

# Impact of Parenting Factors and Personal Ego Development on Risk for Eating Disorders Among College Women

Valerie J. Lucas  
Marquette University

---

## Recommended Citation

Lucas, Valerie J., "Impact of Parenting Factors and Personal Ego Development on Risk for Eating Disorders Among College Women" (2010). *Dissertations (2009 -)*. Paper 76.  
[http://epublications.marquette.edu/dissertations\\_mu/76](http://epublications.marquette.edu/dissertations_mu/76)

IMPACT OF PARENTING FACTORS AND PERSONAL EGO DEVELOPMENT ON  
RISK FOR EATING DISORDERS AMONG COLLEGE WOMEN

by

Valerie J. Lucas, M.S.

A Dissertation submitted to the Faculty of the Graduate School,  
Marquette University,  
in Partial Fulfillment of the Requirements for the  
Degree of Doctor of Philosophy

Milwaukee, WI

December 2010

ABSTRACT  
IMPACT OF PARENTING FACTORS AND PERSONAL EGO DEVELOPMENT ON  
RISK FOR EATING DISORDERS AMONG COLLEGE WOMEN

Valerie J. Lucas, M.S.

Marquette University, 2010

The purpose of this study was to examine the role of parental factors and individual ego development in identifying an at-risk profile for eating disordered behavior among female emerging adults. Specifically, this study was designed to test the hypotheses that parent eating attitudes and behavior and parenting style are correlated phenomena associated with a self-reported proclivity for eating disordered behavior among female offspring with individual ego development level as either a protective or exacerbating factor. Previous research with parental factors and eating disorders does not address a comprehensive model that utilizes the multiple parental variables of parent eating attitudes and behavior and parenting style, and young adult ego development. It was predicted that those at risk for developing an eating disorder would report experiencing their parents' style as high in control and low in warmth or low in control and high in warmth, parents will report a higher incidence of personal eating disordered behaviors and attitudes, and the student's level of ego development will mediate the impact of these parental factors. A total of 131 mother-daughter dyads were used for this project. There were significant correlations found between daughters' approach to eating and mothers' approach to eating and mothers' parenting style. However, there was no relationship between ego development and any of the predictor variables or daughters' approach to eating, precluding ego development as a mediator. Ego development also did not emerge as a moderator in an alternative model. Additionally, only mothers' approach to eating continued to be a significant predictor of daughters' approach to eating when factoring out impact on daughters' personal well-being. Mothers' parenting style was found to not be a significant predictor of daughters' approach to eating once personal well-being was factored out as a covariate. These results support the impact of mothers' approach to eating, but more research needs to be conducted in examining the relationship between parenting style, ego development, and daughters' approach to eating.

## ACKNOWLEDGMENTS

Valerie J. Lucas, M.S.

This project would not have been possible without the unending support of my dissertation advisor, Dr. Ed de St. Aubin. Not only am I grateful for his guidance, wisdom, and insight as a faculty advisor, but also for his dedication, enthusiasm, and patience as a mentor. I would also like to thank committee members Drs. John Grych and Michael Wierzbicki for their invaluable feedback and encouragement. A very special thank you goes to the research team that spent hours collecting data, scoring and entering questionnaires. My husband, Brian, has been incredibly patient and supportive throughout my graduate career. His encouragement and belief in my abilities as a researcher, student, clinician, and future professional have kept me on the path toward achieving these goals. He, along with our daughter, Hailey, will always inspire me to be the best person I can be. I am also grateful to my parents who have always reminded me to keep myself focused, and have supported me to this end from the very beginning.

## TABLE OF CONTENTS

ACKNOWLEDGMENTS.....	i
LIST OF TABLES.....	iv
LIST OF FIGURES.....	vi
CHAPTER I: INTRODUCTION.....	1
A. Eating Disorders.....	3
i. Diagnostic Criteria.....	3
ii. Etiology.....	10
a. Psychodynamic.....	10
b. Developmental.....	12
c. Cognitive.....	12
d. Genetic.....	13
e. Sociocultural.....	15
B. Parental Variables.....	20
i. Parent Approach to Eating.....	23
ii. Parenting Styles.....	26
C. Ego Development.....	30
D. Summary.....	36
CHAPTER II: METHOD.....	41
A. Participants.....	41
B. Materials.....	41
i. Eating Attitudes Test.....	41
ii. Eating Disorders Inventory – 2.....	42

iii. Washington University Sentence Completion Test for Ego Development.	43
iv. Parental Authority Questionnaire.....	44
v. Personal Well-Being.....	44
V. Design and Procedure.....	45
CHAPTER III: RESULTS.....	46
A. Descriptives.....	46
B. Relationship Between Eating Disorder Measures.....	48
C. Correlations and Regressions.....	48
D. Moderation.....	59
CHAPTER IV: DISCUSSION.....	68
REFERENCES.....	75
APPENDICES.....	83

## LIST OF TABLES

Table 1	Descriptive Characteristics.....	46
Table 2	Internal Consistencies.....	47
Table 3	Correlation Matrix.....	49
Table 4	Summary of Regression Analysis for Mother Authoritarianism and Mother Approach to Eating Predicting Daughter Approach to Eating.....	51
Table 5	Summary of Regression Analysis for Mother Authoritarianism and Daughter Personal Well-Being Predicting Daughter Approach to Eating.....	53
Table 6	Summary of Regression Analysis for Daughter Personal Well-Being Predicting Daughter Approach to Eating.....	53
Table 7	Summary of Regression Analysis for Mother Authoritarianism Predicting Daughter Approach to Eating.....	54
Table 8	Summary of Regression Analysis for Mother Authoritarianism Predicting Daughter Approach to Eating with Daughter Personal Well-Being as a Covariate.....	55
Table 9	Summary of Regression Analysis for Mother Approach to Eating and Daughter Personal Well-Being Predicting Daughter Approach to Eating.....	56
Table 10	Summary of Regression Analysis for Mother Approach to Eating Predicting Daughter Approach to Eating.....	56
Table 11	Summary of Regression Analysis for Mother Approach to Eating Predicting Daughter Approach to Eating with Daughter Personal Well-Being as a Covariate.....	57
Table 12	Summary of Regression Analysis for Daughter Personal Well-Being, Mother Authoritarianism, and Mother Approach to Eating Predicting Daughter Approach to Eating.....	58
Table 13	Summary of Regression Analysis for Mother Authoritarianism and Mother Approach to Eating Predicting Daughter Approach to Eating with Daughter Personal Well-Being as a Covariate.....	59

Table 14	Summary of Regression Analysis for Daughter Ego Development as a Moderator of Mother Authoritarianism Predicting Daughter Approach to Eating.....	60
Table 15	Summary of Regression Analysis for Daughter Ego Development as a Moderator of Mother Approach to Eating Predicting Daughter Approach to Eating.....	61
Table 16	Correlation Matrix for Clinical Population.....	62
Table 17	Summary of Regression Analysis for Mother Permissiveness and Daughter Personal Well-Being Predicting Daughter Approach to Eating.....	63
Table 18	Summary of Regression Analysis for Mother Permissiveness Predicting Daughter Approach to Eating.....	64
Table 19	Summary of Regression Analysis for Mother Permissiveness Predicting Daughter Approach to Eating with Daughter Personal Well-Being as a Covariate.....	64
Table 20	Summary of Regression Analysis for Daughter Personal Well-Being, Mother Authoritarianism, Mother Approach to Eating, and Mother Permissiveness Predicting Daughter Approach to Eating.....	65
Table 21	Summary of Regression Analysis for Mother Authoritarianism, Mother Approach to Eating, and Mother Permissiveness Predicting Daughter Approach to Eating.....	66
Table 22	Summary of Regression Analysis for Mother Authoritarianism, Mother Approach to Eating, and Mother Permissiveness Predicting Daughter Approach to Eating with Daughter Personal Well-Being as a Covariate.....	67



## LIST OF FIGURES

Figure 1	Distribution of college aged women who are healthy eaters, at-risk for eating disorders, and diagnosed with an eating disorder according to the DSM-IV.....	9
Figure 2	Proposed model depicting ego development as a potential mediator of the impact of mothers' parenting style and mothers' approach to eating on daughters' approach to eating (Model A).....	23
Figure 3	Loevinger's stages of ego development.....	31
Figure 4	Proposed alternative model depicting ego development as a potential moderator of the impact of mothers' parenting style and mothers' approach to eating on daughters' approach to eating (Model B).....	38

## Impact of Parenting Factors and Personal Ego Development on Risk for Eating Disorders Among College Women

### Introduction

Eating disturbances, particularly among women, have been documented and researched by the medical and psychological community since the late 1800's. In 1874, a strange phenomenon where young women were seemingly voluntarily starving themselves for no apparent physical reason was first recognized by Sir William Gull as anorexia nervosa or "appetite loss of psychic origin" (Gull, 1874). Although Gull was one of the first to put a name to what we now know as anorexia nervosa, looking at historical case studies, there is evidence of eating difficulties dating back to the 1200's with "holy anorexia" or starvation as a religious statement or a means of seeking salvation (Keel & Klump, 2003). Cases of "canine appetite" or an insatiable appetite followed by compulsive vomiting were documented as early as the 1600's (Keel & Klump, 2003). The term bulimia nervosa was only used for the first time in 1979 to define an "ox-like" hunger identified in anorexia patients, later characterized as binge eating (Abraham & Llewellyn-Jones, 2001). Despite the initial recognition of anorexia nervosa over a century ago, it was not until 1980, and the release of the third edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III) that eating disorders were included as a psychological diagnosis (American Psychiatric Association [APA], 1980).

In recent decades, there has been an increasing number of anorexia and bulimia cases. As many as five million Americans have an eating disorder (Becker, Keel, Anderson-Fye, & Thomas, 2004). Subsequently, a growing number of theories and

treatments have been developed and researched to address and explain this phenomenon. Yet, there is much debate as to whether there is a singular origin or precipitating factor that contributes to the development of eating disorders. In the literature, there have been numerous theories proposed as to the root causes of eating disordered behavior, ranging from psychoanalytic explanations (e.g., Blitzer, Rollins, & Blackwell, 1961) to developmental, cognitive, and social influences (e.g., Vitousek & Manke, 1994). From a treatment perspective, one of the most successful therapeutic interventions for anorexia and bulimia is family therapy (e.g., Lock & le Grange, 2005; Lock, le Grange, Forsberg, & Hewell, 2006) highlighting an important role of the family in recovery as well as etiology.

The purpose of this study is to examine the role of parental factors and individual ego development in identifying an at-risk profile for eating disordered behavior among female emerging adults. Specifically, this study is designed to test the hypotheses that parents' eating attitudes and behavior and parenting style are correlated with a self-reported proclivity for eating disordered behavior among offspring. It is also predicted that individual ego development level as either a protective or exacerbating factor. Previous research with parental factors and eating disorders does not address a comprehensive model that utilizes the multiple variables of parent approach to eating, parenting style, and young adult ego development. It is predicted that: (1) those at risk for developing an eating disorder will report experiencing their parents' style as high in control and low in warmth or low in control and high in warmth; (2) parents will report a higher incidence of personal eating disordered behaviors and attitudes; (3) and the students' level of ego development will mediate the impact of these parental factors. Ego

development can most easily be understood as a way to make sense of and integrate one's experience (Loevinger, 1976), and for the purpose of this study, it is predicted to either serve as a protective or exacerbating factor in the development of disordered eating attitudes and behaviors among emerging adults.

In this introduction, there will first be a descriptive summary of eating disorders, a discussion of parental factors of parenting eating attitudes and behaviors and parenting style, followed by a description of the literature on ego development. A proposed comprehensive model incorporating these parental factors and their impact on female emerging adults and the role of ego development as a mediating factor is then presented. The present study's hypotheses and methodology will then be outlined. Finally, the results of statistical analyses will be presented as will a discussion of this study and future research needed in this area of scholarship.

### *Eating Disorders*

*Diagnostic criteria.* According to the current edition of the DSM, there are three diagnosable categories of eating disorders: anorexia nervosa, bulimia nervosa, and eating disorder not otherwise specified (APA, 2000a). *Anorexia nervosa* is characterized by the maintenance of a body weight at least 15% below what is considered normal for one's height and weight, an intense fear of gaining weight, severe body image disturbance, and for females, the loss of at least three consecutive menstrual cycles (amenorrhea). One of the distinctive features of *bulimia nervosa* is the presence of binge eating. Binge eating is defined by eating large amounts of food, more than what would be considered normal by most people in similar circumstances in a short time frame, usually around two hours. During these episodes, there is a sense of a lack of control. Individuals with bulimia then

also use inappropriate compensatory behaviors to rid themselves of the food ingested. Such methods may include vomiting, laxative use, excessive exercise, or fasting. To meet criteria for a diagnosis of bulimia, both binge eating and the compensatory behaviors must occur, on average, two times a week for a period of at least three months (APA, 2000a). Body image disturbance, defined as the perception of one's body shape as larger or fatter than what it really is (Abraham & Llewellyn-Jones, 2001), is also characteristic of those with bulimia. Finally, the *eating disorder not otherwise specified (EDNOS)* category is used to diagnose individuals who may not necessarily meet full criteria for either anorexia or bulimia, but are exhibiting eating disordered behavior, such as binge eating, or restrictive eating without meeting the weight requirement for a diagnosis of anorexia. EDNOS also encompasses other eating disordered behaviors, not necessarily tied specifically to anorexia or bulimia nervosa, such as chewing and spitting, or binge eating disorder (BED). Binge eating disorder indicates presence of binge eating without compensatory behaviors used by individuals with bulimia.

The diagnosis of EDNOS has been debated heavily in the literature. While there are strict guidelines for anorexia and bulimia, EDNOS criteria, in contrast, are ambiguous, and often categorize individuals who just barely miss the criteria for anorexia or bulimia. For example, a diagnosis of EDNOS would be given to an individual who meets criteria for bulimia, but has not engaged in a compensatory behavior for the required three months. Despite the unclear nature of the diagnosis, often the majority of clients in a given clinical setting qualify for EDNOS (Mitchell, Cook-Myers, & Wonderlich, 2005) rather than full syndrome anorexia or bulimia. One study examined eating disorder diagnoses in various clinical centers and estimated that EDNOS diagnoses

range from 49% to 71% of presenting clients, whereas anorexia diagnoses range only from 3% to 17% of all eating disorder diagnoses (unpublished data quoted in Mitchell et al., 2005). This is consistent with the reported low incidence and prevalence of anorexia, but leaves a large group of patients without clear information about severity and symptoms. In these instances, the diagnosis of EDNOS does little to communicate information about symptoms to other mental and physical health professionals, which is a primary purpose of using a diagnostic system. Patients tend to be misrepresented or excluded based on ambiguous criteria. Especially in studies focusing on a clinical population, many only research anorexia or bulimia. If EDNOS represents as much as half to three-quarters of all eating disorder diagnoses, this would be a skewed sample.

From a research standpoint, many patients are misrepresented because of the restrictive DSM criteria for anorexia and bulimia. For example, Turner and Bryant-Waugh (2004) found that 40% of an EDNOS sample lacked only one criterion to be eligible for a diagnosis of anorexia nervosa, while an additional 49.2% of the same EDNOS group would have qualified for a diagnosis of bulimia nervosa if not for one more criterion. This indicates that these restrictive guidelines led to nearly 90% of individuals in their study possibly being misdiagnosed. In many cases, this “missing” criterion refers to one of the unsubstantiated or arbitrarily developed guidelines, such as amenorrhea or the purging frequency requirement. Thaw, Williamson, and Martin (2001) classified eating disorder patients into diagnostic categories using DSM criteria and compared this to modified and less stringent criteria. They found a significant decrease in the number of EDNOS cases by eliminating some of the less validated criteria (Thaw et al., 2001). Often a diagnosis of EDNOS is assumed to mean a lower degree of

pathology than anorexia or bulimia. In these studies, the difference between anorexia or bulimia and EDNOS is one of the more questionable criteria, indicating EDNOS pathology is likely similar in severity.

The categorical system of the DSM has been brought into question on a number of occasions. Although having distinct diagnostic categories has allowed for the use of semi-structured interviews for reliable diagnoses, the current diagnostic system has its limitations (Wonderlich, Joiner, Keel, Williamson, & Crosby, 2007). There appears to be a lack of an empirical basis for the current DSM criteria (Collier & Treasure, 2004). According to the literature, no researcher has been able to provide a valid justification for the DSM criteria that is grounded in research. This brings into question how these criteria were determined and if they really are an accurate representation of eating disorders. Moreover, a large proportion of professionals who specialize in eating disorders do not use validated measures based on DSM criteria in their clinical practice (Anderson & Paulosky, 2004). This not only suggests a lack of consistency across diagnoses, but also a lack of confidence in the current criteria. Another problem is the inconsistency of measures used to collect information on eating disorder behaviors and attitudes. Although there are a number of available instruments, some clinical settings do not use them at all, and some are based on DSM criteria, while others are not. There are clearly some DSM criteria that are based behaviorally and medically (e.g., weight loss of 15% below expected weight), while others focus on subjective experience and feelings (e.g., body image being a major determinant in one's self worth). Different measures may focus on differing components and may lead to conflicting diagnoses.

Although the current DSM qualifies eating disorders into three categories, researchers question the efficacy and legitimacy of these categories. These diagnoses are further broken down into subtypes of anorexia and bulimia, but these have not added to the diagnostic usefulness of eating disorders. Some research suggests more similarities than differences between the different subtypes (Kaye, Frank, Bailer, & Henry, 2005). A common occurrence is the “switching” between the categories of eating disorders. Individuals with anorexia nervosa will often display some or all of the characteristics of bulimia nervosa or will develop these symptoms after partial recovery from anorexia (Wonderlich et al., 2007). One estimate suggests that between 8% and 62% of initially diagnosed cases of anorexia will develop bulimia or bulimic symptoms (Bulik, Reba, Siega-Riz, & Reichborn-Kjennerud, 2005). Milos, Spindler, Schnyder, and Fairburn (2005) found in their study on eating disorder diagnoses that migration between the disorders occurred in more than 50% of participant cases over a 30-month period. Although all three diagnoses (anorexia, bulimia, and EDNOS) experienced this phenomenon, EDNOS was the least stable of the three. This makes diagnosis difficult and brings into question existing etiology, treatment, and outcome profiles established for one disorder versus another. In research, this complicates base rates and samples as well. Given the frequent diagnostic switching based on slight changes in symptomology, and the shared pathology and criteria between anorexia, bulimia, and EDNOS, the authors suggested that there are enough similarities between the diagnoses that they should maybe be thought of as a singular concept, rather than three individual diagnoses (Milos et al., 2005).

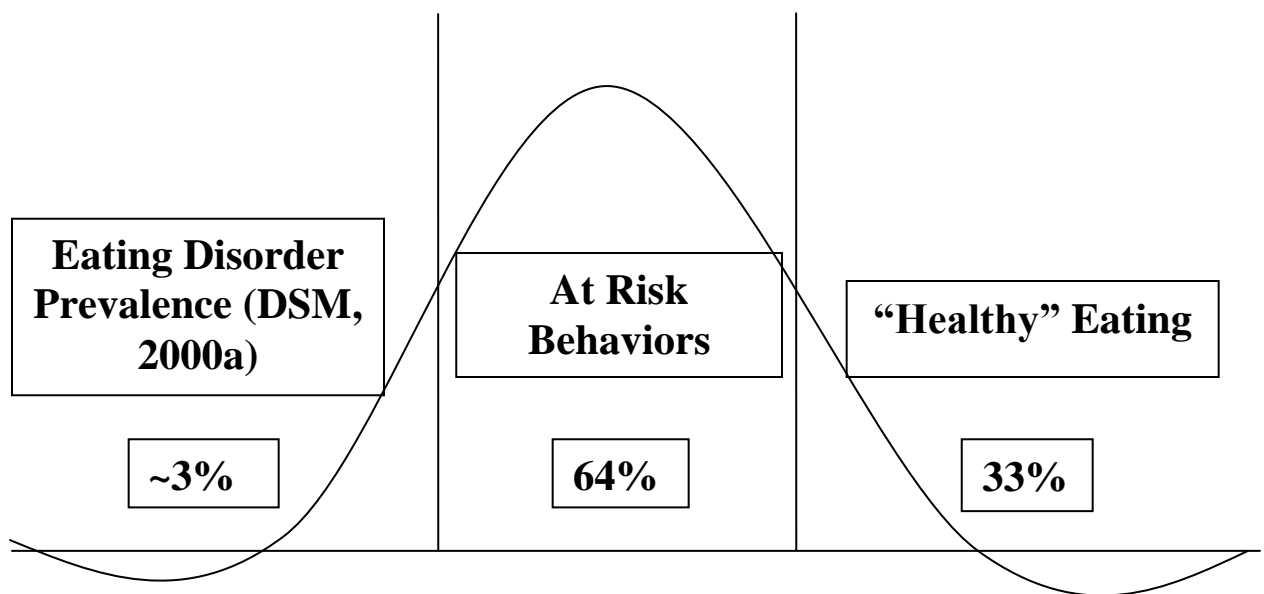


Given the categorical problems associated with the eating disorder criteria, eating disorders may be better described as existing on a continuum between healthy eating behaviors and eating disordered. This would allow for a greater number of at-risk cases to be identified. Clinical cases seen in designated treatment facilities may only represent a small proportion of those that have an eating disorder (Williams, Schaefer, Shisslak, Gronwaldt, & Comerchi, 1986). By examining only the clinical populations, there is a large portion of the spectrum of eating disorders that is being ignored. Aside from those who may meet criteria for an eating disorder, there is a population of individuals who may not meet criteria, but are clearly participating in disordered eating behavior. This “subclinical” population may be the best avenue for prevention research, and provide more understanding of the development of the disorder.

Although the prevalence rate for individuals with diagnosable cases of anorexia (0.5-1%) and bulimia (1-3%) is relatively low in the general population (APA, 2000a), some estimates report up to 20% of high school and college aged women have eating disorders (Robert-McComb, 2001). Mintz and Betz (1988) found that only 33% of college age women in their study engaged in what would be considered healthy eating behaviors, suggesting that eating disorders are a much larger problem than the reported prevalence rates initially may imply. Dancyger and Garfinkel (1995) defined partial syndrome anorexia as excluding amenorrhea and the weight loss cutoff of 85% and partial syndrome bulimia as excluding the frequency and duration criteria for bingeing and purging. In their study, prevalence of partial syndrome disorders approximated 5 times the prevalence of diagnosable eating disorders. Interestingly, some of the literature

proposed these modifications to represent full syndrome eating disorders (e.g., Thaw et al., 2001; Turner & Bryant-Waugh, 2004).

Eating behaviors fall on a continuum (Garfinkel & Newman, 2001) between diagnosable eating disorders and healthy eating patterns, and include gray areas, such as obsessive dieting and partial syndromes (Button & Whitehouse, 1981). The largest proportion of the population falls in the middle, displaying “at-risk” behaviors. These can be evident in people who do not meet full diagnostic criteria for anorexia or bulimia, or those simply taking part in dangerous behaviors, such as occasional self-induced vomiting, or severely restricted calorie intake. In the case of college age women, given the low prevalence of diagnosable cases of anorexia and bulimia on one end of the continuum, and only 33% on the healthy end, this suggests a potential of up to 64% of college women fall somewhere between “healthy” and eating disordered (see Figure 1).



Longitudinal research has shown that non-diagnosable disordered eating often does lead to heightened pathology. In one study, 33% of those scoring high on the Eating Attitudes Test (EAT) were classified as having a partial syndrome disorder; at the 12-18 month follow-up, 20% of these individuals met diagnosis for an eating disorder (King, 1989), suggesting that there is certainly potential for progression of symptoms. Those at risk for developing eating disorders comprise not only the largest proportion of individuals, but they are also the most likely to benefit from early intervention. The current study was designed to encompass this high risk population.

*Etiology.*

There have been numerous speculations about the origins and development of eating disorders. When a sample of anorexic patients was directly asked about the causes of their eating disordered behavior, they reported such reasons as general unhappiness, body dissatisfaction, control, obsession, perfectionism, and media influences (Dignon, Beardsmore, Spain, & Kuan, 2006). Although this does not necessarily provide an objective view of the etiology of eating disorders, it suggests some common themes from the perspective of the patient. From a research standpoint, several of the predominant theoretical positions come from the psychodynamic, developmental, cognitive, biological/genetic, and sociocultural schools of thought.

*Psychodynamic.* Psychodynamic theories suggest that disordered eating stems from substituting food for other more internal needs (i.e., controlling food intake to feel less ineffective) (Vitousek & Manke, 1994). Another psychodynamic view proposes that refusing to eat equates to not wanting to grow up and take on adult responsibilities. Thus, by refusing nourishment, physical maturation stagnation symbolically represents stopping

psychological and social maturation (Blitzer et al., 1961). Early psychoanalytic case reviews discuss their patients' fear of eating in terms of avoiding pregnancy. Anorexia nervosa was considered a "defense" against pregnancy; achieving amenorrhea through fasting made pregnancy improbable (Blitzer et al., 1961). This miscommunication and misinformation even led some younger patients to associate gaining weight, or being "fat" with being pregnant. According to this view, miscommunication and inability to form an appropriate relationship or identification with their mothers leads young girls to want to avoid puberty, sexual intercourse, and intimate adult relationships, and anorexia becomes a method supporting avoidance.

Huline-Dickens (2005) suggests that early relational difficulties can cause or exacerbate feeding difficulties, especially in the case of loss of loved ones. According to case studies of anorexic adolescents, there is a high prevalence of familial deaths, suggesting a pattern between loss and restrictive food intake. Identity confusion also plays a large role in psychodynamic conceptualization of eating disorders. Anorexic behaviors have been linked with a desire to symbolically individuate from one's mother or primary caregiver.

Although psychoanalytic and psychodynamic conceptualizations were popular around the time of the discovery of anorexia nervosa, since then, there has been less of an emphasis on this theory, and less hypothesis testing in a field that often does not focus on empirical research. Psychodynamic therapy has been suggested as a suitable treatment option for eating disorders, however, with the growing number of empirical research studies of more standardized treatments such as dialectical behavior therapy (DBT) and

cognitive behavioral therapy (CBT), standards of treatment are moving away from less empirically supported theories.

*Developmental.* From a developmental perspective, girls approach the physical changes associated with puberty at an earlier age than boys do, generally between the ages of 12 and 14 (Abraham & Llewellyn-Jones, 2001). Although maturational weight gain (i.e., breasts and hips) is developmentally appropriate, sudden physical changes may be confusing and difficult to deal with for young women. An insecure individual may attempt to stop unwelcomed physical change by altering eating behavior. The desired effect would be to decrease the anxiety and distress felt internally. It becomes increasingly difficult for maturing adolescent women to control their weight. Outward physical changes manifest in conjunction with slower metabolism, and this results in an inability to maintain previous eating patterns for many (Abraham & Llewellyn-Jones, 2001). Additionally, some research suggests that there are stable traits exhibited in childhood, *before* the onset of eating disorders, such as perfectionism, that may indicate more of a developmental etiology (Collier & Treasure, 2004).

*Cognitive.* From a cognitive perspective, it has been suggested that those with anorexia and bulimia often suffer from disordered and irrational thoughts. Some cognitive theories propose that those with eating disorders have poor self-schemas of necessity for perfection and place undue importance on physical beauty. This results in these individuals seeing themselves as chronically and globally inadequate (Vitousek & Manke, 1994). Mizes (1988) found that individuals with bulimia are more anxious, depressed, and have poor body image. Poor body image is defined by irrational and distorted thinking about one's weight and societal expectations, and is one of the

diagnostic criteria of both anorexia and bulimia. Additional evidence for the cognitive component of anorexia and bulimia is the effectiveness of cognitive based treatments such as CBT (McFarlane, Olmsted, & Goldbloom, 2005) and DBT for these disorders.

One study examined the link between treatment expectations and outcomes among patients with bulimia nervosa and found that more optimistic beliefs about treatment, including helpfulness of therapy and therapist, and degree of recovery following treatment, were related to positive treatment engagement (McFarlane et al., 2005).

However, these researchers also found evidence for faulty cognitions; those with a more severe degree of pathology, indicated by higher number of binge and purge episodes and longer duration of illness, had expectations that their illness with average duration of 6.8 years would be in complete remission after an average of 7.1 weeks of treatment (McFarlane et al., 2005), which is unfortunately unlikely. Unmet, unrealistic expectations can lead to disappointment, followed by a vicious cycle of self-blame and re-engagement of destructive behaviors.

*Genetic.* Thoughts on the etiology of eating disorders changed dramatically in the 1990's with emerging evidence of a genetic component manifested in twin and family studies (Collier & Treasure, 2004; Sanderson, 2004). Heritability estimates range from .48-.76 for anorexia nervosa and .30-.83 for bulimia nervosa (Becker et al., 2004; Striegel-Moore & Bulik, 2007). However, this wide range of heritability estimates takes into consideration reliability problems with diagnosis and assumptions about shared environments. In monozygotic and dizygotic twin study comparisons, many researchers assume that the shared environment of identical twins is not different from that of fraternal twins, but this has frequently been invalidated (Becker et al., 2004). Issues of

individuation and identity formation likely vary between the two types of twin pairs, which in turn may significantly influence the development of eating disorders. Family studies suggest that women are two to three times more likely to suffer from anorexia or bulimia if they have a close relative with an eating disorder than others without an eating disordered relative (Sanderson, 2004), while some imply up to a five to twelve fold increase among biological relatives (Becker et al., 2004). Increased incidence of eating disorders in families with siblings or mothers with similar diagnoses could also be due to environmental influences, rather than genetics.

A number of neurotransmitters and hormones have been implicated in the occurrence and maintenance of eating disorders. However, this may be due to a co-morbid psychological disorder, such as depression (Garner, Olmsted, & Polivy, 1983) or anxiety, both of which are common among those with eating disorders. Several promising genetic advances have been made, linking eating disorders to specific chromosomes and neuronal pathways. For example, bulimia with self-induced vomiting has been linked to chromosome 10 and drive for thinness may be linked to chromosome 13 (Collier & Treasure, 2004). A few studies have also introduced a link between the production of estrogen and the development of anorexia nervosa (Becker et al., 2004). Even though these results need further replication, this may help to explain the profound incidence among women and the generally post-pubertal onset of 14-18 years of age (APA, 2000a). Of particular interest is the exploration of the role of serotonin neuronal pathways in anorexia and bulimia (Becker et al., 2004; Kaye et al., 2005). Serotonin plays a significant role in mood, impulse control, and feelings of satiety; all of which are major areas of concern with eating disorders. One of the most compelling arguments is that

selective serotonin reuptake inhibitors (SSRIs) have enjoyed some success in the effective treatment of anorexia and bulimia. While there have been attempts to discover a genetic origin for eating disorders, they have generally been met with inconsistent results (Abraham & Llewellyn-Jones, 2001). Although genetics are playing an increasingly important role in our understanding of the development of anorexia and bulimia, this indicates a predisposition that may or may not be manifested (Mazzeo, Zucker, Gerke, Mitchell, & Bulik, 2005). Despite some findings that link specific genes to eating disordered behavior, this does not guarantee an individual will end up engaging in these behaviors or disordered thoughts. Additionally, although the genetic explanations are compelling, environmental influences cannot be ignored, as the gene pool cannot adapt quickly enough to explain the rapid increase in the number of eating disorder cases (Striegel-Moore & Bulik, 2007).

Several other factors have been addressed, but also without the replication needed for useable action. In looking at biological risk factors for anorexia, prematurity in female babies, cephalohematoma (blood between the skull and the lining that appears shortly after birth), and subtle brain damage at birth could be risk factors for developing anorexia (Bulik et al., 2005). Despite a growing literature outlining findings indicating links to specific genes for eating disorders, or specific eating disorder proclivities, there is not a consensus. A large limitation acknowledged by these authors is the need for replication. Additionally, many of the genetic studies focus solely on biological findings and do not integrate the role of the environment in the presentation of genetic tendencies.

*Sociocultural.* Avenues such as television and fashion magazines have created an unusually high expectation for beauty, usually equating thinness with physical



attractiveness and popularity (Abraham & Llewellyn-Jones, 2001). Although these social expectations are placed on young women, they are most often unattainable. A meta-analysis of body dissatisfaction and media images found a significant effect of viewing thin-ideal media images on negative body images among women (Groesz, Levine, & Murnen, 2002). The overall effect size in this particular study supports the view that societal standards of beauty and thinness portrayed in the media leads to women feeling negatively about their own shape and self-worth in comparison. Another study evaluated the change in media in the last half of the twentieth century. Wiseman, Gray, Mosimann, and Ahrens (1992) looked at average weights of Playboy centerfolds and Miss America contestants over the years and found that their percentage of expected body weight dropped from approximately 90% in the late 1950's to approximately 80% in the early 1990's. Maintenance of a body weight 15% below what would be expected is one of the criteria for anorexia nervosa. This also coincides with reports of increasing numbers of anorexia and bulimia cases, again supporting the impact of the media on changing standards of self-evaluation.

A number of other social factors play a role in the etiological theories of anorexia and bulimia. Peer relationships can also promote unhealthy eating attitudes and behaviors. Several researchers found that eating attitudes are very similar within small groups of adolescent girls (Becker et al., 2004). Beyond adolescence, it has been suggested that society equates a woman's self-worth and social status with her ability to attract a man (Hesse-Biber, 1989), which suggests that women have to utilize their "resources" (i.e., beauty) to gain social acceptance. If beauty is defined by thinness and physical perfection, this also increases pressures contributing to eating disorders.

Sociocultural factors that often place an individual in an at-risk category involve gender, race, and socioeconomic status. Historically, anorexia and bulimia have been primarily female disorders, and prevalence rates are especially high among higher socioeconomic status (SES), Caucasian populations (Sanderson, 2004; Striegel-Moore & Bulik, 2007). Eating disorders in men have recently gained interest among researchers, but historically, cultural ideals often equate feminine beauty with thinness and physical appearance, whereas male ideals often emphasize strength and power. Interestingly, gender differences are less evident when including partial syndromes, and when looking at BED (Woodside et al., 2001). A tendency to exclude partial syndromes from clinical consideration, and the grouping of BED with the general EDNOS category may minimize the base rates of eating disorders in men. With regard to socioeconomic status, higher SES populations often have more resources to allocate to the pursuit of beauty (i.e., beauty and diet products) and tend to be more focused on high achievement and perfectionism (Striegel-Moore & Bulik, 2007).

The majority of the current criteria are based on physical characteristics that may be easier to quantify, such as the 85% of normal body weight for anorexia, and frequency requirements for bulimia. One of the psychological criteria is the intense fear of gaining weight or becoming fat. This appears to be characteristic in many cases among North Americans, but this raises the cultural specificity of the criterion (Mitchell et al., 2005) to Western nations (Becker et al., 2004). Social stigma surrounding obesity and physical appearance may be especially prevalent in the United States and other cultures similar to the United States (Striegel-Moore & Bulik, 2007). Although there have been an increasing number of studies among cultures outside of the United States, they do not

appear to reach the levels of those from the United States. However, it has been suggested that immigration and acculturation to a Western society is related to elevated risk for developing an eating disorder among other cultures (Becker et al., 2004). In countries outside of the United States, those cases of individuals with eating disorders have often been described as attempting to model a “Western” lifestyle (Katzman, Hermans, van Hoeken, & Hoek, 2004). A study of indigenous Fijian adolescent girls revealed a significant increase in eating disorder behaviors in a three-year period following the introduction of television to their culture (Becker, Burwell, Gilman, Herzog, & Hamburg, 2002). This area of Fiji had only one known case of anorexia previous to the study and had no or little exposure to television. The increase in dieting from being rare in their culture to 69% reporting dieting to lose weight three years later and 74% feeling that they were too fat, suggests the power of cultural context in eating disorders. Not only was the message of the importance of thinness transmitted, but study participants also reported the promotion of weight control as a way to compete and compare oneself with their peers (Becker et al., 2002).

Although much of the research has found this cultural difference in eating disorders among Western and non-Western countries, it is important to note that not all studies support these hypotheses. For example, Haudek, Rorty, and Henker (1999) examined differences in eating behaviors and weight concerns among Asian-American women and Caucasian women and found that Asian-American women were more likely to express concerns about body shape than Caucasians. Another assumption of cultural research in eating disorders also discusses the role of acculturation of different ethnicities to Western ways of thinking. These authors examined factors in perceived body

dissatisfaction and found that parental bonding played a significant role, while level of acculturation was found to be not significant (Haudek et al., 1999). In their meta-analysis investigating eating disorders as culture-bound syndromes, Keel and Klump (2003) found evidence for the cultural specificity of bulimia nervosa, but not for anorexia nervosa. Contrary to many research papers, they found observed cases of anorexia in every non-Western region they researched. Bulimia nervosa has been more difficult to examine longitudinally. There has been fluctuation in the diagnostic criteria, and official recognition as a diagnosis was not established until the late 1970's. In this particular meta-analysis, there was no evidence of bulimia nervosa in non-Western countries. Part of this explanation may be due to motivations behind binge eating and purging (Keel & Klump, 2003). For example, the United States in general is a country of abundance. Access to large quantities of food required for binge eating may be more likely in a more affluent country.

To date, there is no one theory that adequately explains the origin of eating disorders. There are a variety of factors that contribute to eating disordered thoughts and behaviors. Another area of exploration is that of the family's contribution to the development and/or exacerbation of eating disorder behaviors. The relationship between parent characteristics and emerging adult proclivity toward eating disorders can be traced back to the existing major schools of thought related to eating disordered thoughts and behaviors in young adults. From a developmental and social perspective, the family is integral in initial exposure to attitudes toward eating and social acceptance, while the psychodynamic theories pull heavily from the desire for identification of a daughter with her mother, through shared beliefs and feelings of acceptance and attachment. From a

genetic or biological perspective, the parents are obviously instrumental in contributing to any biological proclivity related to eating disorders. The family, particularly the parents, plays an important role in either the initial development or exacerbation of eating disordered attitudes or behaviors. This is also evidenced by the fact that according to the American Psychiatric Association (2000b), family therapy is one of the commonly recommended treatments of eating disorders, especially anorexia nervosa.

Individual ego development also likely plays a role in the exacerbation of eating disorders. While the literature discusses proclivity for eating disordered behaviors and attitudes from several schools of thought, level of development and ego maturity may contribute to manifestation of such disordered thinking. From a cognitive perspective, ego development is directly related to maturity in thinking. Therefore, higher ego development is less likely to be associated with the utilization of negative distortions in interpreting one's thoughts. Given this relationship, it is likely that higher levels of ego development could be protective against eating disordered thoughts and attitudes, while lower levels of ego development could contribute to one's vulnerability.

#### *Parental Variables*

There are numerous environmental influences on children's behavior and attitudes, much of which originates with parents. Parents often play the single largest role in the development of children prior to the introduction of peer influence. Although researchers discuss the importance of peers and teachers on children's adjustment to developmental and social milestones, it is the quality of the parent-child relationship prior to the initiation of school that allows them to relate appropriately to their classmates and become attached to school (National Institute of Child Health and Human Development

[NICHD] Early Child Care Research Network, 2004). Even the quality of peer relationships originates with the development of a health family environment.

In both clinical and research settings there have been frequent examples of abnormal family functioning in families who have at least one member with an eating disorder (Emanuelli et al., 2004). Families in which a daughter is diagnosed with an eating disorder tend to perceive their overall functioning, and specifically their communication patterns, as worse than families that do not have an eating disordered family member (Emanuelli et al., 2004). Other reports of family environments of an eating disordered individual tend to be perceived as less cohesive and supportive, and experience more conflict than comparison families (Agras, Hammer, & McNicholas, 1999). Severity and chronicity of an individual's illness were found by some to be predicted by familial measures of disturbance, such as presence of mental illness, enmeshment, and disharmony (Dare et al., 1995).

Families presenting for therapy tend to identify one person as the "problem." However, to a family therapist, this individual simply represents the manifestation of symptoms and effective treatment consists of addressing dysfunctional family interactions (Minuchin & Fishman, 1981). Salvador Minuchin and colleagues conceptualized the role of the family as having four typical types of transactions that exacerbate a child's illness: enmeshment, overprotectiveness, rigidity, and lack of conflict resolution (Minuchin et al., 1975). In addition, the child's symptoms within this dysfunctional family system are reinforced as he or she plays an important role in conflict avoidance among all the family members. *Enmeshment* refers to the interdependence of family members, to the point that individual boundaries are virtually nonexistent. In

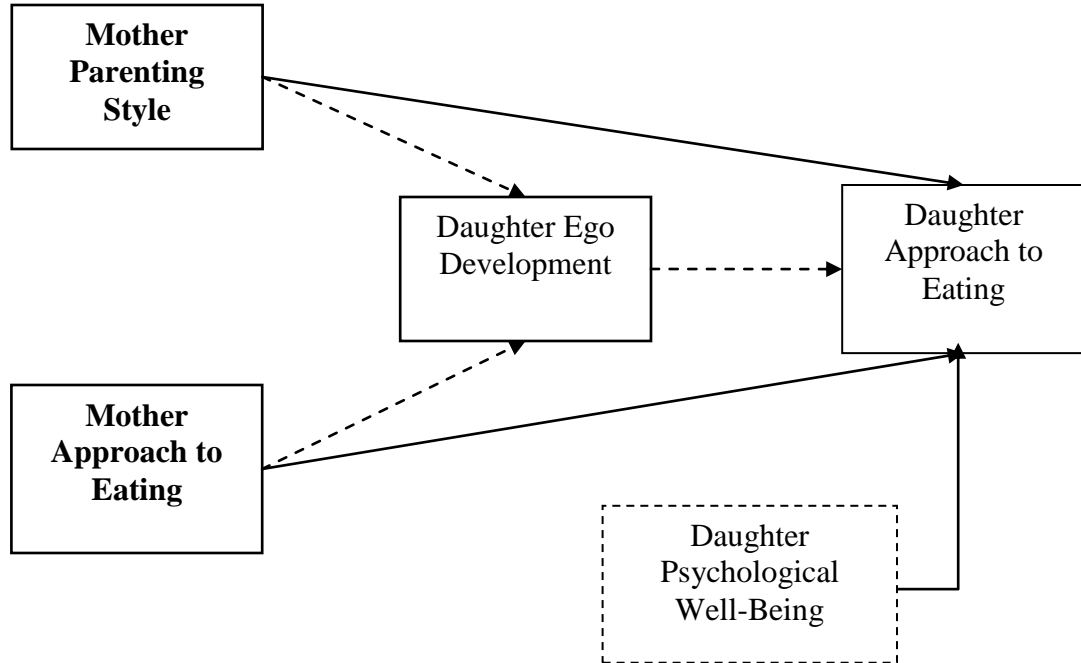
terms of identity development, enmeshment impinges on ability to differentiate oneself from fellow family members. *Overprotectiveness* indicates an unnecessarily high level of concern for one family member. Although some concern is warranted in the case of an ill child, overprotectiveness delays the development of autonomy and mastery. *Rigidity* suggests an inability or unwillingness to change. As therapy for any type of psychological illness requires change, rigidity stands in the way of progress being made, keeping the symptom bearer in a state of perpetual illness and stress. Finally, *lack of conflict resolution* is a result of a combination of these familial patterns. Rather than addressing problems constructively, families resort to constant arguing or denial (Minuchin et al., 1975). When testing their conceptual model of family systems in terms of family therapy, specifically with households with an anorexic child with a weight loss average of 30%, family therapy led to a recovery rate as assessed by these authors of 84% (Minuchin et al., 1975).

Hilde Bruch also discussed the important role of the family in the development of anorexia. She stated that “all anorexics are involved with their families in such a way they have failed to achieve independence” (1978, p. 106). Her cited case examples discussed themes of excessive closeness, passive mothering, paternal emotional underinvolvement, and the tendency to use the identified patient to mask underlying marital issues and personal emotional disturbances among parents.

Several of the parental variables hypothesized to influence daughters’ approach to eating and subsequent risk for the development of eating disorders are parents’ approach to eating and parenting style. Figure 2 shows the possible impact of parents’ approach to eating and parenting style on daughters’ approach to eating. Although these factors have

a direct impact on daughters' eating attitudes and behaviors, it is believed that the daughters' level of ego development likely mediates this relationship; either facilitating a distorted approach to eating, or serving as a protective factor, depending on the daughters' ego development level.

Model A (Mediation):



*Parent Approach to Eating.* Attitudes and behaviors that parents hold toward food and weight are likely to influence their children's attitudes and behavior. Early research discussed a "family neurosis" characteristic of families with an eating disordered child in which they hold abnormal attitudes and behaviors regarding food, eating, and ideal weight (Blitzer et al., 1961; Bruch, 1973). Mothers, in particular, are the first nutritional model for young girls, and are in charge of their first exposure to food (Garcia de Amusquibar & De Simone, 2003). A number of research studies have examined the relationship between mothers with an eating disorder and their daughter's risk, and vice



versa as well; examining daughters with an eating disorder and the characteristics of their mothers (e.g., Woodside et al., 2002). The dieting patterns and body image concerns of a mother may negatively influence a child's eating attitudes and behavior (Garcia de Amusquibar & De Simone, 2003), as several studies found a higher incidence of eating disorder symptoms among mothers of eating disordered patients. In its simplest form, some case studies report young girls going on diets and engaging in vigorous exercise routines with their mothers, in the absence of obesity concerns (Blitzer et al., 1961). From a feeding perspective, some researchers found that mothers with eating disorders were more likely to avoid cooking, and tended to use food for non-nutritive purposes such as displaying affection and rewarding or punishing (Mazzeo et al., 2005). Using food in this way with children provides mixed messages about how to interpret one's own bodily cues with regard to hunger. Additionally, mothers who have eating disorders may also be more likely to have unrealistic expectations for their children with regard to food and weight. These mothers are more likely to emphasize shape and size in the household and help their children lose weight (Mazzeo et al., 2005).

Woodside et al. (2002) found a heightened level of eating pathology among mothers who had one or more children with an eating disorder as well as higher scores on the Eating Disorder Inventory (EDI; Garner & Olmsted, 1984) subscales of Drive for Thinness, Ineffectiveness, and Interoceptive Awareness (ability to accurately identify one's internal state; Garner et al., 1983). These authors suggest that it would indicate either their own eating disorder pathology, or at least a heightened emphasis on weight and shape concerns in the household (Woodside et al., 2002).

Agras et al. (1999) used a prospective approach in examining the impact of parental eating attitudes and behaviors, rather than relying on retrospective assessment. In recruiting mothers at the time of their offspring's birth, they were able to assess at different periods the effect of eating disorder pathology (history and current) on the behaviors of their children. In their study, they found differences between female and male children; all effects were significant only for young girls. Mothers with an eating disorder tended to be less consistent with feeding schedules, used food for punishment and other non-nutritive purposes, and were significantly concerned from an early age about the weight of their daughters in the absence of any physical weight concerns or differences (Agras et al., 1999). Results also showed greater negative affect at a 5-year follow-up among offspring of eating disordered mothers.

Studies of mothers with bulimia nervosa also found differential treatment when compared with mothers without bulimia. Several case studies revealed that mothers with bulimia tended to ignore their children during bingeing and purging episodes, became irritable and sometimes physically violent (i.e., smacking their children), and restricted the amount of food in the house (Fahy & Treasure, 1989; Stein & Fairburn, 1989). In addition, a sizable subsample of these groups were overly concerned with their child's weight and shape, without justification for these concerns, but would take measures to regulate their weight nonetheless (Fahy & Treasure, 1989; Stein & Fairburn, 1989).

Mothers with documented cases of anorexia put their children at risk for a future eating disorder. According to various case studies, it appears that this risk is unintentional, but is fueled by the mother's own pathology and distorted views of eating. Outcomes documented include underfeeding the children, leading to physical

developmental problems (i.e., shortness of stature), as well as psychological difficulties (Russell, Treasure, & Eisler, 1998). In some cases, having a mother with a severe eating disorder leads to the development of an eating disorder in the offspring, or some manifestation of disordered views toward eating. For example, Russell et al. (1998) found that children of anorexic mothers would avoid asking for extra food at home, despite hunger from underfeeding, and were more likely to take food that was offered from relatives or friends. The mothers profiled in this particular study expressed unrealistic concerns about their own children's weight, and would make generalizations about them being greedy for asking for more than their allotted share (Russell et al., 1998), despite being undernourished.

Children often internalize the ideals of their parents. Case studies of mothers with eating disorders have found that children will often imitate their parents with respect to restricting their food intake and will articulate desires to be thin like their parent (Mazzeo et al., 2005), reflecting a desire to identify with a parent. The style in which these parents display affection, control, and messages about eating attitudes and behaviors can also be related to eating disordered pathology in children.

*Parenting Styles.* Parenting styles describe parents in terms of warmth and level of control exerted toward their children (Baumrind, 1971). Previous research indicates that certain parenting styles are associated with psychologically adapted children (e.g., Buri, Louiselle, Misukanis, & Mueller, 1988). Assessment instruments such as the Parental Authority Questionnaire (PAQ; Buri, 1991) evaluate these degrees of warmth and control exhibited by parents. Those high in warmth and control are categorized as authoritative; their interactional style with their children comes off as firm and clear, but

they allow for flexibility and use effective communication patterns with their children. Parents low in warmth and high in control are authoritarian, and they tend to rely on unquestioning obedience as the main disciplinary style with their children. Finally, those high in warmth and low in control are permissive. Permissive parents, while nurturing and noncontrolling, tend not to use punishment at all, which often leads to a lack of clear guidelines and expectations in the family (Baumrind, 1971). Although children often resent overcontrolled environments, lack of control frequently translates to confusion and boundary testing in adolescents. A fourth category, uninvolved parents, is sometimes used to describe those that are low in both warmth and control. Early messages children and adolescents receive from their parents about acceptable levels of warmth, acceptance and control may contribute to their internalized views of the level of control they should have over their own lives and degree to which they are worthy of acceptance. A balanced level of warmth and control (i.e., authoritative parenting) leads to higher likelihood of characteristics such as independence, self-reliance, and responsibility than offspring of parents utilizing another style (Baumrind, 1971). Perception of control and feelings of acceptance are concepts often linked with exacerbation of eating disordered behavior in the literature. Restricted eating associated with anorexia nervosa is related to desire for control and rigidity in routine and adherence to minimal caloric intake is perceived by some theorists as a means to maintain control. Binge eating associated with bulimia nervosa is characterized by a feeling of being out of control during the eating episode. Eating disorders have also been tied to desire for social acceptance. First experiences with love and acceptance start with primary caregivers and shape how one perceives other relationships; influences not only in direct acceptance but also in terms of values

associated with social acceptance. If individuals have unclear messages about levels of control, either too much or too little, and feel little warmth at home, this could contribute to disordered eating patterns.

Parenting style has been shown to be directly related to levels of self-esteem in college students. Low self-esteem is often an accompaniment to a number of psychological disorders, especially eating disorders. Buri et al. (1988) found higher levels of self-esteem among students who reported having authoritative parents, especially if both mothers and father were congruent in their parenting style. This effect was twice as strong for girls as it was for boys. The authors found almost 37% of the variance in self-esteem among girls was explained by their parents' levels of authoritarianism and authoritativeness (Buri et al., 1988).

In a study of Asian-American and Caucasian women, researchers found a significant relationship between parental bonding and the development of eating problems (Haudek et al., 1999). The authors discussed the prevailing hypotheses that eating disturbances would differ between the two cultures. In Asian-American families, it was predicted that eating problems and body image issues would be related to parental overprotection and according to Minuchin, difficulties with individual mastery and ability to develop autonomy (Minuchin et al., 1975), while in Caucasian households, these issues would be related to lack of parental warmth. Although a cultural difference was hypothesized based on previous literature, a low perceived level of maternal care and warmth was the strongest predictor of eating disturbances among both populations studied. This primarily implicates authoritarian parenting in the exacerbation of eating

disorders among young women. Interestingly, paternal care and overprotection did not render significant effects (Haudek et al., 1999).

Franzen and Gerlinghoff (1997) found in their study of mothers with eating disorders that the mother-child relationship was particularly important in the risk of their children becoming anorexic or bulimic. They identified three types of relationships between eating disordered mothers and their daughters. Either the relationship was too close or enmeshed, the child was parentified and took care of their mother, or the mothers were distant and emotionally overcontrolled toward their children. They all highlight the involuntary role that children play in their parent's illness, rather than reflect healthy, secure attachments with their parents. This may lead to an increased risk for eating disorders, as well as other behavioral disturbances.

A number of parental characteristics have been linked with risk of developing anorexia. Shoebridge and Gowers (2000) found that mothers of anorexic adolescents were less likely to allow others to take care of their children when young, experienced anxiety at separation from their children, and did not allow daughters to stay away from home overnight until older than their peers, indicating a high level of overprotection similar to characteristics of an authoritarian level of parental control. In her experience with mothers of anorexic patients, Bruch (1973) found them unable to provide the necessary warmth to parent effectively because of their own neuroses.

The relationship between parents and children's approach to eating has been documented in the literature. However, what has been less clear is why some emerging adults go on to develop eating disorders while others do not, given similar exposure with parenting styles and parental approach to eating. Level of ego development could

provide a filter through which disordered thoughts and behaviors towards eating develops. Higher levels of ego development could provide a protective factor through which eating disordered messages and distorted messages about warmth and control would have less of an impact, while lower levels of ego development may promote an individual to interpret these messages in a way that would contribute to or exacerbate an already present proclivity.

### *Ego Development*

According to Loevinger, “The striving to master, to integrate, to make sense of experience is not just another thing the ego does, it is what the ego is,” (1976, p. 5). Ego development has been defined as a “‘master trait’ that is indicative of the human drive to master, integrate, and make sense of the surrounding world” (Swift, Camp, Bushnell, & Bargman, 1984). The term encompasses a number of related concepts, including impulse control, character development, interpersonal style, conscious preoccupations, and cognitive style (Loevinger, 1976). It is important to note that ego development is not synonymous with psychological well-being. Individuals at a higher level of ego development are not necessarily protected against emotional disorders (Loevinger, 1966).

Loevinger breaks down the ego into several stages (1976) (see Figure 3). The *Presocial stage (I-1)* occurs around the time after birth where a baby is simply attempting to understand and differentiate from the world around him/her. The *Symbiotic stage (I-1)* still precedes use of language, and focuses on the continuing process of differentiation. The baby is further along in this process, but remains identified with one’s caregiver. The *Impulsive stage (I-2)* emerges with the advent of language, where they begin to

Category	Name	Code	
	Presocial	I-1	Attempting to understand and differentiate from the world
	Symbiotic	I-1	Prelinguistic, focus on differentiation
Preconformist	Impulsive	I-2	Impulse-ridden, dependent, pre-occupied with body sensations, needy, cognitive stereotypy
	Self-protective	Δ	Externalizes blame, wary, manipulative, control and advantage dominate interpersonal relationships
Transition from preconformist to conformist	Ritual-traditional	Δ/3	Obedient, conformist, but secretly manipulative; concretistic cognitive style
Conformist	Conformist	I-3	Conventional, needing to belong conformity to external rules, conscious preoccupation with appearance and reputation, inner life seen in banal terms
Transition from conformist to postconformist	Self-aware	I-3/4	Self-critical, conscious of self as separate from the group, recognizes psychological causation, awareness of individual differences
Postconformist	Conscientious	I-4	Feels responsibility for others, aspires to achievement, cognitive complexity, rich inner life, interpersonal mutuality
	Individualistic	I-4/5	Expressive, coping with inner conflict, cherishing of human relationships, toleration of paradox
	Autonomous	I-5	Acceptance of conflict as expectable, tolerance of ambiguity, respect for autonomy of self and others, self-fulfillment takes precedence over goal seeking
	Integrated	I-6	Much like I-5; add ability to reconcile and not just cope with conflict

(Adapted from Swift, Camp, Bushnell, & Bargman, 1984)



assert their individuality and develop personal identity. Relationships with others at this stage are defined by utility (i.e., what can this person do for me) and orientation is to the present moment. Morality is seen simply in terms of “good versus bad.” The *Self-protective stage (delta Δ)* introduces the ability to delay gratification in expectation of short-term rewards and punishments. Rules are within comprehension and used to control impulsiveness present in previous stages, but rules are followed mainly to avoid punishment and to gain rewards. The *Conformist stage (I-3)* marks the beginning of identifying oneself within the structure of a group, often one’s family or a group of peers. Social norms and rules are still dominant within their control of behavior, but less to avoid punishment, and more to adhere to group expectations and avoid disapproval from others. Behaviors are defined in terms of right versus wrong, rather than being able to associate consequences with one’s actions. According to Loevinger, the Conformist takes a particular “interest in appearance, in social acceptance and reputation, and in material things” (1976, p. 19). The *Self-aware level (I-3/4)* or “transition from Conformist to Conscientious stages” is considered to be the “modal” level for adults. There is a marked increase in self-awareness and self-consciousness and movement away from self-definition solely in terms of group standards. Right versus wrong dichotomy gives way to the possibility of other alternatives, although individuals at this level still tend to be rather concrete. One completes the transition to the *Conscientious stage (I-4)* once there is an internalization of the society and ability to create one’s own set of internal rules based on personal exceptions. Interpersonal relationships are based less on following a group of shared norms, but rather by understanding individual differences and a developing mutuality. The *Individualistic level (I-4/5)* or “transition from

Conscientious to Autonomous stages” introduces increased tolerance of self and others through the recognition of individual differences. A person who has achieved the *Autonomous stage (I-5)* integrates the ability to consider alternatives and tolerate ambiguity. This is the first stage that lets go of the idea of polar opposites and embraces the idea that reality is multifaceted. The autonomous individual “aspires to be realistic and objective about himself and others” (Loevinger, 1976, p 26). Few achieve the *Integrated stage (I-6)*. Because of the low base rate of individuals who actually achieve this stage, it is difficult to study and distinguish (Loevinger, 1976). What has been identified as part of this stage includes a heightened sense of identity and can be most easily described as equivalent to self-actualization, as described by Maslow.

Previous studies place “normal” adolescents and young adults aged 16-25 around the self-aware (I-3/4) stage (Holt, 1980). They found that for non-college adolescents and young adults, those that did not fall at the I-3/4 stage tended to skew toward the lower stages, while for college students, the remaining distribution favored the higher levels of ego development. Redmore and Waldman (1975) found the vast majority of college students in their study to fall in the self-aware (I-3/4) or conscientious (I-4) range.

Ego development has been linked with eating disorder pathology in previous research. The predominating view of anorexia is that of a young woman, compelled to comply with parents demands and society expectations, leading to a identity driven by overconformity (Swift, et al., 1984). In one study with anorexic inpatients, researchers found that individuals’ ego levels averaged at the transition from conformist to postconformist, or self-aware stage (I-3/4) contrary to their hypothesis that they would fall at the conformist stage (I-3) (Swift et al., 1984). Although the authors report that

lower body weight alone has been indicative of lower ego development level, contrary findings suggest that the connection between anorexia and ego development is more multifaceted. Another study found that individuals with bulimia demonstrated lower levels of ego development than their non-eating disordered peers, but were higher functioning than peers who also had a diagnosis of borderline personality disorder (Horton, 2001).

Some research suggests that families of individuals with an eating disorder are overly concerned about social appearance and physical attractiveness (Davis, Shuster, Blackmore, & Fox, 2004). By fostering such an environment, parents can place expectations that their children must meet these standards in order to gain acceptance and worth within the family and as a developing individual. The value placed on social appearance and conforming to pre-set guidelines for behavior and presentation are examples of core values in the conformist (I-3) stage of ego development. The role that parents play in the development of such beliefs emphasizes the importance of families in ego development and the possible influence on eating disordered pathology. This impact of parental values occurs earlier rather than later. In one study of elementary school aged children, weight loss attempts and poor body image among the children were significantly related to parent's comments about weight in the household, both about their own weight and their children's (Smolak, Levine, & Schermer, 1999).

Several studies have linked expectations of perfectionism and achievement among parents with increased risk for eating disorders in their children (e.g., Woodside et al., 2002). Desire for perfection and achievement based on predetermined criteria (e.g., grade point average or rank of college attended) mirror values associated with the

conformist (I-3) stages of ego development, which is often tied to desire to fit in with others' expectations. Transmitting a message of expected perfectionism may contribute to an adolescent or child feeling as though they have to conform to someone else's expectations, leaving little room for the development of their own identity and ability to determine which of their parents' values they would like to adopt, as well as the development of their own normative thinking associated with lower levels of ego development.

Those with lower levels of ego development may present as more susceptible to maladaptive parenting factors for a couple of reasons. First, lower ego levels are associated with desire to conform to society's rules, as well as a desire to be accepted by others. Additionally, they are less likely to be able to interpret such a situation in a larger, overarching context. Individuals with higher levels of ego development are more able to successfully integrate who they are within their society, whereas those with lower levels of ego development may be more likely to attempt to simply fit in with the society around them. Ego development is described as a process of becoming more mature, and moving toward self-awareness, clarity, and goal-directedness (King & Smith, 2004). All of these processes are not as developed in eating disordered individuals. Therefore, a comment or observation that they are somehow inferior from a parent may be taken more literally, rather than exercising an ability to utilize self-perceptions, observations from others, and their parent's own personal issues that may contribute to a totally different meaning of that initial comment. Ability to self-regulate when faced with negative influences is also a hallmark of higher levels of ego development (King & Smith, 2004); regulation being often absent in individuals with an eating disorder. Additionally, most

changes that occur in ego developmental level occur during the transition from high school to college (King & Raspin, 2004), suggesting that individuals may be more susceptible to negative influences before becoming more secure in their emotional development.

### *Summary*

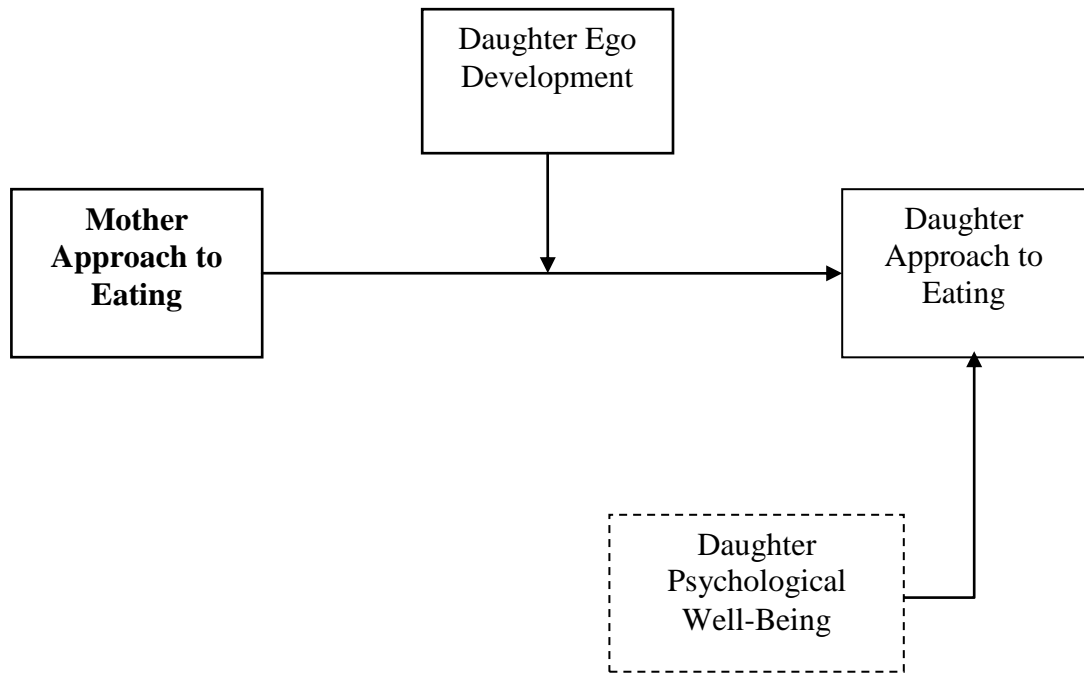
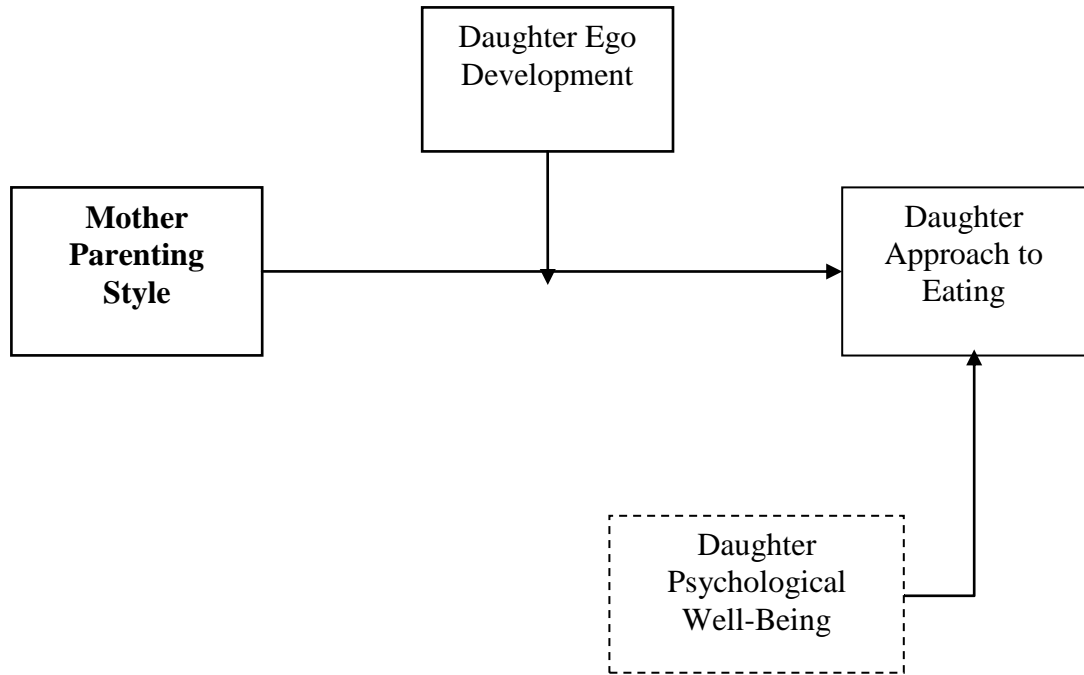
The research literature suggests that the family, specifically parents, play an important role in the development and exacerbation of eating disorders among emerging adult females. In particular, the level of control and warmth expressed by parents and perceived by their children is important in perceived level of personal control and acceptance, as well as ideals and thoughts regarding perfectionism. Personal beliefs about eating attitudes and behaviors will likely be transmitted to one's offspring. However, the purpose of this study is to examine not only these direct links to eating disorder proclivity among emerging adult females, but to explore the impact of their own level of ego development as either a protective or exacerbating factor. The ego development literature has linked level of ego development to eating disorders. Lower ego levels have been hypothesized as being associated with immature thinking associated with similar patterns often found among those with eating disorders, such as social conformity, desire for acceptance, and adherence to rules. These lower levels of ego development could contribute to the exacerbation or development of eating disordered thinking within a parent-child relationship in several ways. If an individual has authoritarian parents or parents with personal struggles with disordered eating attitudes, a young adult with lower ego developmental level could struggle with trying to fit in with "society," in which parents play a large part in defining. Additionally, these same

individuals would likely have difficulty differentiating themselves from the society to which they belong, also representative of lower ego development, and unable to see their parents attitudes and parenting style as part of a larger context. Thus, ego development likely plays a mediating role in the impact of parenting factors on eating disordered attitudes and behaviors of young adults.

Figures 2 and 4 summarize two models outlining these parental variables and their relationship to female emerging adult eating attitudes and behavior and ego development. All three variables discussed, parents' approach to eating, parenting style, and ego development play an important role in family interactions in general, but also more specifically with regard to eating disorders. There needs to be a model that continues to stress the individual importance of each of the variables, while investigating their relationship to one another. We currently do not have a clear empirical understanding of how these interact in relation to eating disorders.

Given all the reviewed literature, this study was designed to test a mediation model (Model A) that describes how daughters' level of ego development mediates the impact of mothers' approach to eating and parenting style on daughters' approach to eating (see Figure 2). However, it is possible that the variables are better explained by a moderation model (Model B) where ego development actually determines whether or not there is a relationship between parental variables and daughters' approach to eating (see Figure 4).

Model B (Moderation):



Specifically, the model proposed in this study (Model A) predicts a number of relationships:

- 1) Mothers who have more of a disordered approach to eating will likely have daughters who evidence a riskier approach to eating;
- 2) Mothers who are highly authoritarian, highly permissive or both, will have daughters that are more at risk for a disordered approach to eating;
- 3) Mothers who evidence a more disordered approach to eating and are highly authoritarian, highly permissive, or both, will have daughters that are more at risk for a disordered approach to eating;
- 4) Daughters with lower levels of ego development will likely exhibit a riskier approach to eating than their peers who are at a higher ego development level;
- 5) However, those female students who have mothers with a more disordered approach to eating and higher levels of authoritarian and/or permissive parenting, but are at a higher level of ego development will be at less risk, or display less of a disordered approach to eating than their peers with similar mothers, but whom are at a lower ego development level. The alternative is likely true, lower levels of ego development will likely exacerbate the risk for disordered eating for those daughters with mothers that exhibit a more disordered approach to eating and higher levels of maladaptive parenting. This suggests that ego development will emerge as a significant mediator of the relationship between mothers' approach to eating and parenting style and daughters' approach to eating. It is predicted that this cognitive-emotional interpretation (ego development) among daughters will



allow them to look beyond ineffective parenting style and mothers' disordered approach to eating;

6) These relationships are expected to be significant above and beyond the impact on general personal well-being of the daughter.

In order to investigate the scope of the relationship between these variables, an alternative model (Model B) will also be tested and compared to Model A. This alternative model predicts that ego development serves as a moderator of the impact of mothers' approach to eating and parenting style on daughters' approach to eating. Namely, it is predicted that ego development determines whether there is a relationship between the parental variables and daughters' eating attitudes and behaviors. When ego development is removed from the relationship, mothers' parenting style and approach to eating are not significant predictors of daughters' approach to eating. Although both models will be tested, it is predicted that Model A will emerge as significant in describing the relationship between these variables.

## Method

### *Participants*

Data for this study were from a larger research project. Participants were recruited from undergraduate psychology classes at Marquette University, where they received extra credit for their participation. Given the higher prevalence of eating disorders among young, Caucasian women, the use of a college-aged population is ideal for this study. Mothers and fathers were also recruited to participate in this study by their children. Although data were collected for fathers, lower participation amongst this group resulted in an insufficient sample size for inclusion in this study. As a result, only mother/daughter dyads were analyzed. Students earned additional credit for each parents' participation. A total of 131 daughter-mother dyads were used for this project.

### *Materials*

All participants were asked to complete basic demographic questions. Students completed five questionnaires, including the 1) Eating Attitudes Test (EAT-26; Garner, Olmsted, Bohr, & Garfinkel, 1982), 2) Eating Disorders Inventory (2nd Ed.) (EDI-2; Garner et al., 1983), 3) Washington University Sentence Completion Test for Ego Development (WUSCTED, Loevinger & Wessler, 1970), 4) Parental Authority Questionnaire (PAQ; Buri, 1991) and 5) Personal Well-Being Questionnaire (PWB; Ryff, 1989). Mothers also completed the EAT and the EDI-2. Two eating disorders measures were used to gather a more comprehensive profile of eating patterns, looking at cognitive, behavioral, and emotional components. All measures are included in the appendix.

*Eating Attitudes Test.* The EAT consists of 26-items designed to elicit eating disordered thinking. The original Eating Attitudes Test had 40 items (Garner &

Garfinkel, 1979), but factor analyses of all items yielded a highly correlated ( $r = 0.98$ ) and shorter version (Garner et al., 1982), which is commonly used in contemporary eating disorder research. For each item, respondents choose on a 6-point scale whether the statement describes them always, usually, often, sometimes, rarely, or never. The EAT-26 has been popular with researchers, due to its high internal consistency ( $\alpha = 0.90$ ; Garner et al., 1982), test-retest reliability (0.84; Carter & Moss, 1984), sensitivity, and specificity (Garfinkel & Newman, 2001). In addition, the EAT has been useful in cultures other than the North American population on which it was standardized (Garfinkel & Newman, 2001). The abbreviated version of the EAT yields three subscales: dieting, bulimia and food preoccupation, and oral control. The EAT has been useful in identifying abnormal concerns with weight in both clinical and non-clinical populations, although there is strong caution exerted in using self-report instruments such as the EAT as solitary diagnostic tools (Garner et al., 1982). A total score of 20 or higher suggests the presence of an eating disorder, but when used without other measures of eating disorders may generate a high false positive rate.

*Eating Disorders Inventory-2.* The EDI-2 is a 91-item questionnaire designed to assess psychological and behavioral characteristics associated with eating disorders (Raciti & Norcross, 1987). The original EDI consists of 64 items that produces eight subscales: drive for thinness, bulimia, body dissatisfaction, ineffectiveness, perfectionism, interpersonal distrust, interoceptive awareness, and maturity fears. Each of these subscales has moderate to high internal consistency, with Cronbach alpha's ranging from .76 to .93 (Garner & Olmsted, 1984). The remaining 27 items were added to the second version in the form of three additional subscales: asceticism, impulse

regulation, and social insecurity. The EDI utilizes the same six-point scale as the EAT. Raciti and Norcross (1987) found moderate to high correlations between the EAT and EDI ( $r = .66$ ) and between the EAT and the EDI Drive for thinness subscale ( $r = .79$ ).

*Washington University Sentence Completion Test for Ego Development.* The WUSCTED (Loevinger & Wessler, 1970) is an open-ended sentence completion test used to measure ego development stages. Students complete a series of sentence stems and each response is coded as related to one of Loevinger's ego stages. The test itself consists of 36 sentence stems and are scored according to a systematized manual evaluating ego development stage. For the purpose of this study, a modified version of the test was used, utilizing the first 18 sentence stems. Each protocol was scored by a psychology student extensively trained in coding (Hy & Loevinger, 1996) who was working with a faculty member who is an expert in ego development theory and assessment. Rater agreement for this study was high (92%). Total scores were derived by examining the sum of items and the resulting profile of scores. Internal consistency has been established as high (.80 to .89) among a high school and college population (Redmore & Waldman, 1975) while split-half reliability with a single testing session resulted in high correlations (.74 to .82) as well. Average ego development levels in several studies range from impulsive (I-2) to integrated (I-6), with a modal level of self-aware to conscientious (I-3/4 to I-4) (King & Noelle, 2005; King & Raspin, 2004; King, Scollon, Ramsey, & Williams, 2000; King & Smith, 2004). The WUSCTED has been used with a variety of populations and has demonstrated adequate construct validity when compared against other measures (e.g., Horton, 2001).

*Parental Authority Questionnaire.* The PAQ is a 30-item questionnaire used to appraise Baumrind's (1971) authoritative, authoritarian, and permissive parenting styles (Buri, 1991). Participants respond to each of the items using a 5-point Likert scale (strongly disagree (1) to strongly agree (5)). Students in this study filled out one questionnaire for each parent, and each parent filled out one questionnaire evaluating their perception of their own style. Each of the subscales has demonstrated moderate to high test-retest reliabilities (.77 to .92) and internal consistencies (.74 to .87) (Buri, 1991). Buri (1991) also provided evidence of discriminant and criterion-related validity when comparing overlap with each of the styles, and comparing the PAQ to a measure of parental nurturance. Daughters completed the PAQ evaluating their perception of their mothers' approach to parenting.

*Personal Well-Being.* Daughters, but not mothers, completed this questionnaire designed by Ryff (1989) to quantitatively assess psychological well-being. The personal well-being scale consists of 18 statements that are rated by participants on a 6-point scale, ranging from strongly agree (6) to strongly disagree (1) and evaluates dimensions of well-being such as self-acceptance, autonomy, purpose in life, and personal growth. Subscales of the PWB have demonstrated high internal consistency, with Cronbach alpha's ranging from .82 to .93 (e.g., Friedman, Hayney, Love, Singer, & Ryff, 2007; Ryff, 1989; Schmutte & Ryff, 1997). Test-retest reliability at 6 weeks was also high, ranging from .81 to .88 (Ryff, 1989). A scale of well-being will be included in the analyses for this study to examine the impact of the parental variables (approach to eating and parenting style) on daughters' approach to eating above and beyond overall personal well-being.

*Design and Procedure*

Student participants completed questionnaires on campus. In a group setting, all students read and signed a written consent, outlining the purpose of the study, as well as risks and benefits, and any relevant study contact numbers. They then completed a packet with all the compiled questionnaires, and were instructed to answer honestly, as their anonymity will be protected. At the end of the questionnaire packet, students were asked for their mother and father's home addresses to send questionnaire materials. Questionnaire packets were sent directly to provided addresses with a self-addressed stamped return envelope, rather than requesting the student to deliver the questionnaires. A similar consent form was provided at the beginning of the packet for parents. To avoid potential corruption of the data, mothers and fathers were asked in the cover letter to refrain from discussing the questionnaires and their responses with their spouse and child. All study materials can be found in the appendix.

## Results

*Descriptives*

Descriptive characteristics were obtained for the EAT, EDI-2, Ego Development, Personal Well-Being, and the Authoritarian and Permissive scales from the Parental Authority Questionnaire, including means, standard deviations and ranges. These are provided in Table 1.

Table 1

*Descriptive Characteristics*

	Mean	SD	Range
<u>Daughter Measures</u>			
Daughter Approach to Eating*	.00	1.90	-2.4-9.0
Eating Attitudes Test	10.87	9.88	0-58
Eating Disorder Inventory-2	46.80	30.74	6-177
Ego Development	4.68	.80	3-6
Personal Well-Being	83.02	11.02	45-102
Mother's Authoritarian Parenting	30.47	7.00	15-49
Mother's Permissive Parenting	24.05	6.13	11-43
<u>Mother Measures</u>			
Mother Approach to Eating*	.01	1.84	-1.8-13.0
Eating Attitudes Test	7.50	7.74	0-65
Eating Disorder Inventory-2	30.62	21.42	6-150

\*Approach to Eating composite score is the combination of the Eating Attitudes Test and Eating Disorder

Inventory-2.

Table 2 outlines the internal consistencies for the measures used in this study.

Table 2

*Internal Consistencies*

	<u># items</u>	<u><math>\alpha</math></u>
<u>Daughter Measures</u>		
Eating Attitudes Test	26	.88
Eating Disorder Inventory-2	91	.95
Ego Development	18	92%/.86*
Personal Well-Being	18	.86
Mothers' Authoritarian Parenting	10	.91
Mothers' Permissive Parenting	10	.86
<u>Mother Measures</u>		
Eating Attitudes Test	26	.86
Eating Disorder Inventory-2	91	.93

\*Percent agreement between two independent scorers/split- half reliability.

All of the measures demonstrated high internal consistency ( $\alpha = .86 - .95$ ). Because Ego Development is measured using a sentence completion task, internal consistency is best quantified by the percent agreement between two independent coders and split-half reliability (Hy & Loevinger, 1996). For this study, this agreement was 92% and split-half reliability was .86.



### *Relationship Between Eating Disorder Measures*

Convergent and divergent validity were assessed using Pearson product-moment correlations between the EAT and the EDI-2. A moderate to high correlation was found between the total scores for daughters ( $r = .79, p < .001$ ) and mothers ( $r = .69, p < .001$ ), indicating that each is measuring a separate but related component of individual differences in eating disorder proclivity. Both measures were converted to standardized Z-scores and summed to create the comprehensive variable, Approach to Eating. Descriptive statistics for both daughters and mothers can be found in Table 1.

### *Correlations and Regressions*

Table 3 contains a correlation matrix of all the variables included in this study. In order to test Model A for mediation (see Figure 2), the traditional approach to mediation states that three criteria must be met. Baron and Kenny (1986) indicated there must be a significant correlation between the predictor and outcome, between the predictor and mediator variable, and between the outcome and the mediator. Ego development, the hypothesized mediating variable, was not significantly related to the predictor variables, authoritarian and permissive parenting, and mothers' approach to eating, or to the outcome variable, daughters' approach to eating. An updated view of mediation analysis was also consulted that requires two of the three original criteria (MacKinnon & Fairchild, 2009; MacKinnon, Fairchild, & Fritz, 2007). This more recent guideline allows for a non-significant relationship between the predictor variables and the outcome variable, but still requires significant relationships between the mediator variable and the

predictors and outcome variables. Because ego was not correlated with predictor or outcome variables as hypothesized, this cannot be tested as a mediation model.

Table 3

*Correlation Matrix*

	<u>Daughter</u>			<u>Mother</u>	
	<u>Ego</u>	<u>Well-Being</u>	<u>Eating</u>	<u>Authoritarian</u>	<u>Permissive</u>
<u>Daughter</u>					
Eating	-.14	-.53***	.19*	.22*	-.20*
Ego	-	.22*	-.06	-.14	-.03
Well-Being	-	-	-.07	-.23**	.12
<u>Mother</u>					
Eating	-	-	-	.24**	-.09
Authoritarian	-	-	-	-	-.54***

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ . (2-tailed test).

Even though the mediation model cannot be tested as originally outlined, the specific predictions mentioned in the introduction and imbedded in Model A were analyzed, and these individual analyses revealed important information about the relationships between these variables.

1) It had been predicted level of mothers' disordered eating would be correlated with level of disordered eating among daughters. A significant correlation was found between

mothers' approach to eating and daughters' approach to eating ( $r = .19, p < .05$ ) that confirms this relationship.

2) It had been predicted that mothers who are highly authoritarian, highly permissive, or both would have daughters who have a disordered approach to eating. Indeed, there was a significant correlation between mothers' authoritarianism and daughters' approach to eating ( $r = .22, p < .05$ ). However, contrary to what had been predicted, mothers' permissiveness was significantly and negatively correlated with daughters' approach to eating ( $r = -.20, p < .05$ ). Possible explanations as to the emergence of this unpredicted relationship will be discussed in the final section of this dissertation. Notably, there was a strong negative correlation between mothers' authoritarianism and permissiveness ( $r = -.54, p < .001$ ).

3) It had been predicted that mothers with a higher level of disordered eating and higher levels of authoritarian, permissive, or both types of parenting would have daughters with higher levels of disordered eating. Since permissiveness was not significantly and positively correlated with daughters' approach to eating, only mothers' approach to eating and level of authoritarianism were analyzed as predictors. A regression was conducted to explore this relationship. Using authoritarianism and mothers' approach to eating as predictors of daughters' approach to eating produced a significant model [ $F(2,128) = 4.82, p < .01$ ] (see Table 4). Notably, only mothers' level of authoritarianism emerged as a significant predictor. The combination of these two variables accounted for 6% of the variance for daughters' approach to eating ( $R^2 = .06$ ).

4) It had been predicted that daughters with lower levels of ego development would be more likely to have heightened levels of disordered approach to eating. Daughters' ego

development was found to be not significantly correlated with approach to eating ( $r = -.14, ns$ ).

Table 4

*Summary of Regression Analysis for Mother Authoritarianism and Mother Approach to Eating Predicting Daughter Approach to Eating*

Dependent Variable	Variable	B	SE B	$\beta$	R
Daughter Approach to Eating	Authoritarian	.05	.02	.19*	.27**
	Mother Approach to Eating	.15	.09	.15	

Note.  $R^2 = .06$ .

\* $p < .05$ . \*\* $p < .01$ .

5) It was predicted that daughters with mothers with a more disordered approach to eating and a higher level of ineffective parenting, but are at a higher level of ego development will have less of a disordered approach to eating. However, given that the relationship between ego development and daughters' approach to eating was not significant ( $r = -.14, ns$ ), nor were the relationships between ego development and mothers' authoritarianism ( $r = -.14, ns$ ), mothers' permissiveness ( $r = -.03, ns$ ), or mothers' approach to eating ( $r = -.06, ns$ ), ego development does not qualify as a mediator (Baron & Kenny, 1986;

MacKinnon & Fairchild, 2009; MacKinnon, Fairchild, & Fritz, 2007).

6) It had been predicted that daughters' overall personal well-being would likely emerge as a covariate in the predictive relationship of mothers' level of authoritarianism and/or permissiveness and mothers' approach to eating on daughters' approach to eating. The

procedures outlined by Howell (2002) for how to test for covariate significance through regression analyses were explicitly followed. A series of regressions were conducted using mothers' authoritarianism and mothers' approach to eating as predictors of daughters' approach to eating with personal well-being as a covariate. Three series of regressions were conducted to look at mothers' authoritarianism as a predictor of daughters' approach to eating with personal well-being as covariate; mothers' approach to eating as a predictor of daughters' approach to eating, with personal well-being as a covariate; and mothers' authoritarianism and mothers' approach to eating as predictors of daughters' approach to eating with personal well-being as a covariate. Mothers' permissiveness was not included in the testing of these subpredictions given the unpredicted negative relationship with daughters' approach to eating. For the first series of regressions, to test the significance of mothers' authoritarianism above and beyond daughters' personal well-being, Howell (2002) outlined three steps. First, personal well-being and mothers' authoritarianism were entered as predictors of daughters' approach to eating (see Table 5). This combination resulted in a significant model [ $F(2,128) = 26.731, p < .001$ ]. However, while personal well-being emerged as a significant predictor ( $t = -6.661, p < .001$ ), mothers' authoritarianism did not ( $t = 1.392, ns$ ). In the second step, another regression was run, omitting mothers' authoritarianism, and using only daughters' personal well-being as a predictor of daughters' approach to eating (see Table 6). Lastly, a regression was conducted omitting daughters' personal well-being to evaluate mothers' authoritarianism as a predictor of daughters' approach to eating (see Table 7).

Table 5

*Summary of Regression Analysis for Mother Authoritarianism and Daughter Personal Well-Being Predicting Daughter Approach to Eating*

Dependent Variable	Variable	<i>B</i>	<i>SE B</i>	$\beta$	<i>R</i>
Daughter Approach to Eating	Personal Well-Being	-.09	.01	-.51***	.54***
	Authoritarian	.03	.02	.11	

Note.  $R^2 = .28$ .

\*\*\* $p < .001$

Table 6

*Summary of Regression Analysis for Daughter Personal Well-Being Predicting Daughter Approach to Eating*

Dependent Variable	Variable	<i>B</i>	<i>SE B</i>	$\beta$	<i>R</i>
Daughter Approach to Eating	Personal Well-Being	-.09	.01	-.53***	.53***

Note.  $R^2 = .28$ .

\*\*\* $p < .001$

Table 7

*Summary of Regression Analysis for Mother Authoritarianism Predicting Daughter Approach to Eating*

Dependent Variable	Variable	B	SE B	$\beta$	R
Daughter Approach to Eating	Authoritarian	.06	.02	.22**	.22**

Note.  $R^2 = .04$ .

\*\* $p < .01$

Regressions that looked at either only mothers' authoritarianism or daughters' personal well-being (outlined in Tables 6 and 7, respectively) resulted in significant predictors (PWB [ $F(1,129) = 51.151, p < .001$ ] and Authoritarian [ $F(1,129) = 6.807, p < .01$ ]). In order to evaluate the impact of mothers' authoritarianism above and beyond daughters' personal well-being, the sum of squares for daughter personal well-being when it is the lone predictor (see Table 6) was subtracted from the total model's sum of squares (Table 5) to provide the information to calculate a new test of significance for the impact of mothers' authoritarianism while controlling for daughter personal well-being. This is summarized in Table 8, where it is seen that mothers' authoritarianism is no longer a significant predictor of daughters' approach to eating above and beyond that impact of personal well-being [ $F(1,128) = 1.939, ns$ ]. In summary, the impact of the predictor, mothers' level of authoritarian parenting, on the outcome, daughters' approach to eating, is not significant when the impact on general personal well-being of the daughter is statistically factored out of the relationship.

Table 8

*Summary of Regression Analysis for Mother Authoritarianism Predicting Daughter*

*Approach to Eating with Daughter Personal Well-Being as a Covariate*

Source	df	SS	MS	F
Personal Well-Being	1	114.359	114.359	44.360***
Authoritarian	1	4.998	4.998	1.939
Error	128	329.928	2.578	
Total	130	467.730		

*Note: Dependent variable = Daughter Approach to Eating*

\*\*\* $p < .001$

Similar analyses (Howell, 2002) were conducted to evaluate the impact of mothers' approach to eating on daughters' approach to eating, controlling for daughters' personal well-being. Initially, including both mothers' approach to eating and daughters' personal well-being resulted in a significant predictive model of daughters' approach to eating [ $F(2,128) = 28.403, p < .001$ ]. Both individual variables emerged as significant contributors to the model (PWB ( $t = -7.077, p < .001$ ); mothers' approach to eating ( $t = 2.082, p < .05$ )) (see Table 9). Referring back to Table 6, a regression evaluating the predictive significance of daughter personal well-being was conducted, and an additional regression was run with mothers' approach to eating as a lone predictor of daughter approach to eating (see Table 10).



Table 9

*Summary of Regression Analysis for Mother Approach to Eating and Daughter Personal Well-Being Predicting Daughter Approach to Eating*

Dependent Variable	Variable	B	SE B	$\beta$	R
Daughter Approach to Eating	Personal Well-Being	-.09	.01	-.52***	.55***
	Mother Approach to Eating	.16	.08	.15*	

Note.  $R^2 = .30$ .

\* $p < .05$ . \*\*\* $p < .001$

Table 10

*Summary of Regression Analysis for Mother Approach to Eating Predicting Daughter Approach to Eating*

Dependent Variable	Variable	B	SE B	$\beta$	R
Daughter Approach to Eating	Mother Approach to Eating	.20	.09	.19*	.19*

Note.  $R^2 = .03$ .

\* $p < .05$

Mothers' approach to eating is a significant predictor of daughters' approach to eating [ $F(1,129) = 4.865, p < .05$ ]. When personal well-being is controlled, mothers' approach to eating continues to be a significant predictor of daughters' approach to eating [ $F(1,129) =$

4.334,  $p < .05$ ) (see Table 11). In this relationship, mothers' approach to eating continues to be predictive of daughters' approach to eating, even after factoring out the relationship between mothers' approach to eating and personal well-being.

Table 11

*Summary of Regression Analysis for Mother Approach to Eating Predicting Daughter Approach to Eating with Daughter Personal Well-Being as a Covariate*

Source	df	SS	MS	F
Personal Well-Being	1	126.774	126.774	10.578***
Mother Approach to Eating	1	10.969	10.969	4.334*
Error	128	323.957	2.531	
Total	130	467.730		

*Note: Dependent variable = Daughter Approach to Eating*

\* $p < .05$ . \*\*\* $p < .001$

Initially, the proposed model predicted mothers' approach to eating and high levels of authoritarianism and/or permissiveness that would predict daughters' approach to eating, above and beyond their impact on general personal well-being. To test this hypothesis, three regressions were conducted (Howell, 2002). All three variables (excluding permissiveness) were entered into a regression analysis as predictors of daughter approach to eating. The total model is significant [ $F(3,127) = 19.223, p < .001$ ] (see Table 12).

Table 12

*Summary of Regression Analysis for Daughter Personal Well-Being, Mother Authoritarianism, and Mother Approach to Eating Predicting Daughter Approach to Eating*

Dependent Variable	Variable	B	SE B	$\beta$	R
Daughter Approach to Eating	Personal Well-Being	-.09	.01	-.51***	.56***
	Authoritarian	.02	.02	.07	
	Mother Approach to Eating	.14	.08	.14	

Note.  $R^2 = .30$ .

\*\*\* $p < .001$

When testing mothers' authoritarianism and approach to eating as predictors of daughters' approach to eating, the model is also significant [ $F(2,128) = 4.818, p < .01$ ] (see Table 4). However, when the effects on personal well-being (see Table 6) are factored out, the model using mother authoritarianism and mother approach to eating is no longer significant [ $F(2,128) = 2.617, ns$ ] (see Table 13). The combined model with mothers' authoritarianism and mothers' approach to eating is not predictive of daughters' approach to eating, after removing the impact on personal well-being.

Table 13

*Summary of Regression Analysis for Mother Authoritarianism and Mother Approach to Eating Predicting Daughter Approach to Eating with Daughter Personal Well-Being as a Covariate*

Source	df	SS	MS	F
Personal Well-Being	1	113.318	113.318	44.737***
Authoritarian and Mother Approach to Eating	2	13.258	6.629	2.617
Error	127	321.668	2.533	
Total	130	467.730		

*Note: Dependent variable = Daughter Approach to Eating*

\* $p < .05$ . \*\*\* $p < .001$

### *Moderation*

An alternate model was proposed (Model B; see Figure 4) that predicted that daughter ego development serves as a moderator of the relationship between level of authoritarianism and/or permissiveness and mothers' approach to eating as predictors and daughters' approach to eating as an outcome variable. In order to test for a moderating relationship, regressions were conducted to include an interaction between the predictor variable and ego development as a potential moderating variable (Howell, 2002; Tabachnick & Fidell, 2001). To decrease potential effects of multicollinearity, the

predictor and moderating variables were centered, and then multiplied to create an interaction term to be included in the regressions. Separate regressions were conducted for mothers' authoritarianism and mothers' approach to eating. In analyzing the impact of mothers' authoritarianism with ego development as a potential moderator, the interaction between these two variables did not significantly contribute to the regression model predicting daughters' approach to eating ( $t = -1.790, ns$ ) (see Table 14).

Table 14

*Summary of Regression Analysis for Daughter Ego Development as a Moderator of Mother Authoritarianism Predicting Daughter Approach to Eating*

Dependent Variable	Variable	<i>B</i>	<i>SE B</i>	$\beta$	<i>R</i>
Daughter Approach to Eating	Authoritarian	.05	.02	.18*	.29**
	Ego Development	-.21	.21	-.09	
	Authoritarian x Ego Development	-.06	.03	-.16	

*Note.*  $R^2 = .06$ .

\* $p < .05$ . \*\* $p < .01$

Although the overall model was significant, only mothers' authoritarianism emerged as a significant individual contributor to the significance of the model ( $t = 2.124, p < .05$ ), suggesting that ego development is not a moderator of the relationship between mothers' level of authoritarian parenting and daughters' approach to eating. A similar regression was conducted evaluating the potential moderating effects of ego development on the

relationship between mothers' approach to eating as a predictor of daughters' approach to eating. Again, the interaction between ego development and mothers' approach to eating was not a significant contributor to the overall model ( $t = .807, ns$ ) (Table 15), indicating that ego development is not a moderator of the relationship between mothers' approach to eating and daughters' approach to eating.

Table 15

*Summary of Regression Analysis for Daughter Ego Development as a Moderator of Mother Approach to Eating Predicting Daughter Approach to Eating*

Dependent Variable	Variable	<i>B</i>	<i>SE B</i>	$\beta$	<i>R</i>
Daughter Approach to Eating	Mother Approach to Eating	.19	.09	.18*	.24
	Ego Development	-.30	.21	-.12	
	Mother Approach to Eating	.11	.14	.07	
	x Ego Development				

*Note.*  $R^2 = .04$ .

\* $p < .05$ .

Given the lack of significant correlations between ego development and the dependent variable or the independent variables when examining a non-clinical population, correlations were run exploring only the clinical subset of this sample. Clinical population was defined as having a score of 20 or above on the EAT (Garner et al., 1982). When examining a clinical population, ego development is not significantly correlated with daughters' approach to eating, mothers' approach to eating, mothers'

authoritarianism, or mothers' permissiveness (Table 16). There also was no significant difference between mean level of ego development between clinical and non-clinical individuals ( $t = -.516, ns$ )

Table 16

*Correlation Matrix for Clinical Population*

	<u>Daughter</u>			<u>Mother</u>	
	<u>Ego</u>	<u>Well-Being</u>	<u>Eating</u>	<u>Authoritarian</u>	<u>Permissive</u>
<u>Daughter</u>					
Eating	-.37	-.69***	.21	.56**	-.36
Ego	-	.28	-.06	-.37	-.07
Well-Being	-	-	-.24	-.24	.06
<u>Mother</u>					
Eating	-	-	-	.49*	-.35
Authoritarian	-	-	-	-	-.74***

N=21

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ . (2-tailed test).

Additionally, although mothers' permissiveness was found to be negatively correlated with daughters' approach to eating, and contrary to this study's hypotheses and subpredictions, covariance analyses were conducted to better explore its impact on daughters' approach to eating. Personal well-being and mothers' permissiveness were

entered as predictors of daughters' approach to eating (see Table 17), which resulted in a significant model [ $F(2,128) = 27.830, p < .001$ ].

Table 17

*Summary of Regression Analysis for Mother Permissiveness and Daughter Personal Well-Being Predicting Daughter Approach to Eating*

Dependent Variable	Variable	B	SE B	$\beta$	R
Daughter Approach to Eating	Personal Well-Being	-.09	.01	-.52***	.55***
	Permissive	-.04	.02	-.14	

Note.  $R^2 = .29$ .

\*\*\* $p < .001$

Permissiveness was not a significant contributor to this model ( $t = -1.874, ns$ ), but personal well-being was ( $t = -6.935, p < .001$ ). A regression with personal well-being as a predictor of daughters' approach to eating is outlined in Table 6. One last regression was conducted with permissiveness entered as a predictor of daughters' approach to eating. Permissiveness emerged as a significant predictor of daughters' approach to eating [ $F(1,129) = 5.547, p < .05$ ] (see Table 18). When personal well-being is controlled, mothers' permissiveness does not continue to be a significant predictor of daughters' approach to eating (see Table 19).



Table 18

*Summary of Regression Analysis for Mother Permissiveness Predicting Daughter Approach to Eating*

Dependent Variable	Variable	B	SE B	$\beta$	R
Daughter Approach to Eating	Permissive	-.06	.03	-.20*	.20*

Note.  $R^2 = .03$ .

\* $p < .05$

Table 19

*Summary of Regression Analysis for Mother Permissiveness Predicting Daughter Approach to Eating with Daughter Personal Well-Being as a Covariate*

Source	df	SS	MS	F
Personal Well-Being	1	122.468	122.468	48.083***
Permissive	1	8.947	8.947	3.513
Error	128	325.979	2.547	
Total	130	467.730		

Note: Dependent variable = Daughter Approach to Eating

\*\*\* $p < .001$

Lastly, a series of regressions was conducted to investigate the significance of mothers' authoritarianism, approach to eating, and permissiveness as predictors above and beyond daughters' personal well-being. A total model with all variables revealed a significant result [ $F(4,126) = 15.044, p < .001$ ], with personal well-being as the only significant contributor ( $t = -6.717, p < .001$ ) (see Table 20).

Table 20

*Summary of Regression Analysis for Daughter Personal Well-Being, Mother Authoritarianism, Mother Approach to Eating, and Mother Permissiveness Predicting Daughter Approach to Eating*

Dependent Variable	Variable	B	SE B	$\beta$	R
Daughter Approach to Eating	Personal Well-Being	-.09	.01	-.51***	.57***
	Authoritarian	.00	.03	.01	
	Mother	.15	.08	.14	
	Approach to Eating				
	Permissive	-.04	.03	-.12	

Note.  $R^2 = .30$ .

\*\*\* $p < .001$

Table 6 describes the results of a regression with daughters' personal well-being as a sole predictor of daughters' approach to eating. Another regression was conducted entering mothers' authoritarianism, approach to eating, and permissiveness as predictors of

daughters' approach to eating. The combination of these three variables resulted in a significant predictive model [ $F(3,127) = 3.725, p < .05$ ] (see Table 21).

Table 21

*Summary of Regression Analysis for Mother Authoritarianism, Mother Approach to Eating, and Mother Permissiveness Predicting Daughter Approach to Eating*

Dependent Variable	Variable	<i>B</i>	<i>SE B</i>	$\beta$	<i>R</i>
Daughter Approach to Eating	Authoritarian	.03	.03	.12	.28*
	Mother Approach to Eating	.16	.09	.15	
	Permissive	-.04	.03	-.12	

*Note.*  $R^2 = .06$ .

\* $p < .05$

When removing daughters' personal well-being as a covariate, this model was no longer significant [ $F(3,127) = 2.439, ns$ ] (see Table 22).

Table 22

*Summary of Regression Analysis for Mother Authoritarianism, Mother Approach to Eating, and Mother Permissiveness Predicting Daughter Approach to Eating with Daughter Personal Well-Being as a Covariate*

Source	df	SS	MS	F
Personal Well-Being	1	118.359	118.359	47.117***
Authoritarian, Mother Approach to Eating, and Permissive	3	18.378	6.126	2.439
Error	126	316.548	2.512	
Total	130	467.730		

*Note: Dependent variable = Daughter Approach to Eating*

\*\*\* $p < .001$

## Discussion

This study was designed to examine a proposed model (Model A; see Figure 2) exploring the mediating effects of daughters' ego development when looking at the impact of mothers' parenting style and mothers' approach to eating on daughters' approach to eating. It was hypothesized that daughters' ego development would serve as either a protective or exacerbating factor in how mothers' parenting style and approach to eating impacted daughters' approach to eating. However, the results from this study did not meet the criteria for mediation analysis, and Model A, as proposed, could not be tested. Several related analyses were conducted to explore the relationships between the variables and interesting and relevant findings emerged.

It had also been hypothesized that it was possible that these variables are moderated by ego development, so an alternative model (Model B; see Figure 4) was also tested. Unlike with Model A, ego development was not excluded from analysis. Results from the moderation analyses did not produce significant results, failing to support the hypothesis that ego development was a moderator of the relationship of mothers' parenting style and mothers' approach to eating on daughters' approach to eating.

Despite the failure to find support for Model A or Model B in this study, there were a number of interesting findings. It had been hypothesized that mothers' permissive parenting would be correlated with daughters' approach to eating. However, correlational analyses indicated a significant negative relationship between these factors, suggesting that mothers who have a higher level of permissive parenting have daughters with lower risk for disordered approach to eating, contrary to the hypotheses for this study. A possible reason for this may have to do with the two dimensions that comprise

parenting style. According to Baumrind (1971), parenting style is based on levels of warmth and control. While authoritarian parenting is characterized by low warmth and high control, permissive parenting is the combination of high warmth and low control. A negative correlation between permissive parenting and approach to eating in this study may suggest that warmth is a stronger protective factor than control is a risk factor. Much of the literature discusses the role that control has in the development and exacerbation of eating disorders, especially with the concept of overcontrol with anorexia and lack of control with bulimia. The low control concept in permissive parenting was included in these hypotheses as it appeared to be congruent with the literature that it might create an environment that feels out of control, due to lack of structure (Bruch, 1978). However, with permissive parenting, there is an appropriate level of parental warmth that is absent with authoritarianism. This may contribute to a perceived level of support that emerges as stronger than the detrimental effects of low control. This is consistent with other findings of the predictive nature of maternal warmth in the development of eating disorders among children (Haudek et al., 1999).

Additionally, the one significant predictive relationship that emerged was mothers' approach to eating as a significant predictor of daughters' approach to eating, above and beyond general personal well-being. Indeed, when controlling for the impact on personal well-being, it was found that mothers' approach to eating was significant predictor of daughters' approach to eating. The literature clearly supports this finding as well (e.g., Garcia de Amusquibar & De Simone, 2003; Russell et al., 1998; Woodside et al., 2002). The impact of mothers' approach to eating on daughters' approach to eating could develop in a number of ways. Behaviorally, mothers with their own disordered

views toward food may be more likely to use food in non-nutritive way, such as for rewards and punishments (e.g., Agras et al., 1999; Mazzeo et al., 2005), leading daughters to link success and failure to food. Mothers' own cognitive distortions related to disordered eating may lead to a projection of their desire to lose weight onto their children, possibly leading to them engage in dieting behaviors together. Additionally, parents provide the most influential relationship until children develop their peer groups and start attending school (NICHD Early Child Care Research Network, 2004). That being said, children may not know any other way to approach eating outside of their parents' views until later in their development, when it is difficult to change that core belief. From a relationship perspective, daughters may simply want to find a way to emotionally connect with their mothers and subsequently resort to embracing disordered ideals about eating in order to foster this connection.

It was surprising that there were no significant relationships between ego development and daughters' approach to eating or any of the predictor variables. The literature discusses the relationship between level of ego development and negative outcomes (e.g., Horton, 2001; Swift et al., 1984), such as disordered approach to eating. Especially given the emphasis on adherence to societal rules associated with ego levels right around the "modal" level for young adults, it is interesting that there was not a significant relationship between eating disordered attitudes and ego developmental level. The only significant relationship to ego development was with daughters' personal well-being. One possible explanation for the lack of significant findings could be the use of a non-clinical population. The hypothesis that ego served as a protective or exacerbating factor may not be as relevant when a large portion of the sample is not at risk for

developing an eating disorder. However, when exploring this as an alternative and separating the clinical from the non-clinical in this sample, there were no significant correlations between ego development and predictor or outcome variables. This subset was very small, and it is possible that non-significant correlations may be due to very small sample sizes, rather than a true lack of significant relationships. Also noteworthy is that the mean level of ego development appeared to be slightly higher for this population than other populations cited in the research. Several research studies discussed the mean ego developmental level at I-3/4 for this age group (Holt, 1980), and this study's mean ego level was closer to I-4/5. It is possible given the logic presented in this study, that this sample demonstrated a higher level of emotional maturity that was less impacted by negative parenting factors.

It was found that mothers' level of authoritarianism was significantly related to daughters' approach to eating, but this relationship was not significant once personal well-being was introduced. This might suggest that the main effect of mothers' authoritarianism on daughters' approach to eating may be more of a function that authoritarian parenting leads to overall poor adjustment and/or functioning, which would encompass disordered eating as well, rather than it being a variable that is specifically related to eating attitudes and behaviors.

The findings from this study indicate a number of possible future directions. Some of these are related directly to the limitations of the study. As with other studies focusing on self-report measures, there is a risk of respondents answering in a way to exaggerate their symptoms, or to present themselves in a positive light. Some research suggests that a more detailed clinical interview would be best to assess for eating



disordered thoughts and symptoms (Fairburn & Beglin, 1994). Given the nature of this study, and having access to mothers, but only by mail, using a clinical interview would not have been feasible. It may be beneficial in future research in this area to consider other measures.

Another potential limitation was the age of the eating disorder measures. There are new trends in eating disorder patterns, such as binge eating, that may not be fully encapsulated by the EAT and EDI-2. Although there are subscales that assess for bulimia, these scales have only few items and are not as comprehensive as a 26 or 91 item full questionnaire. One of the benefits in using an older questionnaire, is the strong literature base that has provided support for its reliability and validity as a measure.

Normally the use of an undergraduate population is a limitation, but this is a strength with this study. The majority of those with eating disorders, or those at-risk, fall in the adolescent and young adult age ranges. Previous research also has found increased incidence within college age populations, raising estimates from below 5% up to 20% (Robert-McComb, 2001). In addition, this time period would be an ideal time to intervene with eating disordered risk behavior. College campuses could utilize their counseling resources for outreach and prevention.

This study addresses a number of hypotheses, but also allows for more questions beyond the scope of this research design. The eating patterns were not separated into anorexia nervosa and bulimia nervosa symptoms, which would be an interesting distinction to explore in future research, especially given the differences with issues of control exhibited by those with anorexia versus those with bulimia. It is possible there might be a significant difference in the impact of parenting styles based on level of

control when looking at different diagnoses. Traditionally, anorexia is often linked with struggling to find a sense of control in an overcontrolled environment, whereas previous research links bulimia with a sense of feeling out of control and desiring more control from their external environment (Evans & Street, 1995).

Another interesting implication to consider is how eating disorder research may change with the release of the new Diagnostic and Statistical Manual of Mental Disorders, expected to be released May 2013 (<http://www.dsm5.org>). There has been speculation that many of the diagnostic issues related to meeting criteria for anorexia or bulimia may be addressed in the DSM-5. Binge eating is also proposed as a new diagnosis, which will have implications for the high base rates of eating disorder – not otherwise specified diagnoses. If there is a change in diagnostic criteria, this may have implications for how future research will be integrated with past research in this area, and could possibly have an impact on the current measures used in research.

Future research would likely benefit from further examining the role of fathers in daughters' approach to eating. In this study, fathers had the poorest response rate, and this limited our ability to have an adequate sample size for analyses. As of the time of this literature review, there was not much research that included fathers, although this may imply a lack of involvement or an ineffectual stance (Dalzell, 2000) worth further exploration. Interestingly, the only study found did not find any significant results related to fathers' emotional involvement (Haudek et al., 1999).

This study was designed to test a comprehensive model of predictors of daughters' approach to eating. There is no one reason why young women develop eating disorders, but by looking at possible factors, we may come closer to finding a path for

prevention and intervention. This particular study was unique in that it was designed to look at a strength-based model, using ego development as a possible protective factor. Prevention associated with ego development might look very different from traditional eating disorder prevention. Moreover, as we have seen from the correlational analyses, ego development is correlated to personal well-being, suggesting that treatment focused on ego development may benefit above and beyond protecting against eating disorders. Another unique and interesting aspect of this study is the intergenerational data with a college population. This sample represents a spectrum of eating, from healthy to disordered, and is capturing the “at-risk” individuals in the middle, along with their mothers. There was not a self-selection bias in terms of individuals participating because of their history of eating problems. This is especially salient since the only significant finding was that mothers’ approach to eating remains a significant predictor of daughters’ approach to eating, above and beyond impact on personal well-being. Based on this sample, this impact is significant in that these daughters are not living at home and have established peer groups that contribute to the development of their personal ideology. This study introduces a number of areas for intervention and future exploration.

## REFERENCES

- Abraham, S., & Llewellyn-Jones, D. (2001). *Eating disorders: The facts*. New York, NY: Oxford University Press.
- Agras, S., Hammer, L., & McNicholas, F. (1999). A prospective study of the influence of eating-disordered mothers on their children. *International Journal of Eating Disorders*, 25, 253-262.
- American Psychiatric Association. (1980). *Diagnostic and Statistical Manual of Mental Disorders (3rd ed.)*. American Psychiatric Association: Washington, DC.
- American Psychiatric Association. (2000a). *Diagnostic and Statistical Manual of Mental Disorders, (4th ed., Text revision)*. American Psychiatric Association: Washington, DC.
- American Psychiatric Association. (2000b). Practice guideline for the treatment of patients with eating disorders (revision). *American Journal of Psychiatry*, 157, 1-39.
- Anderson, D. A., & Paulosky, C. A. (2004). A survey of the use of assessment instruments by eating disorder professionals in clinical practice. *Eating and Weight Disorders*, 9(3), 238-241.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
- Baumrind, D. (1971). Current patterns of parental authority. *Developmental Psychology Monographs*, 4(1, Pt. 2), 1-103.
- Becker, A. E., Burwell, R. A., Gilman, S. E., Herzog, D. B., & Hamburg, P. (2002). Eating behaviours and attitudes following prolonged exposure to television among ethnic Fijian adolescent girls. *British Journal of Psychiatry*, 180, 509-514.
- Becker, A. E., Keel, P., Anderson-Fye, E. P., & Thomas, J. J. (2004). Genes and/or jeans?: Genetic and socio-cultural contributions to risk for eating disorders. *Journal of Addictive Diseases*, 23, 81-103.
- Blitzer, J. R., Rollins, N., & Blackwell, A. (1961). Children who starve themselves: Anorexia nervosa. *Psychosomatic Medicine*, 23, 369-383.
- Bruch, H. (1973). *Eating Disorders: Obesity, Anorexia Nervosa, and the Person Within*. New York: Basic Books, Inc.

- Bruch, H. (1978). *The Golden Cage: The Enigma of Anorexia Nervosa*. Cambridge, MA: Harvard University Press.
- Bulik, C. M., Reba, L., Siega-Riz, A., & Reichborn-Kjennerud, T. (2005). Anorexia nervosa: Definition, epidemiology, and cycle of risk. *International Journal of Eating Disorders*, 37, S2-S9.
- Buri, J. R. (1991). Parental authority questionnaire. *Journal of Personality Assessment*, 57, 110-119.
- Buri, J. R., Louiselle, P. A., Misukanis, T. M., & Mueller, R. A. (1988). Effects of parental authoritarianism and authoritativeness on self-esteem. *Personality and Social Psychology Bulletin*, 14, 271-282.
- Button, E. J., & Whitehouse, A. (1981). Subclinical anorexia nervosa. *Psychological Medicine*, 11, 509-516.
- Carter, P. I., & Moss, R. A. (1984). Screening for anorexia and bulimia nervosa in a college population: Problems and limitations. *Addictive Behaviors*, 9, 417-419.
- Collier, D. A., & Treasure, J. L. (2004). The aetiology of eating disorders. *British Journal of Psychiatry*, 185, 363-365.
- Dalzell, H. J. (2000). Whispers: The role of family secrets in eating disorders. *Eating Disorders*, 8, 43-61.
- Dancyger, I. F., & Garfinkel, P. E. (1995). The relationship of partial syndrome eating disorders to anorexia nervosa and bulimia nervosa. *Psychological Medicine*, 25, 1019-1025.
- Dare, C., Eisler, I., Colahan, M., Crowther, C., Senior, R., & Asen, E. (1995). The listening heart and the chi square: Clinical and empirical perceptions in the family therapy of anorexia nervosa. *Journal of Family Therapy*, 17, 31-57.
- Davis, C., Shuster, B., Blackmore, E., & Fox, J. (2004). Looking good – Family focus on appearance and the risk for eating disorders. *International Journal of Eating Disorders*, 35, 136-144.
- Dignon, A., Beardsmore, A., Spain, S., & Kuan, A. (2006). “Why I won’t eat”: Patient testimony from 15 anorexics concerning the causes of their disorder. *Journal of Health Psychology*, 11, 942-956.
- Emanuelli, R., Ostuzzi, R., Cuzzolaro, M., Baggio, F., Lask, B., & Waller, G. (2004). Family functioning in adolescent anorexia nervosa: A comparison of family members’ perceptions. *Eating and Weight Disorders*, 9, 1-6.

- Evans, C., & Street, E. (1995). Possible differences in family patterns in anorexia nervosa and bulimia nervosa. *Journal of Family Therapy, 17*, 115-131.
- Fahy, T., & Treasure, J. (1989). Children of mothers with bulimia nervosa. *British Medical Journal, 299*, 1031.
- Fairburn, C. G., & Beglin, S. J. (1994). Assessment of eating disorders: Interview or self-report questionnaire? *International Journal of Eating Disorders, 16*, 363-370.
- Franzen, U., & Gerlinghoff, M. (1997). Parenting by patients with eating disorders: Experiences with a mother-child group. *Eating Disorders, 5*, 5-14.
- Friedman, E. M., Hayney, M., Love, G. D., Singer, B. H., & Ryff, C. D. (2007). Plasma Interleukin-6 and soluble IL-6 receptors are associated with psychological well-being in aging women. *Health Psychology, 26*, 305-313.
- Garcia de Amusquibar, A. M., & De Simone, C. J. (2003). Some features of mothers of patients with eating disorders. *Eating and Weight Disorders, 8*, 225-230.
- Garfinkel, P. E., & Newman, A. (2001). The eating attitudes test: Twenty-five years later. *Eating and Weight Disorders, 1-24*.
- Garner, D. M., & Garfinkel, P. E. (1979). The eating attitudes test: an index of the symptoms of anorexia nervosa. *Psychological Medicine, 9*, 273-279.
- Garner, D. M., & Olmsted, M. P. (1984). *The Eating Disorder Inventory manual*. Odessa, FL: Psychological Assessment Resources.
- Garner, D. M., Olmsted, M. P., Bohr, Y., & Garfinkel, P. E. (1982). The eating attitudes test: psychometric features and clinical correlates. *Psychological Medicine, 12*, 871-878.
- Garner, D. M., Olmsted, M. P., & Polivy, J. (1983). Development and validation of a multidimensional eating disorder inventory for anorexia nervosa and bulimia. *International Journal of Eating Disorders, 2*, 15-34.
- Groesz, L. M., Levine, M. P., & Murnen, S. K. (2002). The effect of experimental presentation of thin media images on body satisfaction: A meta-analytic review. *International Journal of Eating Disorders, 31*, 1-16.
- Gull, W. W. (1874). Anorexia Nervosa (Apepsia Hysterica, Anorexia Hysterica). *Transactions of the Clinical Society of London, 7*, 22-28.
- Haudek, C., Rorty, M., & Henker, B. (1999). The role of ethnicity and parental bonding in the eating and weight concerns of Asian-American and Caucasian college women. *International Journal of Eating Disorders, 25*, 425-433.

- Hesse-Biber, S. (1989). Eating patterns and disorders in a college population: Are college women's eating problems a new phenomenon? *Sex Roles, 20*, 71-89.
- Holt, R. R. (1980). Loevinger's measure of ego development: Reliability and national norms for male and female short forms. *Journal of Personality and Social Psychology, 39*, 909-920.
- Horton, H. L. (2001). The role of ego development in bulimia nervosa and borderline personality disorder. *Dissertation Abstracts International: Section B: The Sciences and Engineering, 62* (2-B), 1082.
- Howell, D. C. (2002). *Statistical Methods for Psychology (5<sup>th</sup> ed.)*. Pacific Grove, CA: Duxbury.
- Huline-Dickens, S. (2005). Becoming anorexic: On loss, death and identification and the emergence of anorexia nervosa. *Psychoanalytic Psychotherapy, 19*, 310-329.
- Hy, L. X., & Loevinger, J. (1996). *Measuring Ego Development (2<sup>nd</sup> ed.)*. Mahway, NJ: Lawrence Erlbaum Associate, Inc.
- Katzman, M. A., Hermans, K. M., van Hoeken, D., & Hoek, H. W. (2004). Not your "typical island woman": Anorexia nervosa is reported only in subcultures in Curaçao. *Culture Medicine and Psychiatry, 28*, 463-492.
- Kaye, W. H., Frank, G. K., Bailer, U. F., & Henry, S. E. (2005). Neurobiology of anorexia nervosa: Clinical implications of alterations of the function of serotonin and other neuronal systems. *International Journal of Eating Disorders, 37*, S15-S19.
- Keel, P. K. & Klump, K. L. (2003). Are eating disorders culture-bound syndromes? Implications for conceptualizing their etiology. *Psychological Bulletin, 129*, 747-769.
- King, L. A., & Noelle, S. S. (2005). Happy, mature, and gay: Intimacy, power, and difficult times in coming out stories. *Journal of Research in Personality, 39*, 278-298.
- King, L. A., & Raspin, C. (2004). Lost and found possible selves, subjective well-being, and ego development in divorced women. *Journal of Personality, 72*(3), 603-632.
- King, L. A., Scollon, C. K., Ramsey, C., & Williams, T. (2000). Stories of life transition: Subjective well-being and ego development in parents of children with down syndrome. *Journal of Research in Personality, 34*, 509-536.

- King, L. A., & Smith, N. G. (2004). Gay and straight possible selves: Goals, identity, subjective well-being, and personality development. *Journal of Personality, 72*(5), 967-993.
- King, M. B. (1989). Eating disorders in a general practice population. Prevalence, characteristics and follow-up at 12 to 18 months. *Psychological Medicine, 14*, 1-34.
- Lock, J., & le Grange, D. (2005). Family-based treatment of eating disorders. *International Journal of Eating Disorders, 37*, S64-S67.
- Lock, J., le Grange, D., Forsberg, S., & Hewell, K. (2006). Is family therapy useful for treating children with anorexia nervosa? Results of a case series. *Journal of the American Academy of Child & Adolescent Psychiatry, 45*, 1323-1328.
- Loevinger, J. (1976). *Ego Development: Conceptions and Theories*. San Francisco: Jossey-Bass.
- Loevinger, J. (1966). The meaning and measure of ego development. *American Psychologist, 21*, 195-206.
- Loevinger, J., & Wessler, R. (1970). *Measuring Ego Development I: Construction and Use of a Sentence Completion Test*. San Francisco: Jossey-Bass.
- MacKinnon, D. P., & Fairchild, A. J. (2009). Current directions in mediation analysis. *Current Directions in Psychological Science, 18*(1), 16-20.
- MacKinnon, D. P., Fairchild, A. J., & Fritz, M. S. (2007). Mediation Analysis. *Annual Review of Psychology, 58*, 593-614.
- Mazzeo, S. E., Zucker, N. L., Gerke, C. K., Mitchell, K. S., & Bulik, C. M. (2005). Parenting concerns of women with histories of eating disorders. *International Journal of Eating Disorders, 37*, S77-S79.
- McFarlane, T. L., Olmsted, M. P., & Goldbloom, D. S. (2005). Beliefs and expectations regarding etiology, treatment and outcome in bulimia nervosa. *Eating and Weight Disorders, 10*, 187-192.
- Milos, G., Spindler, A., Schnyder, U., & Fairburn, C. G. (2005). Instability of eating disorder diagnoses: prospective study. *British Journal of Psychiatry, 187*, 573-578.
- Mintz, L. B., & Betz, N. E. (1988). Prevalence and correlates of eating disordered behaviors among undergraduate women. *Journal of Counseling Psychology, 35*, 463-471.



- Minuchin, S., Baker, L., Rosman, B. L., Liebman, R., Milman, L., & Todd, T. C. (1975). A conceptual model of psychosomatic illness in children: Family organization and family therapy. *Archives of General Psychiatry*, 32, 1031-1038.
- Minuchin, S., & Fishman, H. C. (1981). *Family therapy techniques*. Cambridge, MA: Harvard University Press.
- Mitchell, J. E., Cook-Myers, T., & Wonderlich, S. A. (2005). Diagnostic criteria for anorexia nervosa: Looking ahead to DSM-V. *International Journal of Eating Disorders*, 37, S95-S97.
- Mizes, J. S. (1988). Personality characteristics of bulimic and non-eating disordered female controls: A cognitive behavioral perspective. *International Journal of Eating Disorders*, 7, 510-550.
- National Institute of Child Health and Human Development Early Child Care Research Network. (2004). Fathers' and mothers' parenting behavior and beliefs as predictors of children's social adjustment in the transition to school. *Journal of Family Psychology*, 18, 628-638.
- Raciti, M. C., & Norcross, J. C. (1987). The EAT and EDI: Screening, interrelationships, and psychometrics. *International Journal of Eating Disorders*, 6, 579-586.
- Redmore, C., & Waldman, K. (1975). Reliability of a Sentence Completion Measure of Ego Development. *Journal of Personality Assessment*, 39 (3), 236-243.
- Robert-McComb, J. J. (Ed.) (2001). *Eating disorders in women and children: Prevention, stress management, and treatment*. Boca Raton, FL: CRC Press.
- Russell, G. F. M., Treasure, J., & Eisler, I. (1998). Mothers with anorexia nervosa who underfeed their children: Their recognition and management. *Psychological Medicine*, 28, 93-108.
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57, 1069-1081.
- Sanderson, C. A. (2004). *Health psychology*. Hoboken, NJ: John Wiley & Sons, Inc.
- Schmutte, P. S., & Ryff, C. D. (1997). Personality and well-being: Reexamining methods and meanings. *Journal of Personality and Social Psychology*, 73, 549-559.
- Shoebridge, P., & Gowers, S. G. (2000). Familial transmission of risk for bulimia and anorexia nervosa. *Eating Disorders Review*, 11, 3.

- Smolak, L., Levine, M. P., & Schermer, F. (1999). Parental input and weight concerns among elementary school children. *International Journal of Eating Disorders, 25*, 263-271.
- Stein, A., & Fairburn, C. G. (1989). Children of mothers with bulimia nervosa. *British Medical Journal, 299*, 777-778.
- Striegel-Moore, R. H., & Bulik, C. M. (2007). Risk factors for eating disorders. *American Psychologist, 62*, 181-198.
- Swift, W. J., Camp, B. W., Bushnell, N. J., & Bargman, G. J. (1984). Ego Development in Anorexia Inpatients. *International Journal of Eating Disorders, 3* (3), 73-80.
- Tabachnick, B. G., & Fidell, L. S. (2001). *Using Multivariate Statistics (4<sup>th</sup> Ed.)*. Needham Heights, MA: Allyn & Bacon.
- Thaw, J. M., Williamson, D. A., & Martin, C. K. (2001). Impact of altering DSM-IV criteria for anorexia and bulimia nervosa on the base rates of eating disorder diagnoses. *Eating and Weight Disorders, 6*, 121-129.
- Turner, H., & Bryant-Waugh, R. (2004). Eating disorder not otherwise specified (EDNOS): Profiles of clients presenting at a community eating disorder service. *European Eating Disorders Review, 12*, 18-26.
- Vitousek, K., & Manke, F. (1994). Personality variables and disorders in anorexia nervosa and bulimia nervosa. *Journal of Abnormal Psychology, 103*, 137-147.
- Williams, R. L., Schaefer, C. A., Shisslak, C. M., Gronwaldt, V. H., & Comerci, G. D. (1986). Eating attitudes and behaviors in adolescent women: Discrimination of normals, dieters, and suspected bulimics using the eating attitudes test and eating disorder inventory. *International Journal of Eating Disorders, 5*, 879-894.
- Wiseman, C. V., Gray, J. J., Mosimann, J. E., & Ahrens, A. H. (1992). Cultural expectations of thinness in women: An update. *International Journal of Eating Disorders, 11*, 85-89.
- Wonderlich, S. A., Joiner, T. E., Keel, P. K., Williamson, D. A., & Crosby, R. D. (2007). Eating disorder diagnoses: Empirical approaches to classification. *American Psychologist, 62*(3), 167-180.
- Woodside, D. B., Bulik, C. M., Halmi, K. A., Fichter, M. M., Kaplan, A., Berrettini, W. H., et al. (2002). Personality, perfectionism, and attitudes toward eating in parents of individuals with eating disorders. *International Journal of Eating Disorders, 31*, 290-299.

Woodside, D. B., Garfinkel, P. E., Lin, E., Goering, P. Kaplan, A. S., Goldbloom, D. S., et al. (2001). Comparisons of men with full or partial eating disorders, men without eating disorders, and women with eating disorders in the community. *American Journal of Psychiatry*, 158, 570-574.

Appendix A. Student Questionnaire Packet.

Dear student:

Spring, 2005

This packet of questionnaires should take you approximately 75 minutes to complete.

Please be assured that the responses you provide in this packet of measures will be treated with confidentiality. Your name will appear only on the consent sheet and it will be separated from the others as soon as we collect your packet. Your participation is voluntary in that you will not be paid for your time and you may choose to not participate.

Thank you for your participation. We are excited about the potential benefits of this project and sincerely hope that you gain something useful from it.

Ed de St. Aubin, Ph.D.  
Marquette Psychology  
(414) 288-2143

Jodi Rusch, M.S., Graduate Student  
Valerie Lucas, B.A., Graduate Student  
Eric Ahlstrom, Research Specialist

### Family Dynamics, Attitudes, Personality, and Eating Behavior

#### MARQUETTEUNIVERSITY Agreement of Consent for Research Participants

When I sign this statement, I am giving consent to the following basic considerations:

I understand clearly that the purpose of this study is to examine the psychological aspects of human development. I understand that the study will take approximately 75 minutes to complete. I also understand that there will be approximately 200 participants in this study.

I understand the questionnaires will involve several tests that examine the psychological characteristics of my life and experiences and attitudes. I understand that I will also be asked to complete a questionnaire regarding my age, education level, and ethnic background.

I understand that all information I reveal in this study will be kept confidential. All my data will be assigned an arbitrary code number rather than using my name or other information that could identify me as an individual. When the results of this study are published, I will not be identified by name.

I understand that there are no known risks associated with participation in this study. I also understand that one potential benefit is to help improve scientific understanding of the psychological aspects of human development. I understand that participating in this study is completely voluntary and that I may stop participating in the study at any time without penalty or loss of benefits to which I am otherwise entitled.

Additional information about my rights as a research participant can be obtained from Marquette University's Office of Research Compliance at 414-288-1479.

All my questions about this study have been answered to my satisfaction; I understand that if I later have additional questions concerning this project, I can contact Jodi Rusch, Valerie Lucas, or professor Ed de St. Aubin (414-288-7773).

\_\_\_\_\_ Date: \_\_\_\_\_  
(signature of participant giving consent)

\_\_\_\_\_ Date: \_\_\_\_\_  
(signature of researcher)

- 1 Age \_\_\_\_\_
- 2 Sex \_\_\_\_\_
- 3 Height \_\_\_\_\_
- 4 Current Weight \_\_\_\_\_
- 5 Highest Adult Weight \_\_\_\_\_
- 6 Lowest Adult Weight \_\_\_\_\_

**Choose one response for each of the questions.**

	Always	Usually	Often	Sometimes	Rarely	Never
1 Am terrified about being overweight.....	1	2	3	4	5	6
2 Avoid eating when I am hungry.....	1	2	3	4	5	6
3 Find myself preoccupied with food.....	1	2	3	4	5	6
4 Have gone on eating binges where I feel that I may not be able to stop.....	1	2	3	4	5	6
5 Cut my food into small pieces.....	1	2	3	4	5	6
6 Aware of the calorie content of foods that I eat.....	1	2	3	4	5	6
7 Particularly avoid food with a high carbohydrate content (i.e. bread, rice, potatoes, etc.).....	1	2	3	4	5	6
8 Feel that others would prefer if I ate more.....	1	2	3	4	5	6
9 Vomit after I have eaten.....	1	2	3	4	5	6
10 Feel extremely guilty after eating.....	1	2	3	4	5	6
11 Am preoccupied with a desire to be thinner.....	1	2	3	4	5	6
12 Think about burning up calories when I exercise.....	1	2	3	4	5	6
13 Other people think that I am too thin.....	1	2	3	4	5	6
14 Am preoccupied with the thought of having fat on my body.....	1	2	3	4	5	6
15 Take longer than others to eat my meals.....	1	2	3	4	5	6
16 Avoid foods with sugar in them.....	1	2	3	4	5	6
17 Eat diet foods.....	1	2	3	4	5	6
18 Feel that food controls my life.....	1	2	3	4	5	6
19 Display self-control around food.....	1	2	3	4	5	6
20 Feel that others pressure me to eat.....	1	2	3	4	5	6
21 Give too much time and thought to food.....	1	2	3	4	5	6
22 Feel uncomfortable after eating sweets.....	1	2	3	4	5	6
23 Engage in dieting behavior.....	1	2	3	4	5	6
24 Like my stomach to be empty.....	1	2	3	4	5	6
25 Enjoy trying new rich foods.....	1	2	3	4	5	6
26 Have the impulse to vomit after meals.....	1	2	3	4	5	6

For each item, decide if the item is true about you ALWAYS (A), USUALLY (U), OFTEN (O), SOMETIMES (S), RARELY (R), or NEVER (N). Circle the letter that corresponds to your rating.

	Always	Usually	Often	Sometimes	Rarely	Never
	A	U	O	S	R	N
1 I eat sweets and carbohydrates without feeling nervous.....						
2 I think that my stomach is too big.....						
3 I wish that I could return to the security of childhood.....						
4 I eat when I am upset.....						
5 I stuff myself with food.....						
6 I wish that I could be younger.....						
7 I think about dieting.....						
8 I get frightened when my feelings are too strong.....						
9 I think that my thighs are too large.....						
10 I feel ineffective as a person.....						
11 I feel extremely guilty after overeating.....						
12 I think that my stomach is just the right size.....						
13 Only outstanding performance is good enough in my family.....						
14 The happiest time in life is when you are a child.....						
15 I am open about my feelings.....						
16 I am terrified of gaining weight.....						
17 I trust others.....						
18 I feel alone in the world.....						
19 I feel satisfied with the shape of my body.....						
20 I feel generally in control of things in my life.....						
21 I get confused about what emotion I am feeling.....						
22 I would rather be an adult than a child.....						
23 I can communicate with others easily.....						
24 I wish I were someone else.....						
25 I exaggerate or magnify the importance of weight.....						
26 I can clearly identify what emotion I am feeling.....						
27 I feel inadequate.....						
28 I have gone on eating binges where I felt that I could not stop.....						
29 As a child, I tried very hard to avoid disappointing my parents and teachers.....						
30 I have close relationships.....						
31 I like the shape of my buttocks.....						



	A=ALWAYS	U=USUALLY	O=OFTEN	S=SOMETIMES	R=RARELY	N=NEVER
32	A	U	O	S	R	N
33	A	U	O	S	R	N
34	A	U	O	S	R	N
35	A	U	O	S	R	N
36	A	U	O	S	R	N
37	A	U	O	S	R	N
38	A	U	O	S	R	N
39	A	U	O	S	R	N
40	A	U	O	S	R	N
41	A	U	O	S	R	N
42	A	U	O	S	R	N
43	A	U	O	S	R	N
44	A	U	O	S	R	N
45	A	U	O	S	R	N
46	A	U	O	S	R	N
47	A	U	O	S	R	N
48	A	U	O	S	R	N
49	A	U	O	S	R	N
50	A	U	O	S	R	N
51	A	U	O	S	R	N
52	A	U	O	S	R	N
53	A	U	O	S	R	N
54	A	U	O	S	R	N
55	A	U	O	S	R	N
56	A	U	O	S	R	N
57	A	U	O	S	R	N
58	A	U	O	S	R	N
59	A	U	O	S	R	N
60	A	U	O	S	R	N
61	A	U	O	S	R	N
62	A	U	O	S	R	N
63	A	U	O	S	R	N
64	A	U	O	S	R	N

	A=ALWAYS	U=USUALLY	O=OFTEN	S=SOMETIMES	R=RARELY	N=NEVER
65	A	U	O	S	R	N
66	A	U	O	S	R	N
67	A	U	O	S	R	N
68	A	U	O	S	R	N
69	A	U	O	S	R	N
70	A	U	O	S	R	N
71	A	U	O	S	R	N
72	A	U	O	S	R	N
73	A	U	O	S	R	N
74	A	U	O	S	R	N
75	A	U	O	S	R	N
76	A	U	O	S	R	N
77	A	U	O	S	R	N
78	A	U	O	S	R	N
79	A	U	O	S	R	N
80	A	U	O	S	R	N
81	A	U	O	S	R	N
82	A	U	O	S	R	N
83	A	U	O	S	R	N
84	A	U	O	S	R	N
85	A	U	O	S	R	N
86	A	U	O	S	R	N
87	A	U	O	S	R	N
88	A	U	O	S	R	N
89	A	U	O	S	R	N
90	A	U	O	S	R	N
91	A	U	O	S	R	N

**PAQ-MOTHER**

Instructions: For each of the following statements, circle the number on the 5-point scale that best describes how that statement applies to **you and your mother**. Try to read and think about each statement as it applies to you and your mother during your years of growing up at home. There are no right or wrong answers. So don't spend a lot of time on any one item. We are looking for your overall impressions regarding each statement. Be sure not to omit any items.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

1. While I was growing up my mother felt that in a well-run home the children should have their way in the family as often as the parents do.  
1                      2                      3                      4                      5
2. Even if her children didn't agree with her, my mother felt that it was for our own good if we were forced to conform to what she thought was right.  
1                      2                      3                      4                      5
3. Whenever my mother told me to do something as I was growing up, she expected me to do it immediately without asking any questions.  
1                      2                      3                      4                      5
4. As I was growing up, once family policy had been established, my mother discussed the reasoning behind the policy with the children in the family.  
1                      2                      3                      4                      5
5. My mother has always encouraged verbal give-and-take whenever I felt that family rules and restrictions were unreasonable.  
1                      2                      3                      4                      5
6. My mother has always felt that what children need is to be free to make up their own minds and to do what they want to do, even if this does not agree with what their parents might want.  
1                      2                      3                      4                      5
7. As I was growing up my mother did not allow me to question any decision she had made.  
1                      2                      3                      4                      5
8. As I was growing up my mother directed the activities and decisions of the children in the family through reasoning and discipline.  
1                      2                      3                      4                      5
9. My mother always felt that more force should be used by parents in order to get their children to behave the way they are supposed to.  
1                      2                      3                      4                      5

- | Strongly Disagree | Disagree                                                                                                                                                                                | Neutral | Agree | Strongly Agree |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------|----------------|
| 1                 | 2                                                                                                                                                                                       | 3       | 4     | 5              |
| 10.               | As I was growing up my mother did not feel that I needed to obey rules and regulations of behavior simply because someone in authority had established them.                            |         |       |                |
| 1                 | 2                                                                                                                                                                                       | 3       | 4     | 5              |
| 11.               | As I was growing up I knew what my mother expected of me in my family, but I also felt free to discuss those expectations with my mother when I felt that they were unreasonable.       |         |       |                |
| 1                 | 2                                                                                                                                                                                       | 3       | 4     | 5              |
| 12.               | My mother felt that wise parents should teach their children early just who is boss in the family.                                                                                      |         |       |                |
| 1                 | 2                                                                                                                                                                                       | 3       | 4     | 5              |
| 13.               | As I was growing up, my mother seldom gave me expectations and guidelines for my behavior.                                                                                              |         |       |                |
| 1                 | 2                                                                                                                                                                                       | 3       | 4     | 5              |
| 14.               | Most of the time as I was growing up my mother did what the children in the family wanted when making family decisions.                                                                 |         |       |                |
| 1                 | 2                                                                                                                                                                                       | 3       | 4     | 5              |
| 15.               | As the children in the family were growing up, my mother consistently gave us direction and guidance in rational and objective ways.                                                    |         |       |                |
| 1                 | 2                                                                                                                                                                                       | 3       | 4     | 5              |
| 16.               | My mother would get very upset if I tried to disagree with her.                                                                                                                         |         |       |                |
| 1                 | 2                                                                                                                                                                                       | 3       | 4     | 5              |
| 17.               | My mother feels that most problems in society would be solved if parents would not restrict their children's activities, decisions, and desires as they are growing up.                 |         |       |                |
| 1                 | 2                                                                                                                                                                                       | 3       | 4     | 5              |
| 18.               | As I was growing up my mother let me know what behavior she expected of me, and if I didn't meet those expectations, she punished me.                                                   |         |       |                |
| 1                 | 2                                                                                                                                                                                       | 3       | 4     | 5              |
| 19.               | As I was growing up my mother allowed me to decide most things for myself without a lot of direction from her.                                                                          |         |       |                |
| 1                 | 2                                                                                                                                                                                       | 3       | 4     | 5              |
| 20.               | As I was growing up my mother took the children's opinions into consideration when making family decisions, but she would not decide for something just because the children wanted it. |         |       |                |
| 1                 | 2                                                                                                                                                                                       | 3       | 4     | 5              |

- | Strongly Disagree | Disagree                                                                                                                                                                                                                | Neutral | Agree | Strongly Agree |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------|----------------|
| 1                 | 2                                                                                                                                                                                                                       | 3       | 4     | 5              |
| 21.               | My mother did not view herself as responsible for directing and guiding my behavior as I was growing up.                                                                                                                |         |       |                |
| 1                 | 2                                                                                                                                                                                                                       | 3       | 4     | 5              |
| 22.               | My mother had clear standards of behavior for the children in our home as I was growing up, but she was willing to adjust those standards to the needs of each of the individual children in the family.                |         |       |                |
| 1                 | 2                                                                                                                                                                                                                       | 3       | 4     | 5              |
| 23.               | My mother gave me direction for the behavior and activities as I was growing up and she expected me to follow her direction, but she was always willing to listen to my concerns and to discuss that direction with me. |         |       |                |
| 1                 | 2                                                                                                                                                                                                                       | 3       | 4     | 5              |
| 24.               | As I was growing up my mother allowed me to form my own point of view on family matters and she generally allowed me to decide for myself what I was going to do.                                                       |         |       |                |
| 1                 | 2                                                                                                                                                                                                                       | 3       | 4     | 5              |
| 25.               | My mother has always felt that most problems in society would be solved if we could get parents to strictly and forcibly deal with their children when they don't do what they are supposed to as they are growing up.  |         |       |                |
| 1                 | 2                                                                                                                                                                                                                       | 3       | 4     | 5              |
| 26.               | As I was growing up my mother often told me exactly what she wanted me to do and how she expected me to do it.                                                                                                          |         |       |                |
| 1                 | 2                                                                                                                                                                                                                       | 3       | 4     | 5              |
| 27.               | As I was growing up my mother gave me clear direction for my behaviors and activities, but she was also understanding when I disagreed with her.                                                                        |         |       |                |
| 1                 | 2                                                                                                                                                                                                                       | 3       | 4     | 5              |
| 28.               | As I was growing up my mother did not direct the behaviors, activities, and desires of the children in the family.                                                                                                      |         |       |                |
| 1                 | 2                                                                                                                                                                                                                       | 3       | 4     | 5              |
| 29.               | As I was growing up I knew what my mother expected of me in the family and she insisted that I conform to those expectations simply out of respect for her authority.                                                   |         |       |                |
| 1                 | 2                                                                                                                                                                                                                       | 3       | 4     | 5              |
| 30.               | As I was growing up, if my mother made a decision in the family that hurt me, she was willing to discuss that decision with me and to admit it if she had made a mistake.                                               |         |       |                |
| 1                 | 2                                                                                                                                                                                                                       | 3       | 4     | 5              |

Below are several incomplete sentences. Please finish each one. There are no right or wrong answers; just finish each one as you wish.

1. When a child will not join in group activities

2. Raising a family

3. When I am criticized

4. A man's job

5. Being with other people

6. The thing I like about myself is

7. My mother and I

8. What gets me into trouble is

9. Education

10. When people are helpless

11. Women are lucky because

12. A good father

13. A girl has a right to

14. When they talk about sex, I

15. A wife should

16. I feel sorry

17. A man feels good when

18. Rules are

**PWB.** Please read each statement below and circle the number that best corresponds to the degree to which you agree with the statement as self-descriptive for you.

- |                                                                                                           | strongly<br>disagree | moderately<br>disagree | slightly<br>disagree | slightly<br>agree | moderately<br>agree | strongly<br>agree |
|-----------------------------------------------------------------------------------------------------------|----------------------|------------------------|----------------------|-------------------|---------------------|-------------------|
|                                                                                                           | 1                    | 2                      | 3                    | 4                 | 5                   | 6                 |
| 1. I like most parts of my personality.                                                                   | 1                    | 2                      | 3                    | 4                 | 5                   | 6                 |
| 2. For me, life has been a continuous process of learning, changing, and growth.                          | 1                    | 2                      | 3                    | 4                 | 5                   | 6                 |
| 3. Some people wander aimlessly through life, I am not one of them.                                       | 1                    | 2                      | 3                    | 4                 | 5                   | 6                 |
| 4. The demands of life often get me down.                                                                 | 1                    | 2                      | 3                    | 4                 | 5                   | 6                 |
| 5. I tend to be influenced by people with strong opinions.                                                | 1                    | 2                      | 3                    | 4                 | 5                   | 6                 |
| 6. Maintaining close relationships has been difficult and frustrating for me.                             | 1                    | 2                      | 3                    | 4                 | 5                   | 6                 |
| 7. When I look at my life story, I am pleased with how things have turned out so far.                     | 1                    | 2                      | 3                    | 4                 | 5                   | 6                 |
| 8. I think it is important to have new experiences that challenge how I think about myself and the world. | 1                    | 2                      | 3                    | 4                 | 5                   | 6                 |
| 9. I live one day at a time and don't really think about the future.                                      | 1                    | 2                      | 3                    | 4                 | 5                   | 6                 |
| 10. In general, I feel I am in charge of the situation in which I live.                                   | 1                    | 2                      | 3                    | 4                 | 5                   | 6                 |
| 11. I have confidence in my own opinions, even if they are different from the way most people think.      | 1                    | 2                      | 3                    | 4                 | 5                   | 6                 |
| 12. People would describe me as a giving person, willing to share my time with others.                    | 1                    | 2                      | 3                    | 4                 | 5                   | 6                 |

strongly disagree	moderately disagree	slightly disagree	slightly agree	moderately agree	strongly agree
1	2	3	4	5	6

13. In many ways I feel disappointed about my achievements in life.

1	2	3	4	5	6
---	---	---	---	---	---

14. I gave up trying to make big improvements in my life a long time ago.

1	2	3	4	5	6
---	---	---	---	---	---

15. I sometimes feel as if I've done all there is to do in my life.

1	2	3	4	5	6
---	---	---	---	---	---

16. I am good at managing the responsibilities of daily life.

1	2	3	4	5	6
---	---	---	---	---	---

17. I judge myself by what I think is important, not by the values of what others think is important.

1	2	3	4	5	6
---	---	---	---	---	---

18. I have not experienced many warm and trusting relationships with others.

1	2	3	4	5	6
---	---	---	---	---	---



## Background Information

1. Gender  
 Male       Female
  
2. Race/Ethnicity  
 African American  
 Asian/Pacific Islander  
 Caucasian  
 Hispanic/Latino  
 Native American/Alaskan Native  
 Other
  
3. Year in school  
 Freshman  
 Sophomore  
 Junior  
 Senior  
 Graduate student
  
4. Age: \_\_\_\_\_
  
5. Religious affiliation  
 Catholic  
 Christian, non-Catholic  
 Jewish  
 Muslim  
 Hindu  
 Buddhist  
 Other: \_\_\_\_\_  
 No affiliation
  
6. Relationship status  
 Single/not dating  
 Dating  
 Committed relationship  
 Married  
 Divorce/Separated

Appendix B. Parent Questionnaire Packet.

Dear Parent(Mother):

Fall, 2005

Your daughter or son is enrolled in a psychology course that is taught at Marquette University. As part of the course, students are given the opportunity to earn extra credit through participating in a variety of research projects. We are asking students to complete a packet of questionnaires and for the parents of the student to fill out a similar packet of measures. The measures in this packet are typical of those used by Social Scientists and Psychologists to investigate topics that we will discuss in this class (family dynamics, personality, attitudes, etc..). Your participation in this project will help your son or daughter earn extra credit points for their psychology course. **Further, your responses will remain completely confidential.** We have established procedures such that personal responses to the questions will not be shared. We will know how parents as a group scored and would be more than willing to share this aggregate information with you.

This packet of questionnaires should take you approximately one and a half hours to complete. Please work on it over the next week and return it to us in the envelope we have provided along with the signed consent form. Do not feel as though you have to finish the entire collection of measures in one sitting but do work through it in the order it is presented. Complete one questionnaire and then set it aside for a while, if you wish, then come back to it later and work on it a bit more.

It would be best if you did not discuss the measures with your spouse or with your son or daughter until after you have completed them. We assure you that the information you provide will be treated with confidentiality. Your name will appear only on the consent sheet and this will be separated from the questionnaires and discarded as soon as we collect your packet. Your participation is voluntary in that you will not be paid for your time and you are free to stop at any time and not complete these measures.

**THANK YOU FOR COMPLETING THIS PACKET OF QUESTIONNAIRES. IF YOU HAVE ANY QUESTIONS REGARDING THIS PROJECT, PLEASE DO NOT HESITATE TO CONTACT US.**

Ed de St. Aubin, Ph.D.  
Marquette Psychology  
(414) 288-7773

Jodi Rusch, M.S., Graduate Student  
Valerie Lucas, B.A., Graduate Student  
Eric Ahlstrom, Research Assistant

### Family Dynamics, Attitudes, Personality, and Eating Behavior

#### MARQUETTE UNIVERSITY Agreement of Consent for Research Participants

When I sign this statement, I am giving consent to the following basic considerations:

I understand clearly that the purpose of this study is to examine the psychological aspects of human development. I understand that the study will take approximately 90 minutes to complete. I also understand that there will be approximately 200 participants in this study.

I understand the questionnaires will involve several tests that examine the psychological characteristics of my life and experiences and attitudes. I understand that I will also be asked to complete a questionnaire regarding my age, education level, and ethnic background.

I understand that all information I reveal in this study will be kept confidential. All my data will be assigned an arbitrary code number rather than using my name or other information that could identify me as an individual. When the results of this study are published, I will not be identified by name.

I understand that there are no known risks associated with participation in this study. I also understand that one potential benefit is to help improve scientific understanding of the psychological aspects of human development. I understand that participating in this study is completely voluntary and that I may stop participating in the study at any time without penalty or loss of benefits to which I am otherwise entitled.

Additional information about my rights as a research participant can be obtained from Marquette University's Office of Research Compliance at 414-288-1479.

All my questions about this study have been answered to my satisfaction; I understand that if I later have additional questions concerning this project, I can contact Jodi Rusch, Valerie Lucas, or professor Ed de St. Aubin (414-288-7773).

\_\_\_\_\_ Date: \_\_\_\_\_  
(signature of participant giving consent)

\_\_\_\_\_ Date: \_\_\_\_\_  
(signature of researcher)

- 1 Age \_\_\_\_\_
- 2 Sex \_\_\_\_\_
- 3 Height \_\_\_\_\_
- 4 Current Weight \_\_\_\_\_
- 5 Highest Adult Weight \_\_\_\_\_
- 6 Lowest Adult Weight \_\_\_\_\_

**Choose one response for each of the questions.**

	Always	Usually	Often	Sometimes	Rarely	Never
1 Am terrified about being overweight.....	1	2	3	4	5	6
2 Avoid eating when I am hungry.....	1	2	3	4	5	6
3 Find myself preoccupied with food.....	1	2	3	4	5	6
4 Have gone on eating binges where I feel that I may not be able to stop.....	1	2	3	4	5	6
5 Cut my food into small pieces.....	1	2	3	4	5	6
6 Aware of the calorie content of foods that I eat.....	1	2	3	4	5	6
7 Particularly avoid food with a high carbohydrate content (i.e. bread, rice, potatoes, etc.).....	1	2	3	4	5	6
8 Feel that others would prefer if I ate more.....	1	2	3	4	5	6
9 Vomit after I have eaten.....	1	2	3	4	5	6
10 Feel extremely guilty after eating.....	1	2	3	4	5	6
11 Am preoccupied with a desire to be thinner.....	1	2	3	4	5	6
12 Think about burning up calories when I exercise.....	1	2	3	4	5	6
13 Other people think that I am too thin.....	1	2	3	4	5	6
14 Am preoccupied with the thought of having fat on my body.....	1	2	3	4	5	6
15 Take longer than others to eat my meals.....	1	2	3	4	5	6
16 Avoid foods with sugar in them.....	1	2	3	4	5	6
17 Eat diet foods.....	1	2	3	4	5	6
18 Feel that food controls my life.....	1	2	3	4	5	6
19 Display self-control around food.....	1	2	3	4	5	6
20 Feel that others pressure me to eat.....	1	2	3	4	5	6
21 Give too much time and thought to food.....	1	2	3	4	5	6
22 Feel uncomfortable after eating sweets.....	1	2	3	4	5	6
23 Engage in dieting behavior.....	1	2	3	4	5	6
24 Like my stomach to be empty.....	1	2	3	4	5	6
25 Enjoy trying new rich foods.....	1	2	3	4	5	6
26 Have the impulse to vomit after meals.....	1	2	3	4	5	6

For each item, decide if the item is true about you ALWAYS (A), USUALLY (U), OFTEN (O), SOMETIMES (S), RARELY (R), or NEVER (N). Circle the letter that corresponds to your rating.

	Always	Usually	Often	Sometimes	Rarely	Never
1 I eat sweets and carbohydrates without feeling nervous.....	A	U	O	S	R	N
2 I think that my stomach is too big.....	A	U	O	S	R	N
3 I wish that I could return to the security of childhood.....	A	U	O	S	R	N
4 I eat when I am upset.....	A	U	O	S	R	N
5 I stuff myself with food.....	A	U	O	S	R	N
6 I wish that I could be younger.....	A	U	O	S	R	N
7 I think about dieting.....	A	U	O	S	R	N
8 I get frightened when my feelings are too strong.....	A	U	O	S	R	N
9 I think that my thighs are too large.....	A	U	O	S	R	N
10 I feel ineffective as a person.....	A	U	O	S	R	N
11 I feel extremely guilty after overeating.....	A	U	O	S	R	N
12 I think that my stomach is just the right size.....	A	U	O	S	R	N
13 Only outstanding performance is good enough in my family.....	A	U	O	S	R	N
14 The happiest time in life is when you are a child.....	A	U	O	S	R	N
15 I am open about my feelings.....	A	U	O	S	R	N
16 I am terrified of gaining weight.....	A	U	O	S	R	N
17 I trust others.....	A	U	O	S	R	N
18 I feel alone in the world.....	A	U	O	S	R	N
19 I feel satisfied with the shape of my body.....	A	U	O	S	R	N
20 I feel generally in control of things in my life.....	A	U	O	S	R	N
21 I get confused about what emotion I am feeling.....	A	U	O	S	R	N
22 I would rather be an adult than a child.....	A	U	O	S	R	N
23 I can communicate with others easily.....	A	U	O	S	R	N
24 I wish I were someone else.....	A	U	O	S	R	N
25 I exaggerate or magnify the importance of weight.....	A	U	O	S	R	N
26 I can clearly identify what emotion I am feeling.....	A	U	O	S	R	N
27 I feel inadequate.....	A	U	O	S	R	N
28 I have gone on eating binges where I felt that I could not stop.....	A	U	O	S	R	N
29 As a child, I tried very hard to avoid disappointing my parents and teachers.....	A	U	O	S	R	N
30 I have close relationships.....	A	U	O	S	R	N
31 I like the shape of my buttocks.....	A	U	O	S	R	N

	A=ALWAYS	U=USUALLY	O=OFTEN	S=SOMETIMES	R=RARELY	N=NEVER
32	A	U	O	S	R	N
33	A	U	O	S	R	N
34	A	U	O	S	R	N
35	A	U	O	S	R	N
36	A	U	O	S	R	N
37	A	U	O	S	R	N
38	A	U	O	S	R	N
39	A	U	O	S	R	N
40	A	U	O	S	R	N
41	A	U	O	S	R	N
42	A	U	O	S	R	N
43	A	U	O	S	R	N
44	A	U	O	S	R	N
45	A	U	O	S	R	N
46	A	U	O	S	R	N
47	A	U	O	S	R	N
48	A	U	O	S	R	N
49	A	U	O	S	R	N
50	A	U	O	S	R	N
51	A	U	O	S	R	N
52	A	U	O	S	R	N
53	A	U	O	S	R	N
54	A	U	O	S	R	N
55	A	U	O	S	R	N
56	A	U	O	S	R	N
57	A	U	O	S	R	N
58	A	U	O	S	R	N
59	A	U	O	S	R	N
60	A	U	O	S	R	N
61	A	U	O	S	R	N
62	A	U	O	S	R	N
63	A	U	O	S	R	N
64	A	U	O	S	R	N

	A=ALWAYS	U=USUALLY	O=OFTEN	S=SOMETIMES	R=RARELY	N=NEVER
65	A	U	O	S	R	N
66	A	U	O	S	R	N
67	A	U	O	S	R	N
68	A	U	O	S	R	N
69	A	U	O	S	R	N
70	A	U	O	S	R	N
71	A	U	O	S	R	N
72	A	U	O	S	R	N
73	A	U	O	S	R	N
74	A	U	O	S	R	N
75	A	U	O	S	R	N
76	A	U	O	S	R	N
77	A	U	O	S	R	N
78	A	U	O	S	R	N
79	A	U	O	S	R	N
80	A	U	O	S	R	N
81	A	U	O	S	R	N
82	A	U	O	S	R	N
83	A	U	O	S	R	N
84	A	U	O	S	R	N
85	A	U	O	S	R	N
86	A	U	O	S	R	N
87	A	U	O	S	R	N
88	A	U	O	S	R	N
89	A	U	O	S	R	N
90	A	U	O	S	R	N
91	A	U	O	S	R	N



### Demographic Information

Please mark your response for each question below.

1. Gender

Male  Female

2. Ethnicity

African American  Hispanic  Caucasian

Asian/Pacific Islander  Native American/Alaskan Native

Other \_\_\_\_\_

3. Age (in years) \_\_\_\_\_

4. Marital Status (please check one)

Single

Married (How many years \_\_\_\_\_)

Divorced

Widowed

Other \_\_\_\_\_

5. What is your income?

Less than \$20,000  \$20,001-\$40,000  \$40,001-\$60,000

\$60,001-\$80,000  \$80,001-\$100,000  \$100,001-

\$120,000

\$120,001-\$140,000  \$140,001-\$160,000  Greater than

\$160,000

6. Occupation \_\_\_\_\_