Centers for Disease Control and Prevention [CDC], 2022). The increase in obesity seems to occur gradually throughout childhood before rising in early adulthood as indicated by a prevalence of 12.7% ages 2-5 years, 20.7% ages 6-11 years, and 22.2% ages 12-19 years (CDC, 2022). The transition into college has been speculated as a period of significant weight gain for a variety of reasons including an abundance of calorically dense foods in dining halls, decreased parental supervision, budget concerns promoting cheap high-calorie foods, increased stress levels, decreased physical activity, and inadequate sleep (Zagorsky & Smith, 2011). However, another cause of weight gain that is understudied in this population is emotional eating, which can be defined as “eating in response to emotional cues often as a coping response to negative emotions” (Bennett et al., 2013, p. 187). Prior research suggests emotional eating is prevalent in at least 60% of overweight and obese adults and the onset of the behavior can begin as early as 5 years old (Frayn & Knäuper, 2017; Farrow et al., 2015). Although the development of emotional eating in the context of parental feeding practices has been studied in children as young as 3 years old, the maintenance of emotional eating behaviors from early childhood to young adulthood has not been extensively researched. This literature review aims to explore the

current literature regarding parental feeding styles, parental feeding practices, emotional eating in childhood, food as a reward, and emotional eating in young adulthood.

Parental Feeding Styles

Parental feeding style refers to the emotional climate in which parents feed their children and takes into consideration two dimensions of parental feeding: demandingness and responsiveness (Hughes et al., 2005). Demandingness measures the degree to which parents encourage their children to eat; whereas, responsiveness considers whether the encouragement is parent-centered or child-centered. Parents' scores on a scale of demandingness and responsiveness measures place them within one of four distinct parental feeding styles: authoritative (high demandingness and high responsiveness), authoritarian (high demandingness and low responsiveness), indulgent (low demandingness and high responsiveness), and uninvolved (low demandingness and low responsiveness). Parental feeding styles have been linked to child health and nutrition outcomes, specifically BMI and fruit and vegetable consumption. Children whose parents have an indulgent feeding style had the highest BMI z-scores ($P = .056$) and were more likely to consume energy-dense foods at dinner ($P = .030$) (Hoerr et al., 2009). On the other hand, children of authoritarian parents had the lowest BMI z-scores ($P = .056$). Furthermore, the authoritative feeding style was associated with increased fruit and vegetable availability ($P < .01$), increased encouragement of fruit and vegetable intake ($P < .0001$), and increased intake of vegetables ($P < .05$) (Patrick et al., 2005). In contrast, indulgent and uninvolved feeding styles were correlated to decreased consumption of fruit and vegetables compared to the authoritarian feeding style ($P < 0.017$) (Hoerr et al.,

2009). However, current literature suggests specific parental feeding practices that are associated with parental feeding styles may also impact child outcomes.

Parental feeding practices refer to goal-oriented parental behaviors that typically promote or limit the intake of food, including pressure to eat, restriction, monitoring, and using food as a reward (Blissett, 2011). In one study, restriction had a significant positive relationship with child weight status ($P = 0.034$); whereas, pressure to eat had a significant negative correlation to child weight status ($P = 0.012$) (Webber et al., 2010). Furthermore, a study conducted by Harris et al. (2014) found that pressure to eat was associated with eating in the absence of hunger for boys. Overall, these studies suggest that both parental feeding styles and practices play a role in child eating behaviors, child weight status, and fruit and vegetable intake.

Parental Feeding Practices and Emotional Eating in Childhood

Parental feeding practices may contribute to an increase in emotional eating behaviors during childhood development by several mechanisms. First, the utilization of food as a distraction from or solution to emotional distress teaches children to cope with negative emotions by increasing food intake (Farrow et al., 2015). Second, overly restrictive feeding practices may decrease a child's ability to regulate biological cues of hunger and satiety, which can lead to unhealthy eating patterns.

The development of emotional eating in children has been labeled as an abnormal learned behavior as a result of external stimuli, such as parental feeding practices (van Strien & Oosterveld, 2008). In children 2 to 6 years old, parents reported greater levels of emotional undereating than overeating, which can be explained by a biological response of decreased gut activity in emotionally aroused states. However, 63% of children

between 5 and 13 years reported eating in response to moods, such as feeling bad, sad, or bored. These findings suggest that children learn to associate uncomfortable emotions with food intake as they grow older.

In one study, children whose parents utilized food for emotion regulation consumed more calories from chocolate after a negative mood-inducing task than those in the control group (Blissett et al., 2010). Conversely, in the same study, children whose parents did not use food as an emotional tool consumed less calories during a negative mood than those in the control group ($P < .038$). One explanation for these findings is that children whose parents do not emphasize food as an emotional tool behave in a biologically normal pattern by decreasing intake when emotionally aroused; whereas, children whose parents use food for emotion regulation display emotional eating behaviors when in a negative mood. Overall, this research supports the hypothesis that emotional eating is a learned behavior that can begin appearing in children as young as 5 years old. Furthermore, Farrow et al., (2015) found greater emotional eating behaviors among children whose parents restrict food for health reasons or use food as a reward. In this longitudinal study, children were screened for emotional eating behaviors via an emotional manipulation task at two distinct time intervals: 3 to 5 years old and 5 to 7 years old. Although no significant difference in eating patterns were displayed between the control and experimental groups at the first time point, a significant interaction existed between group and use of food as a reward on predicting caloric intake at the second time point ($P < .05$). Children in the experimental group consumed more calories when exposed to high parental use of food as reward than low parental use of food as a reward. Additionally, a significant relationship existed between the experimental group

and maternal use of food restriction for health reasons ($P < .05$). Children in the experimental group consumed more calories in response to stress when exposed to high levels of maternal use of food restriction for health reasons than low maternal use of food restriction for health reasons.

Due to the complexity of parent-child interactions, some studies suggest that parental behaviors beyond specific feeding practices, such as general parenting style and maternal psychopathology, promote emotional eating behaviors in children. General parenting style refers to how parents interact with their children, and previous studies have found that low support and high control are associated with emotional eating behaviors in adolescents (Braden et al., 2014; Snoek et al., 2007). Secondly, maternal psychopathology, which encompasses eating disorders, anxiety, and depression, has been associated with child feeding problems as early as 4 years of age (Coulthard et al., 2003; Whelan & Cooper, 2000). However, a study conducted by Braden et al. (2014) found that parental feeding practices are the only parental factor associated with child emotional eating ($P = .00$). Specifically, parents who use food for emotion regulation increase their child's tendency to soothe negative emotions with food. Furthermore, emotional eating behaviors may become reinforced as parents learn that their child is highly motivated by the pleasurable or soothing effects of food, which results in an increased utilization of food to alleviate feelings of distress.

Parental feeding practices such as over restriction or emotion regulation can influence a child's feelings of stress leading to a tendency to eat emotionally. However, another parental behavior that may strengthen the connection between food and emotions is the utilization of food as a reward.

Food as a Reward

Parental reward practices greatly impact childhood outcomes, including the development of certain eating patterns. In a survey of 262 parents of preschool children, Roberts et al. (2018) found rewards associated with the authoritative parenting style, specifically infrequent and tangible rewards, maintained the lowest correlations to food fussiness, food responsiveness, and emotional eating ($P < .05$). Conversely, parents who implemented frequent rewards, including both tangible items and food, reported the highest correlations to emotional eating and food responsiveness ($P < .05$).

Using food as a reward to encourage desired behavioral outcomes promotes eating in response to external feeding cues rather than internal cues of hunger and satiety (Powell et al., 2017). As recognition of internal cues diminishes, children's ability to self-regulate intake decreases, which can result in the development of unhealthy eating patterns such as emotional eating. However, the specific desired behavior may play a role in determining how strong the relationship becomes between the utilization of food as a reward and emotional eating behaviors (Roberts et al., 2018). Using food as a reward to reinforce an eating behavior (e.g., providing dessert to reward vegetable consumption) may produce a greater impact on emotional eating than using food to incentivize more general behaviors (e.g., stopping for ice cream after a good report card). However, the effects of using food as a reward on the development of emotional eating behaviors remains largely understudied. Further research is needed to explore the nuanced impacts that using food as a reward can have on producing desired outcomes and promoting unhealthy eating patterns in childhood and beyond.

Parental Feeding Practices and Emotional Eating in Young Adulthood

Eating behaviors track strongly across a child's lifespan and emulate the continuity of stable characteristics of personality such as shyness or emotionality (Ashcroft et al., 2008). In other words, children who score high on an eating characteristic such as emotional overeating at age 4 retain a high score at age 11. However, less is known about the stability of eating characteristics into adulthood.

Despite the widely held belief that childhood eating behaviors largely shape adulthood eating practices and food preferences, only a few studies explore the effects of parental feeding practices in childhood on their children's eating behaviors in adolescence and young adulthood. Branen and Fletcher (1999) found evidence that eating behaviors maintain continuity from childhood to adulthood; specifically, cleaning one's plate, using food as a reward, and consuming regularly scheduled meals as a college student were dependent upon engaging in those behaviors during childhood. For example, students who were required to consume the entire plate in childhood were more likely to engage in the same behavior at the time of the survey ($P < .001$). Likewise, students who reported using food as a reward were more likely to have been rewarded with food in childhood ($P < .001$). Additionally, high parental control in childhood correlates with a decreased self-control in adulthood via mechanisms of internal and external hunger cues. For example, forcing a child to clean his or her plate is an external control that overrides a child's ability to select the type and amount of food he or she wants to consume. Likewise, using food as a reward or as an emotional tool provides an external cue to increase food intake, resulting in an overconsumption of food (Powell et al., 2017; Farrow et al., 2015). Overall, external eating controls developed in childhood

as a result of parental feeding practices may persist into adolescence and young adulthood.

In more recent studies, the effects of specific parental behaviors such as restriction and monitoring on emotional eating outcomes have been an area of interest for researchers (Galloway et al., 2010; Tan et al., 2016). A relationship was found between a recollection of controlling parental feeding practices and college students' emotional eating behaviors when college students and their parents reflect on parental feeding behaviors during middle childhood (Galloway et al., 2010). Specifically, parental recollection of increased food restriction and monitoring was positively associated with greater student BMI and increased tendency to emotionally eat ($P < .01$). Furthermore, eating for physiologic purposes was negatively associated with increased parental-reported monitoring ($P < .01$). Interestingly, the only outcome associated with the college students' recollection of parental monitoring was their current restrained eating behaviors ($P < .01$). Although the development and continuation of eating behaviors from childhood into young adulthood is complex, this study suggests that parental feeding behaviors can produce long-lasting effects on their children's relationship with food.

The mechanisms by which emotional eating in young adulthood and parental feeding behaviors in childhood are linked is largely unexplored. Only one study has sought to explain the relationship between food restriction in childhood and emotional eating in adulthood. The research conducted by Tan et al. (2016) focuses on two theoretical models that explain food preoccupation in order to study its role in mediating the relationship between parental feeding behaviors in childhood and adulthood

emotional eating: the dietary restraint model and the affective state model. The dietary restraint model stems from the early proposal of restraint theory in the 1970s and suggests people develop food preoccupation, a strong desire for specific foods, when they engage in dieting behaviors or have limited access to restricted foods (Herman & Mack, 1975). Based on this model, Tan et al. hypothesized parental restriction in childhood may result in food preoccupation that lasts into adulthood. Furthermore, food preoccupation has been linked to emotional eating as the overwhelming longing for a food takes precedence over adaptive coping strategies when emotionally aroused. Therefore, one component of this study seeks to understand how parental restriction in childhood relates to food preoccupation in adulthood, which may ultimately increase emotional eating.

The affective state model suggests negative mood induces food preoccupation (Hill et al., 1991). In other words, emotional arousal leads to an increased desire for and consumption of foods. Prior research used this model to show individuals who utilize adaptive coping strategies report decreased food preoccupation and emotional eating; whereas, those who perform maladaptive strategies are more prone to overeat (Giuliani et al., 2013; Evers et al., 2010).

Tan et al. (2016) explored how the utilization of food as an emotion regulator in childhood may lead to increased food preoccupation as an adult, resulting in emotional eating behaviors. According to the dietary restraint model, individuals who experienced food restriction in childhood would report increased food preoccupation, leading to an increase in emotional eating behaviors. In this study, food preoccupation was not found as a significant mediator in the relationship between food restriction in childhood and emotional eating adulthood; however, parental restriction for weight purposes was

associated with emotional eating in adulthood ($P < .01$). Therefore, further research should explore mechanisms beyond food preoccupation that may mediate this relationship. On the other hand, the affective state model theorized that negative emotions drive food preoccupation, which could increase emotional eating. Food preoccupation did significantly mediate the relationship between emotion regulation via food in childhood and emotional eating behaviors in adulthood ($P < .01$). In other words, the parental use of food to soothe negative emotions teaches children to utilize food as a coping response rather than implementing adaptive strategies. Once in adulthood, an individual may desire foods that have successfully alleviated negative affect in the past, leading to increased food intake of desired foods when confronted with negative emotions. Overall, this study suggested parental behaviors leave a lasting effect on their children's eating behaviors well into adulthood. Furthermore, specific parental feeding practices, such as restriction and emotion regulation, may result in variable child outcomes. Further research is needed to delineate which parental feeding behaviors lead to emotional eating and the mechanisms by which these relationships occur.

Although over half of the overweight and obese adult population reports engaging in emotional eating behaviors, the mechanisms that drive the development and maintenance of emotional eating remains largely understudied in the adult population. However, research on children as young as 5 years old suggests parental feeding practices play a large role in the progression of emotional eating behaviors throughout childhood. Practices such as over-restriction, emotion regulation with food, and utilization of food as a reward decrease children's self-regulation of food intake via internal cues of hunger and satiety, resulting in an increase in emotional eating. Prior research confirms emotional

eating patterns developed in young childhood likely become reinforced with age, especially as characteristics that promote overconsumption such as food responsiveness and food enjoyment increase over time. However, only a few studies attempt to track the effects of parental feeding practices from childhood to young adulthood. Further research is needed to explore which parental practices produce lasting effects on emotional eating patterns and the mechanisms by which these relationships occur.

CHAPTER III: METHODOLOGY

Design of Study

This quantitative study used survey methodology to measure recollections of parental feeding practices and level of engagement in eating behaviors, specifically emotional eating, monitoring, restriction, and using food as a reward, among students at the University of Southern Mississippi. This study was approved by the University of Southern Mississippi Institutional Review Board (Appendix A).

Study Sample and Procedures

Participants

Data were collected from students at the University of Southern Mississippi between January 26, 2022 and February 14, 2022. In this study, a convenience sample represented the University's student population and included any undergraduate students between 18 years and 26 years of age. Participants were recruited via announcements made by faculty in the School of Kinesiology and Nutrition and staff in the Honors College.

Data Collection Survey

A copy of the survey tool used in this study can be found in Appendix C. The survey was developed using a modified version of the Child Feeding Questionnaire for Children (CFQC) developed by Birch et al. (1999). The CFQC is a 14-item self-report questionnaire designed to assess children's perceptions of parental feeding practices. The CFQC is measured on a five-point scale from (1) never to (5) always with higher scores indicating a greater perception of parental control. The CFQC was modified in this study for use among college students by changing survey items to past tense. Items 1 to 5

assess parental use of pressure to eat; whereas, items 6 to 10 examine restriction. Using an approach outlined by Galloway et al. (2010), a monitoring subscale was added, which included items 11 and 12: (a) Did your parent keep track of the sweets (candy, ice cream, cake, pies, and pastries) that you ate? (b) Did your parent keep track of the snack foods (potato chips, Doritos, cheese puffs) that you ate? Furthermore, items 13 to 15 were created to assess parental use of food as a reward: (a) Did your parent reward good behavior with food, snacks, or treats? (b) Did your parent reward eating vegetables with food, snacks, or treats? (c) Did your parent say things like “You can have a cookie if you eat everything on your plate.”? The CFQC has been shown to have good internal reliability for restriction ($\alpha = 0.71$), pressure to eat ($\alpha = 0.75$), and monitoring ($\alpha = 0.91$) (Galloway et al., 2010).

The survey tool also included items from the Dutch Eating Behavior Questionnaire (DEBQ) developed by van Strien et al. (1986). The DEBQ is a 33-item self-report questionnaire designed to assess the prevalence of maladaptive eating behaviors among a sample. The DEBQ is measured on a five-point scale from 1 (never) to 5 (very often) with higher scores indicating higher levels of maladaptive eating behaviors. Items 16 to 22 measure levels of restrained eating; whereas, items 23 to 31 examine levels of emotional eating. Items 32 to 36 were developed for this survey tool to assess levels of using food as a reward and monitoring food intake: (a) Do you reward yourself with your favorite food, snack, or treat when you complete a challenging task? (b) Do you think to yourself something like “If I read the rest of this chapter, I can go get ice cream”? (c) How often do you keep track of the sweets that you eat? (d) How often do you keep track of snack foods that you eat? (e) How often do you keep track of the

calories that you ate? The DEBQ has been shown to have good internal reliability for restricted eating ($\alpha = 0.91$) and emotional eating ($\alpha = 0.95$) (Galloway et al., 2010).

Demographics and other questions were asked at the end of the survey and included age, gender, race/ethnicity, college classification, height, weight, guardian most responsible for feeding the student in childhood, the person or people the student resided within childhood, and the person or people the student currently resides with.

Data Collection

Participants were recruited to take the online survey during the spring 2022 semester via announcements made by faculty in the School of Kinesiology and Nutrition and staff in the Honors College. The survey was presented through Qualtrics, a platform that records and organizes data as participants respond. The survey remained anonymous with no associated names or contact information of the participants collected.

Data Analysis

Data analyses were conducted using IBM SPSS Statistics 25 software to compute frequencies, means, and cross-tabulations of eating behaviors among students. Scale scores for emotional eating, restriction, monitoring, and pressure to eat were computed by averaging the item responses in each scale. Retrospective reports of parental feeding practices scale scores were labeled parent monitoring, parent restriction, parent pressure to eat, and parents using food as a reward. Current eating behaviors scale scores were labeled as current restriction, current monitoring, current emotional eating, and current using food as a reward. Pearson correlations were used to assess relationships between reported parental feeding practices (i.e., parent restriction, monitoring, pressure to eat, and using food as a reward), BMI, and mean scale scores for current eating behaviors

(i.e., current using food as a reward, restriction, monitoring, and emotional eating). Significant differences between mean scale scores and demographic variables (i.e., classification, gender, and race) were analyzed using ANOVA.

CHAPTER IV: RESULTS

A total of 63 participants were included in the study. The sample was predominantly White females between the ages of 18 and 26. Participants were of a fairly healthy weight with an average BMI of 25.1 ($SD = 5.4$). Demographic data are presented in Table 1.

Table 1. Demographic Characteristics of Study Sample (N = 63)

Characteristic	<i>n</i>	%
Gender		
Female	51	82.3
Male	10	16.1
Non-binary/third gender	1	1.6
Race/Ethnicity		
White/Caucasian	38	61.3
Black/African American	16	25.8
Hispanic/Latino	4	6.5
Asian/Pacific Islander	3	4.8
American Indian/Native American	1	1.6
Classification		
Freshman	19	31.1
Sophomore	12	19.7
Junior	12	19.7
Senior	18	29.5
	Mean	<i>SD</i>
Age	20.4	1.9
BMI	25.1	5.4

Emotional eating behaviors were low in this sample as reflected by a mean scale score of 2.93 ($SD = 1.07$), indicating participants engage in emotional eating rarely or sometimes. Mean scale scores for restriction, monitoring, and using food as a reward, were also low (see Table 2).

Table 2. Mean Scale Scores for Eating Behaviors (N = 63)

Scale Scores	Mean	SD
Emotional Eating Score	2.93	1.07
Restriction Score	3.04	1.05
Monitoring Score	3.02	1.19
Food as a Reward Score	3.14	1.16

Note: Scale was measured as the following: 1=Never, 2=Rarely, 3=Sometimes, 4=Often, and 5=Very Often

There were no significant differences in emotional eating behaviors among participants' demographic variables: age, gender, race/ethnicity, college classification, and BMI. No significant differences were found between current BMI and parental feeding practice scales, specifically parent restriction, pressure to eat, monitoring, and using food as a reward. A moderate positive correlation existed between reports of parents using food as a reward in childhood and students using food to reward themselves in the present ($r(61) = .416, p < .001$). However, there were no significant differences between other parental feeding practices and the students' engagement in those behaviors as an adult (see Table 3). Furthermore, a weak positive correlation was found between parental use of food as a reward and current emotional eating behaviors ($r(61) = .300, p = .02$), indicating students whose parents used food as a reward are more likely to engage in emotional eating behaviors. There were no significant differences between current emotional eating behaviors and other parental feeding practices (see Table 4).

Table 3. Pearson Correlations between Parental Feeding Practices and Students Engaging in Those Behaviors as an Adult (N = 63).

	Parent Restriction	Parent Monitoring	Parent Food as Reward
Current Restriction	.162		
Current Monitoring		.187	
Current Food as Reward			.416*

*. Correlation is significant at the 0.01 level (2-tailed).

Table 4. Pearson Correlations between Parental Feeding Practices and Students' Emotional Eating (N = 63)

	Parent Restriction	Parent Monitoring	Parent Food as Reward	Parent Pressure to Eat
Current Emotional Eating	0.0	0.018	0.3*	0.153

*. Correlation is significant at the 0.05 level (2-tailed)

CHAPTER V: DISCUSSION

The purpose of this study was to analyze the relationship between parental feeding practices (i.e., parent using food as a reward, restriction, pressure to eat, and monitoring) and current emotional eating behaviors in young adults at the University of Southern Mississippi. Additionally, the study explored whether correlations existed between experiencing specific parental feeding practices (i.e., parent using food as a reward, restriction, and monitoring) and engaging in those same behaviors as an adult (i.e., current using food as a reward, restriction, and monitoring). Overall, the sample did not display significant disordered eating patterns since each mean scale score for current using food as a reward, restriction, monitoring, and emotional eating fell between rarely and sometimes. The low presence of disordered eating patterns may be due to a small sample size, the use of a 5-point scale, the sample being mainly comprised of students in the School of Kinesiology and Nutrition, or any combination of these factors.

There were no significant differences between current BMI and reports of parental feeding practices. However, previous research has found a positive correlation between young adult BMI and their parents' retrospective reports of food restriction and monitoring (Galloway et al., 2010). The lack of findings related to BMI in this study may be due to the small sample size or the fairly healthy BMI of the sample. Furthermore, the present study found that students whose parents used foods as a reward were more likely to engage in emotional eating behaviors. There were no significant differences between other parental feeding practices and current emotional eating scores. This study is the first to our knowledge to measure the relationship between parental use of food as a reward in childhood and its effects on emotional eating behaviors in adulthood. However, the

findings are consistent with research published using preschool children as the sample. Roberts et al. (2018) reported that children whose parents implemented frequent rewarding with tangible and food items were more likely to display higher levels of emotional eating. In contrast to the present study, Galloway et al. (2010) found that parents who reported restricting and monitoring their children's intake had adult children who were more likely to emotionally eat. The difference in these findings was likely due to students reflecting on their parents' feeding practices in the present study; whereas, the parents were reflecting on their own behaviors in the study by Galloway et al. (2010). The results of the present study also indicate a moderate positive correlation between parental use of food as a reward in childhood and currently using food as a reward in adulthood. Previous research has not explored this relationship specifically; however, Galloway et al. (2010) did report a significant relationship between college students' recollection of parental monitoring and engaging in restrictive behaviors as young adults. Overall, the present study adds to the body of research by exploring the effects of parental use of food as a reward in childhood on emotional eating and using food as a reward in young adulthood.

Several limitations are notable for this study. First, the small sample size narrowed the ability for significant differences to be present. Additionally, the data was self-reported via an online questionnaire, which may affect the validity of responses. The nature of the survey allowed for the possibility of a social desirability bias, which could underestimate findings regarding emotional eating and other feeding practices. Lastly, the 5-point scale allowed respondents to choose a neutral response, which may have also underestimated findings.

Future research should continue exploring the nuanced relationships between parental feeding practices and their children's eating behaviors as they grow older. Perhaps longitudinal studies or experimental designs may further clarify the correlations presented in this study and prior research.

APPENDIX A: IRB APPROVAL LETTER

Office of
Research Integrity



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NOTICE OF INSTITUTIONAL REVIEW BOARD ACTION

The project below has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services regulations (45 CFR Part 46), and University Policy to ensure:

The risks to subjects are minimized and reasonable in relation to the anticipated benefits.

The selection of subjects is equitable.

Informed consent is adequate and appropriately documented.

Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.

Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.

Appropriate additional safeguards have been included to protect vulnerable subjects.

Any unanticipated, serious, or continuing problems encountered involving risks to subjects must be reported immediately. Problems should be reported to ORI via the Incident submission on InfoEd IRB.

The period of approval is twelve months. An application for renewal must be submitted for projects exceeding twelve months.

PROTOCOL NUMBER: 22-027
PROJECT TITLE: Retrospective Reports of Parental Feeding Practices and Current Emotional Eating Behaviors among College Students
SCHOOL/PROGRAM: Nutrition & Food Systems
RESEARCHERS: PI: Mercedes Babin
Investigators: Babin, Mercedes~Huye, Holly~
IRB COMMITTEE ACTION: Approved
CATEGORY: Expedited Category
PERIOD OF APPROVAL: 18-Jan-2022 to 17-Jan-2023

Donald Sacco, Ph.D.

Institutional Review Board Chairperson

APPENDIX B: RECRUITMENT LETTER

My name is Mercedes Babin, and I am a senior Nutrition and Dietetics student at the University of Southern Mississippi. I am in the process of fulfilling my Honors thesis requirement by conducting a research study titled Retrospective Reports of Parental Feeding Practices and Current Emotional Eating Behaviors among College Students. The study explores correlations between college students' recollection of parental feeding practices in childhood and their current eating behaviors in young adulthood. I am seeking participation from any undergraduate student at USM who is between 18 and 25 years old.

I would greatly appreciate your assistance in gathering participants by sharing the following survey link with your students: https://usmuw.co1.qualtrics.com/jfe/form/SV_6EZf00jehDcSsC2. The survey should take no longer than 10-20 minutes to complete. All survey responses will remain anonymous.

If you have any questions regarding the study, consent, or participation feel free to contact me at Mercedes.Babin@usm.edu.

This project (protocol number: 22-027) has been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a re-search participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive, #5147, Hattiesburg, MS 39406-0001, 601.266.5997.

APPENDIX C: SURVEY

The following questions assess your childhood feeding experiences. While answering these questions, keep in mind the parent or guardian who was most responsible for feeding you during your childhood.

1. When you said “I’m not hungry” at dinnertime, did your parent say “You need to eat anyway”?
Never
Rarely
Sometimes
Often
Always
2. Did your parent make you eat all of the food on your plate?
Never
Rarely
Sometimes
Often
Always
3. If there was something your parent wanted you to eat, but you did not like to eat it, did your parent make you sit at the table until you ate it?
Never
Rarely
Sometimes
Often
Always
4. Did your parent say things like “I don't think you've had enough to eat; you need to eat more”?
Never
Rarely
Sometimes
Often
Always
5. If you told your parent that you were full and did not want to eat anymore, did your parent say “you need to eat more anyway”?
Never
Rarely
Sometimes
Often
Always

6. Did your parent say things like “You've had enough to eat now; you need to stop”?
Never
Rarely
Sometimes
Often
Always
7. Did your parent buy candy for you when you asked for it?
Never
Rarely
Sometimes
Often
Always
8. If you asked for a snack, did your parent let you have it?
Never
Rarely
Sometimes
Often
Always
9. If you were with your parent and you wanted something to eat, did your parent let you choose what you wanted to eat?
Never
Rarely
Sometimes
Often
Always
10. If you were with your parent and you wanted something to eat, did your parent let you choose how much you ate?
Never
Rarely
Sometimes
Often
Always
11. Did your parent keep track of the sweets (candy, ice cream, cake, pies, and pastries) that you ate?
Never
Rarely
Sometimes
Often
Always
12. Did your parent keep track of the snack foods (potato chips, Doritos, cheese puffs) that you ate?

- Never
- Rarely
- Sometimes
- Often
- Always

13. Did your parent reward good behavior with food, snacks, or treats?

- Never
- Rarely
- Sometimes
- Often
- Always

14. Did your parent reward eating vegetables with food, snacks, or treats?

- Never
- Rarely
- Sometimes
- Often
- Always

15. Did your parent say things like “You can have a cookie if you eat everything on your plate.”?

- Never
- Rarely
- Sometimes
- Often
- Always

The following questions assess your current eating behaviors. While answering these questions, keep in mind your current relationship with food.

16. If you have put on weight, do you eat less than you usually do?

- Never
- Rarely
- Sometimes
- Often
- Very Often

17. Do you try to eat less at mealtimes than you would like to eat?

- Never
- Rarely
- Sometimes
- Often
- Very Often

18. How often do you refuse food or drink offered because you are concerned about your weight?

Never
Rarely
Sometimes
Often
Very Often

19. Do you watch exactly what you eat?

Never
Rarely
Sometimes
Often
Very Often

20. When you have eaten too much, do you eat less than usual the following days?

Never
Rarely
Sometimes
Often
Very Often

21. How often do you try not to eat between meals because you are watching your weight?

Never
Rarely
Sometimes
Often
Very Often

22. Do you take into account your weight with what you eat?

Never
Rarely
Sometimes
Often
Very Often

23. Do you have the desire to eat when you are irritated?

Never
Rarely
Sometimes
Often
Very Often

24. Do you have a desire to eat when you are depressed or discouraged?

Never
Rarely
Sometimes
Often
Very Often

25. Do you have a desire to eat when you are feeling lonely?
Never
Rarely
Sometimes
Often
Very Often
26. Do you get the desire to eat when you are anxious, worried, or tense?
Never
Rarely
Sometimes
Often
Very Often
Very Often
27. Do you have a desire to eat when you are frightened?
Never
Rarely
Sometimes
Often
Very Often
28. Do you have a desire to eat when you are disappointed?
Never
Rarely
Sometimes
Often
Very Often
29. Do you have a desire to eat when you are emotionally upset?
Never
Rarely
Sometimes
Often
Very Often
30. Do you have a desire to eat when you are bored or restless?
Never
Rarely
Sometimes
Often
Very Often
31. Do you have a desire to eat when you accomplish something?
Never
Rarely
Sometimes
Often

- Very Often
32. Do you reward yourself with your favorite food, snack, or treat when you complete a challenging task?
- Never
Rarely
Sometimes
Often
Very Often
33. Do you think to yourself something like “If I read the rest of this chapter, I can go get ice cream”?
- Never
Rarely
Sometimes
Often
Very Often
34. How often do you keep track of the sweets that you eat?
- Never
Rarely
Sometimes
Often
Very Often
35. How often do you keep track of snack foods that you eat?
- Never
Rarely
Sometimes
Often
Very Often
36. How often do you keep track of the calories that you eat?
- Never
Rarely
Sometimes
Often
Very Often
37. What is your current age in years? _____
38. What is your gender?
- Male
Female
Other
Prefer not to say
39. What is your race/ethnicity?
- Asian/Pacific Islander
Black/African American

Hispanic/Latino
American Indian/Native American
White/Caucasian
Other
Prefer not to say

40. What is your college classification?

Freshman
Sophomore
Junior
Senior

41. What is your current height in feet and inches? _____

42. What is your current weight in pounds and ounces? _____

43. Who did you primarily reside with during your childhood?

Both mother and father
Mother only
Father only
Grandparents
Other legal guardian

44. Who was primarily responsible for feeding you during childhood?

Mother and father shared equal responsibility
Mother
Father
Grandmother
Grandfather
Other legal guardian

45. Who do you currently reside with?

you reside alone
with parents or extended family
with a significant other
with roommates
Other living situation not described

REFERENCES

- Ashcroft, J., Semmler, C., Carnell, S., van Jaarsveld, C. H. M., & Wardle, J. (2008). Continuity and stability of eating behaviour traits in children. *European Journal of Clinical Nutrition*, *62*(8), 985–990. <https://doi.org/10.1038/sj.ejcn.1602855>
- Bennett, J., Greene, G., & Schwartz-Barcott, D. (2013). Perceptions of emotional eating behavior. A qualitative study of college students. *Appetite*, *60*, 187–192. <https://doi.org/10.1016/j.appet.2012.09.023>
- Birch, L. L., Johnson, S. L., Grimm-Thomas, K., & Fisher, J. O. (1999). *The Child Feeding Questionnaire (CFQ)*.
- Blissett, J. (2011). Relationships between parenting style, feeding style and feeding practices and fruit and vegetable consumption in early childhood. *Appetite*, *57*(3), 826–831. <https://doi.org/10.1016/j.appet.2011.05.318>
- Blissett, J., Haycraft, E., & Farrow, C. (2010). Inducing preschool children’s emotional eating: Relations with parental feeding practices. *The American Journal of Clinical Nutrition*, *92*(2), 359–365. <https://doi.org/10.3945/ajcn.2010.29375>
- Braden, A., Rhee, K., Peterson, C. B., Rydell, S. A., Zucker, N., & Boutelle, K. (2014). Associations between child emotional eating and general parenting style, feeding practices, and parent psychopathology. *Appetite*, *80*, 35–40. <https://doi.org/10.1016/j.appet.2014.04.017>
- Branen, L., & Fletcher, J. (1999). Comparison of college students’ current eating habits and recollections of their childhood food practices. *Journal of Nutrition Education*, *31*(6), 304–310. [https://doi.org/10.1016/S0022-3182\(99\)70483-8](https://doi.org/10.1016/S0022-3182(99)70483-8)

- Centers for Disease Control and Prevention. (2022, February 17). *Overweight and obesity*
<https://www.cdc.gov/obesity/>
- Coulthard, H., Blissett, J., & Harris, G. (2004). The relationship between parental eating problems and children's feeding behavior: A selective review of the literature. *Eating Behaviors, 5*(2), 103–115. <https://doi.org/10.1016/j.eatbeh.2003.07.003>
- Evers, C., Marijn Stok, F., & de Ridder, D. T. D. (2010). Feeding your feelings: Emotion regulation strategies and emotional eating. *Personality and Social Psychology Bulletin, 36*(6), 792–804. <https://doi.org/10.1177/0146167210371383>
- Farrow, C. V., Haycraft, E., & Blissett, J. M. (2015). Teaching our children when to eat: How parental feeding practices inform the development of emotional eating—a longitudinal experimental design. *The American Journal of Clinical Nutrition, 101*(5), 908–913. <https://doi.org/10.3945/ajcn.114.103713>
- Frayn, M., & Knäuper, B. (2018). Emotional eating and weight in adults: A review. *Current Psychology, 37*(4), 924–933. <https://doi.org/10.1007/s12144-017-9577-9>
- Galloway, A. T., Farrow, C. V., & Martz, D. M. (2010). Retrospective reports of child feeding practices, current eating behaviors, and BMI in college students. *Obesity, 18*(7), 1330–1335. <https://doi.org/10.1038/oby.2009.393>
- Giuliani, N. R., Calcott, R. D., & Berkman, E. T. (2013). Piece of cake. Cognitive reappraisal of food craving. *Appetite, 64*, 56–61.
<https://doi.org/10.1016/j.appet.2012.12.020>
- Gold, P. W., & Chrousos, G. P. (2002). Organization of the stress system and its dysregulation in melancholic and atypical depression: High vs low CRH/NE states. *Molecular Psychiatry, 7*(3), 254–275. DOI: 10.1038/sj/mp/4001032

- Harris, H., Mallan, K. M., Nambiar, S., & Daniels, L. A. (2014). The relationship between controlling feeding practices and boys' and girls' eating in the absence of hunger. *Eating Behaviors, 15*(4), 519–522.
<https://doi.org/10.1016/j.eatbeh.2014.07.003>
- Herman, C. P., & Mack, D. (1975). Restrained and unrestrained eating. *Journal of Personality, 43*(4), 647–660. <https://doi.org/10.1111/j.1467-6494.1975.tb00727.x>
- Hill, A. J., Weaver, C. F. L., & Blundell, J. E. (1991). Food craving, dietary restraint and mood. *Appetite, 17*(3), 187–197. [https://doi.org/10.1016/0195-6663\(91\)90021-J](https://doi.org/10.1016/0195-6663(91)90021-J)
- Hoerr, S. L., Hughes, S. O., Fisher, J. O., Nicklas, T. A., Liu, Y., & Shewchuk, R. M. (2009). Associations among parental feeding styles and children's food intake in families with limited incomes. *International Journal of Behavioral Nutrition and Physical Activity, 6*(1), 55. <https://doi.org/10.1186/1479-5868-6-55>
- Hughes, S. O., Power, T. G., Orlet Fisher, J., Mueller, S., & Nicklas, T. A. (2005). Revisiting a neglected construct: Parenting styles in a child-feeding context. *Appetite, 44*(1), 83–92. <https://doi.org/10.1016/j.appet.2004.08.007>
- Ling, J., & Zahry, N. R. (2021). Relationships among perceived stress, emotional eating, and dietary intake in college students: Eating self-regulation as a mediator. *Appetite, 163*, 105215. <https://doi.org/10.1016/j.appet.2021.105215>
- Patrick, H., Nicklas, T. A., Hughes, S. O., & Morales, M. (2005). The benefits of authoritative feeding style: Caregiver feeding styles and children's food consumption patterns. *Appetite, 44*(2), 243–249.
<https://doi.org/10.1016/j.appet.2002.07.001>

- Powell, E. M., Frankel, L. A., & Hernandez, D. C. (2017). The mediating role of child self-regulation of eating in the relationship between parental use of food as a reward and child emotional overeating. *Appetite, 113*, 78–83.
<https://doi.org/10.1016/j.appet.2017.02.017>
- Roberts, L., Marx, J. M., & Musher-Eizenman, D. R. (2018). Using food as a reward: An examination of parental reward practices. *Appetite, 120*, 318–326.
<https://doi.org/10.1016/j.appet.2017.09.024>
- Snoek, H. M., Engels, R. C. M. E., Janssens, J. M. A. M., & van Strien, T. (2007). Parental behaviour and adolescents' emotional eating. *Appetite, 49*(1), 223–230.
<https://doi.org/10.1016/j.appet.2007.02.004>
- Tan, C. C., Ruhl, H., Chow, C. M., & Ellis, L. (2016). Retrospective reports of parental feeding practices and emotional eating in adulthood: The role of food preoccupation. *Appetite, 105*, 410–415.
<https://doi.org/10.1016/j.appet.2016.06.009>
- van Strien, T., & Oosterveld, P. (2008). The children's DEBQ for assessment of restrained, emotional, and external eating in children 7- to 12-year-old children. *International Journal of Eating Disorders, 41*(1), 72-81.
<https://doi.org/10.1002/eat.20424>
- van Strien, T., Frijters, J. E. R., Bergers, G. P. A., & Defares, P. B. (1986). The Dutch Eating Behavior Questionnaire (DEBQ) for assessment of restrained, emotional, and external eating behavior. *International Journal of Eating Disorders, 5*(2), 295–315. [https://doi.org/10.1002/1098-108X\(198602\)5:2<295::AID-EAT2260050209>3.0.CO;2-T](https://doi.org/10.1002/1098-108X(198602)5:2<295::AID-EAT2260050209>3.0.CO;2-T)

Webber, L., Hill, C., Cooke, L., Carnell, S., & Wardle, J. (2010). Associations between child weight and maternal feeding styles are mediated by maternal perceptions and concerns. *European Journal of Clinical Nutrition*, 64(3), 259–265.

<https://doi.org/10.1038/ejcn.2009.146>

Whelan, E., & Cooper, P. J. (2000). The association between childhood feeding problems and maternal eating disorder: A community study. *Psychological Medicine*,

30(1), 69–77. <https://doi.org/10.1017/S0033291799001543>

Zagorsky, J. L., & Smith, P. K. (2011). The freshman 15: A critical time for obesity intervention or media myth? *Social Science Quarterly*, 92(5), 1389-1407.

<https://doi.org/10.1111/j.1540-6237.2011.00823.x>