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EXPLORING THE RELATIONSHIP AMONG ETIOLOGICAL FACTORS
RELATED TO EATING DISORDERS

by
Diane L. Cassidy

A Thesis

Submitted in partial fulfillment of the requirements of the
Master of Arts Degree
of
The Graduate School
at
Rowan University
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Approved by _____
Professor

Date Approved 8/20/03

ABSTRACT

Diane L. Cassidy
EXPLORING THE RELATIONSHIP OF ETIOLOGICAL FACTORS
RELATED TO EATING DISORDERS

2002/2003

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Master of Arts in Applied Psychology
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The purpose of the current study was to explore the cross-sectional relationship between personality, interpersonal problems, coping, and eating disorder symptomology. Participants were undergraduate students at a public university. Results indicated that personality was the strongest predictor of risk factors associated with eating disorders. Neuroticism was the strongest predictor, followed by conscientiousness, extroversion, and agreeableness. Interpersonal and coping factors significantly predicted only four risk factors associated with eating disorders. Specifically, interpersonal problems related to being cold/distant, socially inhibited, and self-sacrificing, and the coping factors of emotional social support, acceptance, denial, and instrumental social support were all significant predictors. Implications for future research exploring the etiology, prevention, and treatment of eating disorders are discussed.

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Chapter 1

Introduction

Eating Disorders are characterized by severe disturbances in eating behavior. According to the Diagnostic and Statistical Manual of Mental Disorders (2000), the two most common forms of eating disorders are Anorexia Nervosa and Bulimia Nervosa. Anorexia nervosa is characterized by an intense fear of gaining weight or becoming fat even though actually underweight, refusing to maintain normal body weight for one's age and height, the denial of the seriousness of the low body weight, and a distorted view of one's body shape. In addition, one's self-evaluation is often overly influenced by body weight. Finally, in postmenarcheal females, there is an absence of at least three consecutive menstrual cycles.

In contrast to anorexia nervosa, bulimia nervosa is characterized by recurrent episodes of binge eating and the recurrent use of inappropriate compensatory behaviors in order to prevent weight gain. The compensatory behaviors may include, but are not limited to, behaviors such as: self-induced vomiting; misuse of laxatives, diuretics, or enemas; fasting; and/or excessive exercise. In order to meet diagnostic significance, the binge eating and inappropriate compensatory behaviors must both occur, on average, at least twice a week for 3 months. In addition to these symptoms, bulimia nervosa is also characterized by an evaluation of the self that is unduly influenced by body shape and weight.

Although precise estimates of the prevalence of anorexia nervosa and bulimia nervosa are difficult to determine due to the reluctance of individuals to reveal their

symptoms, current estimates suggest that approximately 3% to 10% of at-risk females (i.e., females between the ages 15 to 29) may meet diagnostic criteria for one of these disorders, with bulimia nervosa diagnoses outnumbering anorexia nervosa diagnoses by at least 2 to 1 (Polivy & Herman, 2002). Additionally, there is growing evidence to suggest that there is a rise in males presenting with similar symptoms (Bennett & Cooper, 1999), and that the incidence of anorexia nervosa and bulimia nervosa has increased markedly during the past 50 years (Polivy & Herman, 2002).

Based on the rising prevalence rates and the clinical demand for better understanding and treatment of these disorders, eating disorders have become an important issue in the psychological community. As a result, a great deal of research examining etiological factors related to these disorders has been generated. In the following sections, a brief overview of methodological and measurement issues in the study of eating disorders will be presented. Additionally, the way these methods are used to understand eating disorders and/or eating disorders symptomology will be discussed.

Methodological and Measurement Issues in Studying Eating Disorder Pathology

One of the issues that has made studying eating disorders challenging is the question of how best to assess eating disorder symptomology and factors that predict individuals at increased risk for the development of these disorders. There have been two approaches used in previous literature exploring these issues. The first approach is based on a categorical model of defining and measuring eating disorders. This approach attempts to assess symptoms of an eating disorder based on DSM-IV-TR (2000) diagnostic criteria. This goal is accomplished by measuring symptoms through the use of

structured and unstructured diagnostic interviews or through self-report measures that ask participants to indicate the presence and severity of specific eating disorder symptoms.

Based on this approach, an individual is categorized as suffering from an eating disorder or not. Studies that use this type of methodology group individuals with eating disorders into one group and individuals without an eating disorder into another group. The value of this approach is that it allows for individuals to be classified into diagnostic groups, where specific diagnoses, such as anorexia nervosa, can be assigned. Subsequently, these groups can be studied to explore what factors differentiate between them. A limitation to this approach is that it does not differentiate between individuals who experience no symptoms and those who may be experiencing sub-threshold, yet significant, clinical symptoms. As a result, information regarding the full spectrum of eating disorder symptomology is not identified. The differentiation among the individuals who are not diagnostically classified might be important in understanding the movement from sub-threshold levels of eating pathology to the development of a diagnosable eating disorder.

To overcome the limitations associated with a pure categorical model, a number of researchers have recently suggested the use of a continuum model to come to a more complete understanding of eating disorder pathology. The continuum model is based on the continuum hypothesis, which asserts that the fundamental differences among individuals who meet the diagnostic criteria for an eating disorder and individuals with milder forms of eating disorder pathology is a matter of degree or severity (Nylander, 1971; Rodin, Silberstein, & Striegel-Moore, 1985). This hypothesis suggests that groups on the continuum share similar underlying psychological characteristics that differ only

in the frequency or severity of eating problems. Thus, understanding the similarities and differences at various points along the eating disorders continuum may provide a critical link to establishing more effective preventative and treatment interventions (Scarano & Kalodner-Martin, 1994).

Since its introduction, the continuum hypothesis has been expanded and evaluated by a number of researchers, and it has received consistent empirical support (Mintz & Betz, 1988; Ousley, 1986; Scarano & Kalodner-Martin, 1994; Mintz, O'Halloran, Mullholland, & Schneider, 1997). For example, Mintz et al. (1997) identified the eating disorder continuum by placing unrestrained eating at one end of the continuum (asymptomatic), clinical eating disorders at the opposite end (eating disordered group), and mild forms of eating disturbances at the mid-point on the continuum (symptomatic group). Mintz et al. (1997) later developed a measure, the Questionnaire for Eating Disorder Diagnoses (Q-EDD), to reliably and validly identify the groups that the continuum model hypothesized.

The value of the continuum approach is that it allows for the inclusion of individuals who are experiencing symptoms of eating disorders but who do not officially meet criteria for diagnostic inclusion. Consistent with the categorical model, it places individuals into groups, but goes beyond the traditional categorical model to include people with sub-threshold levels of eating disorder pathology. Despite its value, the continuum approach to assessing eating disturbances is still relatively new and more research is needed to support the validity of the model and the measures that are used to assess it.

Both the categorical and continuum approaches have contributed a great deal of information to our knowledge of factors that are associated with individuals in certain diagnostic groups, individuals at sub-threshold levels of eating disorder pathology, and individuals who display no symptoms. These approaches have allowed for the investigation into specific factors that may be empirically linked to the etiology of eating disorders. Specifically, both the categorical and continuum approaches have provided information about factors associated with individuals in certain diagnostic groups, whereas the continuum approach has provided additional information about factors associated with different groups along the continuum of eating disorder pathology.

The second approach to studying eating disorders has developed out of our knowledge of risk factors that are associated with the development of eating disorders. Specifically, this approach attempts to predict what factors are related to an individual being at risk. Unlike the categorical and continuum approaches, this approach does not classify individuals into diagnostic groups. Instead, the primary goal is to assess and predict what factors are associated with identified risk factors for eating disorder pathology.

The risk factors approach has followed the development of various self-report measures, such as the Eating Disorders Inventory (EDI; Garner & Olmstead, 1984), the Eating Disorders Inventory-2 (EDI-2; Garner, 1991), the Eating Attitudes Test (EAT; Garner, Olmstead, Bohr, & Garfinkel, 1982) and the Bulimia Test-Revised (BULIT-R; Thelen, Farmer, Wonderlich, & Smith, 1991). These self-report instruments are specifically designed to assess cognitive, personality, and other factors that have been empirically associated with eating disorders. The goal of these measures is accomplished

by assessing these various factors and exploring how they vary in relation to eating disorder pathology. The information is then used to predict which individuals may be at risk for experiencing eating disorders and/or eating disorder pathology.

Out of these various self-report measures, a predominant amount of research has followed the development of the EDI and the EDI-2. These instruments were developed to measure those factors that have most frequently been empirically linked to eating disorder pathology. The most recent instrument, the EDI-2, contains 11 subscales. These subscales include: drive for thinness, bulimia, body dissatisfaction, interpersonal distrust, perfectionism, interoceptive awareness, ineffectiveness, maturity fears, impulse regulation, social insecurity, and asceticism. These subscales have shown to be associated with symptoms of eating disturbances and disorders (Garner, 1991).

In the following section, a brief overview of the literature that has examined factors that predict eating disorder diagnoses using the first line of research will be discussed. Although a number of factors have been linked to eating disorders, four factors that have been most consistently linked to eating disorder pathology include the core subscales of the EDI-2, personality, interpersonal relationships, and coping. Because these four factors have been shown to be particularly important, the current review will focus on these factors and how they are related to our ability to predict eating disorder pathology.

Factors that predict eating disorder diagnoses

Previous literature has explored what specific factors predict whether or not an individual is experiencing an eating disorder. For example, the first three subscales of the EDI-2 (bulimia, drive for thinness, and body dissatisfaction) are referred to as the core

subscales, and have received a great deal of attention for their ability to predict the development of an eating disorder (Garner, 1991). Specifically, an intense drive to be thin or fear of fatness has been shown to predict whether or not an individual will meet diagnostic criteria for an eating disorder (Garner, 1991). In addition, the presence of binge eating (as measured by the bulimia subscale) has also been shown to predict whether or not an individual will meet diagnostic criteria for bulimia nervosa and individuals who are diagnosed with the restrictor subtypes of anorexia nervosa (Garner, 1991). Finally, body dissatisfaction is viewed as a major factor responsible for initiating and sustaining the weight-controlling behaviors of those with eating disorders (Stice, 2002).

In addition to the core subscales of the EDI-2, the next five subscales (ineffectiveness, perfectionism, interpersonal distrust, interoceptive awareness, and maturity fears) represent more general constructs. These subscales represent psychological traits that are clinically relevant to eating disorders (Garner, 1991). However, these subscales are less predictive of diagnostic groups than the core subscales and appear to represent more general risk factors than the core scales (Garner, 1991).

The last three subscales of asceticism, impulse regulation, and social insecurity form the EDI-2 provisional scales. These three constructs also represent factors that are associated with risk factors for the development of eating disorders (Garner, 1991). These factors are referred to as provisional scales because they were added to the original EDI and further research is needed to support their utility to the study of eating disorders.

In addition to the personality, behavioral, and motivational factors assessed by the EDI-2 subscales, a number of other researchers have attempted to link personality more

specifically to the development of eating disorders. For example, Costa and McCrae (1992) suggested that the assessment of the five personality dimensions of the Five-Factor Model of personality could contribute relevant information about various pathological states, including eating disorders. Many authors have examined this hypothesis specifically in relation to risk factors for eating disorders. For example, Funk (1999) examined how personality traits are differentially related to anorexia nervosa and bulimia nervosa diagnoses. In this study, female participants with diagnosed eating disorders from local eating disorder support groups were administered the NEO-PI-R and a demographic survey. Results indicated that anorexic women reported lower levels of extraversion than bulimic women, and anorexic women reported greater levels of conscientiousness than bulimic women. There were no reported differences between groups on the neuroticism, openness to experience, or agreeableness factors.

Another study that explored the relation between personality and eating disorders was conducted by Ghaderi & Scott (2000). In this study, the NEO-PI was administered to a sample of women with a life-long history of eating disorders, a sample of women with a first time incidence of an eating disorder, and women with no history of an eating disorder. Multivariate analyses indicated that participants with a lifetime history of an eating disorder reported significantly lower levels of agreeableness, conscientiousness, and emotional stability (neuroticism), and significantly higher levels of openness to experience compared to the non-eating disordered group and individuals with a first time incidence of an eating disorder.

Another factor that has been explored in relation to its ability to predict eating disorder pathology is coping. For example, Troop, Holbrey, Trowler, and Treasure

(1994) used semistructured interviews to measure coping and crisis support in response to severe events and/or difficulties. Participants in this study were women with anorexia nervosa, women with bulimia nervosa, and women without an eating disorder. Results indicated that women with anorexia nervosa and bulimia nervosa used more avoidant coping strategies than the control subjects. However, results suggested that the eating disorder groups did not differ significantly from the control group on their use of problem-focused coping and self-blame.

Another study that examined the relationship between coping and eating disorder pathology was conducted by Hendley (2002). In this study, the author was interested in stress, perceived social support, and coping, and whether or not these factors were able to differentiate between individuals with and without eating disorders. The Perceived Stress Scale (Friends and Family; Procidano & Heller, 1983), and the Coping Inventory for Stressful Situations (Cohen, Kamarck, & Mermelstein, 1983) were administered to participants. To determine diagnostic groups, the revised version of the Bulimia Test (BULIT-R; Thelen et al., 1991) and the Eating Attitudes Test-26 (Garner et al., 1982) were administered. Based on their scores on the BULIT-R and the EAT-26, three groups were defined: 22 undergraduate women in the non-eating disordered group, 22 individuals in the subclinical bulimic group, and 21 women previously diagnosed with bulimia nervosa (the clinical bulimic group). Results indicated that the clinical bulimic group reported higher levels of stress and emotion-focused coping, and lower levels of social support than the other two groups. Additionally, non-eating disordered women were found to report greater use of task-oriented coping than either bulimic group. The

women in the subclinical bulimic group also reported greater use of distraction than non-eating disordered women.

A final variable that has been explored in relation to its ability to predict eating disorder pathology is interpersonal functioning. For example, Eldredge, Locke, and Horowitz (1998) examined whether interpersonal problems of individuals with binge eating disorder (BED) are distinct from other psychiatric patients, and whether specific types of interpersonal problems are predictive of BED treatment outcome. The Inventory of Interpersonal Problems (IIP; Horowitz, Alden, Wiggins, & Pincus, 1988) was administered to participants with BED, and scores were compared to scores from individuals with other psychiatric diagnoses. Results indicated that participants with good eating disorder treatment outcomes reported less interpersonal distress related to problems with social avoidance and vindictiveness than participants with poor treatment outcomes and individuals with other psychiatric diagnoses. These results suggest that the amount of distress with interpersonal difficulties of social avoidance and vindictiveness should be decreased in treatment for eating disorders in order to ensure better treatment outcomes.

Another study that explored the role of interpersonal factors in eating disorders was conducted by Auerbach-Barber (1998). In this study, interpersonal problems and personality characteristics were assessed to explore differences in obese binge eaters and obese non-binge eaters. In this study, the Inventory of Interpersonal Problems-Circumplex (IIP-C), the Neuroticism Extraversion Openness-Five Factor Inventory (NEO-FFI), and the Beck Depression Inventory (BDI) were administered to a sample of obese women seeking weight-control treatment at a university counseling center. These

participants were classified into three groups: obese individuals engaging in clinically severe binge eating, obese individuals experiencing symptoms of binge eating, and obese non-bingers. Results indicated that obese binge eaters reported more interpersonal problems, higher levels of neuroticism, and higher levels of depression. Specifically, the obese binge eaters reported more interpersonal problems associated with non-assertiveness. In addition, these individuals reported higher levels of interpersonal distress associated with vindictiveness, social avoidance, and intrusiveness. As a result of these findings, these authors suggest that interpersonal difficulties should be addressed when exploring the etiology and treatment of eating disorders.

In conclusion, previous literature has attempted to use various factors to predict diagnostic groups of eating disorders. Specifically, the three core subscales of the EDI-2 (bulimia, drive for thinness, and body dissatisfaction) have been shown to be associated with whether or not someone will qualify for a disorder.

Regarding the role of personality factors with diagnostic eating disorders groups, individuals suffering from bulimia have reported higher scores on the extroversion personality domain and lower scores on the conscientiousness domain than those suffering from anorexia nervosa. In addition, individuals with a lifetime history of eating disorders reported lower levels of agreeableness, conscientiousness, and neuroticism, and higher scores on openness to experience compared to non-eating disordered individuals and individuals with a first time incidence of an eating disorder.

With regard to coping factors, the literature to date has suggested that bulimia nervosa is associated with emotion-focused coping strategies. Additionally, this research indicates that subclinical bulimic groups are associated with distraction coping.

Furthermore, past research has indicated that individuals with eating disorders have reported more interpersonal distress than individuals without eating disorders. Specifically, social avoidance and vindictiveness have been shown to be predictive of both anorexia nervosa and bulimia nervosa. Additionally, non-assertiveness has predicted binge eaters, and vindictiveness, social avoidance, exploitableness, and intrusive interpersonal styles have predicted obese binge eaters.

Although this research has provided some initial evidence indicating what factors are predictive of certain disorders, there needs to be more research that addresses the relationship between personality, coping, interpersonal problems, and eating disorder pathology. Specifically, much of this research has only explored one or two of these factors as they relate to eating disorder pathology. This limitation prevents a more complex understanding of how these factors might interact with one another or how much variance might be attributable to each construct when examined simultaneously. In addition, more research is needed to further understand how specific factors may be related to specific diagnoses. Finally, individuals with anorexia nervosa need to be more closely studied, as more research to date has focused on individuals with bulimia nervosa.

Factors that predict risk factors for developing eating disorders

A second line of research that has developed in relation to eating disorders addresses the question of what factors are related to someone becoming “at risk” for developing an eating disorder. For example, a research question within this area might address what factors are associated with someone becoming excessively focused on being thin. The majority of this research has been conducted using the EDI-2 subscales as the dependent measures while exploring what other factors might predict elevations on these

scales. For example, Brookings and Wilson (1994) administered the NEO-PI, EDI, EAT-26, and the Family Environment Scale (FES) to female college undergraduate students. The results of this study indicated that among the personality variables, neuroticism and extraversion predicted the greatest variability in the EDI-2 subscales and the EAT-26 subscales (Brookings & Wilson, 1994). Specifically, all six facets of neuroticism correlated significantly and positively with five subscales of the EDI-2, including the core scales of drive for thinness, bulimia, and body dissatisfaction. In addition, the extraversion facets correlated significantly and positively with drive for thinness and perfectionism, but significantly and negatively with interpersonal distrust and ineffectiveness subscales. In regard to the role of family, results suggested that poor family relationships significantly predicted those EDI-2 subscales that are reflective of broader emotional and interpersonal problems (ineffectiveness, perfectionism, and interpersonal awareness), but not to the EDI-2 core subscales.

Podar and Allik (1999) also examined factors associated with risk factors for eating disorders using the NEO-PI and the EDI-2. However, these authors also examined the role of different affective states using the Positive Affect and Negative Affect Schedule (PANAS-X; Watson & Clark, 1994). These measures were administered to a group of patients who were clinically diagnosed with an eating disorder, a weight-reduction training group, and a control group without weight problems. Consistent with Brookings and Wilson's (1994) findings, results indicated that neuroticism was significantly and positively related to all of the EDI-2 subscales. However, Podar and Allik's (1999) results further suggested that openness to experience and conscientiousness played a significant role in predicting the EDI-2 subscales.

Specifically, openness to experience was significantly and negatively related to nine subscales of the EDI-2 and conscientiousness was significantly and negatively related to eight subscales of the EDI-2. In contrast to Brookings and Wilson's (1994) findings, extraversion did not significantly predict individuals' scores on the subscales of the EDI-2. Together these studies suggest that using a five factor model of normative personality may help predict risk factors related to eating disorder pathology.

In addition to personality factors, research has also been conducted examining the ability of coping factors to predict variability in risk factors associated with eating disorders. For example, Garcia-Grau, Fuste, Miro, Saldana, and Bados (2002) administered the EDI-2 and the Adolescent Coping Scale (ACS; Frydenberg & Lewis, 1997) to a sample of high school females. Results indicated that intro-punitive avoidance was related to the EDI-2 subscales, as opposed to problem-focused action or avoidance of social support, which were not. Specifically, intro-punitive avoidance was most significantly and positively correlated with the ineffectiveness, interpersonal distrust, and social insecurity subscales of the EDI-2.

Another study conducted by Denisoff and Endler (1995) explored whether or not coping is predictive of weight preoccupation. Weight preoccupation was operationalized by the drive for thinness, bulimia, and body dissatisfaction subscales of the EDI-2. These authors also administered the Life Experiences Survey (LES; Sarason, Johnson, & Siegel, 1978), the Coping Inventory for Stressful Situations (CISS; Endler & Parker, 1994) and the EDI to a sample of university females. Results indicated that the presence of life stress, as well as the use of emotion-focused coping, were related to weight preoccupation as measured by the three core subscales of the EDI-2.

Additionally, a study conducted by Koff and Sangani (1996) examined specific factors that predict risk factors for eating disorders using the EAT-26, the CISS, and 3 indices of negative body image. Similar to Denisoff and Endler's (2000) and Grau et al.'s (2002) findings, results indicated that higher use of emotion-focused coping was associated with higher scores on the EAT. However, results also indicated that avoidant-oriented coping was associated with higher scores on the EAT-26.

In conclusion, previous literature has linked different factors with risk factors for the development of eating disorders. Specifically, research has shown the personality domain of neuroticism to be predictive of all 11 subscales of the EDI-2. In addition, extraversion has been predictive of the drive for thinness, perfectionism, interpersonal distrust, and ineffectiveness subscales. Previous research has also linked the personality domain of conscientiousness with nine subscales of the EDI-2, and the openness to experience domain with eight subscales.

In addition to personality factors, coping factors have also been linked to risk factors for the development of eating disorders. Specifically, greater use of intro-punitive avoidance has been shown to predict greater levels of interpersonal distrust, ineffectiveness, and social insecurity. Also in previous literature, emotion-focused coping styles have predicted weight preoccupation.

Although the findings from current research are encouraging, there have also been a number of conflicting and unclear findings using this line of research. For example, it appears that personality factors are related to being "at risk" for developing an eating disorder. However, it remains unclear which of the personality factors has the greatest influence and to what extent each of these factors is related to other risk factors. In

addition, coping also appears to be an important variable in the study of eating disorder pathology. However, the question of which coping style(s) or skill(s) is most related to the development of “at risk” status remains unclear. Finally, much of this research has only explored one or two of these factors as they relate to “at risk” status. This limitation prevents a more complex understanding of how these factors might interact with one another or how much variance might be attributable to each construct when examined simultaneously.

Purposes of the Current Study

The first goal of the current study is to explore which factors predict eating disorder diagnoses when using multiple predictors. These predictors will include the EDI-2 core subscales, personality factors, interpersonal problems, and coping factors. Although previous literature has addressed this question, there are a number of problems with this literature. First, most studies have only included one or maybe two predictors in the model. Therefore, we cannot view how these variables might interact with one another or which might account for the greatest amount of variance when compared to one another. A second problem is that the majority of this literature has used only a standard categorical model for studying eating disorders. This information, although valuable, prevents us from exploring the full continuum of eating disorder pathology. Using both approaches could provide useful information that may allow us to better understand eating disorder pathology. In an effort to better understand eating disorder pathology, the first part of the current study will use multiple predictors, as well as two approaches to classifying eating disorders, including the more recently developed continuum model.

The second goal of the current study is to explore what factors might best predict commonly accepted risk factors associated with the development of eating disorder pathology. Specifically, literature regarding personality and coping factors have provided some evidence for these factors being associated with risk factors for eating disorder pathology. However, the findings have been inconsistent across studies, and research is needed to better understand how both factors are related to eating disorders. In addition research to date has not addressed the relation of interpersonal factors with risk factors for the development of eating disorders. Furthermore, the relationship of these etiological factors has not been explored together in one study. This relationship could help to better understand which factors account for why some individuals develop symptoms of eating disorders while others do not. To address these limitations, the current study will examine the relationship of these factors to eating attitudes and behaviors associated with the risk for developing eating disorders.

Chapter 2

Method

Participants and Procedure

One hundred and nine college undergraduate students (91 females, 18 males) participated in this study. Participants were chosen from undergraduate psychology courses at a public university in southern New Jersey, and they received either course credit or extra-credit for their participation. Participants ranged in age from 18 to 46 ($M = 22$), and were predominantly Caucasian (81% Caucasian, 8% African American, 4% Hispanic, .9% American Indian, 3% Asian American, and 4% other), and in their sophomore year level of college (39% sophomores, 28% juniors, 22% seniors, and 7% freshman). Only 5.5% of participants identified themselves as either currently pledging or being a member of a sorority or fraternity.

Participants were administered the questionnaires in class and either took their surveys home to complete or completed them during that class period. Participants were administered a total of five questionnaires. Prior to distribution, the questionnaires were counterbalanced in order to avoid any order effects.

Measures

The Questionnaire for Eating Disorder Diagnoses (Q-EDD; Mintz et al., 1997): This instrument is a self-report questionnaire that contains 13 questions. These questions measure the frequency and severity of eating disturbances along a continuum, and are based on diagnostic criteria for eating disorders in the DSM-IV. Based on their responses to these questions, respondents are classified into one of the four categories: anorexia,

bulimia, symptomatic, or non-symptomatic. Validity has been supported for this instrument by correlations between the Q-EDD diagnoses and other inventories, such as the EAT, and the BULIT-R (Tylka & Subich, 1999). This instrument has also demonstrated high criterion validity with accuracy rates ranging from 78% to 98% for differentiating between individuals with eating disorders and individuals without eating disorders (Mintz et al., 1997; Tylka & Subich, 1999). Test-retest reliability has also been found to be high for this measure, with kappa values ranging from .64 to .85 (Mintz et al., 1997). In addition, interscorer agreement has been shown to be 100% for the diagnostic differentiations of individuals with eating disorders, individuals without eating disorders, and individuals with some symptoms of eating disorders based on their responses on the Q-EDD (Mintz et al., 1997).

Eating Disorder Inventory-2 (EDI-2; Garner, 1991): This is a 91-item self-report measure that assesses risk factors for the development of eating disorders. Items are rated on 6-point Likert scale ranging from “always true” to “never true,” with higher scores indicating more risk for the development of an eating disorder. The 11 subscales include: drive for thinness, bulimia, body dissatisfaction, ineffectiveness, perfectionism, interpersonal distrust, interoceptive awareness, maturity fears, asceticism, impulse regulation, and social inhibition.

The first three subscales of the EDI-2 (bulimia, drive for thinness, and body dissatisfaction) are referred to as the core subscales because they have been shown to be the strongest predictors of the development of an eating disorder (Garner, 1991). Specifically, an intense drive to be thin or fear of fatness has been shown to predict both diagnoses of anorexia nervosa and bulimia nervosa (Garner, 1991). In addition, the

presence of binge eating (as measured by the bulimia subscale) has been identified in individuals suffering from bulimia nervosa and the restrictor subtype of anorexia nervosa (Garner, 1991). Finally, body dissatisfaction is viewed as a major factor responsible for initiating and sustaining the weight- controlling behaviors of those with eating disorders (Stice, 2002).

The EDI-2 has been used in both clinical and nonclinical populations and is considered a useful screening tool, typological research aid, and a useful outcome measure (Garner & Olmstead, 1984). The EDI-2 subscales have been found to have high internal consistency reliabilities in eating disorder samples, with coefficient alphas ranging from .83 to .93 (Garner & Olmstead, 1984). Validity evidence is mostly supported by the drive for thinness, bulimia, body dissatisfaction, and interoceptive awareness subscales. Less information is available about the more recently developed provisional subscales (Garner, 1991). The EDI-2 subscales have also shown to discriminate between clinical and nonpatient samples (Garner & Olmstead, 1984), and correlate with scores on the scales on the Eating Attitudes Test (Garner, Olmstead, Bohr, & Garfinkel, 1982) and the Restraint Scale (Rosen, Silberg, & Gross, 1988).

COPE (Carver, Scheier, & Weintraub, 1989): This is a 60-item self-report questionnaire designed to assess the different ways in which people respond to stress. This self-report measure contains five scales to measure aspects of problem-focused coping (active coping, planning, suppression of competing activities, restraint coping and seeking instrumental support), five scales of emotion-focused coping (seeking emotional social support, positive reinterpretation and growth, acceptance, denial, and turning to religion), and three behavior-focused scales (focus on and venting of emotions,

behavioral disengagement, and mental disengagement). Each scale consists of four items, each scored on a 4-point Likert-type scale ranging from “did not do this” to “did this a lot.” The scales of the COPE have been found to have high internal consistency reliabilities, with alpha values ranging from .45 to .92 (Carver et al., 1989). In addition, test-retest reliability has been found to be relatively stable, with correlations ranging from .20 to .24 (Carver et al., 1989). In addition, there has been evidence for construct validity of this instrument with four of the scales correlating with several related personality qualities. This evidence has suggested that these coping strategies are linked to personality qualities, but are not identical to these variables, therefore supporting the discriminant validity of the instrument (Carver et al., 1989).

NEO-PI Revised Version (NEO-PI-R; Costa & McCrae, 1985): This self-report measure contains 240 questions that assess five personality domains: neuroticism, extroversion, openness to experience, conscientiousness, and agreeableness. Items are rated on a 5-point Likert ranging from 0 (strongly disagree) to 4 (strongly agree) with higher scores indicated higher levels of the specific factor. There has been considerable evidence supporting the reliability and construct validity of the NEO-PI (Costa & McCrae, 1985). For example, internal consistency coefficients have ranged from .86 (agreeableness) to .92 (neuroticism), and 7-year test-retest reliability coefficients have ranged from .63 to .81 (Costa & McCrae, 1992).

Inventory of Interpersonal Problems (IIP; Horowitz, et al., 1988): This measure contains 64-items that assess both the type and level of interpersonal problems. This measure has eight subscales assessing eight different types of interpersonal problems, including: domineering/controlling, vindictive/self-centered, cold/distant, socially

inhibited, nonassertive, overly accommodating, self-sacrificing, and intrusive/needy.

The IIP has demonstrated acceptable reliability, as evidenced by alpha coefficients ranging from .76 to .96 for the eight subscales (Horowitz et al., 1988). This instrument has also shown to have sufficient test-retest reliability with coefficients ranging from .56 to .81 (Horowitz et al., 1988).

Chapter 3

Results

Preliminary Data Analyses

Because previous research has suggested that risk factors related to eating disorders may be dependent upon gender, preliminary analyses were conducted to explore if gender differences existed on the EDI-2 subscales. A total of 11 t-tests were conducted using the corrected Bonferoni probability value of .005. Results indicated that there were significant differences between males and females on the body dissatisfaction scale, with females ($M = 26.07$, $SD = 11.00$) reporting more dissatisfaction with their bodies than males ($M = 15.67$, $SD = 10.69$), $t(106) = -3.68$, $p = .000$. In addition, there were significant differences between males and females on the perfectionism scale, with males ($M = 18.44$, $SD = 4.12$) reporting more perfectionism than females ($M = 13.68$, $SD = 5.11$), $t(107) = 3.72$, $p = .000$.

Because there were significant differences found between males and females on these two subscales, body dissatisfaction and perfectionism analyses only included female participants. Separate analyses for males were not conducted on these two scales because of the limited number of males in the sample.

A second set of analyses were conducted to ensure that there was a large enough sample of individuals classified in the anorexia, bulimia, symptomatic, and asymptomatic subgroups of the Q-EDD. Results indicated that there were 0 participants in the anorexia subgroup, 7 in the bulimia subgroup, and 22 in the symptomatic subgroup. As a result of

the small amount of participants in these subgroups, analyses using the Q-EDD were not performed.

Correlational Analyses

Three correlational analyses were conducted to explore how the personality, interpersonal, and coping factors were related to the EDI-2 subscales. The results of the first analysis exploring the relationship between NEO-PI factors and the EDI-2 subscales are presented in Table 1. Results indicated that neuroticism was significantly and positively related to all 11 of the EDI-2 subscales, with coefficients ranging from .71 for the ineffectiveness subscale to .21 for the perfectionism subscale. Conscientiousness was significantly and negatively correlated with 9 of the 11 subscales with coefficients ranging from -.43 for the ineffectiveness subscale to -.20 for both the social insecurity and drive for thinness subscales. Extroversion was significantly and negatively related to 6 of the 11 EDI-2 subscales, with coefficients ranging from .66 for the social insecurity subscale to -.21 for the bulimia subscale. Finally, the correlations between the openness and agreeableness factors and the EDI-2 subscales were all non-significant with one exception. Specifically, agreeableness was significantly and negatively related to the impulse regulation subscale ($r = .35, p < .001$).

Table 1

Zero-Order Correlations between EDI-2 and NEO-PI Subscales

	N	E	O	A	C
Drive for thinness	.47***	-.01	.03	.17	-.20*
Body dissatisfaction	.41***	.01	.14	.13	-.24*
Perfectionism	.21*	-.09	-.06	-.16	.18
Bulimia	.55***	-.21*	.05	-.11	-.28**
Ineffectiveness	.71***	-.42***	-.15	-.02	-.43***
Interpersonal distrust	.38***	-.45***	-.15	-.10	-.22*
Interoceptive awareness	.61***	-.21*	-.14	-.12	-.31**
Maturity fears	.40***	.04	.12	-.02	-.40***
Asceticism	.43***	-.28**	-.11	-.12	-.10
Impulse regulation	.68***	-.15	-.04	-.35***	-.32**
Social insecurity	.61***	-.66***	-.15	-.16	-.20*

Note. N=109. NEO-PI subscales: N= neuroticism, E= extroversion, O= openness to experience, A= agreeableness, C= conscientiousness.

*p < .05. **p < .01. ***p < .001.

The results of the second correlational analysis exploring the relationship between the IIP factors and EDI-2 subscales are presented in Table 2. Results indicated that problems with self-sacrificing were significantly and positively related to 10 of the 11 subscales of the EDI-2, with coefficients ranging from .50 for the interoceptive awareness subscale to .19 for the social insecurity subscale. Problems with domineering/controlling were significantly and positively related to 8 of the 11 EDI-2 subscales, with coefficients ranging from .51 for the impulse regulation subscale to .24 for the perfectionism subscale. Problems with cold/distant were also significantly and positively related to 8 of the 11 EDI-2 subscales, with coefficients ranging from .53 for the interpersonal distrust subscale to .22 for the perfectionism subscale. Problems with nonassertiveness were significantly and positively related to 8 of the 11 subscales, with coefficients ranging from .40 for the interoceptive awareness subscale to .21 for the maturity fears subscale. Problems with overly accommodating were significantly and positively related to 7 of the 11 EDI-2 subscales, with coefficients ranging from .39 for both the ineffectiveness and the interoceptive awareness subscales to .22 for the impulse regulation subscale. Problems with intrusive/needy were significantly and positively related to 7 of the 11 subscales of the EDI-2, with coefficients ranging from .44 for the impulse regulation subscale to .20 for the maturity fears subscale. Problems with vindictive/self-centeredness were significantly and positively related to 6 of the 11 subscales of the EDI-2, with coefficients ranging from .43 for the interoceptive awareness subscale to .23 for the asceticism subscale. Finally, problems with social inhibitedness were significantly and positively related to 4 of the 11 subscales of the EDI-2, with coefficients ranging from a .54 for the interpersonal distrust subscale to .40 for the interoceptive awareness subscale.

Table 2

Zero-Order Correlations between EDI-2 and IIP Subscales

	Domineering/ Controlling	Vindictive/ Self Centered	Cold/ Distant	Socially Inhibited	Nonassertive	Overly Accommodating	Self- Sacrificing	Intrusive/ Needy
DT	.05	.11	-.03	.14	.26**	.31**	.22*	.13
BD	.16	.10	-.08	.10	.23*	.27**	.16	.18
P	.24*	.18	.22*	.03	.02	.08	.28**	.14
B	.19	.16	.15	.16	.22*	.18	.20*	.23*
I	.32**	.42***	.33**	.42***	.34***	.39***	.34***	.40***
ID	.30*	.37***	.53***	.54***	.25**	.17	.23*	.03
IA	.36***	.43***	.40***	.40***	.40***	.39***	.50***	.41***
MF	.20*	.14	.33***	.17	.21*	.26**	.30**	.20*
A	.32**	.23*	.24*	.18	.16	.18	.32**	.32**
IR	.51***	.42***	.23*	.17	.14	.22*	.37***	.44***
SI	.28**	.32**	.30**	.48***	.29**	.23*	.19*	.22*

Note. N=109. Eating Disorder Inventory-2 subscales: DT= drive for thinness, BD= body dissatisfaction, P= perfectionism, B= bulimia, I= ineffectiveness, ID= interpersonal distrust, IA= interoceptive awareness, MF= maturity fears, A= asceticism, IR= impulse regulation, SI= social insecurity.

*p < .05. **p < .01. ***p < .001.

The results of the third analysis exploring the relationship between the COPE factors and the EDI-2 subscales are presented in Table 3. Results indicated that six factors were related to at least 5 of the EDI-2 subscales. Specifically, behavioral disengagement was significantly and positively related to 9 of the 11 EDI-2 subscales, with coefficients ranging from .44 for the ineffectiveness subscale to .24 for the drive for thinness and interpersonal distrust subscales. Substance use was significantly and positively related to 9 of the 11 EDI-2 subscales, with coefficients ranging from .62 for the impulse regulation subscale to .20 for the maturity fears subscale. Denial was also significantly and positively related to 9 of the 11 EDI-2 subscales, with coefficients ranging from .39 for both the interoceptive awareness and the impulse regulation subscales to .27 for the asceticism subscale. Positive reinterpretation and growth was significantly and negatively related to 6 of the 11 EDI-2 subscales, with coefficients ranging from -.39 for the social insecurity subscale to -.20 for the impulse regulation subscale. Active coping was significantly and negatively related to 5 of the 11 subscales for the EDI-2, with coefficients ranging from -.33 for the social insecurity subscale to -.20 for the interoceptive awareness subscale. Planning was also significantly and negatively related to 5 of the 11 subscales, with coefficients ranging from -.29 for both the social insecurity and the ineffectiveness subscales to -.21 for the body dissatisfaction subscale.

Table 3

Zero-Order Correlations between EDI-2 and COPE Subscales

	P	MD	FVE	ISS	AC	D	BD	R	ESS	SU	P	H	SCA	A
DT	-.04	.20*	.17	.05	-.06	.01	.24*	.02	.02	.28**	-.04	.15	-.03	.04
BD	-.05	.12	.22*	.01	-.18	.02	.25**	-.23*	.04	.14	-.21*	.03	-.09	-.09
P	-.06	.14	-.03	-.18	.10	.30**	.02	.12	-.27**	.25**	.12	.07	.07	-.01
B	-.21*	.18	.14	-.14	-.16	.28**	.35***	-.02	-.07	.42***	-.16	.07	-.07	.04
I	-.36***	.16	.10	-.15	-.27**	.33**	.44***	-.12	-.12	.35***	-.29**	.11	-.15	.02
ID	-.34***	.17	-.27**	-.33**	-.28**	.31**	.24*	.09	-.50***	.15	-.22*	.09	-.05	-.15
IA	-.23*	.19	.04	-.15	-.20*	.39***	.35***	-.03	-.16	.31**	-.19	.16	-.01	.31
MF	-.11	.34***	.06	-.07	-.25*	.38***	.40***	-.04	-.04	.20*	-.26**	.19	.04	.04
A	-.13	.11	.02	-.19*	.01	.27**	.17	-.06	-.18	.33***	.03	.01	.03	.11
IR	-.20*	.34***	.20*	-.24*	-.16	.39***	.40***	-.06	-.09	.62***	-.13	.19	.03	.07
SI	-.39***	.03	.04	-.18	-.33**	.30**	.35***	.02	-.25**	.25*	-.29**	-.17	-.05	-.11

Note. N=109. Eating Disorder Inventory-2 subscales: DT= drive for thinness, BD= body dissatisfaction, P= perfectionism, B= bulimia, I= ineffectiveness, ID= interpersonal distrust, IA= interoceptive awareness, MF= maturity fears, A= asceticism, IR= impulse regulation, SI= social insecurity. COPE subscales: P= positive reinterpretation and growth, MD= mental disengagement, FVE= focus on venting of emotions, ISS= instrumental social support, AC= active coping, D= denial, BD= behavioral disengagement, R= restraint, ESS= emotional social support, SU= substance use, P= planning, H= humor, SCA= suppression of competing activities, A= acceptance.

*p < .05. **p < .01. ***p < .001.

The next five COPE factors were related to at least one EDI-2 subscale. Specifically, mental disengagement was significantly and positively related to 3 of the 11 EDI-2 subscales, with coefficients ranging from .34 for both the maturity fears and impulse regulation subscales to .20 for the drive for thinness subscale. Focus on venting of emotions was significantly and positively related to 2 of the 11 EDI-2 subscales and significantly and negatively related to 1 EDI-2 subscale, with coefficients ranging from -.27 for the interpersonal distrust subscale to .20 for the impulse regulation subscale. Instrumental social support was significantly and negatively related to 3 of the 11 EDI-2 subscales, with coefficients ranging from -.33 for the interpersonal distrust subscale to -.19 for the asceticism subscale. Emotional social support was significantly and negatively related to 3 of the 11 EDI-2 subscales, with coefficients ranging from -.50 for the interpersonal distrust subscale to -.25 for the social insecurity subscale. Restraint was significantly and negatively related to the body dissatisfaction subscale ($r = -.23, p < .05$). Finally, the correlations between humor, suppressing of competing activities, and acceptance with the EDI-2 subscales were all non-significant.

Hierarchical Regression Analyses

To examine the ability of personality, interpersonal, and coping factors to predict risk factors for eating disorders, 11 hierarchical regression analyses were conducted. Each analysis included an EDI-2 subscale that served as the dependent variable. The five personality domains were entered on the first step because personality is theoretically viewed as a more stable, long-standing factor. The eight interpersonal factors and the 14 coping factors were entered on the second step because these factors are theoretically more associated with situational and environment factors.

In the first three analyses, the core subscales of the EDI-2 (bulimia, drive for thinness, and body dissatisfaction) were examined, as these subscales are most highly predictive of eating disorder diagnoses. The overall model, including all predictors, significantly predicted both the bulimia and drive for thinness subscales, $F(27, 53) = 2.17, p = .008$, and $F(27, 54) = 2.16, p = .008$, respectively. However, the addition of the interpersonal and coping factors did not add significant predictive power in any of the three models ($F\Delta = 1.25, p = .25$ for bulimia, $F\Delta = 1.55, p = .10$ for drive for thinness, and $F\Delta = 1.08, p = .41$ for body dissatisfaction). For all three subscales, personality factors significantly predicted the subscales and accounted for 28%, 22%, and 22% of the variance, respectively. The specific factors associated with each subscale are presented in Table 4. Specifically, neuroticism significantly predicted all 3 subscales, and agreeableness significantly predicted the drive for thinness subscale.

Table 4

Hierarchical Multiple Regression Analyses Predicting EDI-2 Core Subscales

	Significant Predictors	B	SE B	β
<u>Dependent Measures</u>				
Bulimia	Neuroticism	.12	.03	.57***
Drive for thinness	Neuroticism	.19	.05	.54***
	Agreeableness	.10	.05	.23*
Body dissatisfaction	Neuroticism	.17	.08	.35*

Note. N=109 for bulimia and drive for thinness subscale, N=91 for body dissatisfaction subscale. $R^2 = .28$ for bulimia, $R^2 = .22$ for drive for thinness and body dissatisfaction.

* $p < .05$. ** $p < .01$. *** $p < .001$.

For the second group of regression analyses, the five subscales of the EDI-2 that represent psychological traits clinically relevant to eating disorders (ineffectiveness, perfectionism, interpersonal distrust, interoceptive awareness, and maturity fears) were examined. Results indicated that the overall models for ineffectiveness, interpersonal distrust, interoceptive awareness, and maturity fears were significant $F(27, 52) = 6.16$, $p = .000$, $F(27, 53) = 4.43$, $p = .000$, $F(27, 54) = 2.67$, $p = .001$, and $F(27, 54) = 2.56$, $p = .002$, respectively. The inclusion of interpersonal and coping factors significantly increased the predictive power of the models for interpersonal distrust $F(22, 53)\Delta = 3.24$, $p = .000$, and maturity fears $F(22, 54)\Delta = 1.97$, $p = .022$. The overall model of personality factors significantly predicted all five subscales, and accounted for 59% of the variance in the ineffectiveness subscale, 23% of the variance in the perfectionism subscale, 28% of the variance in the interpersonal distrust subscale, 33% of the variance in the interoceptive awareness subscale, and 21% of the variance in the maturity fears subscale. The unique personality factors associated with each subscale are presented in Table 5. Specifically, neuroticism significantly and positively predicted both the perfectionism and interoceptive subscales, and significantly and negatively predicted the ineffectiveness subscale. In addition, conscientiousness significantly and positively predicted the perfectionism subscale, and significantly and negatively predicted both the ineffectiveness and maturity fears subscales. Finally, extroversion significantly and negatively predicted the ineffectiveness and interpersonal distrust subscales.

The unique interpersonal and coping factors associated with each subscale are also presented in Table 5. Specifically, cold/distant significantly and positively predicted both the interpersonal distrust and maturity fears subscales. Socially inhibited and

emotional social support also significantly predicted interpersonal distrust. Self-sacrificing also significantly and positively predicted the maturity fears subscale.

Table 5

Hierarchical Multiple Regression Analyses Predicting EDI-2 Psychological Traits Subscales

	Significant Predictors	B	SE B	β
<u>Dependent Measures</u>				
Ineffectiveness	Neuroticism	.18	.03	.59***
	Extroversion	-.07	.03	-.21*
	Conscientiousness	-.06	.03	-.20*
Perfectionism	Neuroticism	.09	.04	.37*
	Conscientiousness	.13	.04	.50***
Interpersonal Distrust	Extroversion	-.11	.04	-.35***
	Cold/Distant	.38	.16	.29*
	Socially Inhibited	.45	.20	.41*
	Emotional Social Support	-.72	.30	-.36
Interoceptive Awareness	Neuroticism	.20	.04	.59***
Maturity Fears	Conscientiousness	-.07	.03	-.28*
	Cold/Distant	.62	.17	.55***
	Self-Sacrificing	.35	.17	.33*

Note. N= 109 for ineffectiveness, interpersonal distrust, interoceptive awareness, maturity fears. N= 91 for perfectionism. R2 = .59 for ineffectiveness,

R2 = .23 for perfectionism, R2 = .69 for interpersonal distrust, R2 = .33 for interoceptive awareness, R2 = .56 for maturity fears.

*p < .05. **p < .01. ***p < .001.

Finally, the last three provisional subscales of the EDI-2 were examined. Results indicated that the overall models for asceticism, impulse regulation, and social insecurity were all significant $F(27, 54) = 1.99, p = .02$, $F(27, 54) = 8.11, p = .000$ and $F(27, 52) = 9.29, p = .000$, respectively. The inclusion of interpersonal and coping factors significantly increased the predictive power of both the impulse regulation and social insecurity models $F(22, 54)\Delta = 3.37, p = .000$ and $F(22, 52)\Delta = 1.98, p = .02$, respectively. Personality factors significantly predicted all three subscales and accounted for 19%, 53%, and 69% of the variance, respectively. The unique personality factors associated with each subscale are presented in Table 6. Specifically, results indicated that neuroticism significantly and positively predicted all three subscales. In addition, extroversion significantly and negatively predicted the social insecurity subscale.

The unique coping factors associated with each subscale are also presented in Table 6. Specifically, results indicated that substance use and acceptance significantly and positively predicted the impulse regulation, and instrumental social support significantly and negatively predicted this subscale. In addition, instrumental social support and denial significantly and positively predicted the social insecurity subscale, and emotional social support significantly and negatively predicted this subscale.

Table 6

Hierarchical Multiple Regression Analyses Predicting EDI-2 Provisional Subscales

	Significant Predictors	B	SE B	β
<u>Dependent</u>				
<u>Measures</u>				
Asceticism	Neuroticism	.09	.03	.39**
Impulse Regulation	Neuroticism	.25	.04	.68***
	Instrumental Social Support	-.84	.32	-.26*
	Substance Use	.78	.23	.30**
	Acceptance	.33	.16	.14*
Social Insecurity	Neuroticism	.13	.02	.49***
	Extroversion	-.15	.02	-.54***
	Instrumental Social Support	.68	.22	.31**
	Denial	.43	.22	.17*
	Emotional Social Support	-.43	.20	-.24*

Note. N=109. R2 = .19 for asceticism, R2 = .80 for impulse regulation, R2 = .83 for social insecurity.

*p < .05. **p < .01. ***p < .001.

Chapter 4

Discussion

There were two primary goals for the current study. The first goal was to explore which factors predict eating disorder diagnoses when using multiple predictors. Due to the limited number of participants in this study classified with either an eating disorder or symptomatic of eating disorder pathology, analyses using the Q-EDD could not be performed.

The second goal of the study was to explore what factors best predict commonly accepted risk factors related to the development of eating disorder pathology. Results indicated that personality factors are the most predictive of risk factors for the development of eating disorders. The most significant personality factor that predicted scores on the EDI-2 subscales was neuroticism. This finding is consistent with previous literature that has also reported neuroticism to be the strongest predictor of risk as assessed by the EDI-2 (for example, Brookings & Wilson, 1994; Podar & Allik, 1999). This current finding suggests that individuals who score high on the neuroticism domain are at risk for developing an eating disorder.

In this study, conscientiousness was also a significant predictor for the ineffectiveness, perfectionism, and maturity fears subscales, whereas previous literature has not reported conscientiousness to be a significant predictor of the EDI-2 subscales (for example, Brookings & Wilson, 1994). In addition, the domain of extroversion was a

significant predictor for the ineffectiveness and interpersonal distrust subscales, and agreeableness was a significant predictor for the drive for thinness subscale of the EDI-2. Previous research has noted dissimilar findings regarding these domains. For example, some literature has reported these domains to be significant predictors of the subscales of the EDI-2, whereas other literature has not (for example, Funk, 1999; Ghaderi & Scott, 2000; Brookings & Wilson, 1994; Podar & Allik, 1999).

Aside from personality factors, the inclusion of interpersonal and coping factors added significant predictive power to only the interpersonal distrust, maturity fears, impulse regulation, and social insecurity subscales of the EDI-2. Specifically for the coping factors, results indicated that the emotion-focused scale of acceptance predicted the impulse regulation subscale, and the emotion-focused scale of denial predicted the social insecurity subscale. These findings suggest that the higher use of acceptance and denial, the more problems with impulse regulation and social insecurity, respectively. Also, the problem-focused scale of instrumental social support significantly and positively predicted the social insecurity subscale of the EDI-2, which indicates that the higher use of instrumental social support, the more problems with social insecurity.

However, the emotion-focused scale of emotional social support and the problem-focused scale of instrumental social support predicted the interpersonal distrust and impulse regulation subscales of the EDI-2 in a negative direction, indicating that greater use of emotional social support and instrumental social support are related to lower levels of interpersonal distrust and impulse regulation. These findings are similar to previous literature that has suggested emotion-focused coping strategies are more often used by individuals suffering from eating disturbances (for example, Grau et al., 2002; Denisoff

& Endler, 1995; Koff & Sangani, 1996). However, these findings are also different from previous literature because the current findings suggest that some of the problem-focused coping strategies are positively related to risk factors for eating disorders, whereas some of the emotion-focused coping strategies are negatively related to risk factors for eating disorders.

With regard to interpersonal factors, problems with cold/distant interpersonal distress, as well as problems with self-sacrificing and social inhibitedness, predicted the interpersonal distrust and maturity fears subscales of the EDI-2. These findings are inconsistent with previous literature that has reported problems with vindictiveness and non-assertiveness to be the most predictive of eating disturbances. More research is needed to clarify the relationship of these interpersonal problems with eating disorder symptoms in non-clinical samples.

In summary, the results of the current study imply that personality is the strongest predictor of risk factors associated with the development of eating disorders. The current findings suggest that this variable is especially important to study in relation to eating disorders and could provide a better understanding as to why individuals develop eating disorder symptoms. This knowledge of personality being related to risk factors tells us that personality is an important variable to study when examining the etiology of eating disorders and the risk for developing an eating disorder.

Since interpersonal factors also significantly contributed to the prediction of some of the risk factors for eating disorders, the current findings also suggest that interpersonal problems should be examined for individuals at risk for developing an eating disorder. Specifically, the interpersonal problems of cold/distant and socially inhibited

significantly predicted the interpersonal distrust subscale, and the interpersonal problems of cold/distant and self-sacrificing significantly predicted the maturity fears subscale. These results indicate that an individual who experiences these interpersonal problems may be at added risk for developing an eating disorder.

Finally, since coping contributed very little to the model compared to personality and interpersonal problems, coping may not be an important variable to study regarding the etiology of eating disorders. Despite the vast amount of research that has been conducted on coping and eating disorders, this study suggests that other variables have a more significant relationship with eating disorders and can better inform us regarding the development of these disorders. Studies that have solely focused on coping as it relates to eating disorders could be overestimating this variable's predictive power, as well as missing valuable information regarding other factors including personality and interpersonal problems.

Although the results of the current study are promising, there are a number of limitations that should be noted. The first limitation is that the sample consisted of individuals with limited symptoms consistent with eating disorders. Because there were not enough individuals in the subgroups on the eating disorder continuum, these analyses could not be performed. A larger sample with more participants who are classified with eating disorders or who present with symptoms of eating disorders would allow for these analyses to be conducted.

A second limitation of the current study is that the sample consisted of undergraduate college students with a mean age of 22. Research would benefit from the use of a clinical or younger sample, where higher levels of eating disorder pathology are

more likely to be seen and more information could be obtained. Also, a clinical sample would increase the generalizability of the current findings to other populations.

The third limitation to this study was that the sample consisted of predominantly Caucasian, female participants. Again, this limits the generalizability of the current findings to other populations. To correct this limitation, future research should include more diverse samples.

Finally, because the study was cross-sectional, it is not possible to determine the cause and effect relationship between eating disorders and personality, interpersonal, and coping factors. Research would benefit from the use of a longitudinal model to investigate these factors with eating disorders. A longitudinal model would allow for investigation at different time periods to obtain more information regarding risk factors and the development of eating disorders.

Despite these limitations, the current findings contribute to our understanding of etiological factors related to the development of eating disorders and their symptoms. Unlike previous literature, this study attempted to gain a more complex understanding of the etiological relationship between multiple factors, how they interact with one another, and how much variance is attributable to each factor. The current findings indicate the personality factors are the most predictive of risk factors for the development of eating disorders. In addition, the inclusion of interpersonal and coping factors added significant predictive power for a few of the EDI-2 subscales.

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APPENDICES

APPENDIX A
INFORMED CONSENT FORM

Informed Consent Form, Initial Data Collection

I agree to participate in a study called "Understanding the relationship between personality, stress, coping and eating behavior," which is being conducted by Diane Cassidy and Erin Duffy, graduate students in the Master's program in psychology at Rowan University. The purpose of this project is to explore the relationship between personality, types of coping and stressors, and eating behavior.

I understand that I will be required to complete eight questionnaires, and that my participation in this study should take approximately one hour.

I understand that my responses will be confidential. The only people who will have access to this information will be the facilitator of this project and another graduate student who will be the facilitator of the second part of the research. In addition, it has been clearly explained to me that breaking this confidentiality will only include contacting me by either campus mail or email to notify me that I qualify for inclusion in the second part. Finally, I understand that all the data will be recorded in a data set that does not contain any identifying information that links me to the data that is collected during my participation. I also understand that any information obtained from this study may be used in any way for publication or education provided that I am in no way identified and my name is not used.

I understand that there are no physical risks involved in participating in this study. The potential, minimal psychological risks of my psychological profile being discovered have been explained to me and the experimenter will control for these risks. Finally, I understand that completion of some of the questionnaires may lead to experience some psychological distress. I have been provided with the phone number of the Rowan University Counseling Center (856-256-4222) where I can seek professional psychological assistance if needed.

I understand the potential benefits of participating in this research include a better understanding of the relationship of the principles being studied in the general public and increasing the knowledge about each principle being studied in the general public. I also understand that other possible benefits may arise from this research study.

I understand my participation in this research is completely voluntary and that I may withdraw my participation at any time without penalty. I understand that my participation does not imply employment with the state of New Jersey, Rowan University, the experimenter, or any other project facilitator. I also understand that none of the information collected in the process of this research may be used against me in any way by the state of New Jersey, Rowan University, the experimenter, or any other project facilitator.

If I have any questions or concerns regarding my participation in this study, I may contact the instructor who is advising this research project, Dr. Jim A. Haugh, at 856-256-4500, ext 3781, or I may contact the chairperson of the department of psychology at 856-256-4870.

Signature of Participant

Date

Signature of Investigator

Date

APPENDIX B

CONSENT FOR SECONDARY CONTACT FORM

Consent for Secondary Contact

I agree that, if selected, the project facilitator may contact me for participation in the second part of this research study. I understand that this contact will be initiated by campus mail or email, and that I am not required to take part in this research if contacted. In addition, I understand that my participation in the second part of the project will require that I meet with the project facilitator at an appropriate time to further participate in the study.

I understand that my agreement to being contacted does not require attending later meetings, and that there will be no penalty if I choose to withdraw.

Signature of Participant

Date

Signature of Investigator

Date

Address where participant can be contacted:

Address Apartment Number

City

State

Zip Code

Email Address (Please print clearly): _____

APPENDIX C
DEMOGRAPHIC INFORMATION FORM

Demographic Information (please check one or fill in the appropriate information):

Gender: _____ Female _____ Male

Age: _____

Race: _____ Caucasian
 _____ African-American
 _____ Latino
 _____ Asian
 _____ Other: _____ (please specify)

Academic Rank: _____ Freshman
 _____ Sophomore
 _____ Junior
 _____ Senior

Marital Status: _____ Single
 _____ Married
 _____ Separated
 _____ Divorce
 _____ Other: _____ (please explain)

Sorority/Fraternity: _____ Member of sorority/fraternity or are currently pledging
 _____ NOT a member of sorority/fraternity

Thank you very much for your time and effort!!!!