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The Development of the Eating Behaviors and Attitudes Inventory (EBAI): A Measure of Self-Regulation of Eating Behavior in Women

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THE FLORIDA STATE UNIVERSITY
COLLEGE OF EDUCATION

THE DEVELOPMENT OF THE EATING BEHAVIORS AND ATTITUDES
INVENTORY (EBAI): A MEASURE OF SELF-REGULATION OF EATING BEHAVIOR
IN WOMEN

BY
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ABSTRACT

The purpose of this research study is to develop the Eating Behaviors and Attitudes Inventory (EBAI) as a diagnostic tool and educational device. The EBAI is an instrument that measures women's ability to self-regulate eating behaviors when faced with eating stress. A sample of 100 female students ranging in ages of 14-23 completed the Eating Behaviors and Attitudes Inventory. The participants consisted of 90 undergraduate women who were enrolled in an introductory psychology course and attended a large university in the Southeast. The sample also contained 10 female high school students who attended a charter high school in the Southeast. The EBAI is comprised of a behavior and attitude checklist. The participants recalled four episodes of eating stress and completed the instrument accordingly. The development of the EBAI yielded a total of 84 items: 60 behavioral items and 24 attitudinal items. The results showed that 11 of 60 behavioral items and 14 of 24 attitudinal items discriminated among four levels of eating stress. For both the behavior and attitude scales, every item was endorsed by at least once one individual and none of the items were endorsed by every individual. In addition, the behavior items were aggregated into nine domains of self-regulation of which 4 of the 9 domains varied among levels. The findings also indicated that individual's employ an average of 9.8 mechanisms along all levels of eating stress. The implications of findings for further research and potential uses of the EBAI are described.

CHAPTER 1: INTRODUCTION

Social Problem

Many individuals are preoccupied with body images and eating habits (Nash, 1999). More specifically, 80% of girls reportedly engaged in dieting behavior before the age of 13 (Hawkins et al., 1983). In the United States, the diet industry has grossed over 40 billion dollars per year and is projected to earn over 48 billion dollars by the year 2006 (Goodstein, www.bankrate.com). Popular fad diets tend to focus on deprivation of certain foods rather than the development of a healthy lifestyle.

Many women feel uncomfortable with their body weight (Zraly & Swift, 1990) and eating habits and attitudes have been negatively affected (Powers et al., 1987, 1990; Nash, 1999; Lock & Le Grange, 2005). Additionally, the fashion industry's standards of beauty place 95% of all women as overweight (Pipher, 1997). Our society's obsession with food and the idealized body shape, size, and weight of women greatly influence the values of adolescent females, a vulnerable population that encounters many risk factors for disordered eating (Powers et. al, 1987). Many women are burdened with the challenge to achieve and maintain an unrealistic body ideal (Polivy & Herman, 1987). This pressure often leads to unhealthy eating patterns and eating disorders (Heatherton & Baumeister, 1991). The problem facing many Americans is balancing the need to eat daily in order to sustain one's existence while achieving a desirable weight.

Despite the increased focus on dieting, the percentage of Americans who are obese has increased from 1960 to 1980 (Foreyt, 1987). Obesity continues to become an increasing phenomenon. More recently, approximately 65% a ten percentage increase has increased between 1999 & 2004, it has been reported that approximately 77 million adults, or 55% of the population in the United States was considered overweight (Nash, 1999) and currently 65% of Americans are obese compared to 1960 when 45 only percent of American were considered overweight (DeAngelis, 2004).. Recent studies also estimate that close to 4 million Americans are extremely obese, defined by having a Body Mass Index (BMI) of at least 40 (Neergaard, 2005, p. 4A). Hence, overeating is an important concept to explore because it affects millions of Americans and indicates a lack of self-regulation and an unsuccessful attempt to keep one's self within healthy parameters. Many Americans struggle with their desire to frequently indulge in

rich and high-caloric foods, which increases one's risk of developing numerous health problems such as diabetes, high cholesterol, and heart attacks (Neergaard, 2005).

Self-regulation plays an important role in maintaining one's weight, yet many adolescents are often unaware of their body's ability to regulate itself in order return to the body's average weight (Lock & Le Grange, 2005). In educating women about self regulatory mechanisms young women can learn to achieve healthy eating behaviors and avoid binge eating and engaging in on-going cyclical dieting. Helping women learn to rely on and identify the body's self regulatory mechanisms in times of stress and weakness is an important goal of the development of The Eating Behavior and Attitudes Inventory (EBAI).

Professional Problem

A body of research has examined self-regulatory behavior in areas including alcohol abuse, smoking, attention deficit hypertension disorder and dieting (Baumiester et al., 1994; Barclay, 1997; Polivy & Herman, 1985). Additionally, a variety of literature has examined the connection between self-control and eating disorders among females (Walsh, 1988; Zraly & Swift 1990; Schlundt & Johnson, 1990). However, there is a lack of studies that have thoroughly investigated the connection between self-regulation and eating behaviors in young women. More specifically, there is a need to explore human's self-correction mechanism from a general systems approach.

The focus of this study is health maintenance in relation to young women's eating behaviors and attitudes. This study will explore the self-regulatory mechanisms that underlie weight maintenance. Adolescence and post adolescence is a time where awareness of these mechanisms and self-regulation habits form and crystallize (Berk, 2004). Thus, this study seeks to help enhance the development of self-regulation mechanisms of high school and college age females during these critical developmental periods. This study also seeks to help young women think about and develop self-regulation mechanisms, which could decrease young women's need to experiment with dieting. Furthermore, the study will examine the mechanisms used when body's homeostatic weight balance is disrupted. The exploration of young women's self-regulatory eating patterns can be beneficial for educators, parents, counselors, nutritionists, nurses and professionals in a health related field who work with this population.

Purpose

The purpose of the EBAI is to further enhance health education by identifying mechanisms that young women employ to self-regulate eating behaviors following instances of eating stress.

Research Questions

This study strives to explore three central inquiry questions: 1) What are the self-regulatory mechanisms young women employ to regulate eating behaviors and attitudes? 2) What is the frequency of endorsements of self-regulation mechanisms and attitudes at baseline or normal state? 3) To what extent does the frequency of endorsements of self-regulation mechanisms and attitudes vary across levels of eating stress? The first two questions are descriptive inquiries and the third research question can be operationalized and tested. Since no extensive research history on self-regulation eating behaviors exists, the null hypothesis for behaviors and attitudes is initially accepted. Therefore, this study is initiated with the assumption that no differences exist among the various experimental levels.

Assumptions

The present conceptualization is predicated on three major assumptions: First, participants are expected to fill out the instruments accurately and honestly. In this stage of the instrument development, the EBAI does not contain scales to control for social desirability, faking good, or faking bad. Second, individuals are assumed to regulate their eating behavior in some way. Individual differences exist, though, in use of self-regulatory mechanisms. Finally, it is being assumed that the instrument is being normed on a non-pathological population, one that contains a normal distributed proportion of women diagnosed with an eating disorder.

Delimitations

There are several important limitations associated with this study. First, the participants belong to two populations: One sample was comprised of ten high school students enrolled in a charter high school in a largely populated town in Southeast region of the USA. Additionally, the sample is taken from physical education courses and students not enrolled in physical education are unintentionally excluded from the study. The second sample consists of 90 undergraduate female enrolled an Introductory Psychology course at a historically African American college in the Southeast region of the United States. The complete sample includes 100 females whose ages range between 14-23 years old. Since the study focuses on adolescent women and college-aged

women, this study cannot be generalized to all adolescent middle school or older adults. Moreover, several of the items on the EBAI are biased towards recalling an overeating experience, which may affect the end results. In order to reduce this phenomenon, the number of items targeted for overeating and under eating behaviors was balanced, when possible. Third, the study is limited to items specific to the EBAI.

Definitions

For the purpose of this study the below terms will be defined as follows:

- *Homeostasis* is the process by which an individual regulates her internal environment to maintain the body's body weight at a steady state.
- *First Order Change* is change that occurs within a given system which itself remains unchanged (Watzlawick et al., 1974, p.10).
- *Second Order Change* is referred to as change of change or change whose occurrence changes the system itself (Watzlawick et al., 1974, p. 11).
- *Eating Disturbance* is an event in which an individual overate or restricted caloric intake for a specific period of time.
- *Eating Stress* is the level calling for change in eating patterns. There are four levels identified in this study are 1) baseline or normal state, 2) 1-day eating disturbance 3) 3-5 day eating disturbance and 4) 10-lb weight change.
- *Self-Regulation* means responses by the individual that are directed at him- or herself, rather than an environmental event. (Barkley, 1997, p. 51)
- *Mechanisms of Self-Regulation* are behaviors and attitudes individuals employ to maintain homeostasis.
- *Executive Processing Domain* is the comprised of cognitions associated with monitoring, controlling, regulating and evaluating lower-order information processing. (Reardon, et al., 2000)
- *Self-Talk* is the verbalizations one uses to talk to one's self as if from the perspective of an observer (Reardon et. al, 2000).

Significance of Study

This project takes a preventative approach, ultimately seeking to enhance health maintenance. It is not in the scope of this project to decrease dysfunctional behaviors. The instrument is being developed off a normative sample of adolescent and college age females.

This study is designed to help adolescent and college-aged women gain insight and awareness of the self regulatory mechanisms relating to eating behavior; which can teach them to maintain a healthy weight, create healthy eating patterns, and eliminate the dangers associated with fad dieting.

Moreover, the unique characteristic of the eating domain is that eating, like breathing, is needed for survival. This presents problems for individuals struggling with impulse control regarding their eating behaviors. Unlike other self-regulation domains such as alcohol consumption, cigarette smoking or drug use, eating is not an all or nothing behavior and cannot be eliminated from one's daily routine. Hence, stressing the importance to study self-regulatory mechanisms in relationship to everyday eating behavior.

CHAPTER 2: LITERATURE REVIEW

Executive Processing Domain

Self-regulation mechanisms are subsumed under the executive processing domain of cognitive functioning. According to Barclay, the executive function refers to self-directed actions of the individual that are being used to self-regulate (1997). The literature in this area extends into fields of career, sports psychology, and educational psychology.

Cognitive Information Processing

The Cognitive Information Processing (CIP) approach is a tool that assists people during the career decision-making process (Peterson et. al, 1991). Within the CIP approach is the Pyramid of Information-Processing Domains, a structure devised to conceptualize and categorize the levels of cognitions involved in the decision-making process. The Pyramid of Information-Processing Domains is comprised of three hierarchical domains: Executive Processing, Decision-Making Skills and Knowledge Domains. The Executive Processing Domain is the highest level of the pyramid and is made up of metacognitions skills, or “the skills that govern how we think about career problem solving or decision making” (Reardon et. al, 2000, p.87). The developers of the pyramid mainly discuss the domains of the pyramid in regards to career problem solving. They maintain that metacognitive skills help us know when to begin the decision-making process or when to obtain more self-knowledge (Peterson et. al, 1991). However the pyramid can generalize to other aspects of decision-making. For example, a master’s thesis conducted by Money (2004) applied the Cognitive Information Processing Theory to the decision processes involved in undertaking cosmetic surgery.

Several of the domains of self-regulation used to develop the EBAI fall under the executive processing domain of the Pyramid, including self-monitoring, control, and self-talk. Moreover, the Executive Processing Domain focuses on the higher level thinking of an individual when making a decision, thus cognitions are often employed when individuals are making choices regarding their eating behaviors. During this process, individuals have the ability to perceive themselves as the doer of the task (Peterson et al, 1991). The executive process functions as a way of becoming aware of one’s actions and thoughts in the moment. The metacognitions are broken down into three subsections: (a) self-talk, (b) self-awareness and (c) control and monitoring, all of which influence the development of attitudes and behaviors involving eating (Reardon et al., 2000).

Self-Regulation

Domain General

Self-regulation is a common occurrence that can be applied to many facets of people's lives. Self-regulation has survived a "century of historical vicissitudes within psychology" (Mischel & Ayduk, 2004, p. 99). The term self-regulation has been defined as "responses by the individual that are directed at him- or herself, rather than at the environmental event that may have initiated them" (Barclay, 1997, p. 51).

As explained in *The Handbook of Self-Regulation*, individual differences in the host of biochemical-genetic-somatic factors that influence self-regulation are conceptualized as pre-dispositions. Mischel & Ayduk (2004) explain:

These biological pre-dispositions bias the system's development in particular directions... However their influences are constantly modulated by the cultural, social and interpersonal contexts in which the child is situated. It has been showed that many factors influence a child's development of self-regulation which reflects genetic endowment, biological history and their interactions with social learning and developmental experiences in the course of socialization within a particular culture (p. 104).

Many well-intentioned New Year's Resolutions, such as quitting smoking, maintaining an exercise regimen and eating healthy are goals that unless implemented by effective self-regulatory mechanisms become de-prioritized (Baumiester et al., 1994). The failure of well-motivated, good intentions is documented in research on the power of stimulus control (Mischel & Ayduk, 2004). Carver (2004) stated that self-corrective adjustments take place as a need to stay on track for whatever purpose being served, and that the corrective adjustments originate within the person. The self-corrective adjustments represent a continual process of moving towards goal representations, which embodies feedback control.

According to Herman and Polivy (2004), self-regulation mechanisms are utilized when our typical regulatory process do not accomplish what is desired. When an individual cannot count on automatic regulation to get him/her where he/she wants to go, one must deliberately alter the regulatory landscape by introducing new interventions or mechanisms designed to remedy the situation.

Domain Specific

The elements of self-regulation are incorporated in literature across a variety of topics, including alcohol abuse, smoking, and attention deficit hypertension disorder.

Alcohol. Some specific areas of research that have been well researched include alcohol abuse and smoking. Alcohol is an illustration of “lapse-activated causal patterns” (Baumeister, Heatherton & Tice, 1994, p. 145). Specifically, the onset of factors can cause people to start drinking and then large additional set of factors can cause people to consume alcohol to the point of excess. Chronic heavy drinking or isolated binge drinking is harmful and destructive and is an example of self-regulation failure. The loss of self-control when drinking alcohol seems to be affected by both physiological, genetic components and influence of society’s beliefs and expectancies. Adherences to models of alcohol abuse that neglect these cognitive components may lead to self-control failures and alcoholic binges. (Baumeister et al., 1994).

Smoking. Smoking has declined over that past 30 years; 27% of American adults continue to smoke (Baumiester et al., 1994, p. 197). Research conducted in the area of smoking addressed three issues regarding self-regulation. The first issue deals with the reason for why someone would begin smoking knowing the harmful health effects. Cigarettes differ from behaviors such eating because smoking is not always socially acceptable and is not vital for survival. Baumiester et al. (1994) suggests that smoking is generally “and all-or-none-Phenomenon” (p. 197). In other words, people are either smokers or non-smokers, which differ from eating behaviors because people cannot be dichotomously classified as eaters or non-eaters. Once individuals become regular smokers they smoke enough to satisfy their cravings and suppress withdrawal. Also, individuals who attempt to quit smoking exemplify the difficult self-regulatory task of trying to overcome a physically ingrained addiction (Baumiester et al., 1994).

Attention Deficit Hyperactivity Disorder. According to a recent study, Attention Deficit Hyperactivity Disorder (ADHD) effects between 3-7% of school-age children (Szatmari, 1992). Barclay (1997) explains that ADHD disrupts the developmental process in which behavior has the ability to become internalized. This results in an inability to regulate and direct future behavior. Barclay explains that in order to correct for these deficits, increased awareness of one’s own ADHD symptoms is crucial. Specifically, as individuals learn to become increasingly more aware of their own attitudes and behaviors, “self-regulation of affect/motivation/arousal as an executive function may follow self-directed sensing (nonverbal working memory) in the developmental stages of executive functions (p. 213).”

Self-Regulation in Eating Behaviors

Eating Disorders

Self-Regulation of eating behaviors is an important phenomenon to understand, because the breakdown of self-regulatory mechanisms can lead to obesity and serious eating disorders, such as anorexia nervosa and bulimia nervosa. Research on eating disorders indicates that eating disorders occur when there is a breakdown in maintaining and establishing steady eating patterns. There is a body of research focusing on the dysfunction and implication of eating disorders but little research done on self-regulation eating behaviors and preventive measures (Tylka, 2004; Kashubeck-West et al., 2001; Lester et al., 1998 & Ruderman et al., 1992).

Anorexia Nervosa. Individuals who engage in self-starvation, refusing to maintain a minimally normal body weight, or Body Mass Index (BMI) of 17.5 are considered anorexic (APA, 2000). According to Nash (1999), 1 to 3 million Americans, the majority of which are adolescent or college-aged females, are affected by anorexia nervosa. Health implications are a major concern for young females suffering from anorexia including: lack of or irregular menstrual periods, electrolyte imbalance and dehydration. Females struggling with anorexia for many years increase their risk of bone loss, kidney or heart failure and even death. It has been noted that approximately 5-20 % of anorexics die from complications associated with self-starvation (Hall & Ostroff, 1999). In order to decrease number of young females engaging in self-starvation it is necessary for researchers to explore preventive methods to enforce weight maintenance as opposed to weight-loss.

Bulimia Nervosa. Bulimia Nervosa affects an estimated 1 to 3 percent of adolescents and 13 to 19 percent of female college students (Nash, 1999). Bulimia usually starts in late adolescence or young adulthood, often emerging at a developmental transition points such as leaving college, moving away from home, or going through the breakup of an important relationship (Nash, 1999). The DSM-IV-TR criteria for bulimia include frequent episodes of binge eating, the possibility of purging behavior, awareness of the abnormality of the eating pattern, and depressed thoughts after binge eating (APA, 2000). The DSM-IV-TR criteria also specifies that the individual regularly use methods to prevent weight gain (such as self-induced vomiting, laxatives, fasting, and excessive exercise). Thus self-regulatory mechanisms involve bulimics regular behaviors to eliminate the calories consumed, thought control and negative self-talk. According to the studies of Powers et al., “there is evidence that cognition plays an

important role in the development and maintenance of bulimia” (p. 1456). Overestimation of body image and size has also been linked to a variety of clinical symptoms in females with bulimia including the presence of vomiting, use of laxatives and other methods of purging behaviors (Powers et al., 1987). Approximately 80 to 90 percent of females dealing with bulimia vomit to control the amount of calories their body consumes by vomiting (Nash, 1999). Bulimics also place a strong emphasis on body shape and weight, which defines their self-worth. Thus, emphasizing the importance of studying females negative self-talk and degree to which self-monitoring of food intake occurs in relation to eating behavior.

Eating Behaviors. Eating is essential for survival; thus regulation of eating behaviors is a necessary and daily occurrence. Our bodies are concerned about short-term regulation of energy and maintaining a reserve of energy for emergencies. However, females who are concerned about body image, weight and/or appearance could attempt to control one’s weight via controlling the amount or type of food being consumed. The authors suggest that people do not “normally think about our breathing, unless it poses a problem for us, we also do not normally think about our eating unless, it become problematic” (Polivy & Herman, 2004, p. 493).

Theoretical Perspectives

General Systems Theory

The present researcher is looking at self-regulatory mechanisms through various concepts of general systems theory including: homeostasis, turbulence, recursive causation and self-regulating to maintain a steady state (Bertalanffy, 1975).

Homeostasis. The majority of literature on self-regulation has focused on an individual’s ability to monitor and modify, behavior, cognition, and affect in order to meet a goal (Efklides et al., 2002). The researchers incorporate many components of general systems theory during the development of the EBAI. Homeostasis has been defined as “the process by which living organisms regulate their internal environments” (Carver, 1981, p. 26). Thus, homeostatic mechanisms regulate the levels of oxygen and carbon dioxide in our blood, sugar and other nutrients, lactic acid and other wastes. They keep us from being too cool or being too hot. Homeostatic mechanisms function to maintain stability in the face of continually changing external conditions (Carver, 1981). Other researchers have discussed the principles of feedback loops as a way to regulate behavior at a level of analysis that is of interest to the researcher. Cognitive research has “investigated the processes within the person that determine how

effective a given environmental stimulus will be, compared to other environmental stimuli” (Carver, 1981, p. 35).

Turbulence. According to Gleick (1987) turbulence is disorder and instability at any scale. This state of entropy “drains energy and creates drag (p.122).” The concept of turbulence applies to eating because healthy eating functions according to stable and predictable manners. When turbulence hits, eating becomes disorganized and chaotic, self-regulation and control diminishes. Turbulence is not easily understood: “The onset of turbulence can be seen and measured in laboratory experiments; it can be tested . . . but its nature remains elusive (pp. 122-123).” This study attempts to better understand and grasp the concept of turbulent eating and the underlying mechanisms that turn an orderly state into a chaotic one.

Set Point Theory

Research on set point theory explains a relatively constant weight can be maintained without monitoring food intake against energy output. “Most researchers concur that weight stability in adults is the rule rather than the exception” (Schlundt & Johnson, 1990, p. 41).

Garner & Garfinkel (1997) further note that:

Generally speaking, body weight resists change. Weight appears to be physiologically regulated around a ‘set point,’ or a weight that one’s body tries to ‘defend.’ Significant deviations from this weight result in a myriad of physiological compensations aimed at returning the organism to this set point (p. 149).

However when regulation is not properly enforced the body cannot resist weight gain or loss and the body weight will be changed. Unless the body regulates itself the body will adapt to the new set point weight.

The authors of *The Handbook of Treatment for Eating Disorders* use a metaphor of a thermostat to demonstrate set point theory. The authors explain that a thermostat control a furnace in stabilizing the heat level in a room. If the heat controls are set at a certain number, the system operates to maintain that temperature. If a window is opened and the room temperature drops the thermostat automatically goes to work to increase the heat level and if the room gets too hot the thermostat will self-correct by automatically shutting itself off (Baumeister & Vohs, 2004). Although the metaphor involves closed or non-living systems, the principles can be attended to open or living systems. Thus in using the principles of set point theory, researchers are looking at the self-regulatory mechanisms adolescents use during varying levels of disturbances in order to self-correct their eating behavior which may have lead to weight change.

However, some researchers have noted that set point theory has implications for obesity. Garner & Garfinkel cite Nisbett's study (1972) and state that body fat determined by the set point mechanisms often vary in individuals of the same height and body frame, depending upon genetics and experiences with food (pg. 150). Nisbett argued that obesity for some individuals represent a stable or ideal body weight. The study concluded that many obese people are hungry because there are trying to lose weight and keep their weight below their body's natural, genetically determined set point.

Set point theory can explain that despite medical advice to lose weight, there is biological resistance to permanent weight change. Dieters and people with eating disorders illustrate the ability to suppress their body weight temporarily; however they are not removed of the constant physiological pressures to return to their body's natural pre-determined weight.

Dimensions of Self-Regulation

Self-Monitoring

Self-regulation failure and relapse prevention among females with eating disorders have been studied (Pyle et al., 1986). Specifically Pyle et al., studied the challenges faced by bulimic women during recovery. The researchers noted that the onset of bulimia often occurs during stressful events or exposure to food that may elicit binge eating, such as foods that have been restricted or eliminated from an individual's eating pattern. Some of the attitudes associated with binge eating were anger, emotional liability, and anxiety. The researchers also discussed that previous treatment failures supported young women's fears of repeated failure when attempting to correct the bingeing and purging cycle. Pyle et al. further emphasize the importance of self-monitoring activities including: recording intended food intake vs. actual food consumption, feelings elicited when engaging in an undesired eating behavior and rationale for responding to a specific emotional or environmental stimuli in such a manner. During clinical treatment for bulimia, clients are taught healthy eating habits and alterative behaviors to binge eating. However, in this study the focus is correcting the dysfunction of individuals suffering from bulimia. The researchers have identified the importance of using self-monitoring mechanisms and educating the clients about healthy eating behaviors during treatment. We are interested in taking the same concepts of teaching young women healthy eating patterns and learning to self-correct their eating patterns before developing maladaptive strategies such as bulimia or anorexia.

Selectivity

Weight-control behaviors and selectivity in food consumption have been identified as important aspects relating to obesity (Stice, et al., 2005). In a similar vein, Allison and Stunkard (2005) identified certain instances, such as nighttime, as important occurrences when individuals tend to become more lax about their food intake choices. Women's choices regarding the amount of food consumption and types of food eaten are a function of both behavior and attitude. The examination of the degree of selectivity exercised by participants is a key ingredient to understanding the factors related to overall eating choices.

Limiting

Gonzalez and Vitousek (2004) determined that individuals who are afflicted with eating disorders avoid certain foods because of guilt associated with eating them. Moreover, cognition and high anxiety levels influence a person's decision of limiting caloric intake (Rotenberg et al, 2005). Additionally, dietary restraint is linked to negative attitudes toward eating (Johnson & Wardle, 2005). Therefore, an individual's self-restricting eating behaviors might play an important role in shaping both attitudes and overall eating behavior habits.

Self-Talk

Negative self-talk can create problems in decision making (Reardon et al., 2000). This can also be generalized to eating problems, because self-deprecating statements interfere with effective information processing. Mills (2005) noted that shame affects self-development. Women who feel ashamed about their body image might view themselves and relate to themselves in ways that are harmful and self-defeating. Self-talk and attitudes can influence and shape behaviors that distort healthy eating.

Goal Setting

Goal setting is an important concept in self-regulation. Linde et al. (2004) examined the relationship among goal setting and dream weights as related to eating habits. Bagozzi, et al. (2004) found that the formation of goals influenced the attitudes of dieters. Healthy goals as juxtaposed with unrealistic standards can affect attitudes and shape behaviors in important ways.

Energy Consumption

Energy consumption is an important element in weight maintenance. The goal is to establish eating and exercise habits that will result in the long-term maintenance of a healthy weight along with the absence of any self-destructive behaviors. Balancing the energy

consumption addresses poor self-control over food consumption and the improper use of diet and exercise (Schlundt & Johnson 1990). Patients with eating disorders frequently exhibit inappropriate eating habits including: skipping meals, restricting caloric intake, fasting, binge eating and self induced vomiting. Studies have been performed sampling individuals with bulimia nervosa to examine the notion of energy balancing. W.G. Johnson et al (1984) used energy balance training in combination with exposure with response prevention indicated that energy balance training was effective in normalizing eating habits and reducing the frequency of self-induced vomiting. W.G. Johnson et al. (1986) performed an additional test of energy balancing procedures among eight patients with bulimia nervosa. The researchers found that the energy balancing training helped decrease bingeing and purging behaviors. The purpose of energy balance training is to teach individuals to regulate body weight at a healthy level by developing healthy eating and exercise habits (Schlundt & Johnson, 1990).

Thought Control

Individuals with body image problems might experience cognitive distortions. Research has shown that both dieters and women with eating disorders experience faulty cognitions related to food intake (Heatherton & Baumeister, 1991). Bruck (1973) explained that individuals suffering from eating disorders have irrational thoughts that can be obsessive in nature. Ruderman (1985) found that dieters engage in dichotomous reasoning. Therefore, examination of an individual's cognitions relating to food, eating, and body image regulation can shed light on possible areas of eating disorders.

Food Elimination

The notion of food elimination is commonly found in eating disorder studies (Schlundt & Johnson, 1990; Heatherton & Baumeister, 1991). The practice of usage of laxatives, diuretics, and purging after meals are common mechanisms employed by individuals with an eating disorder (Tylka & Subich, 2002). The use of self-induced vomiting has a profound effect on eating behavior (Schlundt & Johnson, 1990). Furthermore, the use of laxatives is common among women (Pyle et al., 1986). Food elimination practices are not only physiologically dangerous, but they might contribute to unhealthy eating attitudes and behaviors.

External Monitoring

Eating disorder patients have been shown to have an insecure attachment style (Hochdorf, 2005). They also tend to be perfectionistic and ascetic (Quinton & Wagner, 2005).

An individual's interaction with others and that person's perception of those interactions might influence eating behaviors and attitudes. Social interaction styles and contact with others could account for some distortions in said disorders. Individuals who exhibit these characteristics might tend to be overly critical in their self-regulation.

Existing Measures

The Eating Disorder Inventory-2 (EDI-2) and the Eating Attitudes Test (EAT-26) are the two common measures related to eating behaviors. These assessments are screening tools that focus on eating disorders. The EDI-2 is regularly used as a measure of psychological symptoms associated with anorexia nervosa, bulimia nervosa and other eating disorders (Garner, 1991). The EDI-2 is comprised of 91 items presented in a six-point scale that yields 11 subscales including: drive for thinness, bulimia, body dissatisfaction, ineffectiveness, perfectionism, interpersonal distrust, interoceptive awareness, maturity fears, asceticism, impulsive regulation and social insecurity.

Moreover, the EAT-26 is one of the most frequently used tools to examine the symptoms and concerns characteristic of eating disorders (Garner, 1997). This screening instrument consists of 26 items which derived 3 subscales including: dieting, bulimia and food preoccupation, and oral control. The purpose of these assessments is to screen for pathological eating behaviors and presence of eating disorders among individuals, however these measures do not address or access for self-regulation of eating behaviors or attitudes.

Conclusion

After reviewing the literature, the present researcher formulated the nine mechanisms of self-regulation as highlighted in previous research fields including: eating disorders, attention deficit hypertension disorder, smoking, and career counseling. Prior literature has also contributed to the creation of the behavioral and attitudinal item pools. However, the comprehensive body of research on eating disorders primarily examines eating disorders from a dysfunctional standpoint as opposed to a preventative measure. Furthermore, the common eating assessments (e.g. EDI-2 & EAT-26) focus on symptoms and concerns attributed to eating disorders and do not specifically access self-regulatory functioning. Thus, creating a need for research focusing on the identification and assessment of self-regulatory mechanisms in connection with young women's eating behaviors and attitudes.

CHAPTER 3: ITEM GENERATION AND INSTRUMENT DEVELOPMENT

This chapter delineates the process and procedures undertaken to arrive at the answer for the first research question: What are the self-regulatory mechanisms young women employ to regulate eating behaviors and attitudes?

Creation of Item Pool

First Draft. The first draft of the EBAI instrument involved a structured interviews where participants were asked to draw upon three previous life events: (1) a single occurrence when the participant overindulged or restricted food intake; (2) a single occurrence when the participant overindulged or restricted food intake for 3 to 5 days; and (3) a single occurrence when the participant rapidly gained or lost weight. After recalling each event and indicating whether the occurrence involved either overindulgence in or restriction of food intake, the participant was asked to complete a series of questions that regarding events leading up to and preceding the occurrence, cognitions during and after the event, and self-correcting eating behaviors.

Originally, two separate inventories were developed: one to measure eating behaviors (The Behavior Inventory) and another to measure eating attitudes (The Attitude Inventory). The Behavior Inventory included 32 items, based on both normal eating behaviors and behaviors included as criterion for eating disorders. The Attitude Inventory included 18 items related to emotions, body image, weight perception, and eating habits. Both inventories initially included a 6-point type scale. However, later versions included a 2-point yes-no item checklist in order to ease participants' response rate in completing numerous items. Thus a second draft of the EBAI was designed and converted into a checklist format.

Second Draft. During this phase in the development of the EBAI, two checklists were formed. Items from the previous draft were incorporated. Additional items were added to the EBAI from graduate students and mental health professionals who reflected on their own personal behaviors and attitudes. Items were also incorporated from the eating disorder literature (e.g., use of laxatives, bingeing, purging, fasting, over-exercising). As a result, EBAI included two checklists, one examining eating behaviors of women and the other examining women's attitudes about eating habits. The additional items added to the EBAI derived from brainstorming with other graduate students and mental health professionals on their own personal eating behaviors and attitudes. The behavior checklist was comprised of 43 items and the attitudes items included 27 items. Each checklist attempted to cover the full range of attitudes and

behaviors relevant to eating habits. Additionally, the last item of each list included an “other,” open-ended, category, affording the participants the opportunity to provide additional attitudes and behaviors not included in the checklists.

Pilot Test of Item Pool. After designing the behavior and attitude item pools, three single participant pilot studies were conducted on women participants ranging in age from 23 to 47. Two of these individuals were the present researcher’s colleagues and the other was a family member of the participant, all of whom volunteered to partake in the pilot study. Two of the women were Caucasian and one was Hispanic. Furthermore, the three women were judged to be within the normal weight range for their height.

At the beginning of each pilot study, the present researcher began by describing to each participant the purpose of conducting a pilot study and discussing with each participant the steps that would be taken to ensure anonymity and that any identifying information will remain confidential. Next, the researcher orally conducted the structured interview and recorded each individual’s responses to the interview questions. The present researcher interjected only to clarify any participants’ responses that appeared vague or to repeat questions as requested by the individual. During these trials each participant was verbally asked to complete a structured interview. The purpose of the structured interview was to obtain descriptive and detailed answers from the women in order to gain insight into behavior and attitudes that women exhibit during various situations.

Finally, the EBAI was administered and the individual was instructed to fill out the information sheet and strictly follow the directions for each checklist. Upon completing the instrument, each individual was given an opportunity to ask the researcher any questions about the questionnaire. The participants were also questioned for additional feedback regarding the assessment.

The EBAI was used as a follow-up assessment to assess whether the individuals would endorse the behavior and attitude items as self-regulation change mechanisms. Based on each individual’s responses to the item on the EBAI, the questionnaire was revised to reflect a more comprehensive checklist of eating attitudes and behaviors that women may display during various levels of eating stress.

Third Draft. After analyzing the participants’ responses to the structured interview and checklist, an additional revision of the EBAI was implemented. Specifically, seventeen

additional behavior items was added and one attitude item that was judged to be repetitive was eliminated. After all three of the participants completed the checklists, the utilization of self-regulatory mechanisms throughout the various eating domains were examined. Common themes among participants' responses were identified. These resulted in the formation of distinct content domains. Additionally, minor revisions to the instrument were made to reflect domains cited in the self-regulation and set point theory literature.

Response Scale Development

The first draft of the EBAI was designed as an inventory in which both a Behavior Scale and Attitude Scale were developed using a 6 point frequency scale: The Behavior Inventory included the responses: 0= never, 1= monthly, 2 = weekly, 3 = daily, 4 = hourly, 5 = several times a day. The Attitude included the responses: 0 = never, 1= rarely, 2 = sometimes, 3 = often, 4 = most of the time, 5= always. However, as the researcher increased the number of items in each of the scales, the scale was changed into a discrete scale in order to minimize the time commitment needed for subjects to complete the instrument.

The response scale took the form of a checklist in which subjects were to endorse items that applied to reaction to eating stress and leave blank the items that did not apply. This true or false response scale was tested in the three pilot studies and was used in the field test of the instrument.

Assigning items to Content Domains of Self-Regulation Behaviors

Nine dimensions of self-regulatory mechanisms of the EBAI were developed. These were based on mechanisms cited in the literature and the data collected in the earlier pilot studies. For the eating behavior portion of the checklist, the item pool contained the following domains: self-control, self-monitoring, self talk, goal setting, energy consumption, thought control, food elimination, external monitoring, and limiting. After all three of the participants completed the checklists the present researcher examined the self-regulatory mechanisms utilized throughout the various eating domains. After developing the nine domains based on the responses and shared themes among the subjects the items in the behavior pool were assigned to the most appropriate domain based on logic and commonalities among items.

Specifically, each of the nine domains included the following items:

1. Self-Monitoring:

- Take body measurements

- Weigh yourself daily
- Keep track of daily calorie intake
- Maintain a daily food journal
- Change amount of food consumption when in public
- Adhere to shopping list when going to grocery store
- Increase awareness of what/how much eat I when alone

2. Selectivity:

- Control fat intake
- Control the amount of carbohydrates you consume
- Control the number of desserts you eat
- Look at the nutritional facts on food before you buy it
- Look at the nutritional facts on food before you eat it

3. Limiting:

- Skip meals on purpose
- Ignore your food cravings
- Think about the foods you want to eat but chose not to eat them
- Skip eating a meal
- Skip eating for a day
- Control your responses to hunger pains
- Avoid certain foods
- Regulate how many times you eat per day
- Regulate calories after binge eating
- Stop eating after a certain hour each day regardless of what you have eaten that day
- Regulate the number of times you eat at fast food restaurants
- Regulate the amount of times you eat at restaurants

4. Self-talk:

- Call myself a bad girl when I overeat (or go off of typical eating pattern)
- Call myself names
- Criticize myself for engaging in above eating behavior
- Ignore your hunger and tell yourself you are not hungry

5. Goal Setting:

- Eat meals at the same time each day
- Control your portion size of your meals
- Look at yourself in mirror to examine body/weight changes
- Eat the same food each day
- Set goals for yourself regarding weight loss
- Schedule time to eat
- Schedule food to eat
- Plan your day around exercising
- Reward self for accomplishing eating goals
- Generate list of alternate activities that don't involve food
- Slow pace of eating

- Take vitamins or supplements regularly
6. Energy Consumption:
- Exercise after binge eating
 - Exercise for more than 2 hours at a time
7. Thought Control:
- Think about losing weight
 - Plan your day around meals
 - Take medication such as antidepressants
 - Change self language of “should not eat” to “could not eat”
 - Consider cosmetic surgery
 - Give self permission not to have to “clean plate” if full
8. Food Elimination:
- Purge after eating
 - Take laxatives
 - Take diet pills
9. External Monitoring:
- Partake in counseling about your eating behavior
 - Consult with friends about your eating behavior
 - Eat in front of people so people don't get suspicious
 - Lie about the amount you eat to your friends or loved ones
 - Isolate yourself from people
 - Hide your weight loss or weight gain by wearing baggy clothes
 - Friends remind you to eat more
 - Friends remind you to follow your diet
 - Friends compliment your weight change

Categories of Eating Stress

During the pilot tests the subjects were asked to endorse items after recalling three prior situations in which their eating behaviors varied from their norm. After conducting the pilot studies the researcher was interested in comparing participants' behaviors during an eating disturbance to their baseline behavior. Hence a fourth level of eating stress, which called for subjects to endorse items they partake in or feelings they have on a typical day was added. After re-examining the answers of the pilot studies we refined the last level of eating stress and quantified the amount of weight loss or gain to 10 lbs. Hence, the final categories of eating stress of the EBAI were defined as typical day reactions, 1-day disturbance, 3 to 5 day disturbance and weight loss or gain of 10 lbs.

Final Instrument

The pilot tests and the subsequent revisions yielded the final version of the EBAI (see appendix A). The format of the EBAI was designed as a true or false instrument in which participants either endorsed (marked yes) or failed to endorse (left blank) a given item based on their prior self-regulatory experiences. The checklist is comprised of two components: the behavior inventory and attitude inventory. The behavior inventory consists of 60 items assigned to one of the following nine content domains: self-monitoring, limiting, goal setting, selectivity, energy consumption, food elimination, external monitoring, thought control and critical self-talk.

Furthermore, the EBAI asks participants to recall four situations of varying eating stress: baseline or normal state, 1-day eating disturbance, 3-5 eating disturbance, and 10-lb weight change. The instrument asks participants to endorse the behaviors and attitudes they employ in reaction to the above 4 levels of eating stress. Thus, final version of the EBAI consists of a total of 84 items (60 behavioral and 24 attitudinal items); 2 inventories scales (Behavior and Attitude); nine content domains (self-monitoring, limiting, goal setting, selectivity, energy consumption, food elimination, external monitoring, thought control and critical self-talk); and four levels of eating stress (baseline, 1-day disturbance, 3-5 day disturbance, and 10-lb. weight change).

Field Test

This chapter helps to answer the second research question: What is the frequency of endorsements of self-regulation mechanisms and attitudes at baseline or normal state? It also addresses the third inquiry question: To what extent does the frequency of endorsements of self-regulation mechanisms and attitudes vary across levels of eating stress?

Participants

The participants consisted of 2 samples: one comprised of 90 undergraduate women who were enrolled in an Introductory Psychology course and attended a historical African American college in the Southeast. The other sample contained 10 high school female students who attended a charter high school in the Southeast. The participants' ages ranged from 14-23 years old. Ninety percent (90%) of the combined samples were African American, five percent (5%) were Caucasian, and the remaining five percent (5%) were Hispanic, Asian and Israeli females. All of the participants were volunteers and the undergraduate students received extra credit for completing the questionnaire.

Procedures

Adolescent high school students. Parental Consent forms were sent home with 150 female high school students enrolled in a physical education course. The parental consent forms were mailed back in a self-addressed stamped envelope to Dr. Gary Peterson, a professor of Florida State University. After securing 10 participants, the researcher visited 4 Physical Education classes and administered the EBAI to the female students who agreed to participate in the study. Each of the participants signed an informed consent form and attached the informed consent form to the parental consent form previously signed by the student's parent and/or guardian.

Then participants were asked to fill out an attached information sheet, which asked for their age, height, lowest weight within the year, highest weight with the year, gender, and race. Next, the participants were told to follow the instructions above each of the four checklists and were instructed to place a check to indicate whether the situation they are recalling involved under eating or overeating for the second and third levels of eating stress and indicate losing or gaining 10 lbs. for the fourth checklist. The researcher remained in the room while the participants answered the questionnaire and collected the completed responses as each participant completed the instrument. Upon completion of the study, the researcher remained in the classroom to answer any questions the participants had related to the study.

College Students. A faculty member instructor at a historically black college administered the EBAI to both of his undergraduate psychology classes and 170 undergraduates students agreed to partake in the study. First the instructor distributed the informed consent form, because all participants were over 18 years old a parental form was not needed. After collecting the informed consent form the instructor distributed the EBAI. The participants were instructed to fill out the attached information sheet, which asked for their age, height, lowest weight within the year, highest weight with the year, gender, and race. Next, the participants were told to follow the instructions above each of the four checklists and were instructed to place a check to indicate whether the situation they are recalling involved under eating or overeating for the second and third levels of eating stress and indicate losing or gaining 10 lbs for the fourth checklist. After completing the instrument the students handed in their responses to the instructor. The undergraduate participants were given extra credit from the professor for partaking in the study.

The instructor collected the completed instruments and delivered all of the completed forms including: the informed consent forms, information sheets and questionnaires to the researcher

the following day. After receiving the 170 completed questionnaires the present researcher separated the completed questionnaires by gender and included the ninety female questionnaires in the study. The remaining eighty questionnaires completed by male students will be secured in a locked filing cabinet in Dr. Peterson's office in the FSU Career Center and will be saved for future research.

CHAPTER 4: FINDINGS

Baseline Behavior

The frequency of endorsement for each of the 59 behavior items at baseline, or an individual’s eating behavior on a typical day is presented in Table 1 on the following page. The table was arranged by categories of nine dimensions of self-regulation. This table addresses the second research question: What is the frequency of endorsements of self-regulation mechanisms and attitudes at baseline or normal state? The participants were given the following directions:

“Below are mechanisms to monitor and control body weight that many, if not most, people use. Please check all of the behaviors and attitudes that apply to you during a typical day pertaining to your daily eating behaviors.”

Table1. Percentage of Endorsement of Behaviors Responses at Baseline (n =100)

Item Number	Item	Baseline Percent
Self-Monitoring		
1	Take body measurements	3
2	Weigh yourself daily	11
3	Keep track of daily caloric intake	15
4	Maintain a daily food journal	6
5	Maintain a journal of your exercise activities	3
6	Change amount of food consumed when in public	19
7	Adhere to shopping list when going grocery shopping	40
57	Increase awareness of what/how amount I eat when alone	6
Cognitive Strategy- Limiting		
8	Skip meals on purpose	21
9	Ignore your food cravings	28
10	Think about foods you want to eat buy choose not to eat them	37
11	Skip eating a meal	48
12	Skip eating for a day	7
13	Avoid certain foods	49
14	Regulate how many times you eat per day	25
15	Regulate calories after binge eating	3

Table1 Continued

16	Stop eating after a certain hour each day regardless of what you have eaten that day	18
17	Regulate the number of times you eat at fast food restaurants	40
18	Regulate the amount of times you eat out at restaurants	24
60	Add a meal for the day	n/a
Goal Setting		
19	Eat meals at the same time each day	11
20	Control the portion size of your meals	25
21	Look at yourself in mirror to examine body/weight changes	77
22	Eat the same food each day	14
23	Set goals for yourself regarding weight loss	30
24	Schedule time to eat	13
25	Schedule food to eat	17
26	Plan your day around exercising	11
27	Reward self for accomplishing eating goals	8
28	Generate list of alternate activities that don't involve food	6
29	Slow pace of eating	20
30	Take vitamins or supplements regularly	36
Selectivity		
31	Control fat intake	18
32	Control the amount of carbohydrates you consume	16
33	Regulate the number of desserts you eat	27
34	Look at the nutritional facts on food before you buy it	22
35	Look at the nutritional facts on food before you eat it	25
Energy Consumption		
36	Exercise after overeating or under eating	4

Table 1 Continued

37	Exercise for more than 2 hours a day	5
Food Elimination to Prevent Absorption		
38	Purge after eating	1
39	Take laxatives	4
59	Take diet pills	2
External Monitoring		
40	Partake in counseling about your eating behavior	1
41	Consult with friends about your eating behavior	19
42	Eat in front of people so others don't get suspicious of your eating habits	3
43	Lie about the amount you eat to your friends or loved ones	7
44	Isolate yourself from people	5
45	Hide your weight loss or weight gain by wearing baggy clothes	6
46	Friends remind you to eat more	11
47	Friends remind you to follow your diet	9
48	Friends compliment your weight change	30
Thought Control		
49	Think about losing weight	50
50	Plan your day around meals	2
51	Take medication such as antidepressants	1
52	Change self-talk of "I should eat or I should not eat" to "I could eat or I could not eat"	7
53	Consider cosmetic surgery	12
56	Ignore your hunger pains	13
58	Give self permission not to have to "clean plate" if full	10
Self-Talk		
54	Call myself negative names	7
55	Criticize myself for engaging in overeating or under eating behavior	12

Every item was endorsed by at least one individual and none of the items were endorsed by every individual. The following are the items most frequently endorsed by the participants: 1) Look at yourself in mirror to examine body/weight changes (Item 21, 77%); 2) think about losing weight (Item 49, 50%); avoid certain foods (item 13, 49%); skip eating a meal (item 11, 48%); adhere to shopping list when grocery shopping (item 7, 40%); regulate the number of times you eat at fast food restaurants (item 17, 40%); 7) think about foods that you want to eat but choose not to eat them (item 10, 37%); take vitamins or supplements regularly (item 30, 36%); set goals for yourself (item 23, 30%); friends compliment weight change (item 48, 30%).

Interestingly, pathological items were rarely endorsed. These included: exercise for more than 2 hours a day (item 37, 5%); purge after eating (item 38, 1%); take laxatives (item 39, 4%); take diet pills (item 59, 2%); eat in front of people so others do not get suspicious of your eating habits (item 42, 3%); lie about the amount you eat to your friends or loved ones (item 43, 7%); hide your weight loss or weight gain by wearing baggy clothes (item 45, 6%) and plan your day around meals (item 50, 2%).

Baseline Attitudes

The frequency of endorsement for each of the 24 attitude items regarding individual's experience about eating patterns at baseline, or during a typical day, is presented in Table 2 below. The table includes each of the items as listed in the Attitude section of the EBAI. The participants were directed to "check all feelings you experience in a typical day pertaining to your eating attitudes."

Table 2. Percentage of Endorsement of Attitudes Responses at Baseline (n =100)

Item Number	Item	Baseline Percent
1	Satisfied with your body	56
2	Guilty for eating high caloric meals	24
3	Guilty for missing a day of exercising	29
4	Sense of accomplishment for meeting weight goal	19
5	Sense of accomplishment when people noticed your weight loss	32
6	Energized	49

Table 2 Continued

7	Motivated to eat less when others notice your weight loss or weight gain	27
8	Liked the attention you receive from others based on your physical appearance	61
9	Found it hard to start eating again once people have mentioned your weight gain or weight loss	7
10	Encouraged	55
11	Discouraged	18
12	Depressed	9
13	Happy with yourself	70
14	Sense of shame	7
15	Secretive	10
16	Lonely/Isolated	4
17	Disappointed with yourself	21
18	Impressed others	19
19	Embarrassed	6
20	Disappointed others	3
21	Productive	33
22	Scared	1
23	Out of control	5
24	Disciplined	27

Like the behavior scale, every item in the attitude pool was endorsed by at least one individual and none of the items were endorsed by every individual. The 10 most frequently endorsed attitude items were as follows: 1) Happy with yourself (item 13, 70%), 2) Liked the attention you receive from others based on your physical appearance (item 8, 61%), 3) Satisfied with your body (item 1, 56%), 4) Encouraged (item10, 55%), 5) Energized (item 21, 49%), 6) Productive (item 21, 33%), 7) Sense of accomplishment when people noticed your weight loss (item 5, 32%), 8) Guilty for missing a day of exercising (item3, 29%), 9) Motivated to eat less when others notice your weight loss or weight gain (item 7, 27%), and 10) Disciplined (item 24, 27%).

Furthermore, at the baseline level of eating stress the participants more frequently endorsed attitudes associated with positive connotations than negative connotations such as: happy with yourself (item 13, 70%), liked the attention you receive from others based on your physical appearance (item 8, 61%), satisfied with your body (item 1, 56%), encouraged (item 10, 55%), energized (item 6, 49%), productive (item 21, 33%) and sense of accomplishment when people notice your weight change (item 5, 32%). The least endorsed attitudes at the baseline level were associated with negative connotations such as: scared (item 22, 1%), lonely/isolated (item 16, 4%), out of control (item 23, 5%), disappointed others (item 20, 3%) embarrassed (item 19, 6%) and sense of shame (item 14, 7%).

Use of Behavior Mechanisms Across Levels of Eating Stress

An analysis was conducted to answer the third research question: To what extent does the frequency of endorsements of self-regulation mechanisms and attitudes vary across levels of eating stress? A Chi-square analysis was performed on each of the 60 behavior items and 24 attitude items to determine items significant to the .01 level (see Tables 3 & 4). The percentage of participants responding to the four levels of engagement by each of the nine domains is displayed in Table 3 below.

For the 1-day disturbance checklist, the participants were instructed to “recall a prior experience when you either overate or under ate for a period of 1-day. As a result of the event where you either overate or under ate please check all of the following that apply. Please check if the event you are recalling involves under or overeating.”

For the 3-5 day disturbance checklist, the participants were instructed to “recall a prior experience when you either overate or under ate for a 3-5 days. As a result of the event where you either overate or under ate please check all of the following that apply. Please check if the event you are recalling involves under or overeating.”

For the 10-lbs. disturbance checklist, the participants were instructed to “recall a prior experience when you either lost or gained 10 lbs. As a result of the event where you lost or gained 10 lbs. please check all of the following that apply. Please check if the event you are recalling involves Losing or Gaining 10 lbs.”

Table 3. Percentage of Participants Responding to Four Levels of Engagement for Each Self-Regulation Domain in the Behavior Inventory (n= 100)

Item No.	Item	Baseline	1-day disturbance	3-5 day disturbance	10 lbs.	Chi Square
Self-Monitoring						
1	Take body measurements	3	7	23	25	30.69***
2	Weigh yourself daily	11	14	30	45	39.56***
3	Keep track of daily caloric intake	15	16	15	24	4.54
4	Maintain a daily food journal	6	8	5	11	3.03
5	Maintain a journal of your exercise activities	3	4	7	8	3.22
6	Change amount of food consumed when in public	19	11	16	18	2.8
7	Adhere to shopping list when going to grocery shopping	40	25	24	29	7.70
57	Increase awareness of what/how much I eat when alone	6	12	13	16	5.05
Limiting						
8	Skip meals on purpose	21	23	24	22	.26
9	Ignore food cravings	28	32	33	33	.733
10	Think about foods you want to eat but choose not to eat them	37	31	33	30	1.20
11	Skip eating a meal	48	37	42	25	12.1**
12	Skip eating for a day	7	11	15	12	3.26
13	Avoid certain foods	49	38	44	40	2.86
14	Regulate how many times you eat per day	25	23	26	37	5.9
15	Regulate calories consumed after binge eating	3	6	3	6	2.08
16	Stop eating after a certain hour each day regardless of what you have eaten that day	18	15	12	23	4.64

Table 3 Continued

17	Regulate the number of times you eat at fast food restaurants	40	24	30	29	4.84
18	Regulate the amount of times you eat out at restaurants	24	18	22	22	1.09
60	Add a meal for the day	n/a	25	25	23	.143
Goal Setting						
19	Eat meals at the same time each day	11	11	7	9	1.23
20	Control the portion size of your meals	25	31	28	41	6.70*
21	Look at yourself in mirror to examine body/weight changes	77	46	38	49	34.64*****
22	Eat the same food each day	14	12	9	10	1.45
23	Set goals for yourself regarding weight loss	30	25	20	24	2.69
24	Schedule time to eat	13	12	16	20	2.97
25	Schedule food to eat	17	10	13	18	3.27
26	Plan your day around exercising	11	14	14	20	3.37
27	Reward self for accomplishing eating goals	8	10	10	14	2.04
28	Generate list of alternate activities that do not involve food	6	9	8	12	2.32
29	Slow pace of eating	20	21	15	20	1.4
30	Take vitamins or supplements regularly	36	25	24	29	4.34
Selectivity						
31	Control fat intake	18	15	20	24	2.73
32	Control the amount of carbohydrates you consume	16	18	17	22	.67
33	Regulate the number of desserts you eat	27	22	18	25	1.76

Table 3 Continued

34	Look at the nutritional facts on food before you buy it	22	18	21	26	1.32
35	Look at the nutritional facts on food before you eat it	25	22	21	27	5.06
Energy Consumption						
36	Exercise after overeating or under eating	4	16	14	18	10.23**
37	Exercise for more than 2 hours a day	5	10	9	12	3.08
Food Elimination						
38	Purge after eating	1	1	2	2	1.28
39	Take laxatives	4	6	2	5	7.36*
59	Take diet pills	2	5	6	3	2.6
External Monitoring						
40	Partake in counseling about your eating behavior	1	3	1	3	2.04
41	Consult with friends about your eating behavior	19	13	15	12	2.25
42	Eat in front of people so others do not get suspicious of your eating habits	3	2	4	2	4.86
43	Lie about the amount you eat to your friends or loved ones	7	11	9	7	1.66
44	Isolate yourself from people	5	7	5	3	1.68
45	Hide your weight loss or weight gain by wearing baggy clothes	6	5	7	9	1.37
46	Friends remind you to eat more	11	10	12	5	1.31
47	Friends remind you to follow your diet	9	8	7	11	1.63
48	Friends compliment your weight change	30	19	13	27	10.78**

Table 3 Continued

Thought Control						
49	Think about losing weight	50	26	29	31	7.73*
50	Plan your day around meals	2	3	10	7	7.84**
51	Take medication such as antidepressants	1	1	1	2	.594
52	Change self-talk of “I should eat or I should not eat” to “I could eat or I could not eat”	7	8	11	9	1.07
53	Consider cosmetic surgery	12	13	11	11	.33
56	Ignore your hunger pains	13	17	18	11	2.56
58	Give self permission not to have to “clean plate” if full	10	7	4	3	5.29
Self-Talk						
54	Call myself negative names	7	6	5	7	.435
55	Criticize myself for engaging in overeating or under eating behavior	12	15	17	15	1.01

* $p < .10$, CR = 6.25

** $p < .05$, CR = 7.82

*** $p < .01$, CR = 11.34

**** $p < .001$, CR = 16.27

An alpha of .10 was set to identify mechanisms for further investigation. The chi-square analysis yielded 11 significant ($p < .10$) items from the behavior pool. There were 48 items whose frequencies across levels of stress could have occurred by chance. Therefore with the exception of the 11 items, most self-regulation mechanisms appear to be consistent across levels of eating stress. Of the 11 significant items, the highly differentiated ones ($p < .01$) were take body measurements, weigh yourself daily, and look at yourself in the mirror to examine body/weight changes.

Use of Attitudes Across Levels of Eating Stress

The percentage of participants responding to the four levels of engagement for the attitude items across four levels of eating stress is shown in Table 4 below. On the 1-day disturbance checklist the participants were instructed to “check all feelings you experienced after you overate or under ate for a period of 1-day”. On the 3-5 day disturbance checklist the participants were instructed to “check all the feelings you experienced after you overate or under ate for a period of 3-5 days.” On the 10 lbs. disturbance checklist the participants were instructed to “check all feelings you experienced after you lost or gained 10 lbs.”

Table 4. Percentage of Participants Responding to Four Levels of Engagement for Each Attitude Item (n=100)

Item No.	Item	Baseline	1-day	3-5 days	10 lbs.	Chi Square
1	Satisfied with your body	56	36	41	63	19.1****
2	Guilty for eating high caloric meals	24	30	35	20	6.55*
3	Guilty for missing a day of exercising	29	20	26	20	2.62
4	Sense of accomplishment for meeting weight goal	19	18	19	34	10.11**
5	Sense of accomplishment when people noticed your weight loss	32	16	11	24	15.44****
6	Energized	49	24	26	49	28.04****
7	Motivated to eat less when others notice your weight loss or weight gain	27	26	19	30	3.39

Table 4 Continued

8	Liked the attention you receive from others based on your physical appearance	61	29	25	37	12.69****
9	Found it hard to start eating again once people have mentioned your weight gain or weight loss	7	9	10	5	2.05
10	Encouraged	55	34	32	56	20.6****
11	Discouraged	18	22	29	23	3.47
12	Depressed	9	19	23	15	7.69*
13	Happy with yourself	70	35	38	61	32.85****
14	Sense of shame	7	20	27	14	15.41***
15	Secretive	10	13	13	8	1.81
16	Lonely-Isolated	4	7	7	2	3.78
17	Disappointed with yourself	21	28	29	28	1.06
18	Impressed others	19	18	19	33	8.91**
19	Embarrassed	6	12	14	9	1.36
20	Disappointed others	3	6	7	3	2.80
21	Productive	33	21	21	31	6.13
22	Scared	1	6	11	7	8.63**
23	Out of Control	5	7	14	6	6.77*
24	Disciplined	27	15	13	16	8.11**

* $p < .10$, CR = 6.25

** $p < .05$, CR = 7.82

*** $p < .01$, CR = 11.34

**** $p < .001$, CR = 16.27

An alpha of $p < .10$ was set to identify mechanisms for further investigation. The chi-square analysis yielded 14 significant ($p < .10$) items from the attitude pool. There were 10 items whose frequencies across levels of stress could have occurred by chance. Therefore, with the exception of these 10 items, a slight majority (14/24) of eating attitudes appears to differentiate across levels of eating stress. Of the 14 statistically significant items, the high differentiated ones ($p < .01$) were: satisfied with your body (item 1), sense of accomplishment when people noticed your weight loss (item 5) energized (item 6), liked the attention you receive from others based on your physical appearance (item 8), encouraged (item 10), happy with yourself (item 13), and sense of shame (item 14).

Behavior Content Domains Across Levels of Eating Stress

The items were also aggregated into the nine established self-regulation domains including: self-monitoring, limiting, goal setting, selectivity, energy consumption, food elimination, external monitoring, thought control and critical self-talk.

A repeated measures ANOVA analysis was conducted among the aggregated nine domains across levels of eating stress (see Table 5). This statistical analysis was also conducted to partially answer the third research question: To what extent does the frequency of endorsements of self-regulation mechanisms and attitudes vary across levels of eating stress? The means, standard deviations, and F ratios are presented in Table 5. An alpha of .05 was declared to note significant differences among means across levels of eating stress.

Table 5. Behavior Content Domains Across Levels of Eating Stress

Domain	Number of Items Per Domain	Baseline Mean (SD)	1-day Mean (SD)	3-5 Day Mean (SD)	10 lbs. Mean (SD)	F (df= 3, 297)
Self-Monitoring (SM)	8	1.03 (1.25)	1.02 (1.38)	1.38 (1.44)	1.71 (1.53)	11.80***
Limiting (L)	12	3.00 (2.33)	2.7 (2.32)	2.93 (2.30)	2.83 (2.38)	.723
Goal Setting (GS)	12	2.68 (2.02)	2.19 (2.29)	2.00 (1.82)	2.59 (2.18)	5.28***
Selectivity (S)	5	1.08 (1.52)	.98 (1.31)	1.00 (1.32)	1.26 (1.48)	1.81
Energy Consumption (EC)	2	.09 (.32)	.38 (.61)	.35 (.62)	.45 (.65)	12.39***

Table 5 Continued

Food Elimination (FE)	3	.07 (.32)	.18 (.45)	.15 (.38)	.17 (.40)	2.14
External Monitoring (EM)	9	.91 (1.28)	.65 (.94)	.62 (.94)	.57 (.86)	4.40***
Thought Control (TC)	7	.95 (.94)	.83 (1.15)	.94 (.95)	1.07 (1.06)	1.97
Self-Talk (CST)	2	.19 (.46)	.19 (.46)	.16 (.41)	.18 (.41)	.19
Grand Total	60	10.00 (6.73)	9.12 (7.74)	9.53 (6.45)	10.83 (7.33)	3.45*

* $p < .05$, CR = 7.82

** $p < .01$, CR = 11.34

*** $p < .001$, CR = 16.27

The analysis yielded significance ($p < .05$) among four of the domains including Self-monitoring, Goal Setting, Energy Consumption and External Monitoring. Self-monitoring and energy consumption domains increased across levels of eating stress. The external monitoring domain decreased across levels of eating stress. Finally, the goal setting domain formed a u-function across levels of eating stress. The grand total was also significant ($p < .01$) across the four levels of eating stress. Furthermore, an average of 9-10 mechanisms was employed at any level of eating stress.

Additional Descriptive Findings.

Additional tables that are presented in Appendix B examine descriptive findings. The fifteen most endorsed behavior items at the baseline of eating stress are displayed in Table 6. The fifteen most endorsed behavior items at 1-day eating disturbance are presented in Table 7. The fifteen most endorsed behavior items at 3-5 day eating disturbance are shown in Table 8. The fifteen most endorsed behavior items at the 10-lbs. level of eating disturbance are found in Table 9. The ten most endorsed attitude items at the baseline level of eating stress is presented in Table 10. The ten most endorsed attitude items at the 1-day eating disturbance is displayed in Table 11. The ten most endorsed attitude items at the 3-5 day eating disturbance is found in Table 12. Finally, the ten most endorsed attitude items at the 10 lb. level of eating disturbance is shown in Table 13.

CHAPTER: 5 DISCUSSION

Conclusion

Young women appear to employ a combination of self-regulatory mechanisms in order to maintain their body's set point weight. Each individual seems to approach the task in a unique way. As Herman and Polivy (2004) noted, self-regulation mechanisms are employed when an individual cannot rely on automatic regulation to achieve or maintain their desired state.

The first research question addressed the identification of the behavioral and attitudinal item pool. Upon conducting the pilot and field tests, 60 items in the behavior pool and 24 items in the attitude pool in the EBAI emerged. Discriminatory validity was enhanced because none of the items were endorsed by all 100 participants and all of the items were endorsed by at least one participant. Also no two items were exactly alike. The behavioral items were aggregated into nine content domains, which capture the elements of self-regulation. Thus, all of the items provide insight into young women's eating behaviors and attitudes; however further investigation of these 60 mechanisms and 24 attitudes and the nine content domains is necessary. This study provided an initial framework for the selection of eating behavior and attitude items. Moreover, the results indicated the possible formation of nine content domains within the behavioral items.

The second research question addressed the frequency of endorsements for self-regulation mechanisms and eating attitudes young women employ at baseline or during a typical day. In examining the participants' responses, it appears that self-regulation occurs on a daily basis with most young women. Specifically, several items were highly endorsed at a normal state such as: look at yourself in mirror to examine body/weight changes (Item 21, 77%); think about losing weight (Item 49, 50%); avoid certain foods (item 13, 49%); skip eating a meal (item 11, 48%); adhere to shopping list when grocery shopping (item 7, 40%) and regulate the number of time you eat at fast food restaurants (item 17, 40%). Moreover, the following pathological behaviors were rarely endorsed: purging after eating (item 38, 1%), taking laxatives (item 39, 4%), using diet pills (item 59, 2%), and exercising for more than 2 hours a day (item 37, 5%). Finally a total of 26 of the 59 behaviors are reportedly used at least 15% of the time, supporting the notion the individuals self-regulate the eating behaviors as a habitual occurrence.

Not only do regulatory behaviors occur on a daily basis, but attitudes are also present. Fortunately, the responses reveal that during a typical day, participants more frequently endorsed

attitudes associated with positive connotations related to body image and self-esteem than negative connotations. For example, the five most endorsed attitudes at baseline included: happy with yourself (item 13, 70%), liked the attention you receive from others based on your physical appearance (item 8, 61%), satisfied with your body (item 1, 56%), encouraged (item 10, 55%) and energized (item 6, 49%). Moreover, the five least endorsed attitudes at the baseline level were associated with negative connotations such as: scared (item 22, 1%), disappointed others (item 20, 3%), lonely/isolated (item 16, 4%), out of control (item 23, 5%) and embarrassed (item 19, 6%).

These findings differ from popular culture's perceptions or myths regarding eating attitudes and body image. In a nationally syndicated newspaper article, Karen Heller notes that "four out of five American women, according to Eating Disorder Awareness and Prevention, Inc., are unhappy with their appearance" (2005, p. 5E). Heller further suggests that women's attitudes and behavior need to change and women should "think better of ourselves, and speak of our low feelings less" (2005, p. 5E). The drastic difference between the statistic that 4 out of 5 women are unsatisfied with their appearance to present study's findings that 56% young women satisfied with their bodies and 61% liked the attention they receive from others based on physical appearance is an interesting phenomenon. This leads the present researcher to ponder whether there is a myth about eating behavior among women. One possible explanation for the difference in finding is that the above statistic includes women as a large age range, which yields inquiry about the difference in self-regulation among young women (adolescents and college-aged women) to adult women. Also, could the difference in the data of the present study and popular culture's perception be explained in part by the difference in body image and eating attitudes among minorities versus the cultural majority? Future investigations in which the EBAI is administered to a mixed sample would be helpful in identifying whether there is a difference in self-regulation practices among races. If cultural variables account for the differences in attitude, the EBAI can be used to clarify the various perceptions that lead to greater satisfaction with body image based on an individual's cultural background.

In addition, a chi-square analysis was performed to address the third research question which explores the extent to which frequency of endorsements of self-regulation mechanisms and attitudes vary across the levels of eating stress. As previously discussed in chapter 4, the chi-square analysis yielded 11 of 60 significant ($p < .10$) items from the behavior pool and yielded 14

of 24 significant ($p < .10$) items from the attitude pool. Therefore, with the exception of the 11 significant items, most self-regulation mechanisms appear to be consistent across levels of eating stress. Interestingly, the 11 significant items from the behavior pool appear to be first order change strategies and are mechanisms that are convenient and available to the subjects. In essence the study suggests that young women consistently employ self-regulation strategies among levels of eating stress; however the types of behaviors applied do not change according to level of stress.

Contrary to the behavior inventory, the majority (14 of 24) of eating attitudes appears to differentiate across items in the attitudinal inventory. Of the 14 significant ($p < .10$) items, five positive attitudes related to self-image are highly endorsed. Thus, attitudes appear to be more sensitive to degrees of eating stress than behaviors.

Finally, an examination of the nine categories of eating stress yielded interesting and unique results per domain; four of the domains were significant ($p < .05$). The self-monitoring domain, which is comprised of 8 behavioral items, was differentiated among four levels of eating stress. The results also show that an average of one self-monitoring item is endorsed among the first three levels of eating stress and individuals employ an average of almost one additional mechanism when a weight change of 10 lbs. occur.

One of the most endorsed of the content domains was limiting, which is comprised of twelve behavioral items. Limiting yielded an average of 3 items endorsed by participants along all four levels of eating stress. Thus, the frequency of endorsements did not vary among levels, which suggests that limiting is an ongoing mechanism used to self-regulate regardless of level of eating stress.

In addition to the limiting domain goal setting, which is also composed of twelve behavioral items, is the other high priority mechanisms used to self-regulate weight. This suggests that young women regularly set goals and cut back in order to self-regulate body weight. The ANOVA analysis suggests that participants set goals as an everyday maintenance strategy but not as a strategy for a 1-day or 3-5 day eating disturbances. However, goal setting is usually reintroduced once participants decide to engage in a weight change of at least 10 lbs.

The other significant ($p < .05$) content domains were energy consumption, consisting of 2 behavioral items and external monitoring, comprised of 9 behavioral items. The energy consumption domain was not endorsed at baseline indicating that the participants did not use

regular exercise as a form of daily self-regulation and maintenance. However, energy consumption was utilized at other three levels of eating stress. These findings suggest that energy consumption is one of the domains used when an individual experiences a small or substantial level of eating stress and thus wanting to make a change from their typical self-regulatory behavior. Moreover, the external monitoring domain was used as maintenance strategy only. Reliance on others is frequently used as a maintenance strategy, but the frequency of endorsements decreased among levels; indicating that the participants do not tend to depend on the opinions or assistance of others as a change strategy to regulate weight.

The remaining five content domains, although not significant ($p < .05$), generated the following notable outcomes: the Selectivity domain, which consisted of 5 behavioral items, had a consistent endorsement of one item among all four levels of eating stress. Furthermore, the thought control domain, which was composed of seven behavioral items, also remained consistent among the four levels of eating stress and yielded an average of one endorsed item throughout levels. Additionally, the two behavioral items comprised in the critical self-talk domain were rarely endorsed as change strategies. This result is consistent with the high endorsement of positive attitudes related to self-talk or self-evaluation of physical appearance on the attitude inventory such as: satisfied with your body (item 1, 56%), happy with yourself (item 13, 70%) and liked the attention you receive from others based on your physical appearance (item 8, 61%).

In addition, the food elimination domain, which was comprised of 3 behavioral items, was not used to change or maintain body weight. Among all four levels of eating stress the highest endorsement was .18. The low endorsement of the food elimination domain suggests that pathological items including taking laxatives, purging after eating, and taking diet pills are not regularly enforced as self-regulation strategies. The present researcher attributes this partly to the cultural attitudes of the minority's culture in relation to eating attitudes and weight. The present researcher wonders if the frequency of endorsement for the food elimination domain would vary among a mixed or predominantly Caucasian sample.

The repeated measures ANOVA analysis indicates that young women use an average of 9.8 self-regulatory behavior mechanisms in order to regulate body weight across all four levels of eating stress. Interestingly, half of the endorsed items were derived from two categories:

limiting and goal setting. This finding shows the importance of these two domains in the self-regulation arena.

As hypothesized, the findings imply that EBAI does not generate varying means among the four levels of eating stress among the behavior items. The results showed that 11 of 60 behavioral items discriminated among levels. Hence, with the exception of the 11 significant ($p < .05$) items, the behavioral items do not discriminate means among the four levels of eating stress. In contrast to the hypothesis, the responses reveal that 14 of 24 attitudinal items discriminated among four levels of eating stress. Therefore, the study shows significant differences among the attitudes in which people experience during the four levels of eating stress. These finding suggests that attitudes and feelings are more easily influenced than are behaviors. Due to the habitual nature of behaviors, second order change may be necessary to alter subjects' responses to eating stress. Second order change involves reconceptualizing or reframing the problem (Watzlawick et al., 1974).

Limitations

The sample was primarily African American females which could have introduced bias in the responses. Therefore, results cannot accurately be generalized to all college students. The study examined a non-random sample that was accessible and convenient for the researcher as opposed to conducting the study on a random sample. Also experimenter bias could have influenced the responses of the 10 high school students who were sampled, because the researcher was present during the administration of the EBAI.

Furthermore, the format of the EBAI does not measure the degree to which the behaviors are conducted; the participants simply marked whether or not the behavior was engaged or the attitude applied for each given scenario. The researcher was limited by the number of items included; there may be other self-regulatory mechanisms that were not included in the instrument.

Moreover, because the domains were derived by a researcher and were not subjected to validity testing, their validity reliability is unknown. Further exploration is required in order to establish validity and reliability of domains treated as scales. In addition, a social desirability check was not conducted. External validity, the ability to generalize beyond the present study, is also unknown.

Further Development and Research of the EBAI

The pilot and field test show that the EBAI can discriminate eating attitudes among levels of eating stress, as defined by baseline, 1-day, 3-5 days and change of 10 lbs. However, the study shows that eating behaviors typically remain constant among varying levels of eating stress. One explanation takes into account that all of the levels of eating stress on the EBAI are first level change. Therefore, future studies should differentiate more distinctly the various levels of eating stress. The levels for future studies might be defined as baseline, 1 week eating disturbance, and weight change of 20 lbs. Increasing the latter level of eating stress might show that people implement second order changes to these levels. In addition, collapsing the second and third levels of eating stress to 1 week eating disturbance should be considered, because there was not a significant variation in endorsements between 1-day disturbances and 3-5 day disturbances.

In future research, a study of 100-200 college students from a variety of social economic status and cultural background should be conducted. In addition, the instrument should be restructured to examine the new levels of eating stress and can be reformatted from a true/false test to a five point frequency scale instrument in order to examine the degree of severity of behaviors and attitudes being employed at each level. Furthermore, conducting a factor analysis on the attitudes and behaviors would be useful in identifying the internal structure of the instrument.

Another interesting aspect that could be examined in future research involves exploring the extent to which social desirability influences participants' endorsements of the items on the EBAI. Future investigation could incorporate the administration of the Marlow Crowne Social Desirability Scale in addition to the EBAI in order to control for subjects who may be faking good. Finally, future investigation should be conducted to establish the content validity, construct validity, convergent validity, factor validity and the reliability of content domains.

Potential Uses of the EBAI

Even though the EBAI is in its early stage of development, there are several potential uses of the EBAI in practice within the mental health profession and the educational system. The EBAI could enhance health education by being used in high school health, biology and or life skills courses. Teachers could administer the EBAI to students or send it home as a homework assignment as a way to help students think about and explore their eating behaviors and attitudes. Since the EBAI has been normed on adolescent and college-aged women its optimal use would

be among high school and college-aged females. Upon further development of the pathological items of the EBAI, the instrument can be used to help identify students who may be at risk for developing or exhibiting characteristics of an eating disorder. The EBAI could also serve as a screening tool which would be followed by the Eating Disorder Inventory (EDI-2) to further assess the students' eating concerns and attitudes. Exposing high school students to the EBAI is important because many eating patterns develop during adolescence. Therefore, from a developmental perspective, this time period might be ideal to begin seriously examining one's awareness of eating patterns and attitudes to maximize the potential for the implementation of self-corrected behaviors in order to avoid the development of an eating disorder.

The EBAI could also be used as a resource for professionals in the mental health profession. This instrument could be administered by a mental health professional or given as a homework assignment in conjunction with individual counseling. The EBAI could be used as an assessment tool to measure a client's progress to increase healthy eating behaviors and attitudes and decrease unhealthy ones.

Finally, the EBAI could be used in eating disorder groups in high school or college counseling centers. The instrument could be used as a tool for students to realize that they are able to learn and acquire self-regulatory behaviors. It could also serve as a gateway for discussion about healthy supplemental behaviors students could use to manage their eating patterns instead of bingeing, purging or fasting.

In conclusion, the study produced the initial development of the EBAI, an instrument designed to examine the eating behaviors and attitudes of adolescent and college-aged women. The results of study produced an 84-item checklist, of which all of the items were endorsed by at least one individual but were not endorsed by all participants. The EBAI is comprised of 60 behavioral and 24 attitudinal items. In addition, nine domains of self-regulation related to eating behaviors were aggregated, four of which were significant ($p < .05$). Conducting this study has opened up an exciting and potentially useful area of research worthy of additional investigation. I look forward to conducting further research that explores the connection between self-regulatory mechanisms and eating behaviors of adolescent and college-aged women during my doctoral study.

APPENDIX A

The Eating Behavior and Attitudes Inventory

Subject # _____

Information Sheet

Age: _____

Grade: _____

Gender: _____

Race: _____

Height: _____

Lowest weight within the year: _____

Highest weight within the year: _____

Eating Behavior & Attitudes Inventory

Below are mechanisms to monitor and control body weight that many, if not most, people use. Please check all of the behaviors and attitudes that apply to you during a TYPICAL DAY pertaining to your daily eating behaviors.

Behavior Inventory 1:

- 1. Take body measurements
- 2. Weigh yourself daily
- 3. Keep track of daily calorie intake
- 4. Maintain a daily food journal
- 5. Maintain a journal of your exercise activities
- 6. Change amount of food consumed when in public
- 7. Adhere to shopping list when going grocery shopping
- 8. Skip meals on purpose
- 9. Ignore your food cravings
- 10. Think about foods you want to eat but choose not to eat them
- 11. Skip eating a meal
- 12. Skip eating for a day
- 13. Avoid certain foods
- 14. Regulate how many times you eat per day
- 15. Regulate calories after binge eating
- 16. Stop eating after a certain hour each day regardless of what you have eaten that day
- 17. Regulate the number of times you eat at fast food restaurants
- 18. Regulate the amount of times you eat out at restaurants
- 19. Eat meals at the same time each day
- 20. Control the portion size of your meals
- 21. Look at yourself in mirror to examine body/weight changes
- 22. Eat the same food each day
- 23. Set goals for yourself regarding weight loss
- 24. Schedule time to eat
- 25. Schedule food to eat
- 26. Plan your day around exercising
- 27. Reward self for accomplishing eating goals
- 28. Generate list of alternate activities that don't involve food
- 29. Slow pace of eating
- 30. Take vitamins or supplements regularly
- 31. Control fat intake
- 32. Control the amount of carbohydrates you consume
- 33. Regulate the number of desserts you eat
- 34. Look at the nutritional facts on food before you buy it
- 35. Look at the nutritional facts on food before you eat it

- ___ 36. Exercise after binge eating
- ___ 37. Exercise for more than 2 hours a day
- ___ 38. Purge after eating
- ___ 39. Take laxatives
- ___ 40. Partake in counseling about your eating behavior
- ___ 41. Consult with friends about your eating behavior
- ___ 42. Eat in front of people so others don't get suspicious of your eating habits
- ___ 43. Lie about the amount you eat to your friends or loved ones
- ___ 44. Isolate yourself from people
- ___ 45. Hide your weight loss or weight gain by wearing baggy clothes
- ___ 46. Friends remind you to eat more
- ___ 47. Friends remind you to follow your diet
- ___ 48. Friends compliment your weight change
- ___ 49. Think about losing weight
- ___ 50. Plan your day around meals
- ___ 51. Take medication such as antidepressants
- ___ 52. Change self-talk of "I should eat or I should not eat" to "I could eat or I could not eat"
- ___ 53. Consider cosmetic surgery
- ___ 54. Call myself negative names
- ___ 55. Criticize myself for engaging in under eating or overeating behavior
- ___ 56. Ignore your hunger and tell yourself you are not hungry
- ___ 57. Increase awareness of what/how much eat I when alone
- ___ 58. Give self permission not to have to "clean plate" if full
- ___ 59. Take diet pills
- ___ Other _____

Attitude Inventory 1:

Check all feelings you experience in a TYPICAL DAY pertaining to your eating attitudes.

- 1. Satisfied with your body
- 2. Guilty for eating high caloric meals
- 3. Guilty for missing a day of exercising
- 4. Sense of accomplishment for meeting weight goal
- 5. Sense of accomplishment when people noticed your weight change
- 6. Energized
- 7. Motivated to eat less when others notice your weight loss or weight gain
- 8. Liked the attention you receive from others based on your physical appearance
- 9. Found it hard to start eating again once people have mentioned your weight gain or weight loss
- 10. Encouraged
- 11. Discouraged
- 12. Depressed
- 13. Happy with yourself
- 14. Sense of shame
- 15. Secretive
- 16. Lonely/Isolated
- 17. Disappointed with yourself
- 18. Impressed others
- 19. Embarrassed
- 20. Disappointed others
- 21. Productive
- 22. Scared
- 23. Out of control
- 24. Disciplined
- 25. Other _____

Behavior Inventory 2:

Recall a prior experience when you either overate or under ate for a period of 1-day. As a result of the event where you either overate or under ate please check all of the following that apply.

Please Check if the event you are recalling involves Under or Overeating:

- | <u> </u> | UNDER EATING | <u> </u> | OVEREATING |
|---------------|---------------------|---------------|--|
| <u> </u> | 1. | | Take body measurements |
| <u> </u> | 2. | | Weigh yourself daily |
| <u> </u> | 3. | | Keep track of daily calorie intake |
| <u> </u> | 4. | | Maintain a daily food journal |
| <u> </u> | 5. | | Maintain a journal of your exercise activities |
| <u> </u> | 6. | | Change amount of food consumed when in public |
| <u> </u> | 7. | | Adhere to shopping list when going grocery shopping |
| <u> </u> | 8. | | Skip meals on purpose |
| <u> </u> | 9. | | Ignore your food cravings |
| <u> </u> | 10. | | Think about foods you want to eat but choose not to eat them |
| <u> </u> | 11. | | Skip eating a meal |
| <u> </u> | 12. | | Skip eating for a day |
| <u> </u> | 13. | | Avoid certain foods |
| <u> </u> | 14. | | Regulate how many times you eat per day |
| <u> </u> | 15. | | Regulate calories after binge eating |
| <u> </u> | 16. | | Stop eating after a certain hour each day regardless of what you have eaten that day |
| <u> </u> | 17. | | Regulate the number of times you eat at fast food restaurants |
| <u> </u> | 18. | | Regulate the amount of times you eat out at restaurants |
| <u> </u> | 19. | | Eat meals at the same time each day |
| <u> </u> | 20. | | Control the portion size of your meals |
| <u> </u> | 21. | | Look at yourself in mirror to examine body/weight changes |
| <u> </u> | 22. | | Eat the same food each day |
| <u> </u> | 23. | | Set goals for yourself regarding weight loss |
| <u> </u> | 24. | | Schedule time to eat |
| <u> </u> | 25. | | Schedule food to eat |
| <u> </u> | 26. | | Plan your day around exercising |
| <u> </u> | 27. | | Reward self for accomplishing eating goals |
| <u> </u> | 28. | | Generate list of alternate activities that don't involve food |
| <u> </u> | 29. | | Slow pace of eating |
| <u> </u> | 30. | | Take vitamins or supplements regularly |
| <u> </u> | 31. | | Control fat intake |
| <u> </u> | 32. | | Control the amount of carbohydrates you consume |
| <u> </u> | 33. | | Regulate the number of desserts you eat |
| <u> </u> | 34. | | Look at the nutritional facts on food before you buy it |
| <u> </u> | 35. | | Look at the nutritional facts on food before you eat it |

- ___ 36. Exercise after overeating or under eating
- ___ 37. Exercise for more than 2 hours a day
- ___ 38. Purge after eating
- ___ 39. Take laxatives
- ___ 40. Partake in counseling about your eating behavior
- ___ 41. Consult with friends about your eating behavior
- ___ 42. Eat in front of people so others don't get suspicious of your eating habits
- ___ 43. Lie about the amount you eat to your friends or loved ones
- ___ 44. Isolate yourself from people
- ___ 45. Hide your weight loss or weight gain by wearing baggy clothes
- ___ 46. Friends remind you to eat more
- ___ 47. Friends remind you to follow your diet
- ___ 48. Friends compliment your weight change
- ___ 49. Think about losing weight
- ___ 50. Plan your day around meals
- ___ 51. Take medication such as antidepressants
- ___ 52. Change self-talk of "I should eat or I should not eat" to "I could eat or I could not eat"
- ___ 53. Consider cosmetic surgery
- ___ 54. Call myself negative names
- ___ 55. Criticize myself for engaging in overeating or under eating behavior
- ___ 56. Ignore your hunger pains
- ___ 57. Increase awareness of what/how much eat I when alone
- ___ 58. Give self permission not to have to "clean plate" if full
- ___ 59. Take diet pills
- ___ 60. Add a meal for the day
- ___ Other _____

Attitude Inventory 2:

Check all feelings you experienced AFTER you overate or under ate for a period of 1-day.

- 1. Satisfied with your body
- 2. Guilty for eating high caloric meals
- 3. Guilty for missing a day of exercising
- 4. Sense of accomplishment for meeting weight goal
- 5. Sense of accomplishment when people noticed your weight change
- 6. Energized
- 7. Motivated to eat less when others notice your weight loss or weight gain
- 8. Liked the attention you receive from others based on your physical appearance
- 9. Found it hard to start eating again once people have mentioned your weight gain or weight loss
- 10. Encouraged
- 11. Discouraged
- 12. Depressed
- 13. Happy with yourself
- 14. Sense of shame
- 15. Secretive
- 16. Lonely/Isolated
- 17. Disappointed with yourself
- 18. Impressed others
- 19. Embarrassed
- 20. Disappointed others
- 21. Productive
- 22. Scared
- 23. Out of control
- 24. Disciplined
- 25. Other _____

Behavior Inventory 3:

**Recall a prior experience when you either overate or under ate for a 3-5 days.
As a result of the event where you either overate or under ate please check all of the following that apply.**

Please Check if the event you are recalling involves Under or Overeating:

- | _____ | UNDER EATING | _____ | OVEREATING |
|-------|--------------|-------|--|
| ___ | 1. | | Take body measurements |
| ___ | 2. | | Weigh yourself daily |
| ___ | 3. | | Keep track of daily calorie intake |
| ___ | 4. | | Maintain a daily food journal |
| ___ | 5. | | Maintain a journal of your exercise activities |
| ___ | 6. | | Change amount of food consumed when in public |
| ___ | 7. | | Adhere to shopping list when going grocery shopping |
| ___ | 8. | | Skip meals on purpose |
| ___ | 9. | | Ignore your food cravings |
| ___ | 10. | | Think about foods you want to eat but choose not to eat them |
| ___ | 11. | | Skip eating a meal |
| ___ | 12. | | Skip eating for a day |
| ___ | 13. | | Avoid certain foods |
| ___ | 14. | | Regulate how many times you eat per day |
| ___ | 15. | | Regulate calories after binge eating |
| ___ | 16. | | Stop eating after a certain hour each day regardless of what you have eaten that day |
| ___ | 17. | | Regulate the number of times you eat at fast food restaurants |
| ___ | 18. | | Regulate the amount of times you eat out at restaurants |
| ___ | 19. | | Eat meals at the same time each day |
| ___ | 20. | | Control the portion size of your meals |
| ___ | 21. | | Look at yourself in mirror to examine body/weight changes |
| ___ | 22. | | Eat the same food each day |
| ___ | 23. | | Set goals for yourself regarding weight loss |
| ___ | 24. | | Schedule time to eat |
| ___ | 25. | | Schedule food to eat |
| ___ | 26. | | Plan your day around exercising |
| ___ | 27. | | Reward self for accomplishing eating goals |
| ___ | 28. | | Generate list of alternate activities that don't involve food |
| ___ | 29. | | Slow pace of eating |
| ___ | 30. | | Take vitamins or supplements regularly |
| ___ | 31. | | Control fat intake |
| ___ | 32. | | Control the amount of carbohydrates you consume |
| ___ | 33. | | Regulate the number of desserts you eat |
| ___ | 34. | | Look at the nutritional facts on food before you buy it |
| ___ | 35. | | Look at the nutritional facts on food before you eat it |

- ___ 36. Exercise after overeating or under eating
- ___ 37. Exercise for more than 2 hours a day
- ___ 38. Purge after eating
- ___ 39. Take laxatives
- ___ 40. Partake in counseling about your eating behavior
- ___ 41. Consult with friends about your eating behavior
- ___ 42. Eat in front of people so others don't get suspicious of your eating habits
- ___ 43. Lie about the amount you eat to your friends or loved ones
- ___ 44. Isolate yourself from people
- ___ 45. Hide your weight loss or weight gain by wearing baggy clothes
- ___ 46. Friends remind you to eat more
- ___ 47. Friends remind you to follow your diet
- ___ 48. Friends compliment your weight change
- ___ 49. Think about losing weight
- ___ 50. Plan your day around meals
- ___ 51. Take medication such as antidepressants
- ___ 52. Change self-talk of "I should eat or I should not eat" to "I could eat or I could not eat"
- ___ 53. Consider cosmetic surgery
- ___ 54. Call myself negative names
- ___ 55. Criticize myself for engaging in overeating or under eating behavior
- ___ 56. Ignore your hunger pains
- ___ 57. Increase awareness of what/how much eat I when alone
- ___ 58. Give self permission not to have to "clean plate" if full
- ___ 59. Take diet pills
- ___ 60. Add a meal for the day
- ___ Other _____

Attitude Inventory 3:

Check all the feelings you experienced AFTER you overate or under ate for a period of 3-5 days.

- 1. Satisfied with your body
- 2. Guilty for eating high caloric meals
- 3. Guilty for missing a day of exercising
- 4. Sense of accomplishment for meeting weight goal
- 5. Sense of accomplishment when people noticed your weight change
- 6. Energized
- 7. Motivated to eat less when others notice your weight loss or weight gain
- 8. Liked the attention you receive from others based on your physical appearance
- 9. Found it hard to start eating again once people have mentioned your weight gain or weight loss
- 10. Encouraged
- 11. Discouraged
- 12. Depressed
- 13. Happy with yourself
- 14. Sense of shame
- 15. Secretive
- 16. Lonely/Isolated
- 17. Disappointed with yourself
- 18. Impressed others
- 19. Embarrassed
- 20. Disappointed others
- 21. Productive
- 22. Scared
- 23. Out of control
- 24. Disciplined
- 25. Other _____

Behavior Inventory 4:

Recall a prior experience when you either lost or gained 10 lbs.

As a result of the event where you lost or gained 10 lbs. please check all of the following that apply.

Please Check if the event you are recalling involves Losing or Gaining 10 lbs.:

_____ **LOSING 10 lbs.** _____ **GAINING 10 lbs.**

- ___ 1. Take body measurements
- ___ 2. Weigh yourself daily
- ___ 3. Keep track of daily calorie intake
- ___ 4. Maintain a daily food journal
- ___ 5. Maintain a journal of your exercise activities
- ___ 6. Change amount of food consumed when in public
- ___ 7. Adhere to shopping list when going grocery shopping
- ___ 8. Skip meals on purpose
- ___ 9. Ignore your food cravings
- ___ 10. Think about foods you want to eat but choose not to eat them
- ___ 11. Skip eating a meal
- ___ 12. Skip eating for a day
- ___ 13. Avoid certain foods
- ___ 14. Regulate how many times you eat per day
- ___ 15. Regulate calories after binge eating
- ___ 16. Stop eating after a certain hour each day regardless of what you have eaten that day
- ___ 17. Regulate the number of times you eat at fast food restaurants
- ___ 18. Regulate the amount of times you eat out at restaurants
- ___ 19. Eat meals at the same time each day
- ___ 20. Control the portion size of your meals
- ___ 21. Look at yourself in mirror to examine body/weight changes
- ___ 22. Eat the same food each day
- ___ 23. Set goals for yourself regarding weight loss
- ___ 24. Schedule time to eat
- ___ 25. Schedule food to eat
- ___ 26. Plan your day around exercising
- ___ 27. Reward self for accomplishing eating goals
- ___ 28. Generate list of alternate activities that don't involve food
- ___ 29. Slow pace of eating
- ___ 30. Take vitamins or supplements regularly
- ___ 31. Control fat intake
- ___ 32. Control the amount of carbohydrates you consume
- ___ 33. Regulate the number of desserts you eat
- ___ 34. Look at the nutritional facts on food before you buy it
- ___ 35. Look at the nutritional facts on food before you eat it

- ___ 36. Exercise after overeating or under eating
- ___ 37. Exercise for more than 2 hours a day
- ___ 38. Purge after eating
- ___ 39. Take laxatives
- ___ 40. Partake in counseling about your eating behavior
- ___ 41. Consult with friends about your eating behavior
- ___ 42. Eat in front of people so others don't get suspicious of your eating habits
- ___ 43. Lie about the amount you eat to your friends or loved ones
- ___ 44. Isolate yourself from people
- ___ 45. Hide your weight loss or weight gain by wearing baggy clothes
- ___ 46. Friends remind you to eat more
- ___ 47. Friends remind you to follow your diet
- ___ 48. Friends compliment your weight change
- ___ 49. Think about losing weight
- ___ 50. Plan your day around meals
- ___ 51. Take medication such as antidepressants
- ___ 52. Change self-talk of "I should eat or I should not eat" to "I could eat or I could not eat"
- ___ 53. Consider cosmetic surgery
- ___ 54. Call myself negative names
- ___ 55. Criticize myself for engaging in overeating or under eating behavior
- ___ 56. Ignore your hunger pains
- ___ 57. Increase awareness of what/how much eat I when alone
- ___ 58. Give self permission not to have to "clean plate" if full
- ___ 59. Take diet pills
- ___ 60. Add a meal for the day
- ___ Other _____

Attitude Inventory 4:

Check all feelings you experienced AFTER you Lost or Gained 10 lbs.

- 1. Satisfied with your body
- 2. Guilty for eating high caloric meals
- 3. Guilty for missing a day of exercising
- 4. Sense of accomplishment for meeting weight goal
- 5. Sense of accomplishment when people noticed your weight change
- 6. Energized
- 7. Motivated to eat less when others notice your weight loss or weight gain
- 8. Liked the attention you receive from others based on your physical appearance
- 9. Found it hard to start eating again once people have mentioned your weight gain or weight loss
- 10. Encouraged
- 11. Discouraged
- 12. Depressed
- 13. Happy with yourself
- 14. Sense of shame
- 15. Secretive
- 16. Lonely/Isolated
- 17. Disappointed with yourself
- 18. Impressed others
- 19. Embarrassed
- 20. Disappointed others
- 21. Productive
- 22. Scared
- 23. Out of control
- 24. Disciplined
- 25. Other _____

APPENDIX B
ADDITIONAL FINDINGS

Table 6. Highest Fifteen Behavior Items at Baseline

Rank	Item No.	Item	Frequency
1.	21	Look at yourself in mirror to examine body/weight changes	77
2.	49	Think about losing weight	50
3.	13	Avoid certain foods	49
4.	11	Skip eating a meal	48
5.	7	Adhere to shopping list when grocery shopping	40
6.	17	Regulate the number of time you eat at fast food restaurants	40
7.	10	Think about foods that you want to eat but choose not to eat them	37
8.	30	Take vitamins or supplements regularly	36
9.	23	Set goals for yourself	30
10.	48	Friends compliment weight change	30
11.	9	Ignore your food cravings	28
12.	33	Regulate the number of desserts you eat	27
13.	14	Regulate how many times you eat per day	25
14.	20	Control the portion size of your meals	25
15.	35	Look at the nutritional facts on food before you buy it	25

Table 7. Highest Fifteen Behavior Items at 1-day Eating Disturbance

Rank	Item No.	Item	Frequency
1.	21	Look at yourself in mirror to examine body/weight changes	46
2.	13	Avoid certain foods	38
3.	11	Skip eating a meal	37
4.	9	Ignore your food cravings	32
5.	10	Think about foods you want to eat but choose not to eat them	31
6.	20	Control the portion size of your meals	31
7.	49	Think about losing weight	26
8.	7	Adhere to shopping list when grocery shopping	25
9.	23	Set goals for yourself regarding weight loss	25
10.	30	Take vitamins or supplements regularly	25
11.	60	Add a meal for the day	25
12.	17	Regulate the number of times you eat out at restaurants	24
13.	8	Skip meals on purpose	23
14.	14	Regulate how many times you eat per day	23
15.	33	Regulate the number of desserts you eat	22
16.	35	Look at the nutritional facts on food before you eat it	22

Table 8. Highest Fifteen Behavior Items at 3-5 Day Eating Disturbance

Rank	Item No.	Item	Frequency
1.	13	Avoid certain foods	44
2.	11	Skipping eating a meal	42
3.	21	Look at yourself in mirror examine body/weight changes	38
4.	9	Ignore your food cravings	33
5.	10	Think about foods you want to eat but choose not to eat them	33
6.	2	Weigh yourself daily	30
7.	17	Regulate the number of times you eat out at restaurants	30
8.	49	Think about losing weight	29
9.	20	Control the portion size of your meals	28
10.	14	Regulate how many times you eat per day	26
11.	60	Add a meal for the day	25
12.	7	Adhere to shopping list when going grocery shopping	24
13.	8	Skip meals on purpose	24
14.	30	Take vitamins or supplements regularly	24
15.	1	Take body measurements	23

Table 9. Highest Fifteen Behavior Items After 10 lbs. Weight Change

Rank	Item No.	Item	Frequency
1.	21	Look at yourself in mirror to examine body/weight changes	49
2.	2	Weigh your daily	45
3.	20	Control the portion size of your meals	41
4.	13	Avoid certain foods	40
5.	14	Regulate how many time you eat per day	37
6.	9	Ignore your food cravings	33
7.	49	Think about losing weight	31
8.	10	Think about foods you want to eat but choose not to eat them	30
9.	7	Adhere to shopping list when going to grocery shopping	29
10.	17	Regulate the number of times you eat at fast food restaurants	29
11.	30	Take vitamins or supplements regularly	29
12.	35	Look at the nutritional facts on food before you eat it	27
13.	48	Friends compliment your weight change	27
14.	1	Take body measurements	25
15.	11	Skip eating a meal	25
16.	33	Regulate the number of desserts you eat	25
17.	60	Add a meal for the day	25

Table 10. Highest Ten Attitude Items at Baseline

Rank	Item No.	Item	Frequency
1.	13	Happy with yourself	70
2.	8	Liked the attention you receive from others based on your physical appearance	61
3.	1	Satisfied with your body	56
4.	10	Encouraged	55
5.	6	Energized	49
6.	21	Productive	33
7.	5	Sense of accomplishment when people noticed your weight change	32
8.	3	Guilty for missing a day of exercising	29
9.	7	Motivated to eat less when others notice your weight loss or weight gain	27
10.	24	Disciplined	27

Table 11. Highest Ten Attitude Items at 1-day Eating Disturbance

Rank	Item No.	Item	Frequency
1.	1	Satisfied with your body	36
2.	13	Happy with yourself	35
3.	10	Encouraged	34
4.	2	Guilty for eating high caloric meals	30
5.	8	Liked the attention you receive from others based on your physical appearance	29
6.	17	Disappointment with yourself	28
7.	3	Guilty for missing a day of exercising	26
8.	6	Energized	24
9.	11	Discouraged	22
10.	21	Productive	21

Table 12. Highest Ten Attitude Items at 3-5 Day Eating Disturbance

Rank	Item No.	Item	Frequency
1.	1	Satisfied with your body	41
2.	13	Happy with yourself	38
3.	2	Guilty for eating high caloric meals	35
4.	10	Encouraged	32
5.	11	Discouraged	29
6.	17	Disappointed with yourself	29
7.	14	Sense of shame	27
8.	3	Guilt for missing a day of exercising	26
9.	6	Energized	26
10.	8	Liked the attention you receive from others based on your physical appearance	25

Table 13. Highest Ten Attitude Items After 10 lb. Weight Change

Rank	Item No.	Item	Frequency
1.	1	Satisfied with your body	63
2.	13	Guilt for eating high caloric meals	61
3.	10	Encouraged	56
4.	6	Energized	49
5.	8	Liked the attention you receive from others based on your physical appearance	37
6.	4	Sense of accomplishment for meeting weight goal	34
7.	18	Impressed others	33
8.	21	Productive	31
9.	7	Found it hard to start eating again once people have mentioned your weight gain or weight loss	30
10.	17	Disappointed with yourself	28

APPENDIX C
HUMAN SUBJECTS DOCUMENTS



Office of the Vice President For Research
Human Subjects Committee
Tallahassee, Florida 32306-2763
(850) 644-8633 · FAX (850) 644-4392

APPROVAL MEMORANDUM

Date: 11/15/2004

To:
Marissa Brattole
1767 Hermitage Blvd Apt 5111
Tallahassee FL 32308

Dept.: **EDUCATIONAL PSYCHOLOGY AND LEARNING SYSTEMS**

From: **John Tomkowiak, Chair**

A handwritten signature in black ink that reads "John Tomkowiak M.D.".

Re: **Use of Human Subjects in Research**
Self-Regulatory Eating Behaviors

The forms that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Human Subjects Committee at its meeting on 10/13/2004. Your project was approved by the Committee.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals which may be required.

If the project has not been completed by 10/12/2005 you must request renewed approval for continuation of the project.

You are advised that any change in protocol in this project must be approved by resubmission of the project to the Committee for approval. Also, the principal investigator must promptly report, in writing, any unexpected problems causing risks to research subjects or others.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols of such investigations as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Protection from Research Risks. The Assurance Number is IRB00000446.

cc: Gary Peterson
HSC No. 2004.657

Parental Informed Consent Form

I grant permission for my child to participate in the voluntarily research project entitled "Self Regulatory Eating Behaviors."

Under the direct supervision of Gary W. Peterson, Ph.D., this research project is being conducted by Marissa Brattole, who is a master's level student in the Education and Psychology Learning Systems Department at Florida State University. I understand the purpose of her research project is to better understand adolescent females behaviors related to weight maintenance. I also understand that my child(ren) will be asked to complete four inventory questionnaires. I am aware that my child will be asked to recall four personal experiences which she has encountered that apply to the study. Any questions my child or I have will be answered by the researcher

I understand my daughter(s) in grades 11th and 12th at FSUS will be asked to fill out four paper and pencil inventory questionnaires. The inventories will address my daughter(s) eating behaviors under various situations. This study will be explained to the students and they will be asked to participate voluntarily on their own. Their participation should require no more than 30 minutes of school-time, to complete the questionnaire. Upon completion of the study my child will be able to attend a free workshop on techniques for maintaining a healthy weight, which will be offered during her health class.

I am also aware that my daughter(s) will be asked to fill out a personal data sheet, which will be separated from her responses to insure confidentiality. The completed questionnaires will be kept in a locked file cabinet in Dr. Gary Peterson's office in the Career Center at Florida State University. I understand all responses and personal information will be kept confidential to the extent allowed by law and only group results will be reported.

I understand that this consent may be withdrawn at any time during the study without prejudice or penalty. I have been given the right to ask and have answered any inquiry concerning the study.

I understand that I may contact Dr. Gary W. Peterson, Florida State University, School of Education, (850) 644-1781 or Marissa Brattole, graduate student at Florida State University, (850) 644-4308, for answers to questions about this research or my rights.

If I have questions about my child's rights as a subject/participant in this research, or if I feel that my child has been placed at risk, I can contact the Chair of the Human Subjects Committee, Institutional Review Board, through the Office of the Vice President for Research, at (850) 644-8633.

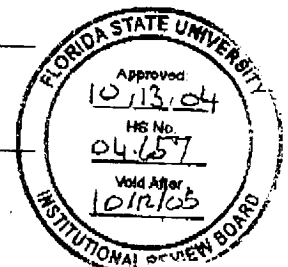
I have read and understand this consent form and agree to allow my child to participate in the research study.

Child's Name

Parent's Name

Date

Parent's Signature



Assent Form (13-17 years old)

Under the direct supervision of Gary W. Peterson, Ph.D., this research project is being conducted by Ms. Marissa Brattole, who is a master's level student in the Education and Psychology Learning Systems Department at Florida State University. I understand the purpose of her research project is to better understand adolescent females behaviors related to weight maintenance. I also understand that I will be asked to complete the Eating Behavior and Attitudes Inventory (EBAI). Any questions I have about the EBAI will be answered by Ms. Brattole who will administer the EBAI.

I am also aware that I am to fill out a personal data sheet, which will be separated from my responses to insure confidentiality. The completed questionnaires will be kept in a locked file cabinet in Dr. Gary Peterson's faculty office in the Career Center at Florida State University. I understand all responses and personal information will be kept confidential to the extent allowed by law and only group results will be reported.

I understand that as a student at FSHS, I will be asked to fill out the EBAI, a paper and pencil inventory that addresses my eating behaviors under four different circumstances. This study will be explained to all students and I will be asked to participate voluntarily on my own. My participation should require no more than 30 minutes of school-time, to complete the questionnaire. Any questions I have will be answered by the researcher. Upon completion of the study I will be able to attend a workshop on techniques for regulating and maintaining a healthy weight, which will be offered at FSHS.

I understand that this consent may be withdrawn at any time during the study without prejudice or penalty. I have been given the right to ask and have answered any inquiry concerning the study.

I understand that I may contact Dr. Gary W. Peterson, Florida State University, School of Education, (850) 644-1781 or Marissa Brattole, graduate student at Florida State University, (850) 644-4308, for answers to questions about this research or my rights.

If I have questions about my rights as a subject/participant in this research, or if I feel that I have been placed at risk, I can contact the Chair of the Human Subjects Committee, Institutional Review Board, through the Office of the Vice President for Research, at (850) 644-8633.

I have read and understand this assent form and agree to participate in the research study.

Student's Name

Date

Student's Signature

Informed Consent Form

I voluntarily agree to participate in the research project entitled “Self-Regulatory Eating Behaviors.”

Under the direct supervision of Gary W. Peterson, Ph.D., this research project is being conducted by Marissa Brattole, who is a master’s level student in the Education and Psychology Learning Systems Department at Florida State University. I understand the purpose of her research project is to better understand the eating behaviors of young adults related to weight maintenance. I also understand that I will be asked to complete the Eating Behavior and Attitudes Inventory (EBAI). Any questions I have about the EBAI will be answered by Ms. Brattole who will administer the EBAI.

I understand that as a student at FSHS, I will be asked to fill out four paper and pencil inventory questionnaires. The inventories will address my eating behaviors under various situations. This study will be explained to all students and I will be asked to participate voluntarily on my own. My participation should require no more than 30 minutes of school-time, to complete the questionnaire. Any questions I have will be answered by the researcher. Upon completion of the study I will be able to attend a free workshop on techniques for maintaining a healthy weight, which will be offered during my health class.

I am also aware that I am to fill out a personal data sheet, which will be separated from my responses to insure confidentiality. The completed questionnaires will be kept in a locked file cabinet in Dr. Gary Peterson’s office in the Career Center at Florida State University. I understand all responses and personal information will be kept confidential to the extent allowed by law and only group results will be reported.

I understand that this consent may be withdrawn at any time during the study without prejudice or penalty. I have been given the right to ask and have answered any inquiry concerning the study.

I understand that I may consent Dr. Gary W. Peterson, Florida State University, School of Education, (850) 644-1781 or Marissa Brattole, graduate student at Florida State University, (850) 644-4308, for answers to questions about this research or my rights.

If I have questions about my rights as a subject/participant in this research, or if I feel that I have been placed at risk, I can contact the Chair of the Human Subjects Committee, Institutional Review Board, through the Office of the Vice President for Research, at (850) 644-8633. I have read and understand this consent form and agree to participate in the research study.

Student’s Name

Date

Student’s Signature (if over 18)



Office of the Vice President For Research
Human Subjects Committee
Tallahassee, Florida 32306-2763
(850) 644-8673 · FAX (850) 644-4392

APPROVAL MEMORANDUM (for change in research protocol)

Date: 2/23/2005

To:
Marissa Brattole
1767 Hermitage Blvd Apt 5111
Tallahassee FL 32308

Dept: EDUCATIONAL PSYCHOLOGY AND LEARNING SYSTEMS

From: John Tomkowiak, Chair

Re: Use of Human subjects in Research
Project entitled: Self-Regulatory Eating Behaviors

The memorandum that you submitted to this office in regard to the requested change in your research protocol for the above-referenced project have been reviewed and approved. Thank you for informing the Committee of this change.

A reminder that if the project has not been completed by 10/12/2005, you must request renewed approval for continuation of the project.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols of such investigations as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Protection from Research Risks. The Assurance Number is IRB00000446..

cc: Gary Peterson
APPLICATION NO. 2004.657

Informed Consent Form

Under the direct supervision of Gary W. Peterson, Ph.D., this research project is being conducted by Marissa Brattole, who is a master's level student in the Education and Psychology Learning Systems Department at Florida State University. I understand the purpose of her research project is to better understand the eating behaviors of young adults related to weight maintenance. I also understand that I will be asked to complete the Eating Behavior and Attitudes Inventory (EBAI). Any questions I have about the EBAI will be answered by Ms. Brattole who will administer the EBAI.

I understand that as a student at FAMU, I will be asked to fill out four paper and pencil inventory questionnaires. The inventories will address my eating behaviors under various situations. This study will be explained to all students and I will be asked to participate voluntarily on my own. My participation should require no more than 30 minutes of school-time, to complete the questionnaire. Any questions I have will be answered by the researcher.

I am also aware that I am to fill out a personal data sheet, which will be separated from my responses to insure confidentiality. The completed questionnaires will be kept in a locked file cabinet in Dr. Gary Peterson's office in the Career Center at Florida State University. I understand all responses and personal information will be kept confidential to the extent allowed by law and only group results will be reported.

I understand that this consent may be withdrawn at any time during the study without prejudice or penalty. I have been given the right to ask and have answered any inquiry concerning the study.

I have read and understand the consent form. I understand that I may contact Dr. Gary W. Peterson, Florida State University, School of Education, (850) 644-1781 or Marissa Brattole, graduate student at Florida State University, (850) 644-4308, for answers to questions about this research or my rights.

If I have questions about my rights as a subject/participant in this research, or if I feel that I have been placed at risk, I can contact the Chair of the Human Subjects Committee, Institutional Review Board, through the Office of the Vice President for Research, at (850) 644-8633.

Student's Printed Name

Date

Student's Signature (if over 18)

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BIOGRAPHICAL SKETCH

Marissa Brattole was born December 1, 1981 in Parsipanny, New Jersey. She began her undergraduate studies in 1999 at Florida State University in Tallahassee, FL. During this time she worked as a research assistant under the direction of Thomas Joiner, Ph.D. and developed research interests in eating disorders and eating behavior. In 2003, she graduated with honors and received a Bachelor of Science Degree in Psychology.

Ms. Brattole is currently attending Florida State University in pursuit of a Master of Science and Educational Specialist degree in Counseling and Human Systems. Ms. Brattole has long been interested in working with young women dealing with eating disorders. Her experiences include serving as an intern at the University Counseling Center at FSU counseling college students dealing with a variety of emotional concerns including: eating disorders, anxiety, depression, substance abuse and relationship issues. Currently, she is a career advisor at FSU's Career Center. Upon completion of her degree, she will continue her graduate studies at FSU in pursuit of receiving a Ph.D. in Counseling Psychology.