



THE EFFECTS OF PARENTAL FEEDING PRACTICES ON EMOTIONAL EATING
IN ADOLESCENTS MEDIATED BY STRESS RELATED APPRAISALS

Tara Lynn Conrad

I.D. No. 5919638

A Thesis Submitted in Partial Fulfillment of the
Requirements for the Degree of
MASTERS OF SCIENCE IN COUNSELING PSYCHOLOGY
Graduate School of Human Sciences
ASSUMPTION UNIVERSITY OF THAILAND

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ABSTRACT

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PRESSURE TO EAT

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This study examined the direct and indirect effect of parental feeding practices on emotional and stress related eating amongst adolescents. The direct impact of parental feeding practices which include parental responsibility, monitoring, pressure to eat and restriction on emotional eating was tested and the indirect impact which includes the mediating roles of Appraisal of Ability & Resources to Cope (AARC) and Appraisal of Outside Stressors and Influences (AOSI). 84 students from 17 different international schools from all over the world participated in the study. The study applied path analysis via multiple regression. Two separate questionnaires were administered to the students. The Children Feeding Questionnaire for Adolescents (CFQ-A) analyzed the student's perception of their parents feeding practices and the Eating Appraisal Due to Emotional Stress (EADES) Questionnaire evaluated the adolescent's perception of stressful situations and the impact on stress related eating. Results of the study found that there was not a significant indirect or direct impact on parental feeding behaviors and stress related eating practices amongst

students but there was a significant correlation between the mediating factor of Appraisal of Outside Influences perception of outside influences and Stress related eating.



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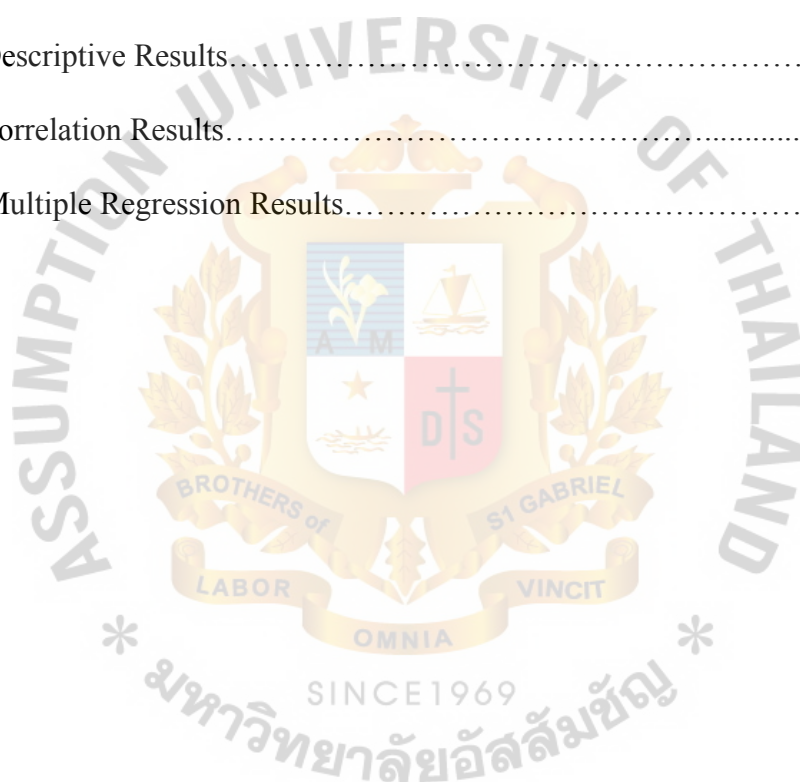
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CHAPTER I

INTRODUCTION

Background of the Study

There are 10,200 deaths a year from eating disorders, and they will impact 9% of the worldwide population (ANAD, 2016). Dieting, food restriction, and fasting are all alarmingly prevalent habits that are rarely questioned by others, yet this can lead to negative health impacts, mentally and physically (Costin, 2007). It is determined that 26% of eating disorder patients will attempt suicide (ANAD, 2016). ‘The current state of eating disorder research is sadly lacking; we know too little about what these deadly disorders are, what causes or could prevent them, who is affected by them, and how best to treat them’ (Laura, 2020). Eating disorders are a classification of eating styles that substantially impact mental and physical health. Eating disorders disrupt the innate eating habits of a person and cause physical and mental damage. The Diagnostic and Statistical Manual of Mental Disorders, 3rd Edition (DSM-5) recognizes 6 different types of Eating Disorders including pica, rumination disorder, avoidant/restrictive food intake disorder (ARFID), anorexia nervosa (AN), bulimia nervosa (BN), and binge eating disorder (BED) (American Psychiatric Association, 2013). The prevalence of eating disorders has risen significantly, and the most afflicted gender has consistently been women. In fact, eating disorders are amongst the top 10 causes for disability in young teen girls (Striegel-Moore & Bulik, 2007). Unfortunately, the increase of men being diagnosed is on the rise (Lemberg & Cohn, 1999). Disordered eating amongst teenagers is not uncommon. Focusing on adolescents we notice that most patterns or behaviors of disordered eating form during puberty and young adulthood (Mayo Clinic, 2018). This leaves many young people in a vulnerable position especially if they do not have the necessary resources to assist them in treatment and recovery. At the moment in Thailand

and other Southeast Asian countries, the stigma around an eating disorder is extensive and the treatment styles for these disorders are outdated, which leads to very little awareness of a very prevalent disease (Mayo Clinic, 2018). In fact, in Thailand the incidences of eating disorders have risen based on a 2015 study and weight dissatisfaction is extremely common in this part of the world (Ekern, 2016). The treatments of eating disorders from anorexia nervosa to binge eating have been slowly evolving over the years especially in the western countries. Psychologists use psychotherapy and CBT (cognitive behavioral therapy) and work with specialized nutritionists to help patients navigate their recovery successfully (Mayo Clinic, 2017). Here in Thailand, resources for treatment and recovery are nearly impossible to find and usually cases will go untreated especially amongst the Thai population or a foreigner living in this country will have to return home to their own country to get the treatment they need (Ekern, 2016). A weight control consultant in southeast Asia sees that at least 60% of her patients are succumbing to moderate binge eating (Ekern, 2016). Moderate binge eating is a form of emotional eating. This eating disorder has not been studied as much but based on the statistic above it should be considered more important than it actually is.

Emotional Eating

Emotional eating is a term used by several health professions to describe the use of food to help soothe negative emotions. The relationship between humans and food has always been a great source of interest to researchers of human behavior, because humans will differ in their reaction to food depending upon a 'particular characteristic' they portray and their specific emotional state (Canetti et al., 2002). The emotional attachment to the food becomes more about the specific food being eaten and the emotion that is being felt. A patient describes using food to 'numb' and 'distract' them from their current stressful or overwhelming situation. The person feels like the emotions are actually lessened by the act of eating (Sunny Sea Gold, 2011). Emotional eaters see their body as their enemy because it

doesn't look and feel the way they want it to. Beyond their body, their life expectations may not be unfolding as they imagined and their relationships with others may be impacting them negatively. This leaves a person in search of a way to ease the anxiety or pain from the triggers in their life, whether it be a person, themselves, or a terrible situation. The response of eating to soothe emotions becomes a perpetual cycle led by the increased stress to the mind instead of the physical needs of their body (Geneen Roth, 1992).

Emotional eating is not a new disorder, in fact the Christian Bible alludes to the pleasure of food in a quote 'comfort me with apples' (Hartman, 2013). Yet in the past, food was used more for sustenance and was not as abundant or processed as it is today. As our world became more industrialized and food was no longer something humans had to work and forage for, the balance between healthy nutritious food and packaged less nutritious food became greater and greater, in favor of less nutritious food (Boccardelli et al., 2014).

When considering emotional eating it is important to understand the scientific effect of food on our brain. The brain's response to food depends on what type of diet we are following. It has been determined in research that healthy or nutritious foods will not elicit the same response from the brain as sweet or unhealthy foods (Wohl, 2011). This leads most emotional eaters to reach for unhealthy options. The most common being sweet, sugary foods or foods high in simple carbohydrates, for example, cakes, cookies, potato chips, breads, or pastas (Wohl, 2011). To understand the negative impact emotional eating can have on one's health, it's important to understand that sugar potentially has addictive-like properties, and the probability that a sugary food is processed, is usually quite high. Finally, high sugar, processed foods commonly are quite low cost, can make it a 'go to' food for more than one reason (Gearhardt et al., 2013). Scientifically speaking, when sugar is consumed, it sends a message to our brain to release opioids and dopamine into the system. In a study, conducted on sugar and its addictive-like properties the 4 components of addiction around

sugar were analyzed which included bingeing, withdrawal, craving and cross-sensitization. The outcome was that the behaviors the subjects displayed were related to neurochemical changes in the brain that also occur with addictive drugs (Avena et al., 2008). Therefore, emotional eaters tend to reach for unhealthy foods that can lead to weight gain or poor health, due to its addictive properties. The weight gain and/or poor health will put them at a higher risk for chronic diseases such as cancer, diabetes and autoimmune diseases (Rippe et al., 1998).

It is inevitable that most emotional eaters will choose to diet or restrict food intake, at some point to help change the course of their weight and habits. It is predicted that 20 million Americans are on a diet in the US (Geneen Roth, 1992). With these diets, strict rules are usually allocated to the participant, and may include not being able to eat during certain hours of the day or only a certain number of calories. This food restriction is sustained until either the participant cannot manage the restriction any longer or the necessary weight has been taken off (Geneen Roth, 1992). The dieter will then resume their normal eating habits. What happens to an emotional eater at this point depends greatly on the person but scientifically speaking food restriction can lead to feelings of extreme stress, especially if the person is accustomed to soothing their emotions with food. The cravings and stress experienced become magnified over extended periods of controlling food intake. When the dieter finally lifts their food restriction, cravings are usually at their maximum and the person will resume eating but can succumb to even larger amounts of food intake and emotional eating. This can lead to what is known as binge eating or a pattern of overconsuming food in a short period of time, which is a form of emotional eating (Beasley, 2018). It's important to note that those who experience this restriction from dieting will actually increase their risk of binge eating after they discontinue their diet. In this scenario, dieting can actually be

damaging and increase the emotional eaters' habits to occur more frequently or with greater intensity, therefore increasing their health risks even further. (Geneen Roth, 1992).

Not only is a person's physical health at risk with emotional eating but their mental health is also something that needs to be addressed. A person who is in a perpetual cycle of eating emotionally without control is more likely to have low self-esteem and self-efficacy. Their feelings of inadequacy for not being able to control their food intake become a self-perpetuating cycle of soothing with food and consequently feeling worse after consumption. The words emotional eaters use to describe their feelings after they have eaten are self-loathing, guilt, disgust (Simon, 2018).

Determinants of Emotional Eating

There are several determinants to why a person will emotionally eat. First is a situational determinant which is usually motivated by factors of hunger and stress. The distinction between stress and hunger are difficult to recognize and stress eating is related to the inability to determine if a person is innately hungry or under stress (Emamzadeh, 2019). There are also 2 types of hunger, normal hunger which will occur when there is energy deficiency within the body, and hedonic hunger that is determined by the sight, urge or thought of certain foods. Another determinant of emotional eating is a psychological determinant. There are many theories based around this determinant such as the Psychosomatic Theory of Obesity in which people will use foods in defense of their emotions, that can lead to overeating and obesity (Nguyen-Rodriguez et al., 2009). Impulsiveness or the act of eating without thinking and reward sensitivity which is when a person unknowingly uses food to reward certain behaviors without considering actual hunger (Emamzadeh, 2019). A restrained eater also falls under this category as they usually will refuse to eat certain foods. This restriction usually leaves the individual longing for the food that they are trying to avoid and creates stress eating which leads to consuming non nutritious

comfort food. (Emamzadeh, 2019) The Restraint Theory hypothesizes that the impact of restrained eating is counterregulatory and will lead to overconsumption once a disinhibitor such as stress, loneliness or alcohol presents itself (Nguyen-Rodriguez et al., 2009).

The General effects model determined that an emotional eater will eat during times of stress. This model was tested only on animals and did not crossover to humans who seem to have more factors affecting their emotional eating habits (Nguyen-Rodriguez et al., 2009). The Individual Difference Model determines that certain qualities and coping abilities of an individual will influence their response to stress and emotional eating. This model states that determinants of emotional eating are 'obesity vs. normal weight, restrained vs. unrestrained eaters, and females vs. males, where the former group in each of these comparisons is thought to be more prone to stress-induced eating' (Nguyen-Rodriguez et al., 2009). In this study the focused determinants will be parental feeding practices and the manner in which a parent behaves and influences a child's habits as a prime mechanism for the development of emotional eating. A parent's approach to feeding based on their own knowledge, relationship with food, and need to control or restrict a child's intake, can have a detrimental impact on a child's ability to become a healthy eater (Musher-Eizenman & Holub, 2007). The other determinant of the study will be the variables of stress, or a child's ability to cope with stress.

The link between Parental Feeding Practice (PFP) and Emotional and Stress Related Eating

When a child is first born, it depends on its innate physiological response to monitor the hunger that the baby is feeling. This response to hunger is usually a physical cue that does not follow a schedule. Internally, we sense hunger by feeling weak, or a rumbling in our stomach (Staff, 2018). A small baby will perform several different cues so the parent will

know that it is feeding time, some include crying, turning his/her head towards the breast or bottle or making a fist and putting a hand in their mouth (CDC, 2019). As a child grows and develops different types of cues will signal their hunger and parents will react accordingly. The reaction and behavior of parents is important to the growth and development of the child's eating habits (Katja Rowell et al., 2015).

As a baby grows to be a child and then on to adolescents the feeding patterns and behaviors of a family are established. Families with children, especially today, usually have rules and set mealtimes. Most parents might find themselves working and raising a family all at the same time. This means a schedule must be established, foods need to be provided and budgets need to be followed. The strategies around how and when food is consumed will usually benefit the parents, encompassing what is the most convenient and beneficial to them (Katja Rowell et al., 2015).

When it comes to food choices within a familial setting, the culture of food within the society is another impactful influence on how a parent will decide to feed their children. Several food rules that have been established by a parent are passed down from generation to generation. For example, in western culture parent's will use phrases like, 'Clean your plate', 'Drink milk for strong bones' or 'an apple a day keeps the doctor away' (Larimore & Flynt, 2006). This will all influence a child's food choices and habits as they grow. It is also important to touch on overall food culture within society. At the moment, most societies food choices are centered around 'fast' or 'convenience' foods that can easily be bought and prepared. These options may not always be the healthiest and are usually full of sugar and other unsuitable ingredients. What parents don't realize is that nutritional value in these foods are low and the ingredients can be addictive to those prone to emotional eating (Larimore & Flynt, 2006).

A determinant of parental feeding practices encompasses the child modeling from the parent's food behaviors. There is a relationship between 'mother's health motivation and the quality of children's diets' (Brown, 2004). The choice of food will change with food exposure and the parent's attitude about and around food. A mother who shows great body dissatisfaction around their child is more likely to have a child with disordered eating patterns than those who do not show any body dissatisfaction (Brown, 2004).

Parent's establishing a structure around food due to cultural rationale and modeling behavior is just one part of the puzzle that will influence a child's eating habits. It is also important to look at the different types of parenting feeding practice (PFP) when it comes to food and which practices can ultimately contribute to emotional eating (EE). The distinct PFP's include, authoritarian feeding style, permissive or neglectful feeding style, and authoritative feeding style. Only the authoritative style has seen to have a positive impact on eating behaviors in children (Patrick et al., 2005). The Authoritarian feeding style consists of forcing the child to consume certain types of food that the parents have labeled as 'good' and restricting foods that are considered 'bad'. This style is constructed and carried out with disregard to the child's actual food preferences or desires. The permissive or neglectful feeding style is the complete opposite of the authoritarian feeding approach. The permissive style allows the child to make all the decisions based around their food and enables them to eat whatever they want when they want. This is referred to as 'nutritional neglect' (Patrick et al., 2005). The final style is a 'balance' between both Authoritarian and permissive, where a child is allowed to make their own food choices but is 'encouraged to eat healthy foods'. In this style the child is given options and therefore maintains their ability to choose, yet the parents are the ones offering the different choices so they can keep some semblance of control (Patrick et al., 2005).

Parents who use the authoritarian feeding style, usually don't allow their child to have certain types of sweets except under certain regulated circumstances. The children tend to fixate on the food they are missing out on and also lose the ability to 'regulate their own food intake' (Haycraft et al., 2014). This can lead to stress around mealtimes, and arguments between parent and child centered around what they can and cannot eat. Within this authoritarian style 'bad' foods are usually used for reward, 'if you eat all your vegetables you can have a piece of cake for dessert'. This type of parenting can lead a child to overeat to 'appease' parents (Brown, 2004). Food and appetite are no longer based on how and when a child is hungry, but on control. Eventually, children begin to feel a loss of restraint when it comes to food and choose to hide food or hoard 'bad' food when their parents aren't monitoring them. This allows them to consume the 'junk food' they aren't permitted. Depending upon the level of stress the child is coping with, parental control around food puts a child at risk for developing disordered eating such as emotional and stress related eating (ESE) when overall strict rules are enforced (Haycraft et al., 2014).

Permissive or neglectful style of eating is a parent who has little or no control over what their child is eating. The parent may try to exert some ineffectual rules around what foods are allowed but they easily acquiesce when the rules are challenged. Meals are usually not structured, and the child is allowed to eat and indulge in sweets whenever they feel like it. Children who have a tantrum or are not allowed to have the foods they demand, the permissive parent usually gives in quite quickly allowing the child to soothe the negative emotion with the food they want (Castle, 2019). This can lead a child to lose their ability to self-regulate and use food emotionally based on their moods, as most children are not capable of creating boundaries and structure around their food intake. The final outcome for adolescents is emotional or stress related food habits that include no limit to their caloric

intake putting a burden on their weight and health and contributing to the obesity epidemic (Castle, 2019).

Both parental feeding practices (PFP) above are at the extreme end of feeding. The more balanced approach described in authoritative meals, depicts a parent that will allow a child to choose how much they will eat at a meal and what they will eat from the food that is prepared and placed in front of them. A child will be able to self-regulate and listen to their hunger cues. Authoritative feeding also leaves both parent and child with control and freedom at the same time, creating a more symbiotic atmosphere at mealtimes (Castle, 2019).

The Role of the Appraisals

The adolescent period of life can be extremely tumultuous for many teens whose bodies are growing, developing and changing. This age usually comes with a lot of uncertainty, boredom, low self-esteem, frustration, anger, loneliness, and insecurity (Sandra Gibson Hassink & American Academy of Pediatrics, 2006). Emotional eating amongst teenagers is a reality and helps to ease the negative emotions that plague this age group.

A parent's feeding practices (PFP) will ultimately influence a child's eating behaviors whether they are positive or negative (Larimore & Flynt, 2006). The determination or the outcome of the child's emotional eating habits are more than just the parent's behaviors established with the child. The focus of eating patterns will be influenced by the parent's concepts and also the child's ability to adapt to these behaviors in a positive or negative manner. Lazarus's Transactional Model of Stress is one of the first models that focused on stress appraisal and emotional eating. The factors that were developed from this model include the appraisal of ability and resources to cope (AARC) and the appraisal of outside stressors and influences (AOSI). As adolescents grow and parent's influence their food habits, they lose the ability to listen to the physiological needs of their body and establish eating patterns based around emotional cues, most notably negative emotional cues and

outside stressors (Ozier et al., 2007). The mechanism for which stress and the variables of AARC and AOSI were developed and described in the Transactional Model of Stress and Coping. 'Although certain situations and events produce stress in most people, differences exist in the degree and type of reaction produced. Sensitivity and vulnerability to certain types of events as well as interpretations and reactions can shape effective or ineffective coping responses' (Ozier et al., 2007). Part of the emotional focused coping can relate to eating. 'Eating can act as an attempt to modulate fluctuating mood states in the absence of more adaptive ways of coping with intense emotional states' (Ozier et al., 2007). The adolescent's ability to cope with the perceived stress is based on their own personality, and the tools in which they have adapted to manage a stressful situation.

The appraisal of ability and resources to cope main focus is to describe how an adolescent can contend with daily stressful situations and how they will perceive their environment to be either supportive or neglectful. The appraisal of outside stressors and influences is focused on how an adolescent perceives others. This is related to confidence and self-efficacy, and if an individual tends to constantly worry about how others feel about them, this can lead to maladaptive behaviors with food and eating when presented with a stressful situation.

Emotional Eating and Teenagers

As humans we are born with an innate need to eat, which is our hunger ability to evaluate our hunger and satiety. The teenage years for most can be extremely challenging in which a child develops into an adult, managing puberty, becoming a social being away from the familial home and navigating adulthood with the pressure of schoolwork. An adolescent's ability to endure or not endure their environmental surroundings and these stressors can lead them to finding negative coping strategies to relieve uncomfortable feelings of stress, anxiety, depression and frustration. One of these coping strategies is to reach for

high calorie and high fat foods. Emotional eating in teenagers increases the risk of obesity and is a gateway to other stronger eating disorders such as binge eating and bulimia (Milici & Neagu, 2016). Unfortunately for a teenager stress, exposure to stressful situations and coping with stress are all inevitable situations that each adolescent will face (Turner, PhD, 2015).

The amount of stress a teenager is exposed to depends upon their environment. A perceived stressful situation to one teen may not seem as stressful for another. For example if an adolescent performs poorly on a test, one's outlook might be more positive and relaxed, promising themselves to work harder on the next assignment while another teen might find this grade to be detrimental to their future and feel as though they will lose out on several opportunities because of this grade (Turner, PhD, 2015). It's studied that higher food intake is reported during times of depression, sadness and fatigue while healthy foods are consumed when feeling more positive. It is important to note an adolescent who continually suffers from high levels of stress and anxiety will more likely turn to food to sooth and numb the stress that they are experiencing (Ozier et al., 2007).

This study is centered around adolescents in Thailand at international schools and their propensity to emotionally eat. It is important to note that the teenagers in this study have moved around several times and Thailand is not their home country leaving them with significant environmental stressors. adolescents who do not refer to Thailand as home are known as Third Culture Kids or TCK's. This term was created by a sociologist by the name of Ruth Useem (Miller et al., 2020). These authors make a note that states children who are moved around quite often or live more transient lifestyles are exposed more to the specific emotion of stress and anxiety (Morales, 2015). Most of the previous studies focused substantially on a generalized obese population and that 'perceived stress explained a higher proportion of the variance in emotional eating' (Nguyen-Rodriguez et al., 2009). There is a theory centered around emotional eating and stress which is called the 'Individual

Differences Model', which determines that most emotional eating will be interdependent with the individual's circumstances. After a review of the study the researcher felt more in-depth investigating needed to be done within this model but focusing on a certain population, for example a non-adult population (Nguyen-Rodriguez et al., 2009).

Statement of the Problem

Despite the fact that most health care professionals know that emotional eating does exist, there is a lack of studies with regards to adolescents. There are many indications that emotional eating can be problematic and lead to health issues like obesity, or chronic illness (Nguyen-Michel et al., 2007). Several of the studies researched on emotional eating focused on the obese population and how they are impacted. 'Further, emotional eating is also predictive of binge eating for preadolescents and adults, so emotional eating during early childhood may serve as an indicator of future problematic eating behavior' (Tan & Holub, 2015). Furthermore, emotional eating is regularly recognized as a 'common behavior' amongst teens and adults alike, as seen in films, movies and social media (Nguyen-Rodriguez et al., 2009). It is important, as with any disease or affliction to look at preventative measures and the source of where this affliction begins (Nguyen-Rodriguez et al., 2009). There is a wide dearth of studies that have been conducted thus far focusing solely on the parental perspective of the teenager's eating behaviors. It is important to receive a more authentic viewpoint, by questioning the adolescents themselves, as opposed to the parents, to really understand the impact that their parent's behaviors had on their eating habits. Also, if we focus on the indirect impact or an adolescent's appraisal of ability and resources to cope (AARC) with stress along with an their appraisal of outside stressors and influences (AOSI) we might be able to find a pattern of circumstances to why some teenagers turn to emotional eating and others do not. There is a large literature gap following this perspective and this

study aims to fill that gap through this research. The outcome will allow others to help educate parents and children alike on the result of certain feeding styles that can exacerbate emotional eating and the indirect impact stress can have at coping with the trigger of using food to soothe. Another important reason to focus on adolescents is this period of their life is ‘a key time’ for the start of disordered eating in all forms (Haycraft et al., 2014).

Purpose of the Study

The purpose of the study is to examine the direct and indirect effect of parental feeding practices on emotional eating amongst adolescents. The direct impact of parental feeding practices which include parental responsibility, monitoring, pressure to eat and restriction on emotional eating will be tested and the indirect impact which includes the mediating roles of Appraisal of Ability & Resources to Cope (AARC) and Appraisal of Outside Stressors and Influences (AOSI).

Objectives of the Study

The objectives of the study are based on the literature review and stated as follows:

- i. To investigate the direct effect of parental behaviors amongst adolescents on the outcome of emotional eating.
- ii. To investigate the indirect effect of parental behaviors amongst adolescents mediated by adolescents Appraisal of Ability & resources to cope (AARC) appraisal of outside stressor and influences (AOSI) on the outcome of emotional eating.

Significance of the Study

The world obesity epidemic is rising. In the US, the rate of obesity according to the CDC, is 42.4% of the population. The CDC calculated the BMI in adults over 20 during the period of 2017-2018. The rate from 1999-2000 was 30.5 %. This increase is not only significant but shows no signs of slowing down (CDC, 2019). The impact that obesity has on a person’s lifestyle is extremely significant. The CDC lists 13 side effects for people

struggling with obesity including diabetes, cancer and autoimmune disease. This is relevant to the following research because experts estimate that 75% of overeating is caused by emotions (Conrad, 2018).

The psychological reasons for eating can no longer be overlooked and learning more about emotional eating, as an eating disorder is important for the mental health and well-being of our younger generation. The number of teenagers being diagnosed with eating disorders is on the rise and several times their disorder will go undetected (Laura, 2020). We need to focus on who it impacts, and how it will affect the younger population. This will help widen our understanding of where this disordered eating originates and how to slow the impact on our society.

Furthermore, this study will help contribute to the limited amount of research that has been done on teenagers and emotional eating. The research can be used amongst several key decision makers and healthcare professionals. Healthcare professionals such as physicians, nutritionists, dieticians and naturopaths, can all use this knowledge and research obtained to help parents navigate their child's healthy relationship with food. Also, clinical psychologists, adolescent psychologists, school/educational counselor, personality psychologists, psychiatrists, academicians, health policy makers will benefit from this research when working with families who are struggling with disordered eating patterns within their family.

Operational Terms and Definitions

Stress Related and Emotional Eating

Stress related and Emotional Eating is measured using the Eating and Appraisal Due to Emotional Stress Questionnaire (Ozier et al., 2007). The initial trigger for stress related and emotional eating is not necessarily the emotion itself but the initiation of eating can be elicited by the individual's ability to cope or manage the emotional triggers listed above. A

low ability to cope or endure a negative emotion can lead to using emotional eating as an outlet (Evers et al., 2010).

Appraisal of Ability & Resources to Cope (AARC)

‘The perception of one’s ability to change a situation, manage one’s emotional reaction, or cope effectively’ (Ozier et al., 2007) furthermore, the level that a person experiences psychological stress is determined by the relationship with their environment, and how they choose to construe an individual situation, as it is defined both by the person’s ‘evaluation of what is at stake and the evaluation of coping resources and options’ (Ozier et al., 2007). AARC is measured using the Eating and Appraisal Due to Emotional Stress Questionnaire and the research from the study demonstrates that there is a positive correlation between stress related and emotional eating and AARC (Ozier et al., 2007). This survey which created this variable after using the Transactional Model of Stress to evaluate stress related eating (Ozier et al., 2007).

Appraisal of Outside Stressors and Influences (AOSI)

The situation that causes the stress and influences the negative mood state which leads an individual to choose to engage in eating to soothe the adverse mood. These chronic stressors can be familial problems, work/schoolwork, and social relationships. AOSI is measured by the Eating and Appraisal Due to Emotional Stress Questionnaire, because AOSI correlates positively with Stress Related and Emotional Eating after being evaluated by researchers using the Transactional Model of Stress (Ozier et al., 2007).

Parental Feeding Practices (PFP)

The strategy a parental figure will use to educate their child about nutrition and habits they will hand down to their children which will develop their own habits with regards to food and how they learn to eat. Poor parental feeding practices have been associated with

children who have an increased BMI, food regulation problems and the inability to respond to hunger cues and satiety signals (Faith et al., 2004). Parental feeding practices are measured by the Child Feeding Questionnaire (CFQ) where a 7-factor model is presented to parents rated a positive correlation between this measurement of PFP and an increased BMI (Birch et al., 2001).

Restriction

Restriction is a sub variable of the parental feeding practice variable. Restriction occurs when a parent curbs or regulates the intake of sweet or unhealthy foods. The degree to which it is measured on the Child Feeding Questionnaire-Adolescent is with 8 questions using the five-point Likert scale from Disagree to Agree, 'My parent has to make sure that I don't eat.....' Cronbach's alpha was used to measure the reliability with a 0.72 (Kaur et al., 2006).

Monitoring

Monitoring is the 2nd sub variable on the Child Feeding Questionnaire-Adolescent (CFQ-A), there are 3 questions tracking this sub variable on a five-point Likert scale ranging from Never to Always. Monitoring is how often the adolescent believes that the parent will track their sweet intake. The Cronbach's alpha for monitoring demonstrates that it's a reliable and valid sub variable, (0.88) (Kaur et al., 2006).

Pressure to Eat

This sub variable consists of 4 questions on the Child Feeding Questionnaire and is used to measure how often a parent will encourage or discourage food intake. It is measured by a five-point Likert Scale using Disagree to Agree as the response. Pressure to eat measure as reliable and valid with a Cronbach's alpha of (0.71) (Kaur et al., 2006).

Responsibility

The final sub variable that is measured on the Child Feeding Questionnaire, has 3 items which reflect the adolescent's perceived responsibility of their parents' feeding practices, for example, 'How often is your parent responsible for preparing your meals?'. This was measured by a five-point Likert scale, responses were from Never to Always. Responsibility measured reliable and valid with a Cronbach's alpha of 0.60 (Kaur et al., 2006).

CHAPTER II

LITERATURE REVIEW

In this study, it is important to focus on the impact that parental feeding behaviors will have on adolescents mediated by stress related appraisal that could ultimately lead to emotional and stress related eating. The key variables of this study will be discussed in the following literature review to summarize and present a consistent and sound view of the related literature on this subject. The researcher will focus on the following three variables; 1) Emotional Eating 2) Stress Related Appraisals 3) Parental feeding practices with regards to adolescents.

Theoretical Reviews

1.1 Emotional Eating:

When focusing on emotional eating it's critical to first establish what the implications or negative outcome of this disorder are. Most recently emotional eating has been recognized as 'obesogenic' 'that contributes to weight gain and, ultimately, obesity' (Braden et al., 2014). A study conducted on a sample of young school children enrolled in a healthy eating program found that 63% were emotional eaters and used food to 'escape' from negative feelings or situations. The food they consumed when they did overeat were usually high

calorie low nutrient snack foods (Braden et al., 2014). The major theory associated with emotional eating is called the 'Psychosomatic Theory of obesity' which states that in times of high anxiety or stress, food is used to defend the mind from present 'danger' and soothe which can cause negative eating behaviors (Nguyen-Rodriguez et al., 2009). Humans will consume food for the wrong reasons. This can be impactful and eventually be harmful to our physical and mental health which are all precursors to chronic diseases such as Type II diabetes, cancer, and autoimmune disease (CDC, 2019a)

A theory was developed around the notion that emotional eaters are not necessarily obese. The 'Restraint Theory' suggests that during certain situations a person may control their food intake to a much lower level than necessary and will ignore signs of physiological satiety 'predisposing the individual to counter-regulatory eating under a variety of circumstances' (Arnold et al., 1994). This can also lead to poor nutrition and food habits even if the individual is not obese. As stated above most emotional eaters will reach for calorie dense low nutrient food, in which case the restraint theory is still based on emotions and not physiological cues and will lead an individual to become malnourished and susceptible to disease even if they are not overweight (Arnold et al., 1994). 'Most of the time we feed our bodies without consulting our bodies' (Geneen Roth, 1992).

The repercussion of emotional eating can impact health and lifestyle. Understanding the root cause of how an emotional eater develops has been studied by some focusing on the obese population. The Bruch's Theory explains that hunger is not an innate quality that humans are born with, but it must be learned so that a person can establish eating habits that mirror a healthful pattern of listening to their body's physiological signs (Canetti et al., 2002). Emotional eaters are found to have 'incorrect and confusing early experiences' that hinder their ability to distinguish practical hunger cues (Canetti et al., 2002).

‘These early experiences also interfere with the ability to differentiate hunger (urge to eat), from other signals of discomfort that have nothing to do with food deprivation like emotional tension states aroused by a great variety of conflicts and problems’ (Canetti et al., 2002). Most emotional eaters search for external clues. External cues can vary but usually an individual will choose to eat something because it was not available for them to have it as a child, another consequence of external eating can be stress over a situation or people tend to externally eat because they are bored (Geneen Roth, 1992). These external cues determine when to eat and how much since a person’s internal system is unable to control their hunger needs. This theory proposes that most people will eat too much when they are experiencing high levels of stress and anxiety (Canetti et al., 2002). When studied closer most emotional eaters will have similar eating habits. This will include emotional eating periodically with high calorie, high carbohydrate foods and will occur secretly or when they are alone and is preceded by anxiety, loneliness and depression (Canetti et al., 2002).

The Emotional Eating Theory is a combination of theories that states there are 2 assumptions that are considered with emotional eating. First, EE (emotional eating) is triggered by negative emotions and induces eating and second eating reduces the intensity of the negative emotions. This theory is comparable to the learning theory in which a negative emotion elicits a conditioned response and ‘is followed by an operant eating response that is reinforced by reduced intensity’ (Macht & Simons, 2010). Emotional regulation in general is both automatic and controlled. The impact of ER on our emotional state, and the intensity and duration for which we experience the emotion is important to understand. There are 2 types of emotional regulation, controlled emotional regulation which we are able to consciously control and automatic emotional regulation which is more ruled by our subconscious. In a study done by Parkinson’s and Totterdell in 1991 the participants stated that they consciously controlled their emotional eating which was described in the study as

comfort eating when in a negative mood. But with further studies completed, it was made clear that most of the food consumed during this time of emotional eating is 'habitual' or 'automatic', further proving the above theory that negative emotions trigger eating with both control and automatic regulation playing a part (Macht & Simons, 2010). The second part of the emotional eating theory states that the act of eating will reduce the intensity of the negative emotion being felt. A study done in 1977 in which half the students taking exams were offered a sandwich and the other half were not, the half that ate the sandwich reported less stress and anxiety than those that were not offered food. There were some follow up studies similar to this one later on but proving this theory can be difficult because it is hard to do a well-controlled experimental study because it is difficult to cause negative emotions in a clinical setting and participants might feel less comfortable being observed and in an unnatural setting (Macht & Simons, 2010).

1.2 Lazarus Transactional Model of Stress and Emotional Eating

The most significant study done on emotional eating and stress which created the 3 factors for the Eating and Appraisal Due to Emotions and Stress (EADES) Questionnaire uses the Transactional Models of Stress to describe the adaptive process of stressful situations on individuals. The factors of Emotional and Stress Related Eating, Appraisals of Resources and Ability to Cope (ARAC) and Appraisal of Outside Stressors and Influencers (AOIS) make up the the Eating Appraisals Due to Emotions and Stress Questionnaire. It is based on the Transactional Models of Stress (Ozier et al., 2007). The questionnaire was created to determine if humans use foods to cope with their emotion and stress in their lives. The Transactional Model of stress helps explain how differences exist when it comes to an individual's ability to cope with stress. First, the antecedent or stressor will occur in the adolescent's environment whether it be person conflict or environmental conflict or both. The next part of the process is the primary appraisal in which a person who experiences the stress

determines if they are ok or not. The primary appraisal is mediated by a person's psychological health as well as their material wealth, social stability, and physiological health. The secondary appraisal asks, what can be done about the stressor? This appraisal will depend greatly on the relational meaning of the stressor to adolescents, it is their instinctive interpretation of the stressor and how it will impact their environment. The result of this will be an individual's coping effort. At this point they will either choose problem focused coping or emotion focused coping like eating, depending again on the mediator. Here the teen will revisit the relational meaning and finally the last stage of the outcome of how they choose to handle the stressor whether it be positive or negative. This outcome will be based on their strength to adapt to their environment and the mediator that gives or does not give them the significant tools they need to adapt (Ozier et al., 2007).

The transactional model of coping has been used to benefit many non-adaptive behaviors and health problems, but this model was deemed appropriate to analyze the process of what happens within an individual that overeats as a result of stressful situations or uncomfortable emotions (Ozier et al., 2007). 'The constructs of the model are well suited for determining if stress, along with appraisal and coping, has an influence on obesity and an individual's relationship with food' (Ozier et al., 2007).

Review of Empirical Studies

2.1 Emotional Eating

The focus of a study on emotional eating chose to look at emotional regulation as opposed to the actual negative emotion itself, and how these impacts eating behavior. Chemically when our body experiences negative emotions it scientifically speaking has the opposite impact on our hunger and induces satiety, this is from a biological point of view (Evers et al., 2010). With this premise emotional eating seems unreasonable. Emotional eating also appears to be maladaptive as emotions are used to help prepare humans or any

living organism to ‘respond optimally to the environmental demands’ (Evers et al., 2010).

Yet, with all of this stated above it is hard to deny that emotional eating has been observed in more and more of the human population. Almost all emotional eating theories state that individuals will ‘experience negative affect that they cannot properly regulate, prompting them to employ a strategy they do have access to but that seems highly maladaptive:

overeating’ (Evers et al., 2010) The shift in thought comes when we look at EE as not eating in response to a negative emotion but eating in response to maladaptive emotional regulation strategies. This is what causes the individual to overeat. This study’s perspective shifts from studying the actual emotion itself to focusing on the manner in which the emotion is regulated (Evers et al., 2010). Emotional regulation refers to the effort a person demonstrates to ‘experience’ and ‘express’ their emotions (Evers et al., 2010). Here the emotional regulation is broken into 2 different types: Antecedent emotional regulation which takes place before the emotion has become fully mobilized and behavioral and physiological responses have been modified to respond necessarily. There is time with this strategy to think through the stressor and appraise the incident or use suppression to manage the stressor. The other ER is response focused emotional regulation in which the emotion happens and once it has been felt or activated the response is immediate (Evers et al., 2010).

The study looks into the impact of emotional regulation on eating behaviors. The hypothesis focuses on negative emotions and a person’s ability to regulate them which can lead to an impact on eating behaviors. Specifically, the hypothesis is that maladaptive regulation strategies like suppression will lead to higher food intake than someone with the ability to appraise a difficult situation. There are 3 studies which consist of healthy individuals within an experimental setting. The first study looks at individuals whose emotions have been induced through emotional stories or emotional autobiographies. The analysis between how they regulate the emotion either through suppression or reappraisal, is

observed through fake taste tests of ‘comfort food’ or high caloric palatable food which is given to them, no questionnaires or tests are used. The second study, which introduced non comfort foods, distinguishes these regulations strategies by manipulating the experiment. ‘The choice for different emotion inductions and providing different food types across the studies was implemented to portray the robustness of the assumed effect (Evers et al., 2010). The third study again introduced a controlled condition without giving any instructions (non-comfort food). In the 3 studies food intake was assessed with the Dutch Eating Behavior Questionnaire (DEBQ).

The amount of food intake was calculated by the weight of the bowl before and after the ‘taste test’ and the different foods were standardized because of varied foods and weights. To account for the comfort and non-comfort foods of study 3 and 4 factor analysis and reliability analysis were used to identify ‘clusters’ of comfort and non-comfort foods (Evers et al., 2010).

The study consisted of 37 female participants with an average age of 22 years and an average BMI of 23.13. The students were asked not to eat 2 hours previous to the study taking place. First, they filled out the Emotion Regulation Questionnaire assessing expressive suppression and cognitive reappraisal of emotional situations. The emotions were induced by having them recall stores or sad events that they had experienced. Before and after the stories were told sadness was assessed by asking the individuals how intensely they felt the 21 different emotions based on a 0-7 Likert scale with 0 experiencing no emotion at all, to 7 being the strongest feelings experienced. In the 2nd part of the study the participants were asked to evaluate a ‘fake’ taste test of 3 different bowls of food. After the taste test the testers completed the DEBQ, and finally a short debrief to assess the awareness of the individuals to the reasoning behind the study (Evers et al., 2010).

The results of the study showed that individuals who used the emotional regulation of suppression regularly were more likely to consume higher amounts of food than students who did not use suppression as a strategy to cope with emotional situations. ‘Individuals regularly using suppression in their daily lives consumed more food when being emotional than individuals rarely using this strategy. Individual differences in cognitive reappraisal, however, did not relate to food intake’ (Evers et al., 2010). This can possibly be because of the emotional induction in which the individuals were asked to feel a sadness already experienced, so a cognitive reappraisal most likely could not take place, even if this is an emotional regulation they use regularly. Although this study made an extremely interesting and insightful claim that it is the way regulate our emotions and not the emotion itself that causes us to emotionally eat, the outcome of the study suggests that you cannot conclude this result and a complementary approach should be made to better induce the emotional regulation of reappraisal (Evers et al., 2010). The conclusion of this study can be interpreted that eating to combat negative moods and emotions is not uncommon but the difference in the quantity and type of food can make a difference, from small amounts of food to bingeing foods (Macht & Simons, 2010).

A critical problem in several countries at the moment is the obesity epidemic. The following study looked at emotional eating and its contribution to this in younger children. The study took place in Belgium where 437 school children from the ages of 5 to 12 years old were asked to enter a study at school. 49.9% were boys and the rest girls. The name of the study was the ChiBS study (Children’s body composition and stress) and it took place in 2001 (Michels et al., 2012). The children were followed over a 2-year period, initially filling out a baseline questionnaire focusing on positives and negatives with their dietary patterns, while parents filled out a questionnaire on demographics, characteristics etc. Children had their weight, height, age taken.

The parents filled out a 'Strength and Difficulties Questionnaire' (SDQ) to inform researchers of the issues their child might have encountered over the past 6 months. Second the 'Coddington Life Events Scale' for children (CLES-C) scale was used to detect any mental or physical health problems that may be an outcome of the psychological stressors. The Children's Daily Hassles (CHS) and Daily Uplifts (CUS) was administered to describe hassles and uplifts in the child's life (Michels et al., 2012). The children used a Likert-scale to describe their most recent emotions '0' being 'not at all' and '10' being very strong. Pictures of the emotions were given to the children to better help them understand the emotion being asked of them. Coping was measured by the CASE-study (Child and Adolescent Self-Harm in Europe) where children describe how they usually react when confronted with a problem. For the emotional eating section of the study the Dutch Eating Behaviour Questionnaire (DEBQ) was used to identify the eating patterns of participants. The Dietary patterns of the children was reported by the parents using the Food Frequency Questionnaire (FFQ), that monitors food consumption and 'frequency associated with overweight, obesity and general health in children' (Michels et al., 2012). Finally, the socio-economic status, body composition of the children was noted down.

The analysis consisted of a 3-factor structure for stressors, the factors included; 'problems', like conducts, hyperactivity, peer problems and emotional problems. The 2nd factor was 'negative emotions' was positively impacted by sadness, anger, anxiety and negatively by happiness. Finally, the 3rd factor which was 'events' that were positively affected by uplifts, hassles and negative events during the last 6 months (Michels et al., 2012). There was a positive correlation between problem and events and emotional eating, but coping was not associated with emotional eating. Using regression analysis 'for dietary patterns and emotional eating behavior as dependent variables respectively' there was no detection of stress and emotional eating behaviors. The positive predictors of emotional

eating were negative emotions and problems (Michels et al., 2012). Another note of this study was that association differed between boys and girls. Problems were only girls not boys leaving them to overeat sweets while boys only. Emotional eating was not a predictor of dietary patterns. Problems and events were definitely a predictor of dietary patterns and the pathway between stress, the problems and events that occurred, and emotional eating was significant (Michels et al., 2012). The study is significant because it has shown that perceived stress was associated with emotional eating. Stress not only impacted emotional eating but overall impacted dietary patterns and led children to eat more sweet, high fat foods and less fruits and vegetables. This study supports the theory of stress induced eating of ‘comfort foods’ as either a stress coping strategy (escape) or because of the eating induced stress reduction and associated reward feelings’ (Michels et al., 2012). The limitations of the study may be in the fact that the children’s age does not allow them to freely choose their food due to parental control. The final analysis of the study does allow the reader to predict that emotional eating and stress combined with unhealthy dietary patterns can have an impact on a child’s overall weight. The difference between the conducts of stress including emotions, problems, and events did show impact on emotional eating and should be used by health professionals and parents alike to help a child navigate stress and eating (Michels et al., 2012).

2.2 Emotional Eating and Adolescents

Several emotional eating studies are used to assess obesity and the outcome of adolescent obesity. Studies suggest that Emotional eating (EE) is positively correlated with binge eating and binge eating is predictive of obesity (Nguyen-Michel et al., 2007).

The primary aim of the following studies was to test the information above by analyzing the dietary choices amongst emotional eaters in adolescents. The studies used cross-sectional data from participants. The participants consisted of 617 Latino school aged

students in Los Angeles who attended either private or public school (Nguyen-Michel et al., 2007).

The first study measured the variable of dietary choices by using a validated food frequency questionnaire (FFQ). This form helped to determine food choice. Second variable measured was emotional eating, by the Emotional Eating Subscale of the Dutch Eating Behavior Questionnaire (DEBQ). Body image was evaluated by the Body Image States Scale (BISS) along with the variable of weight concerns which was measured using a 7-item scale. Finally, Age and ethnicity were also noted down (Nguyen-Michel et al., 2007). Means and frequencies were used to report descriptive statistics of the sample. The outcome 'provided a significant contribution to the emotional eating literature' (Nguyen-Michel et al., 2007). The results of the study were able to translate to the general population and also gave some unique insight to specific dietary correlations within the Latino Adolescent community. Emotional eaters are more likely to reach for high dense, high calorie foods. Minority students do not have reliable access to fruits and vegetables, and will be more inclined to eat high sugar, calorie dense food because of their Socioeconomic status. Latino girls are more likely to emotionally eat high sugar and calorie dense foods, where boys were more likely to eat fruits and vegetables yet had a higher intake of sodas. But most specifically the study did not find a correlation between obesity and emotional eating (Nguyen-Michel et al., 2007). The students who were of regular weight and size were inclined to emotionally eat just as much as the obese students. Also, the prompt for emotional eating was a stressor, and the researchers found that the only way to persuade the students into emotionally eating was by exposing them to an external stressor (Nguyen-Michel et al., 2007).

The second study done using a BMI as moderator to determine perceived stress and emotional eating in adolescents examined 'the Psychosomatic Theory and the Obesity Hypothesis of the Individual Differences Model of Stress-induced Eating in a minority

adolescent population, a cross-sectional analysis of the moderating effects of BMI on the relationship between perceived stress and emotional eating was undertaken' (Nguyen-Rodriguez et al., 2008). This theory postulates that perceived stress will cause emotional eating in the obese population only. The study also predicted that overweight participants would be more likely to be emotional eaters than normal weight ones (Nguyen-Rodriguez et al., 2008) and a larger number of emotional eaters would exist in the group of overweight individuals, as opposed to the normal weight group.

This study was conducted and used the same 617 Latino school aged students as the above study. The measurements used were the Emotional Eating Subscale of the Dutch Eating Behavior Questionnaire (DEBQ), the Perceived Stress Scale which is a scale that helps determine the level of perceived stress of the participant over the past month. Worries were measured by a worries scale and mood was determined by using the adolescent version of the Profile of Mood States (POMS-A). Body image, weight concern, age and ethnicity were also measured as part of the study (Nguyen-Rodriguez et al., 2008). For all the demographic variables descriptive statistics were in place for all of the participants that completed the survey and it was determined that emotional eating did not differ significantly amongst genders (Nguyen-Rodriguez et al., 2008). Using the multilevel multivariate regression models emotional eating was highly correlated with perceived stress (St. Beta=0.1835, $p < .0001$) and worries (Std. Beta=0.1189, $p = .02$). Past literature has supported gender differences within reasons for emotional eating amongst boys and girls, in this study boys were more likely to eat if they were subjected to moods of confusion while girls were more likely to emotionally eat due to perceived stress and worries (Nguyen-Rodriguez et al., 2008).

2.2 Parental Feeding Practices (PFP)

A parent's desire to develop and improve their child's eating habits as they grow is a large part of parenting and can have an impact on the way a child uses food emotionally. This will depend upon the various feeding practices employed by the parents. The following paragraphs review the different studies that have been done to determine feeding styles of parents and their influence on adolescent.

The goal of the following study was to determine the types of parental feeding practices and its link to general parenting styles. The study helped to increase effectiveness of interventions in family dynamics related to nutritional development (Hubbs-Tait et al., 2008).

Parental feeding practices (PFP) and parenting styles can be identified and associated, a style that a parent uses to raise their child can be reflected in the way they choose to influence their eating habits. The study reflected upon 3 types of parenting styles which are looked at 2 dimensionally referring to control/demandingness and warmth/responsiveness. Authoritative parenting is high control or high expectations and respectful limit setting and high warmth or significant parental affection and responsibility. The outcome of this parenting style is increased independence and self-control of the child. In terms of eating Authoritative parents 'balance their concerns for healthful intake with the child's food preferences' (Hubbs-Tait et al., 2008). Authoritarian parenting is high control or strict discipline and low warmth or lacking in supportive emotional needs of the child. Within feeding practices this style attempts to control the food intake of the child and disregards the child's wants. The last parenting style is permissive parenting which reflects low control and low warmth and within feeding practices allows the child to be in control of their food intake and the parent is neglectful of the healthful dietary needs of the child (Hubbs-Tait et al., 2008).

Using 3 hypotheses to predict if parental feeding practices would predict general parenting styles were tested: First hypothesis, restriction and pressure to eat are positively related to authoritarian parenting whereas supportive practices such as modeling and encouraging are negatively associated with authoritarian parenting. Second hypothesis states that ‘responsibility, monitoring, modeling, and encouraging are positively related to authoritative parenting and restriction and pressure to eat are negatively related to authoritative parenting’ (Hubbs-Tait et al., 2008). Final hypothesis is that permissive parenting is negatively linked to all 6 feeding practices which consists of responsibility, monitoring, modeling, encouraging, restriction, and pressure to eat (Hubbs-Tait et al., 2008).

Regression analysis was used to predict each parenting style from all feeding practices. A sample group of 239 parents 93.5% of them were mothers of children attending 1st grade public school in north central Oklahoma, the study was focused on rural schools. The study consisted of 10 questionnaires analyzing different variables, including the demographics Questionnaire. Also, The Children Feeding Questionnaire (CFQ) was used to determine parent’s practices and perceptions with regards to their child’s feeding practices. The Encourage Healthy Eating and Modeling was administered to establish the type of influences parent’s will have on their children’s food choice and intake. The Parenting Styles and Dimensions Questionnaire (PSDQ) measures the authoritarian, authoritative and permissive parenting styles (Hubbs-Tait et al., 2008).

Results suggest that there is a correlation between parental feeding practices identified in nutrition literature do reflect parenting styles in general (Hubbs-Tait et al., 2008).

‘As hypothesized, parental perceptions of responsibility and parental monitoring, modeling, and restriction significantly predicted authoritative parenting. Similarly, encouraging healthy eating was positively correlated with authoritative parenting.

However, as already noted, encouraging did not explain significant variance in the regression' (Hubbs-Tait et al., 2008).

Pressure to eat and restriction of foods did predict the authoritarian style and parental modeling practices or learning by seeing was negatively correlated with authoritarian parenting. The most negatively linked feeding practice with authoritarian feeding style suggested that monitoring rather than modeling was the most supportive feeding practice (Hubbs-Tait et al., 2008). With regards to the 3rd hypothesis restriction was positively correlated with permissive parenting.

The outcome of the study is quite significant as it helps healthy professionals work with families and help them determine a link between feeding styles and general problems a parent may be having with food, health, and nutrition (Hubbs-Tait et al., 2008).

Parental feeding practices amongst cultures can give researchers impactful information as to which traditions and ideas can influence a child's eating habits as well as their weight status. Very few studies have been done on comparing cultures and feeding styles, but could be very informative and help researchers understand why some cultures like France who, when this study was conducted in 2008, had a 20.6% rate of children overweight and the US had 30.3% rate of obesity (Musher-Eizenman et al., 2009). This following study was unique and focused on French and American children and the parental feeding practices (PFP) of those parents. The researchers were looking closely at the early experiences these children had with regards to their parental feeding practices (PFP) to help analyze certain behavioral outcomes. First, the recognition of the differences these two cultures have when it comes to food and habits were established. The French were noted as having smaller portion sizes, more variety and an increased consumption of certain foods like red wine as opposed to Americans. This has all been associated with healthier eating. The French take more joy in their food and are less concerned with negative health consequences which leads to healthier

outcomes and less stress and worry around food and could be a positive factor that parents teach their children in this culture (Musher-Eizenman et al., 2009). The goals of the studies were to examine differences in feeding practices amongst cultures by using a 9 subscale of the Child Feeding Practices Questionnaire (CFPQ). The second goal of the study was to examine the relationship between a parent and child characteristics and parental feeding practices (PFP) in both cultural situations. The characteristics that were identified were income, parent's education, parent's BMI (Musher-Eizenman et al., 2009).

The study took 2 sample parents that were chosen from identical demographics but in different countries. The sample was from rural/suburban families as well as urban families. There were 59 mothers and 38 fathers from the US and 72 Mothers and 50 fathers from France. The mean income of the families was \$75,000-\$90,000 with University diplomas and the children were approximately ages 3 to 8 years old (Musher-Eizenman et al., 2009).

Once consent was signed the parents were given the questionnaire to fill out and the children were weighed and measured. To examine the various eating practices and the cultural differences between US and France samples were analyzed by kurskal Walla. This non-parametric approach was chosen because of the abnormal distribution of the variables. The characteristics of parents were related to the PFP through linear regression. PFP was the dependent variable and the characteristic of demographic was the predictor. 3 groups of sample subjects were created based on income and education (Musher-Eizenman et al., 2009). Overall there was not much of a relationship between parental characteristics and feeding practice. Both countries where mothers had higher BMI, they were more likely not to teach their children about nutrition and there is very little encouragement around balance and variety. Parent's in France reported a higher monitoring of foods as well as higher restriction of food intake. French fathers were better at modeling food behavior than those of their American counterparts. American's were more likely to use food for non-nutritive

purposes like reward and to regulate a child's emotions which leads to children not learning how to feel satiety and hunger. Americans also have an increased amount of junk food available to them, so it is easier to access. Both France and the US did not restrict their child's food for health reasons. The French were more likely to restrict their child's food for weight reasons. The most significant relationship that came out of this study was that parent's in France and the US while they have some variant differences in the way they feed their children, they are also very similar. This is to keep in mind that Americans tend to use food reward more than the French and the French tend to worry about weight management of their children and will restrict it if they feel the child is overweight. More research must be done on cross cultural feeding practices, as it's a good way to identify eating practices amongst cultures can be positive or negative on the health of our children (Musher-Eizenman et al., 2009).

A study was conducted on parental feeding behavior and the possibility that they influence predicted eating behaviors later on in life along with weight in later development. Measuring eating behavior traits in early life can help others determine high risk eating behaviors that may impact their lives in the future. This study was unique in the fact it contrasted 2 feeding styles, authoritative and authoritarian styles, along with children's appetite and eating habits (Carnell et al., 2014). The study predicted that '(1) authoritarian (but not authoritative) limiting would be associated with higher food responsiveness (an index of external eating and over-valuation of food); (2) authoritarian (but not authoritative) promoting would be associated with higher satiety responsiveness (an indicator of low appetite); (iii) instrumental and emotional feeding would be associated with higher food responsiveness' (Carnell et al., 2014).

The study consisted of 12 London primary schools that would represent a range of socioeconomic depravity. The tools used in the study were first to gather specific data on the

parents and children using a demographic questionnaire and anthropometric scale for weight and height to calculate BMI scores of participants.

Child's eating behaviors were evaluated by the Child Eating Behaviour Questionnaire and it included satiety responsiveness along with food responsiveness. The parent's response was recorded on a 1 to 5 Likert scale with the terms 'never' and 'always' to determine the endpoints (Carnell et al., 2014).

Parental feeding behaviors were determined by 2 separate questionnaires. Parental restriction, monitoring, and pressure to eat were taken from the CFQ questionnaire, and parental prompting to eat, emotional feeding, and instrumental feeding scales were taken from the PFSQ. The CFQ was considered more authoritarian and the PFSQ was considered more authoritative (Carnell et al., 2014).

The final sample size of the questionnaire was reduced to 439 in the end. 55% of the children were male and the mean age was 4.4 years with age range from 3 - 6 years old. The mean BMI was 16.6 with 20% of the children being overweight and 9% obese. 94% of the parents were mother of the children and were ethnically diverse with 65% being white British. 26% of the parents had a degree of higher qualification.

The results suggest that there is a link between excessive parental control over feeding (authoritarian) and a child's loss of internal hunger cues, that can lead to overeating, although the causal relationships are unclear from the cross-sectional data that is presented. The study results confirm the existence of 'style dependent associations between parental feeding and appetitive traits/characteristics in children' (Carnell et al., 2014). The CFQ pressure to eat describes control feeding as well as perceived reaction to low child appetite while the PFSQ prompting to eat scale taps more hidden, 'child-responsiveness behavior that increased with the child's lack of interest in food, while prompting proved a more normative parental behavior that was unrelated to appetite' (Carnell et al., 2014). Further study needs to be

done, there is a very noticeable connection between different feeding styles and outcomes that can help prevent disordered eating patterns later on in life (Carnell et al., 2014).

2.3 Parental Feeding Practices (PFP) and Emotional Eating (EE)

To discuss the root of emotional eating, we have to review where the learned behaviors of food originate in our children. Recently healthcare practitioners are concerned with the outcome of adolescent health that consists of higher rates of obesity in our young children, more than ever before (CDC, 2019a). As research suggests parents have a large influence on a child's eating habits, taste preferences, nutrition and 'eventual weight status' (Musher-Eizenman & Holub, 2007).

At young ages parents are a child's key influencer in all aspects of their lives and they are extremely influential on nutrition habits, a child's weight, their food choices and exercise. (Braden 2014) We have established that within parenting there are different styles or methods that will be followed. In a non-clinical study where children from the ages of 8 to 11 who were found to have emotional eating behaviors, the parenting style or permissive parenting that lacked support and was based around neglect and disregard as well as the parents minimizing or choosing to not take their child's negative emotions seriously. Parent's that use phrases such as; 'it's not a big deal', 'don't worry about it', or 'forget about it' when it comes to a negative emotional experience of the child, had children who were more likely to reach for food to soothe feelings of adversity. (Braden, 2014).

Another study suggests that parents who control feeding of their children or use authoritarian feeding practices will most likely have children who grow up and become

adolescents and adults who do not have the ability to regulate their own food intake.

(Haycraft, 2014) Children who come from homes that have ‘family mealtimes, prioritizing eating as a family and having more positive mealtimes have all been shown to be associated with lower levels of and be protected against eating disordered behaviors amongst adolescents’ (Haycraft, 2014).

Yet another factor to consider is the parent’s eating behaviors and how the modeling of this behavior will impact the children. A study on parent’s who had emotional eating practices were more likely to have children with these same practices if the children were low in self-regulation. A parent who will use food to comfort themselves or their child under negative conditions correlating food with solace rather than hunger are creating habits that will lead to questionable eating behaviors in children. The study further concluded that children who had a greater capacity to self-regulate their food intake were less likely to emotionally eat even if their parents' eating behaviors were negative. This means these individual children presented personality traits that led them to not seek external cues for hunger such as good smells, or the sound of food sizzling in a pan, but to look internally to their innate hunger cues of satiety (Tan & Holub, 2015).

It’s important to understand what type of parental feeding styles will impact the adolescent’s outcome of eating. A study focused on 279 mothers and their feeding styles and how they impacted the outcome of emotional eating and body weight. The feeding styles were categorized into three approaches; ‘restrictive or authoritarian, emotional-external or authoritative, and finally permissive or neutral styles’ (Viana et al., 2019). There were 279 children between the ages of 6-13 years old. The restrictive parents are considered ‘authoritarian’ and would have an oppositional impact on how a child's emotional eating habits developed and the consequential weight gain. Parents who withheld high calorie, sugary snacks from children were more likely to have emotional eaters who overeat. Parents

who pressure their children to eat healthful food and demand them to ‘clean their plate’ were more likely to be under-eaters or under-weight (Viana et al., 2019).

One of the most impactful results of this study is that the mother’s own eating habits will have an influence on how a child’s styles are formed. The mother’s eating styles consist of restrained eating which refers to a mother dieting or restricting food to avoid weight gain, emotional eating which indicates eating due to emotional stress or anxiety and other disinhibiting factors. Finally, external eating when the mother uses external cues such as smells, or seeing others eat to eat themselves. ‘Maternal eating control variables are associated not only with the quality of their diet, but also with the quality of their children’s food choices, following a similar pattern’ (Viana et al., 2019).

A study consisting of 95 parents focused solely on the eating patterns of parents and how it influenced children. In this case, 93% of the participants were mothers. There were an equal number of boys and girls and the mean age range of the children was 6 years old. The study used the child’s ability for self-regulation as the moderator for emotional eating. First it was determined if the child had a high level of self-regulation with food or if external cues were more impactful. Once they established this, the study focused on the child’s emotional eating behaviors as well as the mothers, and finally the study was mediated by parental feeding practices. ‘Results showed that child weight was negatively associated with self-regulation in eating and that child age was negatively associated with emotion regulation feeding practices.’ Gender was not impacted by the key variables in the study. This study helped to broaden the perspective on emotional eating showing ‘a conditional indirect relationship between parents’ and children’s emotional eating that was mediated by emotion regulation feeding practices and moderated by children’s self-regulation in eating’ (Tan & Holub, 2015).

A further study done on emotional eating focused more on younger children and their parent's parental feeding practices. The study took place in a laboratory and used experimental manipulation of the child's mood and food intake to record whether emotional eating was impacted by parental feeding practices (Blissett et al., 2010). The study of younger children is significant because in most 2 to 6-year olds it seems that the natural reaction to being emotionally stressed is loss of appetite, eating emotionally and bingeing on food is most likely a learned response to stress by the time children reach adolescence. By the age of 4 to 10 years old, emotional eating response increases and undereating decreases. Also, children who have the tendency to emotionally eat at the age of 4 will continue on to be emotional eaters at the age of 10. A parents feeding practice (PFP) may be the reason behind this emotional eating, by using 'pressure to eat' which leaves parents with greater control and food becomes more of a negatively based concept. Children start to identify that feeling upset or sad as a hunger cue, instead of actual hunger (Blissett et al., 2010). This study hypothesized that '3-5-year-old children would consume more calories after a negative mood induction than would a control group of children if their parents used food for emotion regulation, food as a reward, or pressure to eat' (Blissett et al., 2010). Also, with equal findings of the impact of restriction on eating behaviors, there was a non- directional hypothesis that restriction would be related to emotional eating. The final hypothesis stated that 'the effects of emotional eating would be specific to palatable snacks in line with previous research' (Blissett et al., 2010).

The study consisted of an experimental group and a control group of 64 mothers and children split into 2. The experimental group had 31 mothers and children and the control group had 33. The groups consisted of mothers in the age range of 34 to 50 and were mostly white British. The study took place in a laboratory setting and it commenced with both groups receiving a standardized lunch with all the same food items. Both groups were given

20 minutes to eat. After this, 5 minutes was spent compiling the data of participants, including weight and height. At this point the parents were moved into a different setting to take the Comprehensive Feeding Practices Questionnaire (CFPQ) and data characteristics form. The children were split into either control or experimental settings and given a task. The experimental group of children were given puzzles in which a piece was missing, and the control group was given the full jigsaw puzzle. The children were told when they completed the entire puzzle, they would be given a sticker. The children attempted the puzzle in the experimental group and when they could not finish it because of the missing piece the researcher told them no sticker would be given but they would go and try to 'find' the missing piece. While the researcher was 'searching' for the missing piece 6 bowls of appetizing foods were set out on table and children were told one time that the snacks could be eaten. The snacks consisted of 6 grams of salted crisps (32 kcals), 2 chocolate chip cookies (115 kcals), 21 chocolate buttons (115 kcals), 9 green grapes (32 kcals), 2 carrot sticks (6 kcals), 3 mini breadsticks (31 kcals). The food was there for 4 minutes before it was removed. Meanwhile the control group had puzzles that they were able to finish easily and received a sticker, they were also served the exact same food as the above experimental group. After the 4 minutes was completed in the experimental group the researcher 'found' the missing puzzle piece and presented it to the children and then gave them a sticker. The mood of the children in both groups was rated.

The outcome of the study found that the mood of the experimental group which was manipulated rated lower or more negative moods than the control group. Yet the data revealed that a negative mood did not cause the experimental group to consume more food, they did, however, consume more breadsticks than the children in the control group. The most significant outcome of the study came with the parental feeding practices and the children's eating behaviors. Parents who rated high for using food for emotional regulation

had children who chose to eat the snack, in the absence of hunger. Children whose parents used food for emotional regulation purposes were more likely to eat the cookies and chocolate made available to them. It's important to recall that the children were fed a full meal before the snacks were administered. The hunger is not a cue but more a negative feeling or emotion cues their hunger (Blissett et al., 2010). There was no significant impact on BMI or sex in this study, but the link between parental feeding practices.

A similar study by the same researchers, just 2 years later, continued to explore this topic. In this study the concentration on parental feeding control during the ages of 3 to 5 years causes children to misread stress as a hunger cue by ages 5 to 7 years. It has been reported by parents of younger children (approximately 5 years old), that parent's do see an 'emotional disinhibition with food' (Farrow et al., 2015). Again between the ages of 2 to 6 years, as stated above, children will naturally experience hunger loss during extremely emotional times, trying to pinpoint how children lose this natural innate reaction is important to help identify the parenting practice that might be causing children to emotionally eat (Farrow et al., 2015).

This longitudinal study consisted of 41 parent child groups from Britain. Parents needed to have a child between the ages of 2 and 5 years old with no medical conditions that impact feeding or eating. Families were followed up with 2 years later, at the 2-year mark 6 families dropped out so the total in the study was 35 children, 16 boys and 19 girls from the ages of 34 to 59 months.

At the first time point the parents came into the laboratory and completed questionnaires. One was the Comprehensive Feeding Practices Questionnaire (CFPQ) which analyzes a parent's practice of using food as a reward, using food for emotional regulation, restriction of weight, restriction for health and pressure to eat (Farrow et al., 2015) The 2nd group of questions were done on a Likert scale with 1 being never or disagree and 5 being

always and agree, the higher numbers being parenting practices used. The children were brought into the laboratory and allowed to explore and play with toys. They were then given lunch, all the same but mothers were given more. They were told to eat only off of their own plate and if more food was needed, they could ask for seconds. Nobody asked for more food (Farrow et al., 2015). After children were engaged in tasks with researchers as parents filled out more characteristic questionnaires. At this point the children were randomly allocated to the experimental mood manipulation group or control group, at this point all mothers weighed and height was taken to calculate BMI (Farrow et al., 2015).

The Experimental group of children were given a 5-point smiley-face rating scale to determine baseline moods. This was determined, from past testing, as the best way to interpret moods of younger aged children. The 5-point Likert scale rated 1 as very sad, 3 as neutral and 5 as very happy. The children were then given a range of toys and asked to choose their favorite toy. They were told they could play with the toy but only after they finished a coloring task. The coloring task had certain numbers on the page that matched with certain colors. The children proceeded with the task only to find they were missing a color and number match. The researchers told them that they could not play with the toy until they finished and one of the researchers left to 'find' the color. During this time the children were presented with the smiley-face rating scale again and asked how they felt, since they were not allowed to have their toy. Then pre weighed, in bowls were set in front of them, the foods were salted crisps (32 kcal), 2 chocolate chip cookies (115 kcal), 21 chocolate buttons (115 kcal), 3 small bread sticks (31 kcal), 2 carrot sticks (6 kcal), and 9 green grapes (32 kcal). The children were told that they could have a snack or play with nearby toys while the researcher continued to look for the crayon. The missing crayon was found after 4 minutes, and children were able to complete the coloring task and they were given the 'special' toy they had been waiting for. The moods of the children were re rated at

this point, and in all cases, mood returned to baseline or happier (Farrow et al., 2015). In the control group, the children were given the coloring task with no missing crayons. Their mood was rated before and after the coloring task and were given the toy they chose to play with. The exact same amount and type of food that was used in the experimental group was used with the control group and the children had access to it for the 4-minute time limit and then the food bowls were re weighed.

As for the variables in the test, the independent sample *t* test confirmed there was not a significant difference between the children in the control or experimental group with regards to maternal education, BMI and age of child. Yet there was correlation between a high BMI and the children in the control and experimental group who chose to eat the cookies. No significant difference noted between boys and girls.

The *t* tests indicated a large shift in mood in the experimental group on emotion induction and not any shift in emotion in the control group. The paired sample *t* tests also suggested that the emotional manipulation of the experimental group was successful in changing the child's mood and there was a significant difference in the child's mood before and after (Farrow et al., 2015).

The study results aimed at identifying if parents who used control feeding practices at the age of 3 to 5 years old were likely to have their children emotionally eat at the ages of 5 to 7 years. The findings on this small scale did indicate that children who had the emotional induction were more likely to consume higher calories than those children who did not. Also, when parent's used food as a reward and restriction between the ages of 3 to 5 years there was an increase in eating in the absences of hunger 2 years on.

In the previous above study, there was not much difference amongst the 3 to 5-year old's with regards to the amount of calories consumed between the control and experimental group in terms of kilocalories, which suggest that children of this age most likely will not

overeate. Yet, 2 years after when studying children from the ages of 5 to 7 the children in the experimental group ate between 0-512 kilocalories and the children in the control group only ate 0-142 kilocalories (Farrow et al., 2015). ‘Although this difference was striking, the real-life implications of this outcome are potentially more profound given that children may face a number of emotional stressors during their everyday lives, and as children age, they are likely to have longer periods to freely access food’ (Farrow et al., 2015). The findings suggest that sometime between the ages of 4 to 6 years the opportunity of emotionally eating actually increases, which may be impacted by the feeding practices the child is exposed to. The children whose parents used food as a reward were significantly more likely to consume food at the ages of 5-7 years, than 2 years previously. Also, if a parent overly controls a child’s food intake such as forbidding or presenting foods in certain situations may create stress induced eating by masking the actual hunger cues the child has developed and the child uses stress as a signal for hunger. It can also be possible that some children are just more responsive to food reward and have an innate tendency to overeat, and the parent’s find that they can use food to control situations for them. Opposite of the hypothesis, there was no impact over the 2-year period from parental pressure to eat, using food to emotionally regulate, or restriction of food for weight reasons on a child’s emotional eating. The outcome of children not using food for emotional regulation was strange to understand but the researchers predict that the age of the children is still too young yet, and that as children become teens the predictor emotional eating for the use of stress will become a larger predictor (Farrow et al., 2015).

2.4 Roles of Appraisals in Stress Outcomes

Appraising a stressor and the outcome of this appraisal is being used as the mediator in the present study, focusing on adolescents. The appraisal of ability and resources to cope (AARC) and the appraisal of outside stressor and influences (AOSI) will be the mediators to

the present study and were created as factors using the Transactional Model of stress and coping which was later helped to develop the 3 factor Eating and Appraisal Due to Emotions and Stress (EADES) Questionnaire. The 3 factors that emerged from the initial study including Emotion and stress related Eating, Appraisal of Ability and Resources to Cope (AARC) and appraisal of Outside influences and stressors (AOSI), helped to create the first questionnaire that centers around these appraisals and further supports and reinforces the observation regarding influences on food related behavior (Ozier et al., 2007).

The transactional model of stress was used to create a questionnaire that would ultimately combine the concepts of eating and coping with stress and emotions and validate the Eating and Appraisal Due to Emotions and Stress (EADES) Questionnaire. There was a 5-stage process to develop this questionnaire that included questionnaire development, refinement based on response from an expert panel of researchers, a pilot test, and a validation test using the staff and faculty from the university it was created at (University of Alabama). The significance of this questionnaire is identified because even though there are several instruments measuring this same topic, none have been done using the Transactional model of Stress and coping that link both the idea of eating and coping with stress and emotions. The questionnaire that was finally developed has 67 questions (Ozier et al., 2007).

The questionnaire was sent to 4,192 individuals at the University of Alabama via email and campus mail, out of all 854 were deemed usable, the majority of participants being women. Faculty and staff were eligible to participate. The data analyzed used descriptive statistics to summarize the demographic data and exploratory factor analysis was completed 'on the 54 items originally meant to describe the construct of primarily appraisal, secondary appraisal, and coping effort from the Transactional Model of Stress and Coping' (Ozier et al., 2007). Following the factor analysis, a three-factor solution was extracted and a new model was derived, which contained the 3 factors that are all moderately correlated and are placed in

the following order on the questionnaire, factor 1 was named Emotion and stress related eating. Factor 2 was named appraisal of ability and resource to cope and factor 3, appraisal of outside stressors and influences. The first factor was related to the Transactional Model of Stress and Coping and centered around self-efficacy and Lazarus belief that this coping assessment will help determine how one can best limit negative food behaviors. The confidence an individual carries, is important to understand how they will adapt to specific stressful situations and can be extremely useful to health care professionals when working with certain patients who may have disordered eating (Ozier et al., 2007).

Factor 2 or the appraisal of ability and resource to cope with stress and emotions, focuses on an individual's ability or belief in themselves to change a stressful situation and manage it properly, leaving the outcome a positive one. The more a person finds a situation stressful the higher they scored on the disordered eating appraisal (Ozier et al., 2007), including perceived everyday stressors that are more impactful on some individuals, these same people were more likely to binge eat. Finally, the environmental factor can be a motivation for more or less stress. A supportive environment was positively correlated with healthier eating habits and some with a less supportive social environment or those who reported being lonelier or without a social support system were more likely to turn towards negative and maladaptive coping methods such as emotional eating (Ozier et al., 2007).

The 3rd factor of appraisal of outside stressors and influences focuses on the perception of others on the individual. Worrying about what others feel or think about them is an important indicator and is closely related to factor one's self-efficacy theme. Individuals that are consistently looking outward for acceptance and are considered 'people pleasers' (Ozier et al., 2007) and will more likely have negative food related behaviors. This final factor had the least amount of questions in which case the reliability of this construct

was not as effective and to increase the reliability more questions should be added to this section.

Factor 2 (AARC) and factor 3 (AOSI) are important mediators in the following study as they are important indicators to the outcome of food related behaviors.

2.5 Stress and Related Appraisals as Mediators in the Relationship Between Emotional Eating (EE) and Parental Feeding Practices (PFP)

Several studies using a young adult's ability to cope with stress as a mediator have been found crucial in distinguishing an adolescent's psychological welfare. 'The ways in which children and adolescents cope with stress are potentially important mediators and moderators of the impact of stress on current and future adjustment and psychopathology' (Compas et al., 2001).

In this current study the conceptualization that the ability to appraise stress in a positive or negative manner, will have an impact on the outcome of emotional eating. Coping is used to discuss the ability of an adolescent to self-regulate their emotions, cognitions, environment, behavior and physiology (Compas et al., 2001).

10 to 15 years ago empirical studies on children or adolescents and their ability to cope were nearly non-existent. Most studies were done on adults and were applied to children with disregard for the developing brain and how this impacted a child's coping mechanisms. Research has progressed on this subject with both limited and positive outcomes (Compas et al., 2001).

Many eating behaviors have been studied repeatedly on animals focusing on the metabolic and genetic pathways to what might lead an individual to become ill or of why certain physiological reasons certain aspects of obesity or illness may prevail from our body. Psychologically humans do not present on just the physical and scientific spectrum of food

and habits. Their habits lie within the psychological realms in which emotions regulate the system's want for food (Krohne, 2002).

There are several emotions that may propel us to reach for food which include all of the following, happiness, boredom, tiredness and stress (Simon, 2018). Stress is a complex and elaborate emotion that needs to be defined to be understood. Stress is 'an organism's total response to environmental demands or pressures' (Krohne, 2002). The theoretical approach to stress can be described in Seyle's Theory. Hans Seyle proposed, after studying animals who were inflicted with high levels of stress such as that of heat, their reaction can be measured physically by 'glandular secretions, skin reactions, or physical functions'. These response patterns are called 'General Adaptation Syndrome' (Krohne, 2002). The flaw in Seyle's theory came later when many other researchers noticed that the reaction of the mice to an unknown stressor did not account for the human internal interpretation or emotional reaction to the stress (*stress*, 2001). Stress is a subjective experience, an individual's ability to cope or adapt to the present stressor will vary (Krohne, 2002).

Childhood is the time when our dietary habits will be established, this is also a time when stress, exposure to stress, and the individual's reaction to it will be determined (Michels et al., 2012). Our reaction to stress is innate and ingrained within our physiological make up. Studies suggest that at a genetic level, a person's stress coping mechanisms are hereditary. All individuals are born with serotonin transporters. It has been concluded in studies that an individual who has the shorter version of this transporter is three times as likely to suffer from depression after a stressful encounter, than someone with a longer version. This means that coping with stress is not within a person's control. It also establishes that each person's ability to cope with stress will be different (*stress*, 2001). An adolescent is therefore genetically predisposed to their reaction towards stressful events. The environment in which a child grows up in and their own parent's behaviors will also help to develop their reaction to

stress. A lab study performed on mice who were isolated when young showed a greater impact on postnatal brain maturation than those who were raised in a group setting.

Consequently, it further impacted their adult reactions and behavior (Niwa et al., 2013).

A theory centered around an adolescent's reaction to stress suggests that individuals have an effortful or purposeful reaction to stress which needs to be differentiated from a more innate, involuntary reaction to external stressor. This form of stress and coping is best stated by Lazarus and Folkman's definition established back in 1984:

'We define coping as constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (p. 141). They pointed out that managing stress includes accepting, tolerating, avoiding, or minimizing the stressor as well as the more traditional view of coping as mastery over the environment. Coping is not limited to successful efforts but includes all purposeful attempts to manage stress regardless of their effectiveness' (Compas, 1987).

Therefore, coping with stress can be purposeful techniques an adolescent acquires over time, negative or positive that allows them to manage the emotion.

Eating, as stated about, is one such coping mechanism that an individual may use to manage their stress. Stress when related to food can be linked to over consumption, or a hyperphagic response or under consumption, a hypophagic response. Studies completed on mice suggest that chronic stress will create a hypophagic response and intense, sudden stress will cause hyperphagic (Cartwright et al., 2003).

Several lab studies have been conducted on stressors and a person's reaction to their food consumption. These studies have taken place in extremely controlled environments but have led to some coherence within the studies. The outcome of these studies consists of, 'women, restrained eaters, and overweight or obese individuals tend to consume a greater

quantity of food when stressed' (Krohne, 2002). Another study focused on very young children and their reaction to emotional eating when presented with a stressor in a controlled laboratory environment. These studies were deemed inconclusive with not much support for emotional eating amongst young children, possibly because these young individuals were still quite controlled by parental decisions made around food and had limited access to sugar, sweet, or high carbohydrate snacks (Michels et al., 2012). Females and males were also found to differ in their coping strategies when food was involved. Females are more likely to consume more food when presented with a stressor and males' intake would not change. Men were found to over consume food during periods of boredom rather than periods of stress (Cartwright et al., 2003).

Parental feeding practices (PFP) can create an outcome of negative or positive eating behaviors in children and adolescents based on their abilities to appraise and cope with stressful situations. The way in which a parent presents, controls, uses food as a reward or restricts food when a child is younger can create a stressful or non-stressful environment around food.

A study that explored the association of Parental feeding practices with food reward and responsiveness amongst adolescent stress-eating suggests that familial influences as well as individual influence of stress eating can occur during adolescence (Smith et al., 2020).

The secondary analysis study focused on 90 healthy adolescents, 50% were female and ranged in age from 12 to 17 years old. The evaluation conducted was on 'parental feeding practices and adolescent food reward responsiveness related to adolescents stressing eating' (Smith et al., 2020). The study took place in a laboratory setting in which the adult version the Child Feeding Questionnaire was administered, followed by behavioral tasks that measured a child's value of food reward, and stress eating was measured by a buffet which energy intake was measured. Finally, a Trier Social Stress Test was administered and

adapted for adolescents. The final outcome was that both parental stress overweight outcome ($t=2.27$, $p=.02$) and adolescents' relative reward value of food ($t=2.24$, $p=.03$) were positively related to greater stress eating (Smith et al., 2020). The findings help further suggest that 'parental attitudes about their adolescent's weight and adolescent's own internalized responsiveness to food as a reward may play a role in propensity of to engage in overeating in response to stress' (Smith et al., 2020).

A 2nd study looks at mindful parenting and if it is positively or negatively correlated to emotional eating or overeating in adolescence and childhood. The mediator in this study is parenting stress and parental child-feeding practices (Gouveia et al., 2019).

The sample in this study was 726 families composed of mothers (79.8%) and fathers (20.2%) as well as their children age ranging from 7-18 years old and 362 of the children had normal BMI.

The Parents completed self-report measures of mindful parenting, parenting stress, and child-feeding practices. The children that participated in the study completed measures of emotional eating and overeating. The study was a path model estimated in AMOS (Gouveia et al., 2019).

The outcome suggested that mindful parenting is negatively related to emotional or stress related eating behaviors. Parents practicing mindfulness with daughters were less likely to restrict or control the child's diet and were less likely to use food as a reward, due to less parental stress. Higher levels of parenting stress were positively correlated with food reward and increased levels of emotional eating in girls, which also suggested that with more food restriction created more overeating in early-stage adolescents (Gouveia et al., 2019). This model suggests that mindful parenting helping to minimize stress can help adolescents and children engage in less disordered eating behaviors (Gouveia et al., 2019).

Summary of the Literature Review

The summary of information that has been presented in this literature review reveals that emotional eating is an impactful component on a person's mental and physical health. To find the root cause of where emotional eating begins in a person's development it is much supported above that a parent's influence is highly likely to impact a child's behavior in several ways, more specifically emotional eating. Using a child's ability to appraise the outside stressors and influences as a mediator between the variables and the cause and effect it will have on the outcome of emotional eating is a significant factor to help expand our knowledge even more on this issue.

Conceptual Framework

This following diagram is based on the Transactional Model of Stress created by Lazarus used to determine the outcome of emotional eating. The framework below focuses on parental feeding practices as the independent variable and the AARC and AOSI as the mediating factors of the dependent variable, which is Emotional and Stress Related Eating.

Appraisal of Ability & Resources to Cope (AARC)
 Appraisal of Outside Stressors and Influences (AOSI)
 Emotion and Stress-Related Eating (ESE)

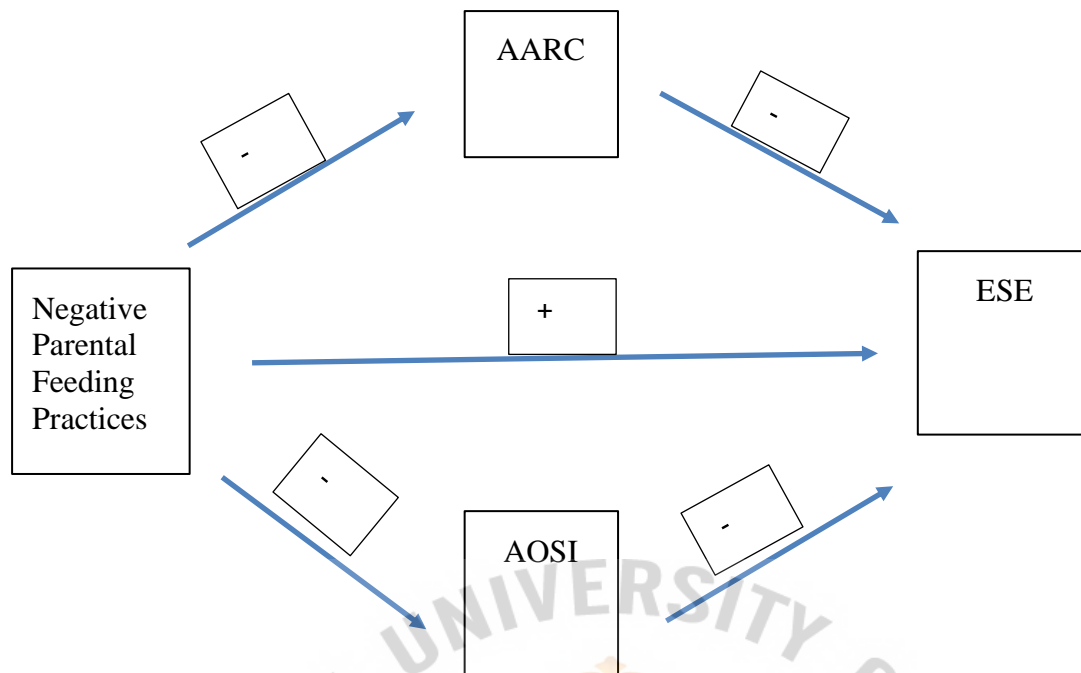


Figure 1: Conceptual Framework of the Study

Research Question

Based on the conceptual framework and the literature review the following research questions were produced:

1. Do parental feeding practices have an impact on developing an emotional and stress related eater in adolescents?
2. Do parental feeding practices have an indirect impact on emotional and stress related eating in adolescents mediated by an adolescent's appraisal of stress and their ability to cope with outside stressors.

Research Hypothesis

H1: Negative parental feeding practices have a direct effect on emotional and stress-related eating among adolescents, such that higher the scores on negative parental feeding practices, higher will be the scores on emotional and stress-related eating.

H2: Negative parental feeding practices have an indirect effect on emotional and stress-related eating among adolescents, being mediated by ‘the appraisal of ability and resources to cope (AARC)’ and ‘the appraisal of outside stressors and influences (AOSI),’ such that higher the scores on negative parental feeding practices, lower will be the scores on AARC and higher will be the scores on AOSI that result in high levels of emotional and stress-related eating.



CHAPTER III

RESEARCH METHODOLOGY

The purpose of the study was to examine the direct and indirect effect of parental feeding practices on emotional and stress related eating amongst adolescents. The direct impact of parental feeding practices which include parental responsibility, monitoring, pressure to eat and restriction on emotional eating was tested and the indirect impact which includes the mediating roles of Appraisal of Ability & Resources to Cope (AARC) and Appraisal of Outside Stressors and Influences (AOSI).

Research Design

This study applied a path analysis via multiple regression. The path coefficients between the variables were estimated by multiple regression analysis. This study proposed a parallel mediation model and the mediation hypothesis was tested using the process macro (Hayes, 2012).

Participants of the study and Sample Size

The students selected to participate in this study, consisted of 42 female, 41 male and 1 nonbinary. The participants attended 17 different International schools for their secondary learning and 21 different nationalities of teenagers were recorded, as well as their age. The required sample size of the study was 84 participants and was determined using the G* Power 3 (Faul et al., 2007) to establish the preferred sample size. The significance level was set at .05, and the power level at 0.80, and the effect size at 0.15 (small) for the three predictor variables.

Inclusion Criteria

The age range of the students were adolescents ages ranging from 12 to 19 years old. Adolescents are defined by this age range by the World Health Organization and the child must be living with either one or both parents (Adolescent health, 2016).

Research Instruments:

The research instruments used were two separate questionnaires. The first self-report questionnaire on eating due to emotional stress is made up of 3 subscales and consists of 49 questions that were preserved because they demonstrated a Cronbach factor loading of .400 or higher (Ozier et al., 2007) The second questionnaire measured the impact of the parent's influence on the child's eating behaviors. The questionnaire is based on a 5-point Likert scale using 7 of the subscales from the CFQ (Haycraft et al., 2014).

Parental Feeding Practices (PFP)

4 sub variables of parental feeding practices are measured using the Child Feeding Questionnaire for Adolescents (CFQ-A) to determine how influential their parents' feeding practices are. The original Child feeding Questionnaire (CFQ) was created for parents, with 7 sub variables, with this in mind there had to be accommodations made with each question and variable to make them suitable for teenagers. For example, 'Do you use food to regulate your child's emotions?' was changed to 'Did your parents use food to regulate your emotions?' All sub variables questions were adjusted accordingly with varying frequency measures (Kaur et al., 2006). Within the survey the higher the score the more negative the parental feeding practice. The answer scoring 1 point will be 'never' and answer scoring 'always' will be '5' points.

Sub Scales of Parental Feeding Practices (PFP)

Responsibility

Three items on the Child Feeding Questionnaire (CFQ) focus on the adolescents' perception of how much responsibility their parents display at mealtimes. These questions are based on a five-point Likert scale using Never to Always. The questions are redirected from the original parent point of view to that of an adolescent. For example, 'Do you ensure your child eats the 'right kind of foods'?' to 'Does your parent ensure that you are eating the right kind of food?' (Kaur et al., 2006).

Monitoring

The adolescent evaluated parental monitoring of food in three questions based on a five-point Likert scale ranging from Never to Always. This again focused on the teenager's perception of how often a parent oversees their child's diet. The original question asked, 'how much do you keep track of snack foods that your child eats?' was reworded to read 'how much does your parent keep track of the snack foods you eat' (Kaur et al., 2006).

Restriction

The 8 items in this sub variable reflect on the parents' need to restrict and control the adolescent's consumption of unhealthy or junk foods and how often they use food as a reward. The questions are based on the five-point Likert scale from Disagree to Agree. 'I have to watch out that my child doesn't eat junk food' was changed to 'My parents always watch to make sure I don't eat junk food' (Kaur et al., 2006).

Pressure to Eat

This section consists of four items that determine how frequently a parent requires or encourages a teenager to take certain foods or certain amounts of food. On the five-point Likert scale from Agree to Disagree, the question 'I make sure my child eats everything on

their plate' was modified to 'My parents make sure I eat everything on my plate' (Kaur et al., 2006).

Stress Appraisal Variables

Appraisal of Ability & Resources to Cope (AARC)

This variable relating to stress was measured with the Eating and Appraisal Due to Emotions and Stress (EADES) Questionnaire. Within the 3 factor questionnaire this subfactor is measured over 20 questions in questions, 1, 4-7, 9, 15, 16, 18, 20, 21, 23, 25, 28, 29, 33, 36, 41, 46, 48 relate to this variable (Ozier et al., 2007).

Appraisal of Outside Influences and Stressors (AOIS)

This variable also relating to stress was measured by the EADES Questionnaire. This factor is measured over 5 questions 10, 13, 27, 38, and 43 (Ozier et al., 2007).

Questionnaires:

The Eating and Appraisal Due to Emotions and Stress (EADES) Questionnaire:

The EADES was administered to measure how a teenager manages their food, in terms of coping with stress and emotions (Ozier et al., 2007). This questionnaire was created at the University of Alabama, in 2007 and usually takes approximately 10 to 15 minutes to complete. The construct was originally designed using the Transactional Model of Stress and Coping Framework. This was an appropriate model to analyze the process of when people overeat due to their emotions and stress leading to an unhealthy weight (Ozier et al., 2008). After careful analysis and consideration, 3 subscales or factors were developed that measure the construct of Emotions and Stress Related Eating, Appraisal of Ability and Resources to Cope with Emotions and Stress and Appraisal of Outside Influences and Stressors, the new subscales still parallel the original framework of the Transactional Model of Stress and Coping (Ozier et al., 2008). The questionnaire is meant to be used by nutrition professionals and is important in evaluating patients and whether they are using food to cope with their

emotions, if their perceived environment is compromising their ability to manage their emotions (Ozier et al., 2008).

Looking more closely at the 3 factors that are presented in the questionnaire there is statistical evidence of a correlation between each variable.

The first factor which is Emotions and Stress Related Eating (Cronbach's coefficient = .949) (Ozier et al., 2008), has 24 questions, and focuses on whether a person is eating to cope with a stressor. Most studies conducted suggest that overweight individuals will react to negative emotions by eating to ease the discomfort of external stressors and they use food to calm adverse feelings (Ozier et al., 2007). It's important to note that factor 1 also touches on self-efficacy. Self-efficacy, as expressed by Bandura, can be an indicator of one's perceived ability to cope with stress, and can produce certain negative or positive outcomes. Factor 1 is a representative of food and to what level individuals are using it to cope with stress, as well as evaluating one's confidence as a factor of coping when emotional (Ozier et al., 2007).

Factor 2 is the Appraisal of Ability and Resources to Cope (Cronbach's coefficient = .869) (Ozier et al., 2008). This factor has 20 questions and looks more closely at how an individual will conduct themselves during a stressful or negative situation. What seems like a highly stressful situation to one person, may not be a particular threat to another. In this factor, questions are presented to determine whether a person's perceived environment and social support are recognized as factors that may trigger emotional eating (Ozier et al., 2007).

Factor 3 is the Appraisal of Outside Stressors and Influences (Cronbach Coefficient=.652). This factor focuses on whether the results of the stressor have created a negative impact on a person's mood state. This may lead to eating as a coping strategy to that negative feeling. (Ozier et al., 2008) There are only 5 questions in this section, and almost all of the questions reflect upon how an individual might regard how others feel about them, creating

cognitive distortion of how others perceive them. The low Cronbach coefficient might be due to the low number of questions (Ozier et al., 2007).

Child Feeding Questionnaire- Adolescents (CFQ-A)

The CFQ-A was administered to help understand the development theory around eating habits of teenagers. A parent's control and influence will possibly create the attitude and behaviors in food styles and inclination for certain food types in their children (Brown, 2004). This updated questionnaire focuses on the adolescents' perception of their parent's feeding practices. In the previous CFQ questionnaire, the focus was on the parent's viewpoint of the family's feeding environment, which can differ from how their child perceives the situation. The adolescents' differing perception on their feeding environment will most likely have the biggest impact on their own eating habits as they transition into adulthood, and therefore a more adequate determination of a teenager's eating patterns.

The CFQ-A was carefully considered, as questions had to be adapted from a parent's perspective to a teenager's (Haycraft et al., 2014). The first subscales are perceived feeding responsibility, which contain questions that focus on how often the parents are responsible for the child's food, with a Cronbach's alpha of .68. The 2nd subscale is Monitoring, or how often does a parent track the food that their child is eating, with a Cronbach's alpha of .90. The 3rd subscale focuses on the pressure of the parent upon the child to eat, with a Cronbach's alpha of .63. The fourth and final subscale focuses on restriction, what foods parents restrict in the child's diet, this subscale has a Cronbach's alpha of .85 (Haycraft et al., 2014).

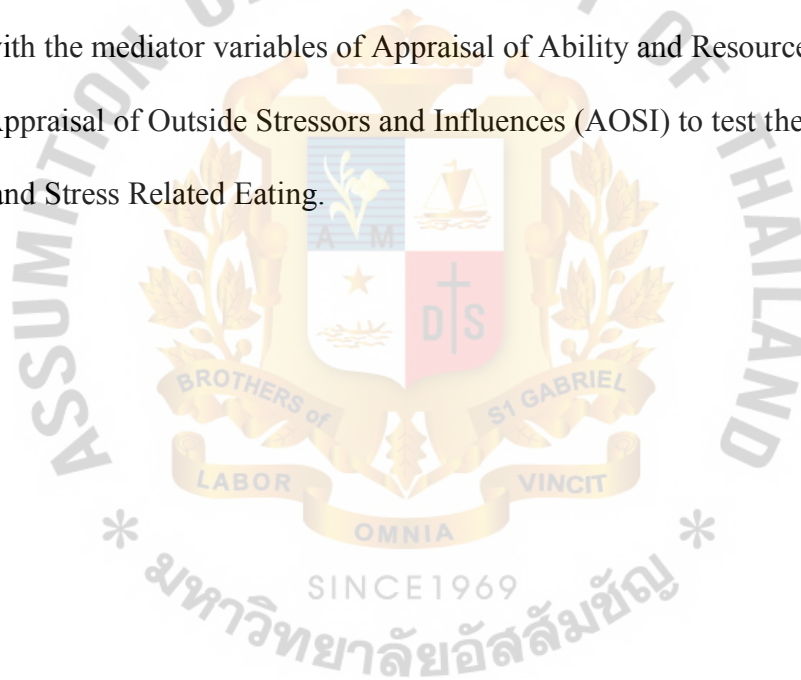
Data Collection Procedure:

The researcher contacted 8 different International schools throughout Bangkok, Thailand. Because of the restrictions regarding the global pandemic COVID-19 and the limited physical access onto international school campuses, the data collection was done

online. The questionnaire was set up so that participants can easily access the questionnaires on their computer, phone or other electronic device. The researcher used the help of parents and parent groups to collect data from adolescents. Informed consent from the parents was signed prior to their child participating in the study.

Data Analysis:

This quantitative study used path analysis with multiple regression to test the relationship between the independent variable of Parental Feeding Practices (PFP) and the sub variables of Responsibility, Restriction, Monitoring, and Pressure to Eat. The independent variables will be tested for their direct effect on Emotional and Stress Related Eating along with the mediator variables of Appraisal of Ability and Resource to Cope (AARC) and Appraisal of Outside Stressors and Influences (AOSI) to test their indirect effect on Emotional and Stress Related Eating.



CHAPTER IV

RESULTS

This Chapter presents the results and findings of the data collected and the analysis conducted to test the hypothesis of this study, which were generated from the path model (see figure 1) shown in Chapter II. The analysis and result are presented in the following order

1. Demographic of the student respondents surveyed
2. Reliability analysis of scales employed. The reliability test of items that represent the factors of parental feeding practices, including responsibility, restriction, monitoring and pressure to eat. Also, the reliability of the mediating factors Appraisal of Ability and Resource to Cope (AARC) and Appraisal of Outside Stressors and Influences (AOSI)
3. Means and standard deviations for the four computed factors
4. Correlations among all study variables
5. Path analysis to test the hypothesized path model via multiple regression analysis

Demographic Profile of Participants:

The demographic profile of the data is based on 84 valid completed questionnaires. The results from the descriptive analysis found that 42 female participants, 41 male participants and one nonbinary participant took part in the study. All the students who participated were in secondary school and attended a total of 17 different international institutions. The diversity of the sample group was based on 21 different nationalities that are presented in Table I. There were three that held dual nationality and 13 were Thai nationals attending international schools.

Table 1:*Nationality Distribution of the Sample*

Nationality	Frequency	Percent	Valid Percent	Cumulative Percent
British	10	11.9	11.9	11.9
American	19	22.6	22.6	34.5
Thai	13	15.5	15.5	50.0
Thai American	3	3.6	3.6	53.6
Japanese	4	4.8	4.8	58.3
Japanese American	1	1.2	1.2	59.5
Burmese	1	1.2	1.2	60.7
French Korean	1	1.2	1.2	61.9
Italian	1	1.2	1.2	63.1
French	4	4.8	4.8	67.9
Thai Australian	1	1.2	1.2	69.0
New Zealand	4	4.8	4.8	73.8
Indian	4	4.8	4.8	78.6
Israel	1	1.2	1.2	79.8
Australian	8	9.5	9.5	89.3
South African	3	3.6	3.6	92.9
Korean	1	1.2	1.2	94.0
Canadian	1	1.2	1.2	95.2
Turkey	1	1.2	1.2	96.4
Uzbekistan	1	1.2	1.2	97.6
Argentinian	2	2.4	2.4	100.0
Total	84	100.0	100.0	

Reliability Analysis of Scales

Reliability analysis was conducted on the scale of measures of the parental feeding practices (PFP) variables of restriction, responsibility, monitoring and pressure to eat as well as mediating factors of stress related eating, appraisal of ability and resources to cope (AARC) and appraisal of outside stressors and influences (AOSI). The purpose of employing the reliability analysis is to maximize the internal consistency of the measures and discard the items that are not internally consistent and retain the items that are reliable.

The Criteria Employed for retaining items are:

- (1) If Cronbach's alpha of a scale lower than 0.6, any item with 'Corrected Item-Total Correlation' (1- T) < 0.33 was deleted (as .332 represents approximately 10% of the variance of the total scale accounted for), and
- (2) Deletion of the item did not lower the scale's Cronbach's alpha (Hair et al., 2010).

The results of the reliability analysis of all the scales are presented in Tables 2-8

Table 2:
Retained items for Restriction Scale with 1-T coefficients and Cronbach Alpha (N=84)

Responsibility	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. When you are home, how is your parent responsible for feeding you?	.581	.759
2. How often is your parent responsible for your portion sizes?	.679	.646
3. How often does your parent decide if you have eaten the right kind of food?	.616	.717
Cronbach's Alpha: .784		

Table 3:*Retained Items for Responsibility Scale With I-T Coefficients and Cronbach's Alpha (N=84)*

Restriction	Corrected Item-Total. Correlation	Cronbach's Alpha if Item Deleted
4. My parent makes sure that I do not eat too many sweets (candy, ice cream, cake, and pastries).	.567	.723
5. My parent makes sure that I do not eat too many high-fat foods.	.418	.760
6. My parent makes sure I do not eat too much of my favorite food.	.568	.724
7. My parent keeps certain foods hidden away so that I cannot eat them.	.469	.748
10. My parent believes that if he/she did not guide And regulate my eating I would only eat junk food.	.538	.730
11. My parent believes that if he/she did not guide and regulate my eating, I would eat too much of my favorite food.	.536	.731
Cronbach's Alpha: .770		

Table 4:*Retained Items for Pressure to Eat Scale With I-T Coefficients and Cronbach's Alpha (N=84)*

Pressure to Eat	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
12. My parent makes me eat all the food on my plate	.589	.814
13. My parent tells me when I have not eaten enough.	.743	.744
14. Even if I tell my parent 'I am not hungry' they try to get me to eat anyways.	.736	.749
15. My parent believes that I would not eat enough if they do not guide and regulate my eating.	.568	.825
Cronbach's Alpha: .830		

Table 5:

Retained Items for Monitoring Scale With I-T Coefficients and Cronbach's Alpha (N=84)

Monitoring	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
16. My parent keeps track of the sweets (candy, Ice cream, cake, pies, pastries) I eat.	.858	.901
17. My parent keeps track of the snack food (potato chips, Doritos, cheese puffs) I eat	.907	.865
18. My parent keeps track of the high-fat foods I eat.	.815	.935
Cronbach's Alpha: .931		

Table 6:

Retained Items for Appraisal and Ability and Resources to Cope (AARC) Scale With I-T Coefficients and Cronbach's Alpha (N=84)

AARC	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
4. I can usually work out solutions to my problems.	.504	.762
5. I am capable of handling my own problems.	.417	.772
15. My friends support me when I have problems.	.357	.778
18. I am able to meet my emotional needs.	.500	.762
23. I have control over my emotions.	.516	.759
28. I deal with problems sooner rather than later.	.361	.780
29. I try to resolve a problem when I know there is something wrong in my life.	.392	.774
33. I am capable of dealing with stressful situations.	.664	.738
36. I am able to meet my spiritual needs.	.441	.769
46. I have control over my life	.415	.773
Cronbach's alpha: .785		

Table 7:

Retained Items for Appraisal of Outside Stressors and Influences (AOSI) Scale With I-T

Coefficients and Cronbach's Alpha (N=84)

AOSI	Corrected. Item-Total Correlation	Cronbach's Alpha if Item Deleted
10.* I worry about what people think of me.	.489	.430
13.* I feel the need to make others happy.	.427	.523
27. * Other people influence how I handle my problems.	.373	.600

Cronbach's alpha: .620; *reverse scored items

Table 8:

Retained Items for Stress Related Eating Scale With I-T Coefficients and Cronbach's Alpha (N=84)

SRE	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
3. I overeat when I am stressed.	.621	.917
8. I overeat when I socialize	.445	.923
11. I comfort myself with food.	.653	.917
12. I eat when I am upset with myself.	.688	.915
19. It's hard for me to stop eating when I am full.	.480	.922
24. I eat to avoid dealing with my problems.	.697	.916
31. I feel out of control when I eat	.637	.917
32. I eat when I am frustrated.	.711	.915
35. I use food to cope with my emotions.	.793	.912
37. I eat when I am tired.	.588	.919
39. I eat when I am angry.	.689	.915
40. I eat when I am sad.	.674	.916
45. I eat when I am anxious.	.702	.915
47. I eat when I am relieved.	.597	.918
49. I do not have control over how much I eat.	.571	.919

Cronbach's alpha: .922

The reliability analysis indicated that all items from the 4 scale parent feeding practices survey were retained. For example, all three items for Responsibility (.784), six of the eight items for Restriction were retained, 4, 5, 6, 7, 10, 11 and items removed were 8 and 9 for the Cronbach's alpha to improve from a .757 to .770. of, all four items for Pressure to Eat (.830) and all three items for Monitoring (.931). For the mediating factors of Appraisal of Ability and Resources to Cope (AARC) out of the 20 items, 10 survey questions were

retained including 4, 5, 15, 18, 23, 28, 29, 33, 36, and 46 while question number 1, 6, 7, 9, 16, 20, 21, 25, 41, and 48 were removed resulting in a Cronbach's Alpha to improve from a .662 to .785. The factor of Appraisal of Outside Stressors and Influences (AOSI) resulted in the retention of 3 of the 5 questions, the 3 questions retained were 10, 13 and 27 while 38 and 43 were removed, resulting in a Cronbach's Alpha to increase from .034 to .620. From the Stress Related Eating (SRE) 15 of the 24 items were retained including questions 3, 8, 11, 12, 19, 24, 31, 32, 35, 37, 39, 40, 45, 47, and 49 and the removed questions included 2, 14, 17, 22, 26, 30, 34, 42, and 44 to increase the Cronbach's Alpha from .745 to .923. The computed Cronbach's alpha coefficient for all the scales employed in this study were considered adequate and they ranged from .620 to .923.

Means and Standard Deviations for the Seven Computed Factors

The means and standard deviations for the seven computed factors of responsibility, restriction, pressure to eat, monitoring, stress related eating (SRE), appraisal of ability and resources to cope (AARC), and appraisal of outside stressors and influences (AOSI) are shown in Table 9.

Table 9: The Mean and Standard Deviation for the 7 computed Variables (n=84)

	Mean	Std. Deviation	Response Range
• Responsibility	2.65	1.05	1-5
• Restriction	3.18	.819	1.5-5
• Pressure to Eat	3.05	.104	1-5
• Monitoring	3.54	.125	1-5
• SRE	2.45	.078	1-4.5
• AARC	2.31	.058	1-3.8
• AOSI	2.43	.083	1-4.7

As you can see from the data shown in the table, participants surveyed reported Monitoring as the maximum mean on its respective scale with a 1.00 minimum and 5.00 maximum with a mean of 3.54 and the Appraisal of Ability of Resources to Cope (AARC) as the lowest for the

mid point in its respective scale with a minimum of 1.00 to a maximum of 3.80 and a mean of 2.31.

Correlation Among All Study Variables

A Pearson product-moment correlation coefficient was computed to assess the relationship between all the variables. The results are shown in Table 10

Table 10:

Correlation between All the Variables of the study (N=84)

Variable	1	2	3	4	5	6
1. Responsibility						
2. Restriction	.574**					
3. Pressure to Eat	.207	.298**				
4. Monitoring	.484**	.695**	.358**			
5. Stress RE	-.170	-.298*	-.208	-.142		
6. AOSI	-.183	-.107	.067	-.177	-.176	
7. AARC	.110	-.083	.028	-.009	-.045	-.269*

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

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

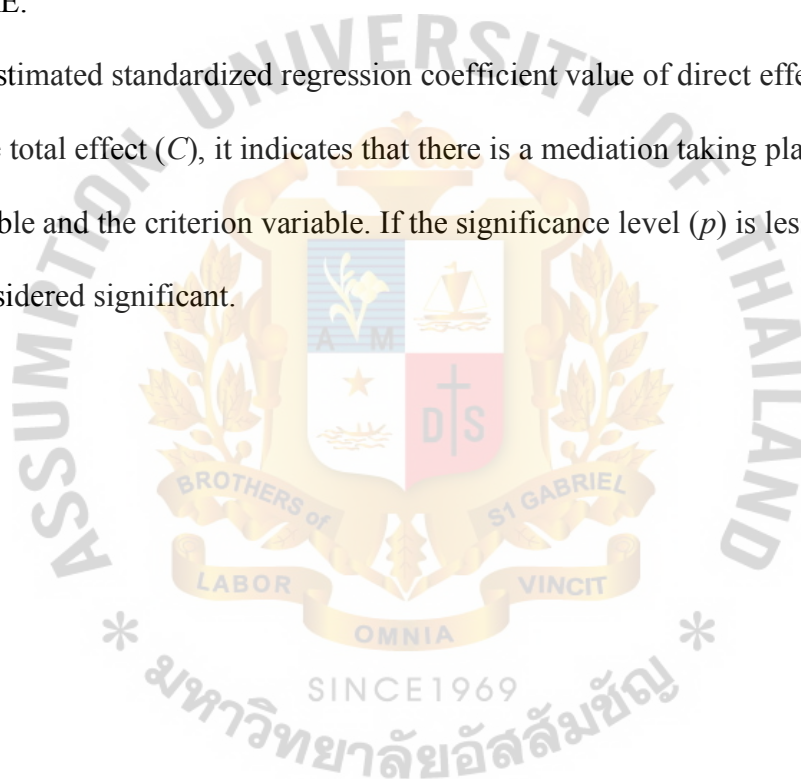
The results of the Pearson correlation indicate that there is a negative correlation between Stress Related Eating and Restriction $r = -.298$ $p = .006$, ($p < .05$). Pearson's Correlation also found a positive correlation between Restriction and Responsibility, $r = .574$ $p = .000$ ($p < .01$), Responsibility and Monitoring $r = .484$, $p = .000$ ($p < .05$), Restriction and Responsibility, $r = .574$, $p = .000$, ($p < .01$), Monitoring and Restriction $r = .695$ $p = .000$ ($p < .01$) Monitoring and Pressure to Eat $r = .358$, $p = .001$ ($p < .01$), Pressure to Eat and Restriction $r = .298$ $p = .006$ ($p < .05$). The results of the Pearson correlation found negative correlations between Restriction and AOSI $r = -.107$ $p = .334$, ($p < .05$) and AARC and Restriction $r = -.083$ $p = .451$, ($p < .05$). Stress Related Eating and Responsibility had a negative correlation of $r = -.170$, $p = .122$, ($p < .05$), Stress Related Eating had a negative correlation with Pressure to eat $r = -.208$ $p = .058$, ($p < .05$), Stress Related Eating had a negative correlation with Monitoring $r = -.142$

$p = .197, (p < .05)$.

Path Analysis Via Multiple Regression to test the Hypothesis

Path analysis was performed through SPSS where 4 separate mediations were performed through a set of multiple regressions for each of the parent feeding practices including Responsibility, Restriction, Pressure to Eat and Monitoring. A full path model was not performed because our focus was on each specific variable of Parental Feeding Practices (PFP) and the effect each variable had on the mediators of AOSI and AARC with the outcome of SRE.

If the estimated standardized regression coefficient value of direct effect (C') is less than that of the total effect (C), it indicates that there is a mediation taking place between the predictor variable and the criterion variable. If the significance level (p) is less than .01, the effect was considered significant.



The Direct and Indirect Effect of Responsibility on Stress Related Eating, Mediated by AOSI and AARC

The result of the path model together with the estimated standardized regression coefficients (β) that are statistically significant ($p < 0.01$) is presented in Figure 2.

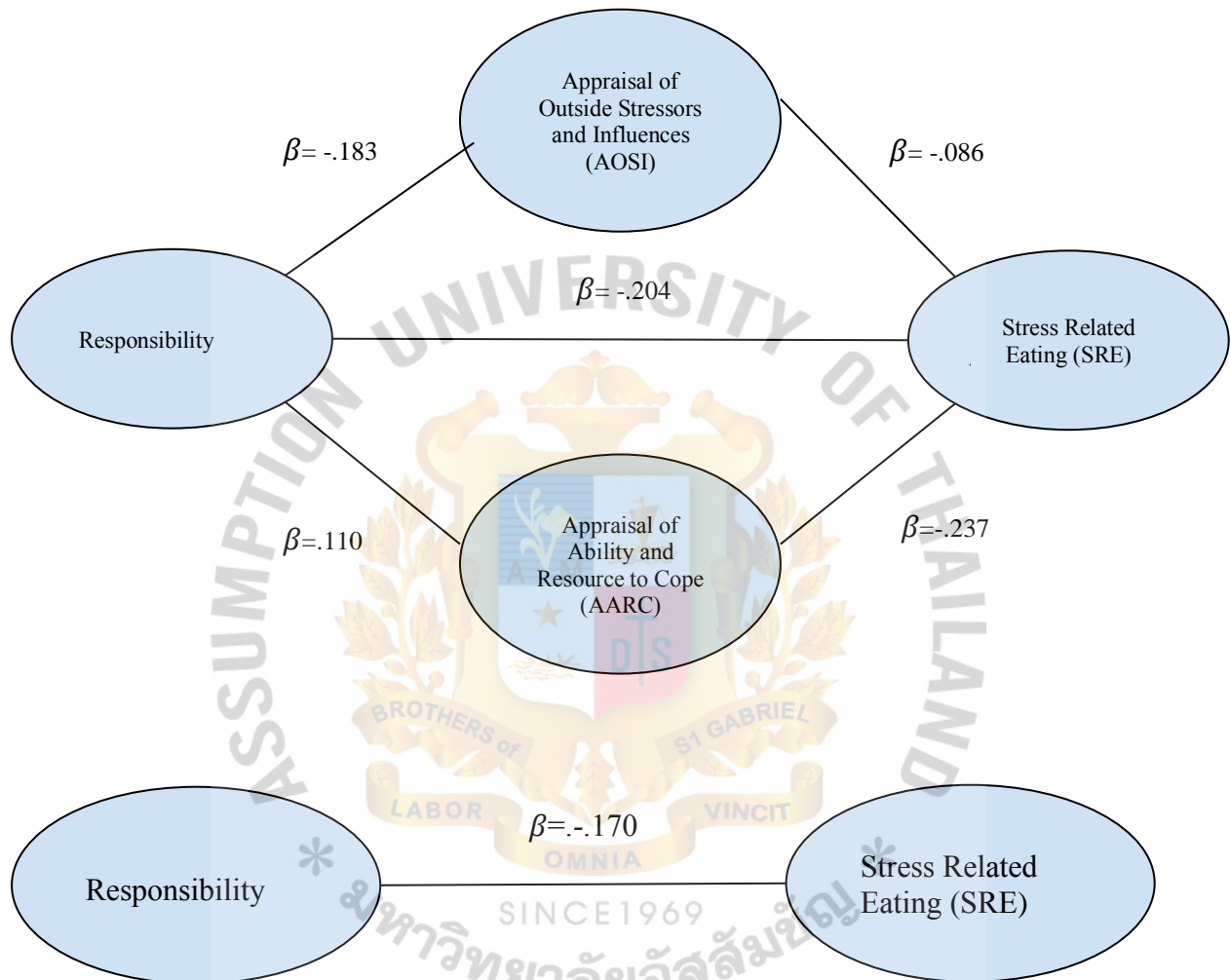


Figure 2: Path Model of the Direct and Indirect Effect of Responsibility on Stress Related Eating Mediated by AOSI and AARC. Note, * < .05

Regression analysis was used to examine the hypothesis that the parental feeding practice of responsibility had a direct impact on stress related eating and an indirect impact on stress related eating when mediated by Appraisal of Ability and Resources to Cope (AARC) and Appraisal of Outside Stresses and Influences (AOSI). Results are shown in

Table 11.

Table 11: Results of Regression Analysis for Testing the Direct and Indirect Effect of Responsibility on Stress Related Eating with AOSI and AARC as Mediators

Predictors	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
<i>Model 1</i>					
Responsibility (Criterion Variable: SRE)	-.11	.075	-.170	-1.562	.122
<i>Model 2</i>					
Responsibility	-.140	.075	-.204	-1.865	.066
AOSI	-.224	.107	-.237	-2.101	.039
AARC	-.115	.149	-.086	-.772	.443
(Criterion Variable: SRE)					
Responsibility (Criterion Variable: AOSI)	-.133	.079	-.183	-1.686	.096
Responsibility (Criterion Variable: AARC)	.057	.056	.110	1.006	.318
Note: * $p < .05$. SRE: Stress Related Eating, AOSI: Appraisal of Outside Stressors and Influences, AARC: Appraisal of Ability and Resources to Cope					

The results indicate that Responsibility is not a significant predictor of Stress Related Eating $\beta = -.170$, $se = .075$, $p = .122$, ($p < .05$) and that AOSI $\beta = -.237$, $se = .107$, $p = .039$, ($p < .05$) and AARC $\beta = -.086$, $se = .149$, $p = .443$, ($p < .05$) are not significant mediators. Responsibility total effect is not significant on Stress Related eating with a $\beta = -.170$, $se = .075$, $p = .122$, ($p < .05$).

Hypothesis 1 stated that parental feeding practice including the variable of responsibility will have a direct effect on emotional and stress-related eating among adolescents, such that higher the scores on negative parental feeding practices, higher will be the scores on emotional and stress-related eating. The results from the study do not provide sufficient evidence to support Hypothesis 1.

Hypothesis 2 stated negative parental feeding behaviors including the variable of responsibility has an indirect effect on emotional and stress-related eating among adolescents, being mediated by ‘the appraisal of ability and resources to cope (AARC)’ and ‘the appraisal of outside stressors and influences (AOSI),’ such that higher the scores on negative parental feeding practices, lower will be the scores on AARC and higher will be the scores on AOSI that result in high levels of emotional and stress-related eating. The results from the study do not provide sufficient evidence to support Hypothesis 2.

The Direct and Indirect Effect of Restriction on Stress Related Eating, Mediated by AOSI and AARC

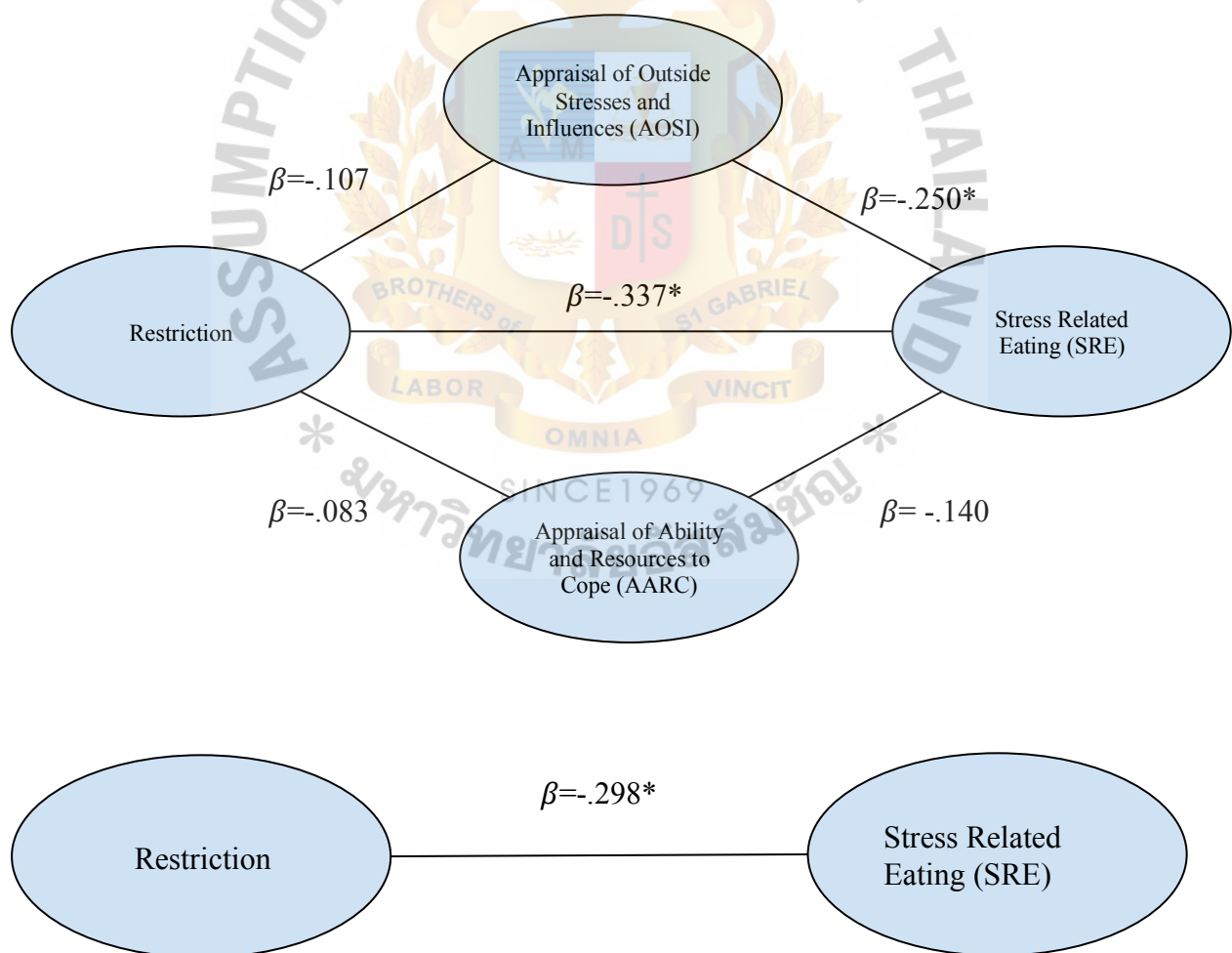


Figure 3: Path model of the Direct and Indirect Effect of Restriction on Stress Related Eating being Mediated by AOSI and AARC. Note, $* < .05$

Regression analysis was used to examine the hypothesis that the parental feeding practice of restriction had a direct impact on stress related eating and an indirect impact on stress related eating when mediated by Appraisal of Ability and Resources to Cope (AARC) and Appraisal of Outside Stresses and Influences (AOSI). Results are shown in Table 12.

Table 12: Results of Regression Analyses for Testing the Direct and Indirect Effect of Restriction on Stress Related Eating with AOSI and AARC as Mediators

Predictors	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
<i>Model 1</i>					
Restriction (Criterion Variable: SRE)	-.263	.093	-.298*	-2.831	.006*
<i>Model 2</i>					
Restriction	-.297	.092	-.337*	-3.228	.002*
AOSI	-.236	.102	-.250	-2.317	.023*
AARC (Criterion Variable: SRE)	-.188	.144	-.140	-1.302	.197
Restriction (Criterion Variable: AOSI)	-.100	.103	-.107	-.972	.334
Restriction (Criterion Variable: AARC)	-.055	.073	-.083	-.758	.451

Note: * $p < .05$. SRE: Stress Related Eating, AOSI: Appraisal of Outside Stressors and Influences, AARC: Appraisal of Ability and Resources to Cope

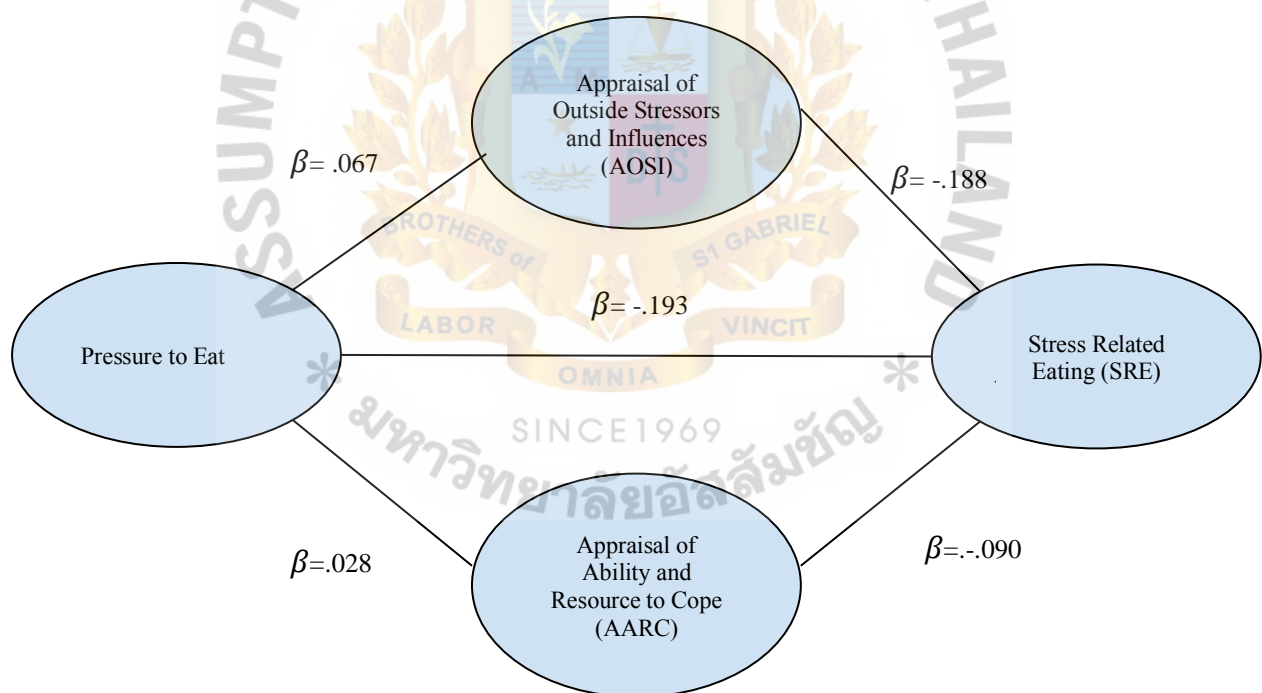
The results indicate that Restriction is a significant predictor of Stress Related Eating $\beta = -.337$, $se = .092$, $p = .002$, ($p < .05$) and that AOSI $\beta = -.250$, $se = .102$, $p = .023$, ($p < .05$) is a significant indicator of SRE. AARC $\beta = -.140$, $se = .144$, $p = .197$, ($p < .05$) is not significant mediator.

Hypothesis 1 stated that parental feeding practice including the variable restriction have a direct effect on emotional and stress-related eating among adolescents, such that higher the scores on negative parental feeding practices, higher will be the scores on emotional and stress-related eating. The results from the study did not provide sufficient

evidence to support Hypothesis 1.

Hypothesis 2 stated negative parental feeding behaviors including the variable restriction has an indirect effect on emotional and stress-related eating among adolescents, being mediated by ‘the appraisal of ability and resources to cope (AARC)’ and ‘the appraisal of outside stressors and influences (AOSI),’ such that higher the scores on negative parental feeding practices, lower will be the scores on AARC and higher will be the scores on AOSI that result in high levels of emotional and stress-related eating. The results from the study provide partial evidence that AOSI is supported by Hypothesis 2 and AARC does not provide sufficient evidence to support Hypothesis 2.

**The Direct and Indirect Effect of Pressure to Eat on Stress Related Eating,
Mediated by AOSI and AARC**



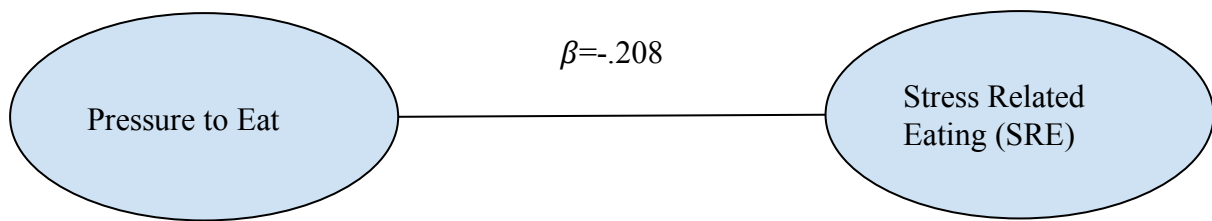


Figure 4: Path model of the Direct and Indirect Effect of Pressure to Eat on Stress Related Eating being Mediated by AOSI and AARC. Note, * < .05

Regression analysis was used to examine the hypothesis that the parental feeding practice of pressure to eat had a direct impact on stress related eating and an indirect impact on stress related eating when mediated by appraisal of ability and resources to cope (AARC) and appraisal of outside stresses and influences (AOSI). Results are shown in Table 13.

Table 13: Results of Regression Analyses for Testing the Direct and Indirect Effect of Pressure to Eat on Stress Related Eating with AOSI and AARC as Mediators

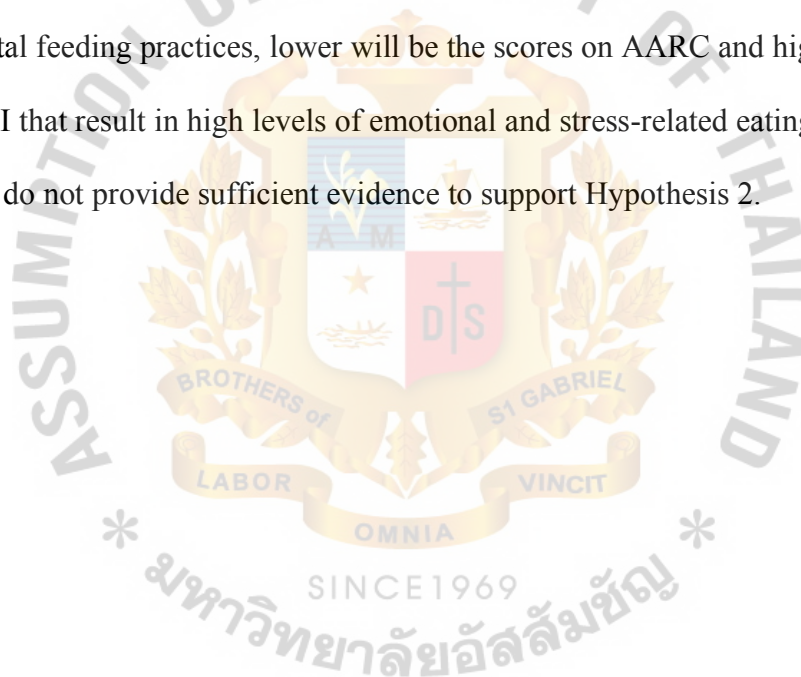
Predictors	<i>B</i>	<i>SE</i>	<i>β</i>	<i>t</i>	<i>p</i>
<i>Model 1</i>					
Pressure to Eat (Criterion Variable: SRE)	-.157	.082	-.208	-1.925	.058
<i>Model 2</i>					
Pressure to Eat	-.146	.082	-.193	-1.789	.077
AOSI	-.177	.106	-.188	-1.678	.097
AARC	-.120	.149	-.090	-.806	.423
(Criterion Variable: SRE)					
Pressure to Eat (Criterion Variable: AOSI)	.054	.088	.067	.610	.543
Pressure to Eat (Criterion Variable: AARC)	.016	.062	.028	.252	.801

Note: * $p < .05$. SRE: Stress Related Eating, AOSI: Appraisal of Outside Stressors and Influences, AARC: Appraisal of Ability and Resources to Cope

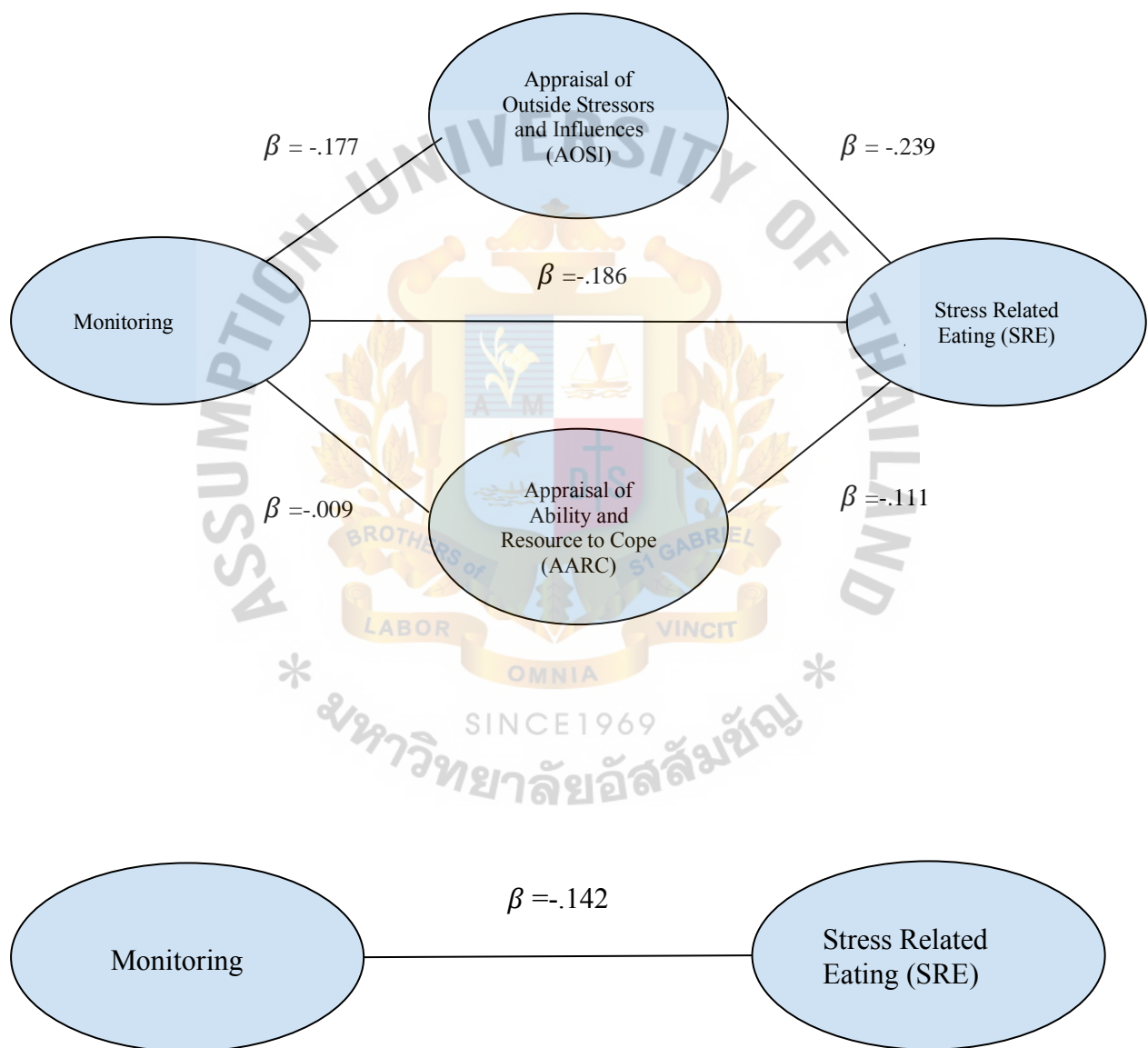
The results indicate that Pressure to Eat is not a significant predictor of Stress Related Eating $\beta = -.208$, $se = .082$, $p = .058$, ($p < .05$) and that AOSI $\beta = -.188$, $se = .106$, $p = .097$, ($p < .05$) and AARC $\beta = -.090$, $se = .149$, $p = .423$, ($p < .05$) are not significant mediators.

Hypothesis 1 stated that parental feeding practice including the variable of pressure to eat will have a direct effect on emotional and stress-related eating among adolescents, such that higher the scores on negative parental feeding practices, higher will be the scores on emotional and stress-related eating. The results from the study do not provide sufficient evidence to support Hypothesis 1.

Hypothesis 2 stated negative parental feeding behaviors including the variable of pressure to eat has an indirect effect on emotional and stress-related eating among adolescents, being mediated by ‘the appraisal of ability and resources to cope (AARC)’ and ‘the appraisal of outside stressors and influences (AOSI),’ such that higher the scores on negative parental feeding practices, lower will be the scores on AARC and higher will be the scores on AOSI that result in high levels of emotional and stress-related eating. The results from the study do not provide sufficient evidence to support Hypothesis 2.



The Direct and Indirect Effect of Monitoring on Stress Related Eating, Mediated by AOSI and AARC



*Figure 5: Path Model of the Direct and Indirect Effect of Monitoring on Stress Related Eating being Mediated by AOSI and AARC. Note, * < .05*

Regression analysis was used to examine the hypothesis that the parental feeding practice of monitoring had a direct impact on stress related eating and an indirect impact on stress related eating when mediated by appraisal of ability and resources to cope (AARC) and appraisal of outside stresses and influences (AOSI). Results are shown in Table 14.

Table 14: Results of Regression Analyses for testing the Direct and Indirect Effect of Monitoring on Stress Related Eating with AOSI and AARC as Mediators

Predictors	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
<i>Model 1</i>					
Monitoring (Criterion Variable: SRE)	-.089	.069	-.142	-1.301	.197
<i>Model 2</i>					
Monitoring	-.116	.069	-.186	-1.694	.094
AOSI	-.226	.108	-.239	-2.103	.039
AARC	-.148	.150	-.111	-.990	.352
(Criterion Variable: SRE)					
Monitoring (Criterion Variable: AOSI)	-.188	.072	-.177	-1.632	.106
Monitoring (Criterion Variable: AARC)	-.004	.052	-.009	-.080	.936

Note: * $p < .05$. SRE: Stress Related Eating, AOSI: Appraisal of Outside Stressors and Influences, AARC: Appraisal of Ability and Resources to Cope

There is no significant impact of monitoring on Stress Related Eating $\beta = -.142$, $se = .069$, $p = .197$, ($p < .05$) and that AOSI $\beta = -.239$, $se = .108$, $p = .039$, ($p < .05$) has a negative correlation with SRE and AARC $\beta = -.111$, $se = .148$, $p = .352$, ($p < .05$) are not significant mediators.

Hypothesis 1 stated that parental feeding practice including the variable of monitoring will have a direct effect on emotional and stress-related eating among adolescents, such that higher the scores on negative parental feeding practices, higher will be the scores on emotional and stress-related eating. The results from the study do not provide sufficient

evidence to support Hypothesis 1.

Hypothesis 2 stated negative parental feeding behaviors including the variable of monitoring has an indirect effect on emotional and stress-related eating among adolescents, being mediated by ‘the appraisal of ability and resources to cope (AARC)’ and ‘the appraisal of outside stressors and influences (AOSI),’ such that higher the scores on negative parental feeding practices, lower will be the scores on AARC and higher will be the scores on AOSI that result in high levels of emotional and stress-related eating. The results from the study do not provide sufficient evidence to support Hypothesis 2.



CHAPTER V

DISCUSSION

The purpose of the study was to examine the direct and indirect impact that parental feeding behaviors have on an adolescent's emotional eating habits including parent's responsibility, monitoring, pressure to eat and restrictions. The indirect effect is mediated by an adolescents' appraisal of stressful situations and their ability to cope with such stress by using the mediators of Appraisal of Ability of Resources to Cope (AARC) and Appraisal of Outside Stressors and Influences (AOSI). Given that emotional and stress related eating is a pervasive, widely accepted form of disordered eating that can damage and distress millions physically as well as emotionally, this quantitative study aims to examine the key roles that impact emotional eating and how we can possibly prevent future generations from experiencing similar disordered eating patterns. This study's focus was on the adolescents themselves and how they perceive their parent's feeding practices, as well as measuring their ability to cope with stress. A total of 84 participants, 43 female and 41 males, all international students from 17 different nationalities.

This chapter consists of four sections in the following order: (1) Discussion of results, (2) Implication of the study, (3) Limitations of the Study, and (4) Recommendations for future research.

Discussion of Results

Parental Feeding Practices

It is hypothesized that parental feeding practices (PFP) will have a direct and indirect impact on emotional eating in adolescents of international schools, and students with negative feeding patterns from parents will score higher on the Child feeding Questionnaire-Adolescent.

The following is the result of the 4 sub variables within parental feeding practices which include responsibility, monitoring, restriction and pressure to eat and how they relate to emotional eating and stress appraisal.

Responsibility

This sub variable of emotional eating was hypothesized to have both an indirect and direct positive correlation with emotional eating on adolescents from international schools. Responsibility was hypothesized to have a direct higher score with parents who are overly responsible for their child's food. Within the findings of this study, the result did not find sufficient evidence to support the hypothesis. There was no indirect or direct effect with the variable Responsibility and the outcome of stress related eating. This could be due to the age range of the students who participated in the study and a better result could be garnered by measuring adults in their twenties and thirties. Adults that were raised by parents who showed highly responsible parental feeding habits will be more likely to reach for food as comfort during adulthood as opposed to when they are children and the parent is in control of most of their choices. If a parent takes more control of their adolescent's feeding patterns the child can lose the innate ability to realize hunger and the adolescents are more inclined to establish eating cues that come from external or emotional signals instead (Kaur et al., 2006). Responsibility was also hypothesized to have an indirect impact on emotional eating if the score on the Eating and Appraisal Due to Emotions and Stress (EADES) was high. This considers that a parent who is highly responsible for their teenager's food and the adolescent who has limited coping and appraisal abilities within stressful situations will be more likely to reach for food for comfort. The confirmatory factor analysis of the Child Feeding Questionnaire found that there was a decline in scores with responsibility as a child increased in age and 'restriction correlates with monitoring, responsibility and concern and pressure to eat correlated negatively with perceived teen weight' (Kaur et al., 2006).

Monitoring

A parent who tends to monitor will consistently keep track of an adolescents sweet and fat intake. In this study we hypothesized that monitoring would positively correlate with emotional eaters directly and indirectly and that adolescents would have a higher score overall if they had parents who monitored them. Within this study the results did not support the hypothesis and there was not sufficient data to support an indirect or direct effect on the impact of this parental feeding behavior and stress related eating. In previous validation of this sub variable monitoring had one of the highest factor loadings of (0.88) Cronbach Alpha (Kaur et al., 2006). Again, as with responsibility the older the age of the child the less monitoring was an impact on direct emotional eating. (Kaur et al., 2006).

Restriction

The restriction sub variable had the most questions, 8 in total on the Child Feeding Questionnaire. This sub variable was hypothesized to directly and indirectly correlate positively with emotional eating. Adolescents who scored higher on the Eating and Appraisal Due to Emotions and Stress would also score high on restriction. The hypothesis was partially supported within this variable indirectly. There was evidence that the mediator of Appraisal and Outside Influences Stressors was significantly related to the outcome of stress related eating. There was not a direct effect of restriction and stress related eating. In a previous study the most ‘controlling’ parents score very high on both restriction and pressure to eat (Kaur et al., 2006). According to this same study parents who had overweight or perceived overweight children were more likely to be restrictive when it came to their food (Kaur et al., 2006). Restriction consists of a child being told what to eat, as well as foods being hidden away from them so they do not over eat them, furthermore restriction is a part of food reward. If a child does show some sort of good behavior or finishes all their ‘good’ food they are more likely to be allowed to have a ‘sweet’ treat or junk food (Kaur et al.,

2006). It is within this restriction that a child will lose their own ability to decide when and if they are hungry because they are constantly being told when to eat. Rewarding a child with food attaches emotions like happiness to the feeling of eating. A child who gets a good grade in return will receive ice cream, the ice cream becomes associated with happiness, which can lead to emotional eating (Geneen Roth, 1992).

Pressure to eat

Pressure to eat is the fourth and final sub variable from the Parent Feeding Practices (PFP) Variable. The pressure to eat was hypothesized to have a direct impact on emotional eating and an indirect impact on emotional eating mediated by the stress variables Appraisal of Ability and Resource to Cope (AARC) and the Appraisal of Outside Stressors and Influences (AOSI). The results from the study do not provide sufficient evidence to support the hypothesis. The results indicated a non-significant direct or indirect relation with pressure to eat and stress related eating. Pressure to eat can be used when a parent feels a child is not sufficiently eating enough 'healthy' foods and can be centered around certain mealtimes when they are told to eat because they are too thin etc. (Kaur et al., 2006). Pressure to eat in a previous study was highly correlated with responsibility and, monitoring and negatively correlated with perceived teen weight, which means that parents who scored higher on pressure to eat were more likely to have perceived their children as underweight or weigh lower than average for their age and height (Kaur et al., 2006). If a parent does have a child who is not eating enough it is more common for the parent to want them to eat more, and parents will make sure that a child eats or finishes their plate of food at mealtime (Kaur et al., 2006).

Mediating Effects of Stress Appraisals

Stress as studied in this research is focused on a student's ability to appraise a stressful situation with regards to their environment and their coping tools that are available

to determine whether the situation is stressful or a minor setback. The validation of these appraisals was first established in the Eating and Appraisal Due to Emotions and Stress (EADES) survey developed through factor analysis and based on the Transactional Model of Stress and Coping and helps researchers determine to what degree a participant will use food to cope with their emotions with regards to stress (Ozier et al., 2007).

Appraisal of Ability and Resource to Cope (AARC)

This variable did not play a role as mediator in this study. This variable is the perception of the teenager's ability to change a stressful situation, temper one's emotional reaction or to cope well in a difficult situation which leads to positive adaptation for the adolescent (Ozier et al., 2007). This factor was developed specifically within the theoretical Transactional Model of Stress and helped develop the Eating Due to Emotions and Stress (EADES) Questionnaire. The impact of these coping strategies can be determined by the level in which the teenager can cope effectively with perceived social pressures and the perceived support within their environment. Less perceived social support is correlated positively with emotional eating. The result of this study rendered no indirect relationship between parental feeding habits and stress related eating, with AARC as the mediator. In previous studies it has been stated that individuals who find it difficult to cope with minor stress situations within their environment are more likely to have a positive correlation with disordered eating patterns (Ozier et al., 2007). Social support can be seen as a negative correlation to maladaptive patterns of eating and behavior, when stressful situations occur. If the buffer of social support is perceived as positive, stressful situations are easier to cope with (Ozier et al., 2007). This variable has a substantial impact on a student's coping process when it comes to perceived stressful situations and should be considered for future studies (Ozier et al., 2007).

Appraisal of Outside Stressors and Influences (AOSI)

The AOSI Variable are most likely very aware of surroundings and what others think and believe about them. This mediating variable was hypothesized to have an impact on a student's emotional eating indirectly and positively correlated with negative parental feeding behaviors in. A student's internal perception of how others see them, can have a great impact on their stress levels and how they handle situations that may create perceived stress. Individuals who answered affirmatively in this section, are more likely to be 'people pleasers' than those who don't (Ozier et al., 2007). In this study AOSI was conceptualized as a mediator on emotional or stress related eating. Within the study the 3 variables including responsibility, monitoring and pressure to eat did not have a significant impact on the hypothesis. There was a significant association between AOSI and Stress related eating. In previous studies, individuals who distorted their perceptions of how people saw them were more likely to have less confidence in food related situations and behaviors or have maladaptive food practices (Ozier et al., 2007). In this study there was a significant link between how people saw themselves through others and their need to turn to stress related eating when they felt they could not cope with outside stressors and influences. This is significant for future studies to possibly focus more on a student's appraisal of outside stressors and influences and how it could possibly impact their need for stress related eating.

Implications of the Study

This study has implications for both research and practice. Even Though this study does not provide evidence to support the hypothesis, it does not mean that there are no direct and indirect effects considering the limitations of the study. Further studies are warranted to have conclusive findings. The implications related to research would be positive as studies

regarding emotional eating and parental behaviors from a student's perspective have not been attempted before. The way in which a parent perceives a situation can vary considerably from that of their child or adolescent. This study stemming from the student perspective goes right to the source of what is happening with the child with regards to their perceived stress and the feeding behaviors that have been established within their family. The word perception is important to this study and it implies that a parent may have a different point of view with regards to habits they have used for children around food and mealtimes. The influence it will place on practice will allow health care workers and professionals better understand the links between the parental feeding practices and how they can impact a teenagers eating habits, while understanding more of the relationship or role that stress appraisal may or may not play within the different variables of parental feeding practices.

Limitations of the Study

Although the sample size was a well-rounded group of international students, unfortunately, due to unforeseen circumstances with the global pandemic of Covid 19, my sample size was limited. A larger sample size would have had a more significant impact and provided stronger data for the study.

Secondly, due to student's online learning because of the Covid-19 many who received the study via a link did not participate, because it was not presented to them in a classroom setting and there was less motivation to complete the study. The online version that was sent to them can be easily discounted or forgotten about which was the case when follow up with participants was used as a means of encouraging participation, there were 142 participants and only 84 fully completed the entire survey.

Thirdly, as with all self-reporting measures, there is a chance of self-reporting biases or even dishonest or overrated responses when administering this type of survey. Even

though the informed consent specifically mentioned anonymity and confidentiality, some of the students taking the survey may have reported with a biased approach.

Fourthly, the measurement scale that was used to survey the students was from a western context and the population used was international and multicultural. There could have been limitations with language within the context of the questions, for some of the students, as English was not the first language of many of the study's participants. Furthermore, cultural tradition in habits reflected in a western population may not reflect those habits of other cultures, causing a discrepancy in answering the questions.

Finally, the search design that was used (path analysis) was descriptive and correlational and not experimental

It is important to acknowledge the limitations to this study and therefore the findings must be interpreted with caution. Nevertheless, with the identified limitations, this study is unique because the studies focus on the teenager perspective that has not been measured before.

Recommendations for future research

The future researchers should take the following recommendations to deal with the limitations of this study so that they can achieve better results. Firstly, it is important that the sample size in a study like this needs to be increased to better represent the student population and help recognize insubstantial relationships based on nationality and age based sub-groups. This should provide more accurate mean values, identifying outliers that could skew the data in a smaller sample and providing a smaller margin of error.

Secondly, this study would be better if circumstances around data collection were able to be done in a more streamlined environment of International Schools who all followed a similar procedure to prevent any such biasing effects on the quality of the data instead of collecting data via the parents online.

Thirdly, a qualitative study could gather more detailed data than a quantitative study that uses questionnaires with numeric responses. This would allow researchers to determine how students describe stress related eating and their individual experience with coping with stress and how their parental feeding practices have impacted them. This will allow the evaluator and even deeper understanding of the eating practices and stress related coping amongst the respondents.

Lastly, the data can be made more concrete, conclusive and in line with previous studies if future researchers conduct samples sizes of certain communities, possibly international students from one parent homes, or international students from multicultural homes. Making the study more specific you might find a pattern within a certain cultural community as opposed to such a broad range of students. Streamlining the student participants, you may find more of a correlation than opposed to using a large group only being international school students in common.

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APPENDIX A

Parent Consent Form

Invitation to Participate in Research Study

Dear Parents,

My name is Tara Conrad and I am a counseling student (Masters of Science in Counseling Psychology) at Assumption University of Thailand. I have been working for many years prior to the commencement of my degree in the field of Eating Disorders and I have gained incredible amounts of experience helping young adults overcome dysregulated eating patterns. This is such a large part of my career and now I would like to explore and study this issue even further. This study would focus on emotional eating in teenagers and the result would be to provide better quality support to those students who do suffer from the complexity of an eating disorder such as emotional eating. I am hoping to enhance their abilities as well as the parents ability to overcome difficult eating patterns.

As a result, I propose a study on the impact of emotional eating, and parental behaviors for my Master's thesis. The university has approved the study and I am in the stage of collecting information.

The proposed study can be conducted only with the support of the parents. Hereby I am requesting your cooperation to encourage/support your adolescent to participate in the study and share their experience. What they need to do is fill out a questionnaire that will take approximately 10 to 15 minutes.

The significance of participating in this study is that you will be helping us to understand even further the difficult challenge of why eating disorders such as emotional

eating develop and how we can change the education for parents and students alike around nutrition and behaviors. This will hopefully allow individuals to deal with their disordered eating patterns that disrupt their life.

Kindly go through the consent form attached and give your signature as an indication for your consent for your child to participate in the study. Please send the consent back along with the questionnaire filled by your child.

Your invaluable support is very much appreciated. If you need further clarification, you may contact my supervisor or me.

Warmest regards,

Tara Lynn Conrad

Graduate Program of Counseling Psychology

Graduate School of Human Sciences

Assumption University, Thailand

taralynncorad@gmail.com



Parents' Consent Form

(Please fill-in and send back)

Study: **'The Effects of Parental Feeding Practices on Emotional Eating in Adolescents Mediated by Stress Related Appraisal'**

Purpose of the Study: The purpose of this study is to investigate and understand to what extent parental feeding practices have an impact on a teenager's outcome of becoming an emotional eater. Also, whether the student's ability to appraise a stressful environment or their coping skills when faced with stressful situations will allow them to positively or negatively manage emotional eating.

Confidentiality: This study is not a case study. It needs information from a group of students, the individual participant's identity information is not necessary. The data will be treated as a group not as a separate individual. Therefore, confidentiality of the information remains intact. All information will be kept anonymous and confidential. Additionally, data collected from the children will not be shared with anybody and will be used only for research purposes only.

Mode of Collecting Information: Your child will fill the forms online under the supervision of a parent or teacher. It will take 10 to 15 minutes to complete this information

Right to Withdraw Participation: Your right to withdraw participation from the study at any point of time is maintained.

Psychological Risk Involved: There is no risk involved in answering the questionnaires and the University has approved it.

Mode of Collecting Data: Students will fill the forms online under the supervision of their teachers or parents. It will take 10-15 minutes to complete.

Further Information: You may contact the researcher or the supervisor if you need further clarification (please see the contact details above)

.....

Parental consent for International Schools

I agree for my Child to take part in the above Master Thesis research study at Assumption University by Ms. Tara Lynn Conrad. I have had the study explained to me, and I have read the information sheet for heads of schools, which I may keep for my records. I understand that agreeing to take part means that I am willing to allow students of my school to fill in the survey online during school hours. The researcher is being given consent by the school as their guardian.

I understand that any information collected on children in our school is confidential, and that no information that could lead to the identification of either the school or any child in the school that takes part in the study will be disclosed in any reports on the study, or to any other party. No identifiable personal data will be published. The identifiable data will not be shared with any organization.

..... (Signature with date)

..... (Name)

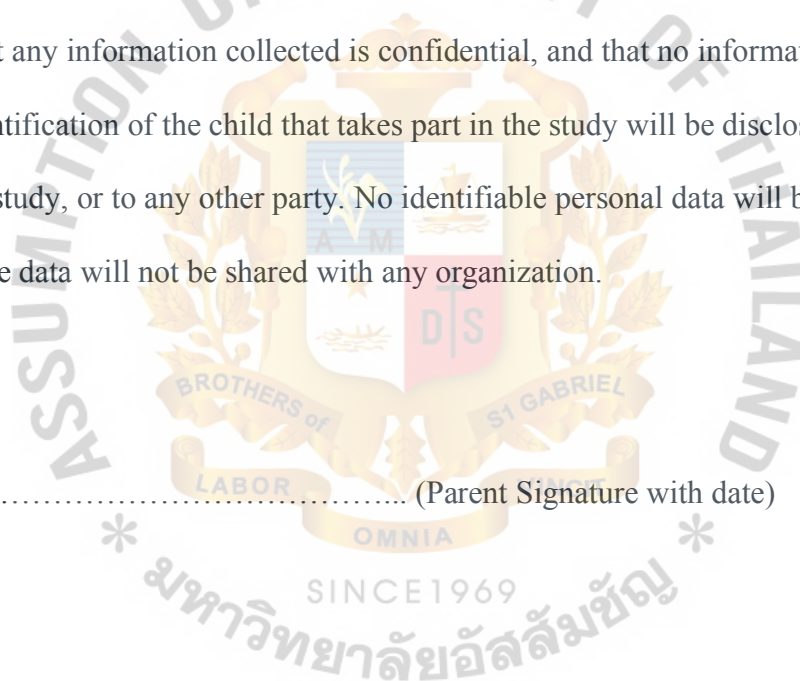
..... (Designation)

..... (School)

Parental Consent for Online Survey

I agree for my Child to take part in the below Master Thesis research study at Assumption University by Ms. Tara Lynn Conrad. I understand that agreeing to take part in this study means that I am willing to allow my son or daughter to fill in the following survey online. I understand that any information collected is confidential, and that no information that could lead to the identification of the child that takes part in the study will be disclosed in any reports on the study, or to any other party. No identifiable personal data will be published. The identifiable data will not be shared with any organization.

..... (Parent Signature with date)



APPENDIX B

Survey Questionnaire

Directions: Fill in the appropriate information below

Part 1

Gender	
Year level	
School	
Nationality	

Directions: Following are a number of statements that reflect various ways in which our parents influence our eating habits. Please read through each statement carefully and circle the number of the appropriate response.

Responsibility	Never	Seldom	Half of the time	Most of Time	Always
1. When you are at home, how often is your parent responsible for feeding you?	1	2	3	4	5
2. How often is your parent responsible for your portion sizes?	1	2	3	4	5
3. How often does your parent decide if you have eaten the right kind of food?	1	2	3	4	5
Restriction	Disagree	Slightly disagree	Neutral	Slightly Agree	Agree
4. My parent makes sure that I do not eat too many sweets (candy, ice-cream, cake, and pastries)	1	2	3	4	5
5. My parent makes sure that I do not eat too many high-fat foods.	1	2	3	4	5

6. My parent makes sure I do not eat too much of my favorite food.	1	2	3	4	5
7. My parent keeps certain foods hidden away so that I cannot eat them.	1	2	3	4	5
8. My parent give me sweets (candy, ice cream cake, pastries) as a reward for good behavior	1	2	3	4	5
9. My parent offers me my favorite food in exchange for good behavior.	1	2	3	4	5
10. My parent believes that if he/she did not guide and regulate my eating I would only eat junk food.	1	2	3	4	5
11. My parent believes that if he/she did not guide and regulate my eating I would eat too much of my favorite food.	1	2	3	4	5
Pressure to Eat	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree
12. My parent makes me eat all the food on my plate.	1	2	3	4	5
3. My parent tells me when I have not eaten enough.	1	2	3	4	5
14. Even if I tell my parent 'I am not hungry' they try to get me to eat anyways.	1	2	3	4	5
15. My parent believes that I would not eat enough if they do not guide and regulate my eating.	1	2	3	4	5
Monitoring	Never	Rarely	Some times	Mostly	Always
16. My parent keeps track of the sweets (candy, ice cream, cake, pies, pastries) I eat.	1	2	3	4	5
17. My parent keeps track of the snack food (potato chips, Doritos, cheese puffs) I eat.	1	2	3	4	5
18. My parent keeps track of the	1	2	3	4	5

high-fat foods that I eat.					
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Directions: Following are a number of statements that reflect various ways in which we handle or manage stress. Rate the degree to which you agree with each statement using the following scale: (1= Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree). There is no right or wrong answer. Do not spend too much time with any one statement and do not leave any unanswered

1. My family supports me when I have problems.

1 2 3 4 5

2. I am confident I can control my eating when I feel happy.

1 2 3 4 5

3. I overeat when I am stressed.

1 2 3 4 5

4. I can usually work out a solution to my problems.

1 2 3 4 5

5. I am capable of handling my own problems.

1 2 3 4 5

6. I do NOT feel secure in my life.

1 2 3 4 5

7. I try to find alternative solutions to my problems.

1 2 3 4 5

8. I overeat when I socialize.

1 2 3 4 5

9. I weigh the pros and cons of situations before I make decisions about what to do.

1 2 3 4 5

10. I worry about what people think of me.

1 2 3 4 5

11. I comfort myself with food.

1 2 3 4 5

12. I eat when I am upset with myself.

1 2 3 4 5

13. I feel the need to make others happy.

1 2 3 4 5

14. I am confident that I can control my eating when I am tired.

1 2 3 4 5

15. My friends support me when I have problems.

1 2 3 4 5

16. I feel sad often.

1 2 3 4 5

17. I am confident I can control my eating when I am angry.

1 2 3 4 5

18. I am able to meet my emotional needs.

1 2 3 4 5

19. It's hard for me to stop eating when I am full.

1 2 3 4 5

20. I am able to say no when I need to.

1 2 3 4 5

21. I try to think positive when times are tough.

1 2 3 4 5

22. I am confident I can control my eating when I am sad.

1 2 3 4 5

23. I have control over my emotions.

1 2 3 4 5

24. I eat to avoid dealing with my problems.

1 2 3 4 5

25. I talk about my feelings.

1 2 3 4 5

26. I am confident I can control my eating when I am upset with myself.

1 2 3 4 5

27. Other people influence how I handle my problems.

1 2 3 4 5

28. I deal with problems sooner rather than later.

1 2 3 4 5

29. I try to resolve a problem when I know there is something wrong in my life.

1 2 3 4 5

30. I am confident I can control my eating when I feel upset.

1 2 3 4 5

31. I feel out of control when I eat.

1 2 3 4 5

32. I eat when I am frustrated.

1 2 3 4 5

33. I am capable of dealing with stressful situations.

1 2 3 4 5

34. I am confident I can control my eating when I am frustrated.

1 2 3 4 5

35. I use food to cope with my emotions.

1 2 3 4 5

36. I am able to meet my spiritual needs.

1 2 3 4 5

37. I eat when I am tired.

1 2 3 4 5

38. I do NOT allow people to change my mind.

1 2 3 4 5

39. I eat when I am angry.

1 2 3 4 5

40. I eat when I am sad.

1 2 3 4 5

41. When a problem arises, it is hard for me to make a plan of action and follow it.

1 2 3 4 5

42. I am confident I can control my eating when I am anxious.

1 2 3 4 5

43. I do NOT see challenges as stressful.

1 2 3 4 5

44. I am confident I can control my eating when I am relieved.

1 2 3 4 5

45. I eat when I am anxious.

1 2 3 4 5

46. I have control over my life.

1 2 3 4 5

47. I eat when I am relieved.

1 2 3 4 5

48. I try to analyze a problem to better understand it.

1 2 3 4 5

49. I do not have control over how much I eat.

1 2 3 4 5



APPENDIX C

Descriptive Results

Descriptive Statistics

	N	Mean	Std. Deviation
Responsibility	84	3.5357	.19739
Restriction	84	3.5357	.29389
Pressure to Eat	84	3.5357	.19474
Monitoring	84	3.5357	.18282

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Responsibility	84	100.0%	0	0.0%	84	100.0%
Restriction	84	100.0%	0	0.0%	84	100.0%
Pressure to Eat	84	100.0%	0	0.0%	84	100.0%
Monitoring	84	100.0%	0	0.0%	84	100.0%

Nationalities

N	Valid	84
	Missing	0
Minimum		1
Maximum		21

nationalities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	10	11.9	11.9	11.9
	2	19	22.6	22.6	34.5
	3	13	15.5	15.5	50.0
	4	3	3.6	3.6	53.6
	5	4	4.8	4.8	58.3
	6	1	1.2	1.2	59.5
	7	1	1.2	1.2	60.7
	8	1	1.2	1.2	61.9
	9	1	1.2	1.2	63.1
	10	4	4.8	4.8	67.9
	11	1	1.2	1.2	69.0
	12	4	4.8	4.8	73.8
	13	4	4.8	4.8	78.6
	14	1	1.2	1.2	79.8
	15	8	9.5	9.5	89.3
	16	3	3.6	3.6	92.9

17	1	1.2	1.2	94.0
18	1	1.2	1.2	95.2
19	1	1.2	1.2	96.4
20	1	1.2	1.2	97.6
21	2	2.4	2.4	100.0
Total	84	100.0	100.0	



APPENDIX D

Reliability Results

Reliability

Scale: Responsibility

Case Processing Summary

		N	%
Cases	Valid	84	100.0
	Excluded ^a	0	.0
	Total	84	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.784	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
RQ1	5.50	4.735	.581	.759
RQ2	4.93	4.766	.679	.646
RQ3	5.50	5.217	.616	.717

Reliability

Scale: Restriction

Case Processing Summary

		N	%
Cases	Valid	84	100.0
	Excluded ^a	0	.0
	Total	84	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.757	8

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
RRQ4	24.31	24.795	.515	.720
RRQ5	24.11	26.169	.373	.746
RRQ6	23.70	25.151	.518	.720
RRQ7	22.95	24.504	.500	.722
RRQ8	23.05	27.612	.293	.757
RRQ9	22.88	27.239	.358	.747
RRQ10	23.14	24.028	.531	.716
RRQ11	23.52	23.698	.530	.716

Reliability

Scale: after deleting Q8

Case Processing Summary

		N	%
--	--	---	---

Cases	Valid	84	100.0
	Excluded ^a	0	.0
	Total	84	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's	
Alpha	N of Items
.757	7

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
RRQ4	20.55	20.419	.560	.709
RRQ5	20.35	21.843	.397	.744
RRQ6	19.94	20.900	.549	.713
RRQ7	19.19	20.686	.488	.725
RRQ9	19.12	24.178	.241	.770
RRQ10	19.38	20.094	.535	.714
RRQ11	19.76	19.629	.550	.710

Reliability

Scale: After deleting Q9

Case Processing Summary

		N	%
Cases	Valid	84	100.0

Excluded ^a	0	.0
Total	84	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.770	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
RRQ4	16.62	17.371	.567	.723
RRQ5	16.42	18.535	.418	.760
RRQ6	16.01	17.723	.568	.724
RRQ7	15.26	17.834	.469	.748
RRQ10	15.45	17.094	.538	.730
RRQ11	15.83	16.815	.536	.731

Reliability

Scale: Pressure to eat

Case Processing Summary

	N	%
Cases		
Valid	84	100.0
Excluded ^a	0	.0
Total	84	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.830	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PQ12	9.21	9.303	.589	.814
PQ13	9.55	8.058	.743	.744
PQ14	9.33	8.369	.736	.749
PQ15	8.62	9.082	.568	.825

Reliability

Scale: Monitoring

Case Processing Summary

		N	%
Cases	Valid	84	100.0
	Excluded ^a	0	.0
	Total	84	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
------------------	------------

.931	3
------	---

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
MQ16	7.15	5.361	.858	.901
MQ17	7.01	5.602	.907	.865
MQ18	7.12	5.576	.815	.935

Reliability

Scale: SRE

Case Processing Summary

		N	%
Cases	Valid	78	92.9
	Excluded ^a	6	7.1
	Total	84	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.784	24

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
--	-------------------------------	-----------------------------------	--------------------------------------	--

F1 2*	66.46	91.914	-.093	.794
F1 3	67.82	79.863	.524	.764
F1 8	68.33	82.978	.389	.773
F1 11	67.83	77.050	.653	.755
F1 12	68.23	77.141	.653	.755
F1 14	68.49	88.435	.129	.786
F1 17*	66.76	92.888	-.150	.799
F1 19	68.49	81.915	.469	.769
F1 22*	66.79	94.685	-.254	.804
F1 24	68.62	81.512	.553	.765
F1 26*	66.85	94.496	-.230	.805
F1 30*	66.74	93.076	-.165	.798
F1 31	68.60	80.217	.581	.762
F1 32	68.27	75.810	.747	.749
F1 34*	66.73	93.654	-.194	.801
F1 35	68.27	76.537	.714	.752
F1 37	67.91	78.394	.565	.761
F1 39	68.33	80.433	.554	.764
F1 40	68.22	78.744	.604	.759
F1 42*	66.96	96.141	-.321	.809
F1 44*	66.58	93.312	-.192	.798
F1 45	68.21	78.451	.629	.758
F1 47	68.03	77.921	.604	.758
F1 49	68.71	82.289	.485	.768

Reliability

Scale: SRE after removing 2,14,22,26,30,34,42,44

Case Processing Summary

		N	%
Cases	Valid	84	100.0
	Excluded ^a	0	.0
	Total	84	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.922	15

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
F1 3	34.04	102.782	.632	.917
F1 8	34.50	107.506	.445	.923
F1 11	34.01	101.819	.653	.917
F1 12	34.37	101.127	.688	.915
F1 19	34.67	107.357	.480	.922
F1 24	34.75	104.142	.697	.916
F1 31	34.77	104.249	.637	.917
F1 32	34.38	100.166	.711	.915
F1 35	34.45	99.745	.793	.912
F1 37	34.11	103.109	.588	.919
F1 39	34.45	102.323	.689	.915
F1 40	34.35	102.084	.674	.916
F1 45	34.42	102.053	.702	.915
F1 47	34.23	103.189	.597	.918
F1 49	34.85	106.060	.571	.919

Reliability

Scale: AARC

Case Processing Summary

	N	%
Cases Valid	84	100.0

Excluded ^a	0	.0
Total	84	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.662	20

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
F2 1	45.98	42.698	.326	.644
F2 4	45.56	39.767	.522	.621
F2 5	45.68	41.956	.353	.640
F2 6*	45.42	41.692	.255	.649
F2 7	45.42	45.306	.022	.669
F2 9	45.05	44.166	.095	.665
F2 15	45.50	40.807	.391	.634
F2 16*	44.24	51.629	-.422	.733
F2 18	45.36	40.570	.431	.630
F2 20	45.48	41.505	.329	.641
F2 21	45.18	41.064	.323	.641
F2 23	45.15	39.723	.402	.630
F2 25	44.75	42.768	.139	.664
F2 28	44.88	40.612	.340	.638
F2 29	45.29	41.026	.421	.633
F2 33	45.24	37.870	.599	.606
F2 36	45.00	39.952	.426	.628
F2 41*	44.42	51.306	-.451	.723
F2 46	45.19	39.457	.406	.629
F2 48	45.55	41.697	.373	.638

Reliability

Scale: AARC after removing 1,6,9,16,20,21,25,41

Case Processing Summary

		N	%
Cases	Valid	84	100.0
	Excluded ^a	0	.0
	Total	84	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.788	11

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
F2 4	23.12	26.877	.545	.761
F2 5	23.24	28.449	.407	.776
F2 15	23.06	28.249	.352	.781
F2 18	22.92	27.306	.480	.768
F2 23	22.71	26.014	.499	.765
F2 28	22.44	27.310	.379	.780
F2 29	22.85	28.422	.381	.778
F2 33	22.80	24.790	.679	.743
F2 36	22.56	27.117	.432	.773
F2 46	22.75	26.551	.425	.775
F2 48	23.11	29.229	.301	.785

Reliability

Scale: AARC after removing 48

Case Processing Summary

		N	%
Cases	Valid	84	100.0
	Excluded ^a	0	.0
	Total	84	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's	
Alpha	N of Items
.785	10

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
F2 4	21.07	24.332	.504	.762
F2 5	21.19	25.433	.417	.772
F2 15	21.01	25.265	.357	.778
F2 18	20.87	24.260	.500	.762
F2 23	20.67	23.044	.516	.759
F2 28	20.39	24.579	.361	.780
F2 29	20.80	25.392	.392	.774
F2 33	20.75	22.166	.664	.738
F2 36	20.51	24.156	.441	.769
F2 46	20.70	23.778	.415	.773

Reliability

Scale: AOSI

Case Processing Summary

		N	%
Cases	Valid	84	100.0
	Excluded ^a	0	.0
	Total	84	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's	
Alpha ^a	N of Items
-.034	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
F3 10*	11.44	3.792	.044	-.110 ^a
F3 13*	11.62	3.203	.239	-.409 ^a
F3 27*	11.07	3.417	.143	-.265 ^a
F3 38	10.61	4.964	-.212	.218
F3 43	10.50	4.855	-.197	.207

Reliability

Scale: AOIS after removing 38,43

Case Processing Summary

		N	%
Cases	Valid	84	100.0
	Excluded ^a	0	.0
	Total	84	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.620	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
F3 10*	4.93	2.597	.489	.430
F3 13*	5.11	2.868	.427	.523
F3 27*	4.56	2.900	.373	.600

APPENDIX E MEAN AND STANDARD DEVIATION

Descriptive Statistics

	N	Minimum	Maximum	Mean		Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
Responsibility	84	1.00	5.00	2.6548	.11480	1.05212
Restriction	84	1.50	5.00	3.1865	.08942	.81953
PressureTE	84	1.00	5.00	3.0595	.10437	.95660
Monitoring	84	1.00	5.00	3.5476	.12594	1.15429
SRE	84	1.00	4.47	2.4587	.07895	.72355
AARC	84	1.00	3.80	2.3107	.05899	.54064
AOSI	84	1.00	4.67	2.4325	.08351	.76535
Valid N (listwise)	84					



APPENDIX F

Correlation Results

		Correlations			
		Responsibility	Restriction	PressureTE	Monitoring
Responsibility	Pearson Correlation	1	.574**	.207	.484**
	Sig. (2-tailed)		.000	.059	.000
	N	84	84	84	84
Restriction	Pearson Correlation	.574**	1	.298**	.695**
	Sig. (2-tailed)	.000		.006	.000
	N	84	84	84	84
PressureTE	Pearson Correlation	.207	.298**	1	.358**
	Sig. (2-tailed)	.059	.006		.001
	N	84	84	84	84
Monitoring	Pearson Correlation	.484**	.695**	.358**	1
	Sig. (2-tailed)	.000	.000	.001	
	N	84	84	84	84
SRE	Pearson Correlation	-.170	-.298**	-.208	-.142
	Sig. (2-tailed)	.122	.006	.058	.197
	N	84	84	84	84
AARC	Pearson Correlation	.110	-.083	.028	-.009
	Sig. (2-tailed)	.318	.451	.801	.936
	N	84	84	84	84
AOSI	Pearson Correlation	-.183	-.107	.067	-.177
	Sig. (2-tailed)	.096	.334	.543	.106
	N	84	84	84	84

Correlations

		SRE	AARC	AOSI
Responsibility	Pearson Correlation	-.170	.110	-.183
	Sig. (2-tailed)	.122	.318	.096
	N	84	84	84
Restriction	Pearson Correlation	-.298**	-.083	-.107
	Sig. (2-tailed)	.006	.451	.334
	N	84	84	84
PressureTE	Pearson Correlation	-.208	.028	.067
	Sig. (2-tailed)	.058	.801	.543
	N	84	84	84
Monitoring	Pearson Correlation	-.142	-.009	-.177

	Sig. (2-tailed)	.197	.936	.106
	N	84	84	84
SRE	Pearson Correlation	1	-.045	-.176
	Sig. (2-tailed)		.685	.108
	N	84	84	84
AARC	Pearson Correlation	-.045	1	-.269*
	Sig. (2-tailed)	.685		.014
	N	84	84	84
AOSI	Pearson Correlation	-.176	-.269*	1
	Sig. (2-tailed)	.108	.014	
	N	84	84	84

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

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



APPENDIX G

Multiple Regression Results

Regression_Responsibility

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Responsibility ^b	.	Enter
2	AARC, AOSI ^b	.	Enter

a. Dependent Variable: SRE

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.170 ^a	.029	.017	.71735	.029	2.440
2	.283 ^b	.080	.046	.70677	.051	2.237

Model Summary

Model	df1	df2	Sig. F Change
1	1	82	.122
2	2	80	.113

a. Predictors: (Constant), Responsibility

b. Predictors: (Constant), Responsibility, AARC, AOSI

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.256	1	1.256	2.440	.122 ^b
	Residual	42.197	82	.515		
	Total	43.452	83			
2	Regression	3.491	3	1.164	2.329	.081 ^c
	Residual	39.962	80	.500		

Total	43.452	83			
-------	--------	----	--	--	--

a. Dependent Variable: SRE

b. Predictors: (Constant), Responsibility

c. Predictors: (Constant), Responsibility, AARC, AOSI

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.769	.214		12.967	.000
	Responsibility	-.117	.075	-.170	-1.562	.122
2	(Constant)	3.642	.534		6.820	.000
	Responsibility	-.140	.075	-.204	-1.865	.066
	AARC	-.115	.149	-.086	-.772	.443
	AOSI	-.224	.107	-.237	-2.101	.039

Coefficients^a

Model		95.0% Confidence Interval for B	
		Lower Bound	Upper Bound
1	(Constant)	2.344	3.194
	Responsibility	-.266	.032
2	(Constant)	2.579	4.705
	Responsibility	-.290	.009
	AARC	-.412	.182
	AOSI	-.436	-.012

a. Dependent Variable: SRE

Excluded Variables^a

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
					Tolerance	
1	AARC	-.027 ^b	-.241	.810	-.027	.988
	AOSI	-.215 ^b	-1.974	.052	-.214	.966

a. Dependent Variable: SRE

b. Predictors in the Model: (Constant), Responsibility

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Responsibility ^b	.	Enter

a. Dependent Variable: AARC

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.110 ^a	.012	.000	.54061	.012	1.011

Model Summary

Model	df1	df2	Sig. F Change
1	1	82	.318

a. Predictors: (Constant), Responsibility

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.296	1	.296	1.011	.318 ^b
	Residual	23.965	82	.292		
	Total	24.260	83			

a. Dependent Variable: AARC

b. Predictors: (Constant), Responsibility

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

1	(Constant)	2.160	.161		13.423	.000
	Responsibility	.057	.056	.110	1.006	.318

Coefficients^a

95.0% Confidence Interval for B

Model		Lower Bound	Upper Bound
1	(Constant)	1.840	2.480
	Responsibility	-.055	.169

a. Dependent Variable: AARC

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Responsibility ^b	.	Enter

a. Dependent Variable: AOSI

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.183 ^a	.034	.022	.75699	.034	2.843

Model Summary

Model	df1	df2	Sig. F Change
1	1	82	.096

a. Predictors: (Constant), Responsibility

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.629	1	1.629	2.843	.096 ^b
	Residual	46.989	82	.573		
	Total	48.618	83			

- a. Dependent Variable: AOSI
 b. Predictors: (Constant), Responsibility

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.786	.225		12.364	.000
	Responsibility	-.133	.079	-.183	-1.686	.096

Coefficients^a

Model		95.0% Confidence Interval for B	
		Lower Bound	Upper Bound
1	(Constant)	2.338	3.234
	Responsibility	-.290	.024

- a. Dependent Variable: AOSI

Regression_Restriction**Variables Entered/Removed^a**

Model	Variables Entered	Variables Removed	Method
1	Restriction ^b	.	Enter
2	AARC, AOSI ^b	.	Enter

- a. Dependent Variable: SRE
 b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.298 ^a	.089	.078	.69478	.089	8.016
2	.389 ^b	.151	.119	.67910	.062	2.916

Model Summary

Model	df1	Change Statistics	
		df2	Sig. F Change
1	1	82	.006
2	2	80	.060

a. Predictors: (Constant), Restriction

b. Predictors: (Constant), Restriction, AARC, AOSI

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.869	1	3.869	8.016	.006 ^b
	Residual	39.583	82	.483		
	Total	43.452	83			
2	Regression	6.559	3	2.186	4.740	.004 ^c
	Residual	36.894	80	.461		
	Total	43.452	83			

a. Dependent Variable: SRE

b. Predictors: (Constant), Restriction

c. Predictors: (Constant), Restriction, AARC, AOSI

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.298	.306		10.776	.000
	Restriction	-.263	.093	-.298	-2.831	.006
2	(Constant)	4.415	.594		7.432	.000
	Restriction	-.297	.092	-.337	-3.228	.002
	AARC	-.188	.144	-.140	-1.302	.197
	AOSI	-.236	.102	-.250	-2.317	.023

Coefficients^a

		95.0% Confidence Interval for B	
Model		Lower Bound	Upper Bound
1	(Constant)	2.689	3.907
	Restriction	-.449	-.078
2	(Constant)	3.233	5.597
	Restriction	-.481	-.114
	AARC	-.474	.099
	AOSI	-.439	-.033

a. Dependent Variable: SRE

Excluded Variables ^a						Collinearity
Model		Beta In	t	Sig.	Partial Correlation	Statistics Tolerance
1	AARC	-.070 ^b	-.663	.509	-.073	.993
	AOSI	-.211 ^b	-2.025	.046	-.220	.989

a. Dependent Variable: SRE

b. Predictors in the Model: (Constant), Restriction

Regression

Variables Entered/Removed ^a			
Model	Variables Entered	Variables Removed	Method
1	Restriction ^b		Enter

a. Dependent Variable: AARC

b. All requested variables entered.

Model Summary						
		Adjusted R Square		Change Statistics		
Model	R	R Square	Std. Error of the Estimate	R Square Change	F Change	
1	.083 ^a	.007	-.005	.54203	.007	.575

Model Summary

Model	df1	Change Statistics	
		df2	Sig. F Change
1	1	82	.451

a. Predictors: (Constant), Restriction

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.169	1	.169	.575	.451 ^b
	Residual	24.092	82	.294		
	Total	24.260	83			

a. Dependent Variable: AARC

b. Predictors: (Constant), Restriction

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.486	.239		10.412	.000
	Restriction	-.055	.073	-.083	-.758	.451

Coefficients^a

95.0% Confidence Interval for B

Model		Lower Bound	Upper Bound
1	(Constant)	2.011	2.961
	Restriction	-.199	.089

a. Dependent Variable: AARC

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Restriction ^b	.	Enter

a. Dependent Variable: AOSI

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.107 ^a	.011	-.001	.76560	.011	.944

Model Summary

Model	df1	df2	Change Statistics	
			Sig. F Change	
1	1	82	.334	

a. Predictors: (Constant), Restriction

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.553	1	.553	.944	.334 ^b
	Residual	48.064	82	.586		
	Total	48.618	83			

a. Dependent Variable: AOSI

b. Predictors: (Constant), Restriction

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.750	.337		8.154	.000
	Restriction	-.100	.103	-.107	-.972	.334

Coefficients^a

Model		95.0% Confidence Interval for B	
		Lower Bound	Upper Bound
1	(Constant)	2.079	3.421
	Restriction	-.304	.104

a. Dependent Variable: AOSI

Regression_Pressure to eat

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	PressureTE ^b	.	Enter
2	AARC, AOSI ^b	.	Enter

a. Dependent Variable: SRE

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.208 ^a	.043	.032	.71204	.043	3.704
2	.278 ^b	.077	.043	.70795	.034	1.475

Model Summary

Model	df1	df2	Change Statistics	
			Sig. F Change	
1	1	82	.058	
2	2	80	.235	

a. Predictors: (Constant), PressureTE

b. Predictors: (Constant), PressureTE, AARC, AOSI

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.878	1	1.878	3.704	.058 ^b
	Residual	41.574	82	.507		
	Total	43.452	83			
2	Regression	3.356	3	1.119	2.232	.091 ^c
	Residual	40.096	80	.501		
	Total	43.452	83			

a. Dependent Variable: SRE

b. Predictors: (Constant), PressureTE

c. Predictors: (Constant), PressureTE, AARC, AOSI

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.940	.262		11.231	.000
	PressureTE	-.157	.082	-.208	-1.925	.058
2	(Constant)	3.615	.532		6.790	.000
	PressureTE	-.146	.082	-.193	-1.789	.077
	AARC	-.120	.149	-.090	-.806	.423
	AOSI	-.177	.106	-.188	-1.678	.097

Coefficients^a

Model		95.0% Confidence Interval for B	
		Lower Bound	Upper Bound
1	(Constant)	2.419	3.461
	PressureTE	-.320	.005
2	(Constant)	2.555	4.674
	PressureTE	-.308	.016
	AARC	-.418	.177
	AOSI	-.388	.033

a. Dependent Variable: SRE

Excluded Variables^a

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	AARC	-.039 ^b	-.361	.719	-.040	.999
	AOSI	-.163 ^b	-1.520	.132	-.167	.995

a. Dependent Variable: SRE

b. Predictors in the Model: (Constant), PressureTE

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	PressureTE ^b	.	Enter

a. Dependent Variable: AARC

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics
					R Square Change F Change
1	.028 ^a	.001	-.011	.54372	.001 .064

Model Summary

Model	df1	df2	Sig. F Change
1	1	82	.801

a. Predictors: (Constant), PressureTE

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.019	1	.019	.064	.801 ^b
	Residual	24.242	82	.296		
	Total	24.260	83			

a. Dependent Variable: AARC

b. Predictors: (Constant), PressureTE

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.263	.200		11.319	.000
	PressureTE	.016	.062	.028	.252	.801

Coefficients^a

95.0% Confidence Interval for B

Model		Lower Bound	Upper Bound
1	(Constant)	1.865	2.660
	PressureTE	-.108	.140

a. Dependent Variable: AARC

Regression**Variables Entered/Removed^a**

Model	Variables Entered	Variables Removed	Method
1	PressureTE ^b		Enter

a. Dependent Variable: AOSI

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.067 ^a	.005	-.008	.76826	.005	.373

Model Summary

Model	df1	df2	Sig. F Change
1	1	82	.543

a. Predictors: (Constant), PressureTE

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.220	1	.220	.373	.543 ^b
	Residual	48.398	82	.590		
	Total	48.618	83			

a. Dependent Variable: AOSI

b. Predictors: (Constant), PressureTE

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.268	.282		8.030	.000
	PressureTE	.054	.088	.067	.610	.543

Coefficients^a

95.0% Confidence Interval for B

Model		95.0% Confidence Interval for B	
		Lower Bound	Upper Bound
1	(Constant)	1.706	2.830
	PressureTE	-.122	.229

a. Dependent Variable: AOSI

Regression_Monitoring

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Monitoring ^b		Enter
2	AARC, AOSI ^b		Enter

a. Dependent Variable: SRE

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.142 ^a	.020	.008	.72055	.020	1.692
2	.271 ^b	.074	.039	.70936	.053	2.304

Model Summary

Model	df1	Change Statistics	
		df2	Sig. F Change
1	1	82	.197
2	2	80	.106

a. Predictors: (Constant), Monitoring

b. Predictors: (Constant), Monitoring, AARC, AOSI

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.879	1	.879	1.692	.197 ^b
	Residual	42.574	82	.519		
	Total	43.452	83			
2	Regression	3.197	3	1.066	2.118	.104 ^c
	Residual	40.255	80	.503		
	Total	43.452	83			

a. Dependent Variable: SRE

b. Predictors: (Constant), Monitoring

c. Predictors: (Constant), Monitoring, AARC, AOSI

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.775	.255		10.862	.000
	Monitoring	-.089	.069	-.142	-1.301	.197
2	(Constant)	3.764	.581		6.484	.000
	Monitoring	-.116	.069	-.186	-1.694	.094
	AARC	-.148	.150	-.111	-.990	.325
	AOSI	-.226	.108	-.239	-2.103	.039

Coefficients^a

95.0% Confidence Interval for B

Model		Lower Bound	Upper Bound
1	(Constant)	2.267	3.283
	Monitoring	-.225	.047
2	(Constant)	2.609	4.920
	Monitoring	-.253	.020
	AARC	-.446	.150

AOSI	-0.440	-0.012
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a. Dependent Variable: SRE

Excluded Variables^a

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	AARC	-.046 ^b	-.421	.675	-.047	1.000
	AOSI	-.208 ^b	-1.905	.060	-.207	.969

a. Dependent Variable: SRE

b. Predictors in the Model: (Constant), Monitoring

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Monitoring ^b		Enter

a. Dependent Variable: AARC

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.009 ^a	.000	-.012	.54391	.000	.006

Model Summary

Model	df1	df2	Sig. F Change
1	1	82	.936

a. Predictors: (Constant), Monitoring

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.002	1	.002	.006	.936 ^b
	Residual	24.258	82	.296		
	Total	24.260	83			

a. Dependent Variable: AARC

b. Predictors: (Constant), Monitoring

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.325	.193		12.059	.000
	Monitoring	-.004	.052	-.009	-.080	.936

Coefficients^a

95.0% Confidence Interval for B

Model		Lower Bound	Upper Bound
1	(Constant)	1.942	2.709
	Monitoring	-.107	.099

a. Dependent Variable: AARC

Regression**Variables Entered/Removed^a**

Model	Variables Entered	Variables Removed	Method
1	Monitoring ^b	.	Enter

a. Dependent Variable: AOSI

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change

1	.177 ^a	.031	.020	.75779	.031	2.665
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Model Summary

Model	df1	Change Statistics		Sig. F Change
		df2		
1	1	82		.106

a. Predictors: (Constant), Monitoring

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.530	1	1.530	2.665	.106 ^b
	Residual	47.088	82	.574		
	Total	48.618	83			

a. Dependent Variable: AOSI

b. Predictors: (Constant), Monitoring

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.850	.269		10.607	.000
	Monitoring	-.118	.072	-.177	-1.632	.106

Coefficients^a

Model		95.0% Confidence Interval for B	
		Lower Bound	Upper Bound
1	(Constant)	2.315	3.384
	Monitoring	-.261	.026

a. Dependent Variable: AOSI

