

1-1-2003

Unmitigated agency and unmitigated communion as predictors of eating disorder symptomatology

Erin Louise Pederson
Iowa State University

Follow this and additional works at: <https://lib.dr.iastate.edu/rtd>

Recommended Citation

Pederson, Erin Louise, "Unmitigated agency and unmitigated communion as predictors of eating disorder symptomatology" (2003). *Retrospective Theses and Dissertations*. 19539.
<https://lib.dr.iastate.edu/rtd/19539>

This Thesis is brought to you for free and open access by the Iowa State University Capstones, Theses and Dissertations at Iowa State University Digital Repository. It has been accepted for inclusion in Retrospective Theses and Dissertations by an authorized administrator of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.

Unmitigated agency and unmitigated communion as predictors of
eating disorder symptomatology

by

Erin L. Pederson

A thesis submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of
MASTER OF SCIENCE

Major: Psychology

Program of Study Committee:
David L. Vogel, Major Professor
Doug L. Epperson
Mack C. Shelley

Iowa State University
Ames, Iowa
2003

Copyright © Erin L. Pederson, 2003. All rights reserved.

Graduate College
Iowa State University

This is to certify that the master's thesis of
Erin L. Pederson
has met the thesis requirements of Iowa State University

Signatures have been redacted for privacy

Table of Contents

Abstract	iv
Introduction	1
Method	9
Results	14
Discussion	19
References	25
Appendix A: Demographic Questionnaire	29
Appendix B: Questionnaire for Eating Disorder Diagnosis (Q-EDD)	30
Appendix C: Extended Personal Attributes Questionnaire (EPAQ)	39
Appendix D: Revised Unmitigated Communion Scale (UCS)	42

Abstract

It is well known that nine out of ten eating disorder sufferers are female, but the question remains whether the large female-male eating disorder ratio (consistently shown as a sex difference) can be explained in terms of gender (personality traits such as masculine and feminine) differences. Agency (or focus on the self) and communion (or focus on others) have been examined as gender role and personality traits. At the extremes of the continuums, unmitigated agency (focus on the self at the exclusion of others) and unmitigated communion (focus on others while neglecting the self) have been shown to be correlated with negative psychological and physiological consequences. In this study, unmitigated agency and unmitigated communion were examined as predictors of eating disorder continuum categories (i.e., asymptomatic, symptomatic, eating disordered). Results confirmed the hypothesis that higher levels of unmitigated agency and unmitigated communion were significant predictors of a more severely symptomatic eating disorder category; unmitigated communion and unmitigated agency uniquely explain 2.61% of the chi-square unit variability, which is 40% of what sex explains in terms of eating disorder category. Exploratory analyses and suggestions for future research are also reported.

Introduction

Increasingly, clinicians and the public are acknowledging eating disorders as psychological problems with severe physiological effects. Learning what predicts eating disorders is an essential step toward identifying at-risk individuals who, with intervention efforts, may be less likely to develop eating disorders. Eating Disorders Awareness and Prevention, Inc. (EDAP, 2001), reports that five to ten million females and one million males in the U.S.A. suffer from an eating disorder. Additionally, girls and young women are most at risk (EDAP, 2001). Clearly, these statistics indicate a difference between the sexes; the female sex is a meaningful predictor of eating disorders. Labeling the difference a “sex difference” (i.e., male vs. female), however, may prematurely disregard a similar but distinct possibility. Research thus far has neglected to examine eating disorder rates adequately in terms of *gender differences* (i.e., how individuals *experience* themselves as male or female). Perhaps by examining individuals’ extreme gender role characteristics, we could meaningfully predict which individuals likely will develop eating disorders.

Background Information About Eating Disorders

Eating disorders stem from biological and environmental—especially social—factors and currently have been classified in up to five categories. The Diagnostic and Statistical Manual of Mental Disorders, 4th edition text revision, (DSM-IV-TR; American Psychiatric Association, 2000) identifies three eating disorder diagnoses: Anorexia Nervosa, Bulimia Nervosa, and Eating Disorder Not Otherwise Specified (ED-NOS). Anorexia nervosa is characterized by self-starvation. Persons with bulimia nervosa engage in a cycle of restrictive eating, bingeing, and purging behavior. Sometimes eating disordered behavior is considered by professionals to be clinically disordered, without fitting neatly into a diagnostic category;

this behavior is labeled “eating disorder not otherwise specified” (ED-NOS).

Although it is not mentioned in the DSM-IV-TR, some researchers and clinicians also identify a category called “anorexia athletica” (Sundgot-Borgen, 1994). Similar to anorexia nervosa, this category describes persons, often athletes, who exercise excessively or compulsively to purge their bodies of food while maintaining a restrictive food intake. These four eating disorders involve an obsession with food and the desire to be thin.

Binge-eating disorder, on the other hand, is characterized by compulsive overeating. This disorder is listed in the DSM-IV-TR “Criteria Sets and Axes Provided for Further Study” section (American Psychiatric Association, 2000). All eating disorders involve obsession with food and often body dissatisfaction.

Over the average lifetime of one person, at least 50,000 other people will die from causes related to an eating disorder (EDAP, 2001). Because disordered eating can progress too easily into an eating disorder, it is important to address all degrees of eating disorder symptomatology (Johnson, 1994), not just clinically diagnosable symptoms. For instance, creators of the Questionnaire for Eating Disorder Diagnoses (Q-EDD) allowed for three symptom severity categories: (a) asymptomatic, or no symptoms; (b) symptomatic, which depicts respondents with some symptoms but not enough for a clinical diagnosis; and (c) eating disordered, which reflects respondents who report symptoms that permit diagnosis (Mintz, O’Halloran, Mulholland, & Schneider, 1997).

Gender Link to Eating Disorders

Ninety percent of eating disorder sufferers are female, a disproportionate amount compared to the ten percent male sufferers. This large sex difference provokes logical questions, mainly “What is it about the sexes that leads to different experiences regarding

eating disorders?” Female-male differences merely describe biological *sex* differences; a distinct but related concept that may help answer the previous question is *gender*—also referred to as gender roles—which describes the personality characteristics associated with a person’s “femaleness” or “maleness.” (The most common, although complex, depictions of gender are the terms *femininity* and *masculinity*.) Perhaps gender is a significant factor regarding an individual’s susceptibility to eating disorders. Thus, if both males and females were measured in regard to gender traits, could gender differences, in addition to biological sex differences, meaningfully predict the incidence of eating disorders?

Existing studies offer some information regarding the gender role link to eating disorders. Klingenspor (1994) reported that bulimic women tended to be more feminine than non-bulimic women. Results of a study by Martz, Handley, and Eisler (1995) suggest that increased gender role stress is reported by women with eating disorders; the authors further state that feminine gender role stress may offer a viable link between the culture’s values of femininity and women’s vulnerability to eating disorders. Differentially, women identifying with a feminist outlook report less body dissatisfaction, bulimic symptoms, and feelings of ineffectiveness than do women not identifying with feminist values (Snyder & Hasbrouck, 1996). In other words, women not conforming to the feminine gender role seem to be at lower risk for developing an eating disorder than women who do conform.

Gender Defined: Agency and Communion

What, precisely, are these “gender roles” to which females and males tend to conform? The terms “masculinity” and “femininity” have become somewhat ambiguous as American society has begun to question the gender role stereotypes and prototypes. Helgeson (1994) purports that, when people speak of “masculinity” and “femininity,” they actually are

referring to agency and communion. The terms *agency* and *communion* were proposed first by Bakan (1966) as two basic dimensions of human existence: agency is defined as the focus on self and separation; communion is defined as the focus on others and connection. Individuals fall on a continuum, with agency and communion in different, but not quite opposite directions, regarding these traits (see Figure 1).

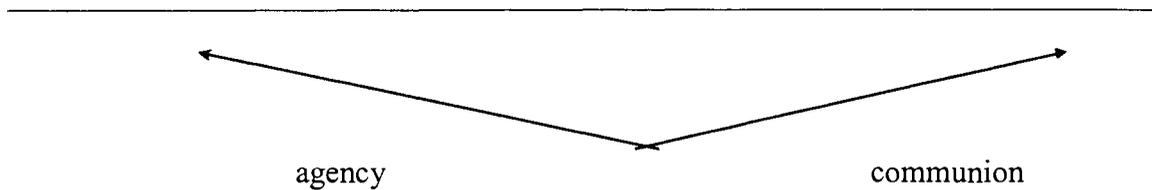


Fig. 1. Agency and communion represent different poles of a gender-role spectrum.

In support of the claim that gender role concepts are represented by agency and communion, research has shown that some personality trait measures that claim to measure masculinity and femininity, such as the Bem Sex-Role Inventory (BSRI) and the Personal Attributes Questionnaire (PAQ), to be more accurate, actually are measuring agency and communion, respectively (Spence, 1984).

The terms *agency* and *communion*, however, indicate the “normal” range of these traits. The more extreme and pathological forms of these traits are termed *unmitigated agency* (UA) and *unmitigated communion* (UC), respectively. Although they represent the ends of their continuums (see Figure 2), these extreme counterparts are distinct from their nonextreme forms (Helmreich, Spence, & Wilhelm, 1981).

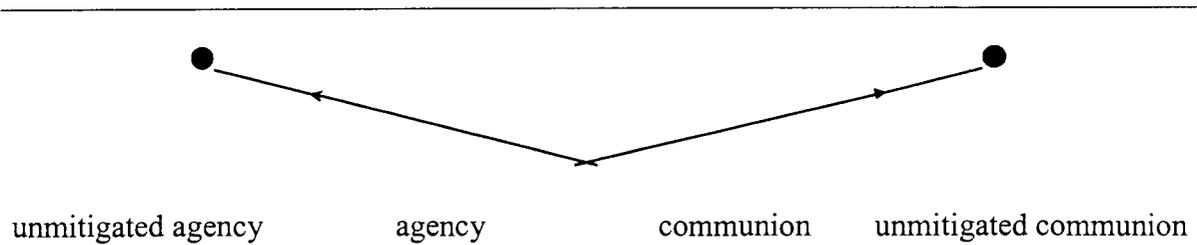


Fig. 2. Unmitigated agency and unmitigated communion represent the extremes of the agency-communion gender-role spectrum.

Helgeson and Fritz (1999) carefully distinguish agency and communion from their unmitigated counterparts: in simplest terms, individuals falling along the agency and communion continuum report healthful behaviors and attributes, whereas individuals with UA or UC are significantly more likely to engage in more unhealthful behavior. A description of Helgeson and Fritz's (1999) findings, as well as information about the pathology of UA and UC, is covered in the rest of this section.

Whereas agency is the focus on the self, UA is the focus on self at the exclusion of others. UA is not merely high agency and low communion; it is exemplified by incorporating aspects of agency while actively dismissing aspects of communion (that is, it is not balanced by communion). Research shows that individuals high (or low) in agency generally manifest healthy characteristics, whereas individuals with UA have a significantly greater likelihood of experiencing relationship difficulties and poor psychological well-being (Helgeson & Fritz, 1999). Helgeson and Fritz (1999) found that agency and UA are positively correlated; however, UA is a distinct personality trait that describes self-orientation to the extent of precluding other-orientation. They add that, unlike those high in agency and low in

communion, the UA individual does not have a healthy sense of self nor a positive focus on self.

Helgeson (1994) notes, “unmitigated agency is related to control over oneself and achievements that relate to the self” (p. 422). She suggests that, to the UA individual, seeking help clashes with the desire for self-reliance and may be perceived as weakness.

Additionally, she states that UA (as well as UC) individuals do not have adequate social support.

Whereas communion is the focus on others, UC is the focus on others at the exclusion of self. UC is not merely high communion and low agency; it is the exhibition of communal traits while dismissing agentic traits (that is, it is not mitigated by agency). Individuals high (or low) in communion demonstrate healthy characteristics, whereas the UC individual experiences negative interactions with others and poor psychological well-being.

Communion and UC are positively correlated; but again UC is a distinct personality trait that describes an extreme focus on others, precluding attention to oneself.

Helgeson (1994) suggests that control is also a deeply relevant issue for those with UC: “Unmitigated communion is characterized by a need to have control over one’s relationships” (p.422). UC has been associated with a negative view of the self; such individuals’ reliance on others for self-esteem then leads to overinvolvement with others, a neglect of the self, and distress (Fritz & Helgeson, 1998). Helgeson and Fritz (1998) report that UC accounts for sex differences in distress. Helgeson and Fritz add that the UC individual provides support to others but does not necessarily perceive it to be available to herself/himself.

As expected, Helgeson and Fritz (1998) found that agency and communion are

positively correlated with their respective unmitigated counterparts and are negatively related to their opposite unmitigated counterpart. There is also a negative trend between UA and UC. Interestingly, their mitigated counterparts--agency and communion--are not significantly related. Contrary to intuition, research has shown that gender-related characteristics, often labeled “masculinity” and “femininity,” are multidimensional and not necessarily bipolar opposites (e.g., Helmreich, Spence, & Wilhelm, 1981; Runge, Frey, Gollwitzer, Helmreich, & Spence, 1981).

Reasons to suspect UA and UC predict eating disorders

A study by Helgeson and Fritz (1999) demonstrates various negative aspects of UA and UC; these negative aspects are related, independently, to eating disorders, which suggests a possible link connecting UA and UC to eating disorders. For instance, UA was shown to be a predictor of low self-esteem. Similarly, some studies show a negative relationship between self-esteem and eating disorders (e.g., Lindeman, 1994; Wood, Waller, & Gowers, 1994). Since self-esteem is linked, according to research, with UA and with eating disorders, one might suspect that UA and eating disorders are directly related.

Frederick and Grow (1996) report that lack of autonomy (which is an inherent aspect of UC) relates to decreased global self-esteem, which in turn is associated with bulimia, body dissatisfaction, and drive for thinness. Helgeson and Fritz (1999) also found that neither UC nor UA was a significant predictor of perceived support availability. Both were predictors of increased negative social interactions, hostility, poor health behaviors, and lower levels of well-being. They also significantly added to sex as a predictor of increased anxiety. The above-mentioned factors (e.g., perceived support, poor health behaviors) are aspects of depression. UA marginally predicted depression, and UC significantly predicted depression;

because of the resulting low agency, UC is related to self-critical depression. A study by Grubb, Sellers, and Waligroski (1993) relates these findings to eating disorders, reporting a significant positive correlation between depression and eating disorders. Such possible links are worth examining.

Rationale and Hypothesis

It is clear that a sex difference exists regarding eating disorders. However, it is unclear what the possible *gender-role* link is, because there is a dearth of research describing what exactly it is about the ambiguous terms “masculinity” and “femininity” that relates to eating disorder symptoms. This gender link to eating disorder symptoms is important to define and to examine. Helgeson (1994) has suggested a similar proposal regarding health differences: “personality characteristics that are linked to sex may provide a better account of sex differences in well-being” (p. 425). She adds that those relevant personality characteristics that are linked to sex might be the gender traits UA and UC.

This study was designed to test the suggestion that eating disorder symptom differences may be accounted for meaningfully by gender-related traits—specifically, the extreme and pathological gender traits of UA and UC. This study expanded from findings that UA and UC are related to poor psychological well-being and poor health behaviors (Helgeson & Fritz, 1999). As eating disorders are associated with poor psychological well-being (e.g., obsessive and distorted thinking) and poor health behaviors (e.g., starving, bingeing, purging), they also may be connected to UA and UC. This study aimed to examine the predictive value of UC and UA regarding eating disorder symptom category. It was hypothesized that higher UC and UA will significantly predict more severe eating disorder symptomatology category.

Method

Participants

Participants (N = 280) were female (n = 182) and male (n = 98) volunteers from a psychology course pool at a large Midwestern university. Participants were contacted by a posted notice or direct contact, and received extra course credit for volunteering. To describe the sample, demographic variables were collected using a typed self-report form (see Appendix A). The sample was predominantly female (65%) and Caucasian (n = 253, 90.4%). The mean age was 19.29 (SD = 1.25). Eight participants (2.9%) were African-American; 6 (2.1%) were Asian-American; 6 (2.1%) were Hispanic-American; and 5 (1.8%) were international students. Two students (0.7%) reported ethnicities that did not fit into these groups. These percentages approximate the university's population. Three participants (1.1%) identified as bisexual, 2 (0.7%) as homosexual, and 274 (97.9 %) as heterosexual. (One participant indicated "other," and remarked that he perceived the question as asking about his sexual activity rather than orientation.) Seventeen participants (6.1%) were intercollegiate athletes. Sorority members included 46 participants (16.4%), and fraternity members totaled 13 participants (4.6 %). Research has shown that these variables are related to eating disorders (e.g., EDAP, 2001; Lindeman, 1994; Siever, 1994; Sundgot-Borgen, 1994) and are, therefore, worth reporting.

Measures

Eating disorder symptom categories. Mintz, O'Halloran, Mulholland, and Schneider (1997) developed the Questionnaire for Eating Disorder Diagnoses (Q-EDD) to measure the presence of eating disorder characteristics and place respondents into categories. The 50-item self-report measure collects frequency data for behaviors (e.g., self-induced vomiting) and

produces categorical labels. The measure differentiates between those with and without an eating disorder; among those with none, some, and diagnosable symptoms; between those with diagnosable anorexia or bulimia; and among those falling into descriptive subsets of eating disordered and symptomatic categories. Categories used in this study are the following: asymptomatic, symptomatic, and eating disordered.

Categorical labels are derived from a flowchart of decision rules. For instance, if a respondent's answers meet four criteria for anorexia nervosa, s/he is labeled "eating disordered; anorexia nervosa" and the evaluator does not need to work further into the decision tree; if another respondent's answers do not qualify her/him for the "eating disordered" category but s/he has some relevant symptoms, s/he is placed in the "symptomatic" category; a respondent reporting almost no dysfunctional purging behaviors or body image distortions is labeled "asymptomatic." Refer to Appendix B for a copy of the Q-EDD and its decision-making tree.

Examinations of the measure's reliability have produced satisfactory results. The above authors reported test-retest reliability for a two-week interval; kappa values for eating disordered, symptomatic, and asymptomatic groups were $k = .85$. Authors also reported 100% ($k = 1.0$) interscorer agreement for the three categories.

Acceptable validity of the instrument also has been demonstrated. The Q-EDD authors (1997) established convergent validity by demonstrating a statistically significant relationship between the Q-EDD diagnoses and scores on the revised Bulimia Test (BULIT-R) and the Eating Attitudes Test (EAT). Regarding incremental validity, the authors noted that the Q-EDD performed as well as the BULIT-R and as well as or better than the EAT. Criterion validity was established by examining accuracy rates, which were 90% for a

clinical interview study and 78% for a clinician judgment study. The measure's construct validity also has been supported by Tylka and Subich (1999), who demonstrated that neuroticism, Eating Disorder Inventory-II subscales (e.g., Body Dissatisfaction), and internal dieting locus of control varied as a function of eating disorder continuum categorization.

Unmitigated agency. Unmitigated agency was measured by the M- subscale on the Extended Personal Attributes Questionnaire (EPAQ; Spence, Helmreich, and Holahan, 1979). The EPAQ (see Appendix C) serves as a measure for agency, unmitigated agency, communion, and unmitigated communion. This scale requests that respondents indicate the level of perceived presence (or absence) of a particular trait (e.g., cries easily vs. never cries). Responses are offered in a 5-point bipolar format with responses ranging from A (not at all = 0) to E (very much = 4). The measure includes both positive and negative (reverse scored) scales, and respondent scores are summed and fall within a range of 0-160. Although the full 40-item scale will be administered to maintain its integrity, only data from the eight UA subscale items will be used in this study's analysis. The UA subscale (labeled "M-" by the authors) scores range from 0-32. Higher scores on the UA subscale indicate increased presence of the UA trait. Helgeson and Fritz (1999) have reported Cronbach alpha internal consistencies for the UA subscale from five (of six) samples ranging from .71 to .85; one sample had an internal consistency equal to .60. The resulting Cronbach's coefficient alpha for the UA subscale in this study was acceptable: $\alpha = .74$.

Helmreich, Spence, and Wilhelm (1981) tested the scale's validity with high school, college, and adult samples. Their results showed that the subscales could be reproduced factor analytically and that the factor structure is largely consistent across age groups and between sexes. Spence et al. (1979) report, as expected, a significant difference between

sexes for the six EPAQ scales; additionally, the subscales showed convergent and divergent validity in regards to self-esteem, neuroticism, and acting out behaviors. Cross-cultural validity has also been demonstrated. A Brazilian version of the EPAQ (BEPAQ), given to a Brazilian sample, resulted in data similar to U.S. EPAQ data (Ferreira, 1995). In addition, factor analyses for a German version of the EPAQ (GEPAQ) used in West Germany were similar to U.S. validity data, as well (Runge, Frey, Gollwitzer, Helmreich, & Spence, 1981).

The four-item UC (labeled FC-) subscale will not be used in this study. Spence and Helmreich (personal communication, February 28, 2003) admit that this subscale is lacking in its ability to portray UC. Although they were able to choose items that were stereotypically more associated with females and were socially undesirable for both sexes, they were unable to find items that were also communal in nature. Also, Helmreich, Spence, and Wilhelm (1981) reported unsatisfactory Cronbach alpha internal consistencies of .46 for males and .41 for females for the FC- subscale. Spence and Helmreich (personal communication, February 28, 2003) describe the FC- items as being valuable for purposes of interest, but indicate that they are not fully communal in nature.

Unmitigated communion. Unmitigated communion was measured by the Revised Unmitigated Communion Scale (UCS; Fritz & Helgeson, 1998; Helgeson & Fritz, 1998). The UCS is a nine-item self-report measure developed to assess an individual's level of UC (see Appendix D). Items are presented with a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). One item is reverse-scored. Respondent scores can range from 9-45, with high scores indicating the presence of UC. The following is one sample item: "It is impossible for me to satisfy my own needs when they interfere with the needs of others." The authors report generally acceptable internal consistencies (Cronbach's

alpha): .71, .78, .67, and .71 from the four studies contained in the article. Study 2 of the article supports the scale's construct validity, demonstrating that UC was modestly positively correlated with communion ($r = .29, p < .05$); both constructs tap the focus on others, but measure distinct traits. Acceptable internal consistency for this study was found using Cronbach's coefficient alpha ($\alpha = .73$). The authors established the scale's divergent validity by showing that UC is positively correlated with low regard for self and psychological distress, whereas communion and empathy are not. The scale's authors support the UCS' construct validity by showing that UC is significantly positively related to intrusive thoughts over a someone else's problem, difficulty with assertiveness, discomfort receiving social support, overprotective behavior, self-sacrificing, being overly nurturing, and being easily exploitable.

Design and Procedure

The dependent variable, eating disorder symptomatology category, was measured and defined by the Q-EDD. Categories include the following: eating disordered, symptomatic, and asymptomatic. The predictor variables are unmitigated agency (UA) and unmitigated communion (UC). UA is defined as the focus on oneself at the exclusion of others. This construct was measured by the M- subscale of the EPAQ. UC is defined as the focus on others at the expense of oneself. This construct was measured by the UCS. It was hypothesized that higher scores on the UA and UC measures would significantly predict more severe eating disorder symptomatology category as diagnosed by the Q-EDD.

This study utilized a retrospective passive research design. Participants were contacted in two ways: a posted notice for psychology students or direct phone contact from a list of psychology students. Participants either signed up for a session time, or attended

during an open time. Upon arriving at the session, participants first read and signed an informed consent document. Subsequently, each participant received a packet containing the UCS, the EPAQ, and a numbered (1-280) bubble sheet. These two measures took approximately 10 minutes to complete. Upon return of the UCS and EPAQ, participants received the demographics form and Q-EDD, which took approximately 10 minutes to complete. The two packets were matched by writing the same number (1-280) on the forms. After returning this packet, participants each received their extra credit receipt and a debriefing statement, stating the nature of the study, indicating whom to contact with questions or concerns, and offering referrals for participants who feel a need for counseling services after participating in the study. To protect confidentiality, subjects' completed instruments were not matched with identifying information.

Results

Preliminary Analyses

Preliminary analyses were performed to examine frequency, descriptive, and correlation statistics and to examine the relationships between demographic variables and the dependent variable, Q-EDD category. The following are frequency data for the Q-EDD categories: 15 participants (5.4%; 14 females and 1 male) were categorized as "eating disordered," 96 (34.3%; 77 females and 19 males) as "symptomatic," and 169 (60.4%; 91 females and 78 males) as "asymptomatic."

The relationships among UC, UA, and sex also were examined. A Pearson correlation showed a statistically significant moderately negative relationship ($r = -.20, p = .001$). See Table 1 for intercorrelations, means, and standard deviations for combined sexes, females, and males, respectively. This result was consistent with Helgeson and Fritz's (1998) report.

Since the predictor variables were behaving as expected, further examination of the hypothesized relationship was warranted. Eta correlations were examined between the independent variables and sex (see Table 1).

Table 1

Intercorrelations, Means, and Standard Deviations for Independent Variables

	UC	UA	<i>p</i>	<i>M</i>	<i>SD</i>
Combined Sexes (N = 280)					
UC	--	-.20	.001*	29.13	5.19
UA		--		20.26	4.39
Sex	.19	.20	<.01*		
Females (n = 182)					
UC	--	-.13	.08	29.85	5.00
UA		--		19.63	4.16
Males (n = 98)					
UC	--	-.24	.02*	27.79	5.30
UA		--		21.44	4.59

UC = unmitigated communion

UA = unmitigated agency

* Statistically significant (alpha < .05)

Other than biological sex, the only demographic variable significantly correlated with Q-EDD category was fraternity or sorority involvement. This relationship was examined by an Eta correlation (.23, $p < .01$). Participants who indicated membership in a sorority, compared to those in a fraternity or those non in the Greek system, were somewhat more likely to be categorized as “symptomatic” or “eating disordered.” This correlation was consistent with previous research (Meilman, von Hippel, & Gaylor, 1991). Though statistically significant, the correlation coefficient’s practical significance was less compelling, since Greek involvement explained only 5.29% of the variance. Thus, membership in fraternities and sororities was not included in the hypothesis testing analyses.

Hypothesis Testing

Usually when continuous variables (UA and UC) are used to predict a discrete outcome (eating disorder category), discriminant analysis is used. However, because of unequal group sizes (i.e., the male eating disordered group included only one student) and because the Q-EDD delineates an ordinal set of categories, block logistic regression is a better statistical analysis for correctly classifying Q-EDD category (Tabachnick & Fidell, 2001). It is important to note that the “prediction” indicated by the analysis is not time-causal; instead, it demonstrates the variables’ ability to identify categories correctly.

Thus, block logistic regression (see Table 2) was used to test the main hypothesis that unmitigated communion and unmitigated agency would correctly identify, or “predict,” Q-EDD category above and beyond the direct effect of biological sex. Because the male eating disordered group included only one participant, the eating disordered and symptomatic groups were collapsed for further analyses in order to maintain statistical integrity. Sex alone significantly predicted Q-EDD category (Wald $\chi^2(1, N = 280) = 21.84, p < .0001$). Sex, UC,

and UA entered together significantly predicted Q-EDD category: sex (Wald $\chi^2(1, N = 280) = 20.44, p < .0001$), UC (Wald $\chi^2(1, N = 280) = 6.90, p < .01$), and UA (Wald $\chi^2(1, N = 280) = 4.02, p < .05$).

Table 2

Summary of Block Logistic Regression Analysis for Sex, UC, and UA for collapsed Q-EDD categories

	SE	χ^2	p
Combined Sexes (N = 280)			
Sex	.15	21.84	<.001*
Sex	.15	20.44	<.001*
UC	.03	6.90	<.01*
UA	.03	4.02	<.05*
Females (n = 182)			
UC	.03	4.32	.04*
UA	.03	2.89	.09
Males (n = 98)			
UC	.05	2.64	.10
UA	.06	1.16	.28

UC = unmitigated communion

UA = unmitigated agency

* Statistically significant (alpha < .05)

Various Meddala R^2 were calculated, by dividing the log likelihood ratio for the intercept by the chi-square value for the model, to determine the amount of chi-square unit variability accounted for. For sex alone, the chi-square for the model (24.58) divided by the log likelihood ratio (376.06) equaled .06. Sex alone accounted for 6.54% (Meddala $R^2 = .065$, $p < .05$) of the chi-square units of variability. For sex, UC, & UA combined, the chi-square for the model (34.40) divided by the log likelihood ratio (376.06) equaled .09. Sex, UC, and UA together accounted for 9.15% (Meddala $R^2 = .091$, $p < .05$) of the chi-square units of variability. In other words, UC and UA's unique additive effect was 2.61% of the chi-square units of variability, or 40% that of sex's ability to predict eating disorder symptom level.

Exploratory Analyses

Because this study examines a new set of relationships and is, therefore, exploratory in nature, exploratory analyses were performed with hopes of understanding more about results obtained. Due to this exploratory nature, no Bonferroni adjustment was used for the main analysis or for the exploratory analyses. More stringent protected confidence levels are recommended for future research on this topic.

To explore how UC and UA perform for each sex, females and males were separated before UC and UA were entered into additional block logistic regressions (see Table 2). UC alone, UA alone, and UC and UA together were entered for each sex, totaling six regressions. Again, the symptomatic and eating disordered categories were collapsed to maintain statistical integrity. For males, UC alone (Wald $\chi^2(1, N = 98) = 2.03$, $p = .15$), UA alone (Wald $\chi^2(1, N = 98) = .53$, $p = .47$), and UC (Wald $\chi^2(1, N = 98) = 2.64$, $p = .10$) and UA (Wald $\chi^2(1, N = 98) = 1.16$, $p = .28$) entered together did not significantly predict Q-EDD category. Likewise, for females, UC alone (Wald $\chi^2(1, N = 182) = 3.49$, $p = .06$) and

UA alone (Wald $\chi^2(1, N = 182) = 2.03, p = .15$) were not statistically significant for identifying Q-EDD category. Also, when UA was entered with UC, it remained nonsignificant (Wald $\chi^2(1, N = 182) = 2.89, p = .09$). However UC (Wald $\chi^2(1, N = 182) = 4.32, p = .04$) did significantly correctly identify Q-EDD category when entered with UA.

Discussion

Hypothesis Conclusions

Results supported the hypothesis that higher UC and UA would significantly predict more severe eating disorder symptomatology category. The analysis used in this study estimated the likelihood of correctly classifying individuals into the three Q-EDD groups; in other words, the results showed each variable's predictive value. By examining sex's predictive value versus the predictive value of sex plus unmitigated communion plus unmitigated agency, results showed that unmitigated communion and unmitigated agency explain a unique 2.61% of the chi-square units of variability, which is an additional 40% of how much sex explains in terms of eating disorder category as defined by the Q-EDD. The sex effect was consistent with previous literature: females tend to report more severe eating pathology. However, the gender effect measured in this study was also relevant: persons higher in unmitigated communion or unmitigated agency are more likely to report symptoms of eating pathology. That is, persons who tend to focus on others and neglect the self, *or* persons who tend to focus on the self while excluding concern for others, are more likely to exhibit more severe eating disorder behaviors. Persons who exhibit neither of these extreme gender traits are less likely to present eating disorder symptoms. UC and UA significantly and meaningfully *add* to our understanding of what factors predict eating disorder symptom severity—a topic that, until now, has been far too dominated by sex comparisons.

In the analysis used, it is important to remember that sex, UC, and UA were entered together, which means that the analysis accounted for their shared variance as well. Furthermore, when sex's predictive value was subtracted from the three, it drew with it the variance that it shared with the other two variables. The additional 2.61% of the variance that UC and UA account for is uniquely added by their presence in the model.

Interestingly, this study's results also showed a moderately negative relationship between UC and UA, a finding that concurs with previous literature (e.g., Helgeson & Fritz, 1998). UC and UA are different concepts but are not precise opposites. Furthermore, it may be possible for a person to exhibit both traits—perhaps at different times or in different situations. This may be all the more possible in college students, as they are in a developmental stage of solidifying their identities.

Exploratory Conclusions

The separate female and male regression results should be considered in the context of their ensuing small sample sizes (182 females and 98 males). For males, neither UC nor UA alone, nor UC and UA together, significantly predicted Q-EDD category. Likewise, for females, UC and UA alone were not significant for identifying Q-EDD category. Although UA was not significant when entered with UC, UC did significantly correctly identify Q-EDD category when considered with UA for females.

These sex-separated results are somewhat puzzling and prompt new questions. With the combined sexes, UC had been able to stand on its own as a predictor, but it does not stand up for females or males alone. What is it about combining the sexes that adds to UC's predictive strength? One answer may be the increased variance from adding the different participants and from the resulting larger sample size. UC and UA's combined predictive

ability was statistically significant in the combined-sex analysis (hypothesis results) and partially in females alone, but not in males alone. Why is UC and UA's prediction ability stronger when they are together if they are only moderately correlated? And why is this different for females, males, and the combined sexes? With consequently smaller sample sizes causing or adding to trivial internal variability, these results cannot be attributed confidently to real existing links (or lack thereof). Although this study's description of the interaction is inconclusive, it is possible that an interaction exists between sex and these gender variables; such an interaction should be researched further.

A Critique

Certain limitations of this study are worth noting, many of which challenge researchers to examine new questions and procedures. It would have been interesting to examine more clearly the gender-sex interaction, but, because gender was represented by two separate variables, a simpler interaction analysis was not feasible (other than the sex separation mentioned above). Another shortcoming is this study's inability to describe causality; clearly, a person's sex is defined before most of her/his gender socialization occurs, but future research could account for some time effect. Variance may have been stunted by fewer male participants, a sample limited to the college student community, and the small age range. The "eating disordered" category was small, but significant predictions still resulted. Future research with larger and more categorically balanced sample sizes will likely uncover an even more pronounced predictive effect.

A couple of criticisms regarding the Q-EDD are worth noting. First, weight categories, which affect the categorical diagnosis, are assigned based on a person's calculated body mass index (BMI). BMI is calculated by dividing a person's weight in kilograms by

her/his squared height in meters. Strangely, the medical field identifies categories such as “underweight,” “normal,” “overweight,” and “obese” based solely on the BMI and does not take into account body type, muscle-to-fat ratio, nor sex. Intuitively, males tend to desire a higher weight for a given height; that higher weight often is reflective of more muscle mass and is healthy for them. For instance, on the Q-EDD, a male could be categorized as “moderately obese” because of his weight-to-height ratio, whereas it is clear from his exercise report that he lifts weights often. Similarly, the BMI measure will not differentiate between a woman with a high muscle-to-fat ratio and a woman of the same weight with a low muscle-to-fat ratio. Calculated BMI determines a participant’s weight category, which in turn influences Q-EDD category diagnosis.

A benefit of the Q-EDD is that it identifies respondents who have some eating disorder symptoms, rather than just diagnosable eating disorder pathology. However, the three categories (asymptomatic, symptomatic, and eating disordered) may be oversimplified. Respondents in the symptomatic category, for instance, could be someone who dieted once in her/his life or someone who vomits once a week for 2.5 months, or someone considered “overweight” who vomits or fasts daily for 2 years. The Q-EDD is valuable for describing an individual’s eating disordered behavior, especially when the subset labels are used, but a measure that indicates a continuous spectrum of eating disorder pathology may be a better research tool for differentiating levels of severity, as it would be more representative of the continuous variability of the population’s eating disorder symptoms.

Future Research Directions

Future research can add valuable knowledge to this preliminary study. We know that UC and UA together significantly add to sex’s ability to predict eating disorder symptom

severity. Additional research should strive to examine in detail the relationship among the three variables. For instance, do UC and UA act as mediators regarding sex's ability to predict the severity of eating disorder symptoms? (For a description of how to test mediation effects, see Baron and Kenny [1986].) What does it mean if a person is high in both UC and UA? Looking deeper, what are the genetic, biological, and socialized components of UA and UC?

Perhaps the most important extension of this study will be to expand the variability of the sample. Incorporating a clinical population into the sample will help to adequately fill the eating disordered category and allow for better comparison between the symptomatology categories. Researchers should strive to continue sampling both females and males, but should extend the age of the participants to include adolescents and older adults. Subsets of the population other than college students should also be included in a broader sample to increase generalizability of the results.

Representing gender as a continuum with only two poles may be too restricting. History has viewed women and men as embodying dichotomous genders: "feminine" for women and "masculine" for men. Thinking outside the box, one can imagine that gender is not bound by sex itself. First, sex itself actually is not divided into just XX or XY chromosome structures; modern medicine has identified XXY (e.g., Tachdjian, Frydman, Morichon-Delvallez, Le Du, Fanchin, Vekemans, & Frydman, 2003), XYY (e.g., Rives, Simeon, Milazzo, Barthelemy, & Mace, 2003), and XX or XY with broken pieces (e.g., Yoshitsugu, Meerabux, Asai, & Yoshikawa, 2003) to name a few. Second, gender clearly is a more ambiguous, less polarized, and more varied concept than is sex. If sex is not restricted to two categories and gender clearly is a broader concept than sex, one can imagine the

possibilities that gender definitions can incorporate.

UC and UA are clearly two important gender characteristics, but they are cannot fully encompass what is meant by “masculine” and “feminine.” Helmreich, Spence, and Wilhelm (1981) make it clear that the EPAQ’s agency, communion, unmitigated agency, and unmitigated communion should not be used as complete measures of masculinity and femininity. They represent personality traits that have been stereotyped and self-reported as gender-differentiating, but they do not fully encompass the gender dyad of “masculinity” and “femininity.” Future research should break down further what specific constructs these two abstract terms include, and the resulting characteristics should be studied thoroughly.

Gender descriptions may never rid themselves of their respective link to the sexes, as they have been created and defined based on that linkage. For instance, the EPAQ’s femininity (F) and masculinity (M) subscales were developed to reflect what traits are seen as stereotypically more feminine and masculine, respectively. And many countries continue to be traditionally dominated by gender divisions that support such bipolar definitions. However, society is changing with the time. Researchers studying gender definitions should watch the trends of such characteristics, as their link to the sexes may change as society moves away from traditional roles and toward less gender-differentiated sexes. With a greater representation of gender characteristics and a larger variance for eating disorder symptom levels, key contributors to the development of eating disorders may be uncovered.

References

- American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed., text revision. Washington, D.C.: American Psychiatric Association.
- Bakan, D. (1966). *The duality of human existence*. Chicago: Rand McNally.
- 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, 1173-1182.
- Eating Disorders Awareness and Prevention, Inc. (EDAP). (2001). Eating Disorders in the USA: Statistics in Context and More Statistics. Retrieved March 12, 2001, from www.edap.org.
- Frederick, C. M., & Grow, V. M. (1996). A mediational model of autonomy, self-esteem, and eating disordered attitudes and behaviors. *Psychology of Women Quarterly*, 20, 217-228.
- Fritz, H. L. & Helgeson, V. S. (1998). Distinctions of unmitigated communion from communion: Self-neglect and overinvolvement with others. *Journal of Personality and Social Psychology*, 75, 121-140.
- Grubb, H. J., Sellers, M. I., & Waligroski, K. (1993). Factors related to depression and eating disorders: self-esteem, body image, and attractiveness. *Psychological Reports*, 72, 1003-1010.
- Helgeson, V.S. (1994). Relation of agency and communion to well-being: Evidence and potential explanations. *Psychological Bulletin*, 116, 412-428.
- Helgeson, V. S., & Fritz, H. L. (1998). A theory of unmitigated communion. *Personality &*

Social Psychology Review, 2(3), 173-183.

Helgeson, V. S., & Fritz, H. L. (1999). Unmitigated agency and unmitigated communion:

Distinctions from agency and communion. *Journal of Research in Personality*, 33, 131-158.

Helmreich, R. L., Spence, J. T., & Wilhelm, J. A. (1981). A psychometric analysis of the

Personal Attributes Questionnaire. *Sex Roles*, 7, 1097-1108.

Johnson, M. D. (1994). Disordered eating in active and athletic women. *Clinics in Sports*

Medicine, 13, 355-369.

Klingenspor, B. (1994). Gender identity and bulimic eating behavior. *Sex Roles*, 31(7/8),

407-429.

Lindeman, A. K. (1994). Self-esteem: Its application to eating disorders and athletes.

International Journal of Sport Nutrition, 4, 237-252.

Martz, D. M., Handley, K. B., & Eisler, R. M. (1995). The relationship between feminine

gender role stress, body image, and eating disorders. *Psychology of Women*

Quarterly, 19, 493-508.

Meilman, P. W., von Hippel, F. A., & Gaylor, M. S. (1991). Self-induced vomiting in college

women: Its relation to eating, alcohol use, and Greek life. *Journal of American*

College Health, 40, 39-41.

Mintz, L. B., O'Halloran, M. S., Mulholland, A. M., & Schneider, P. A. (1997).

Questionnaire for eating disorder diagnoses: Reliability and validity of

operationalizing DSM-IV criteria into a self-report format. *Journal of Counseling*

Psychology, 44, 63-79.

Rives, N., Simeon, N., Milazzo, J. P., Barthelemy, C., & Mace, B. (2003). Meiotic

segregation of sex chromosomes in mosaic and non-mosaic XYY males: case reports and review of the literature. *International Journal of Andrology*, 26(4), 242-249.

Siever, M. D. (1994). Sexual orientation and gender as factors in socioculturally acquired vulnerability to body dissatisfaction and eating disorders. *Journal of Consulting and Clinical Psychology*, 62, 252-260.

Snyder, R., & Hasbrouck, L. (1996). Feminist identity, gender traits, and symptoms of disturbed eating among college women. *Psychology of Women Quarterly*, 20, 593-598.

Spence, J. T. (1984). Masculinity, femininity, and gender-related traits: A conceptual analysis and critique of current research. In B. A. Maher & W. B. Maher (Eds.), *Progress in experimental personality research* (Vol. 13, pp. 1-97). San Diego, CA: Academic Press.

Spence, J.T., Helmreich, R.L., & Holahan, C.K. (1979). Negative and positive components of psychological masculinity and femininity and their relationship to self-reports of neurotic and acting-out behaviors. *Journal of Personality and Social Psychology*, 37, 1673-1682.

Sundgot-Borgen, J. (1994). Eating disorders in female athletes. *Sports Medicine*, 17(3), 176-188.

Tabachnick, B. G., & Fidell, L. S. (2001). *Using Multivariate Statistics*. Needham Heights, MA: Allyn and Bacon.

Tachdjian, G., Frydman, N., Morichon-Delvallez, N., Le Du, A., Fanchin, R., Vekemans, M., & Frydman, R. (2003). Reproductive genetic counselling in non-mosaic 47,XXY patients: implications for preimplantation or prenatal diagnosis: Case report and

review. *Human Reproduction*, 18, 271-275.

Tylka, T. L., & Subich, L. M. (1999). Exploring the construct validity of the eating disorder continuum. *Journal of Counseling Psychology*, 46, 268-276.

Wood, A., Waller, G., & Gowers, S. (1994). Predictors of eating psychopathology in adolescent girls. *Eating Disorders Review*, 2, 6-13.

Yoshitsugu, K., Meerabux, J. M. A., Asai K., & Yoshikawa T. (2003). Fine mapping of an isodicentric Y chromosomal breakpoint from a schizophrenic patient. *American Journal of Medical Genetics Part B-Neuropsychiatric Genetics*, 116B, 27-31.

Appendix A: Demographic Questionnaire

(Please note that your answers are confidential and will not be individually identified to anyone.)

Age: _____

Sex (circle): M F

Are you a member of a fraternity?

YES NO

Are you a member of a sorority?

YES NO

If YES, list the sorority or fraternity of which you are a member:

_____.

_____ What is your racial/ethnic background?

- A. African American
 - B. Asian American
 - C. Caucasian
 - D. Hispanic American/ Latino
 - E. Other
- (explain) _____

_____ List your sexual orientation.

- A. Bisexual
 - B. Gay/Lesbian
 - C. Heterosexual
 - D. Other (explain)
- _____

Are you an athlete on an intercollegiate varsity team?

YES NO

If YES, list the intercollegiate varsity team:

_____.

Appendix B: Questionnaire for Eating Disorder Diagnosis (Q-EDD)

(Mintz, O'Halloran, Mulholland, & Schneider, 1997)

Please complete the following questions as honestly as possible. The questions refer to current behaviors and beliefs, meaning those that have occurred in the past 3 months.

Present height: _____ feet _____ inches (OR _____ meters _____ cm)

Present weight: _____ pounds (OR _____ kg)

My body-frame is: small medium large (Please circle)

I would like to weigh _____ pounds (OR _____ kg).

1. Do you experience recurrent episodes of binge eating, meaning eating in a discrete period of time (e.g., within any 2-hour period) an amount of food that is definitely larger than most people would eat during a similar period?

YES NO

If YES: Continue to answer the following questions.

If NO: Skip to Question #4.

2. Do you have a sense of lack of control during the binge eating episodes (i.e., the feeling that you cannot stop eating or control what or how much you are eating)?

YES NO

3. Circle the answers within the two sets of **[bold brackets]** below that best fit for you:

On the average I have had **[1, 2, 3, 4, 5, 6 or more]**

binge episodes a WEEK for at least

[1 month, 2 months, 3 months, 4 months, 5 months, 6-12 months, more than one year]

4. Please circle the appropriate responses below concerning things you may do currently to prevent weight gain. If you circle YES to any question, please indicate how often on the average you do this and how long you have been doing this.

a) **Do you make yourself vomit to prevent weight gain?** YES NO

How often do you do this?

Daily Twice/Week Once/Week Once/Month

i) **Do you exercise a lot?** YES NO

How often do you do this?

Daily Twice/Week Once/Week Once/Month

How long have you been doing this?

1 month 2 months 3 months 4 months 5-11 months More than a year

5. If you answered YES to “exercise a lot,” please answer questions #5a, 5b, 5c, & 5d. If you answered NO to “exercise a lot,” skip to question #6.

5a. Fill in the blanks below:

I _____ (types of exercise, e.g., jog, swim) for an average of _____ hours at a time.

5b. My exercise sometimes significantly interferes with important activities.

YES NO

5c. I exercise despite injury and/or medical complications.

YES NO

5d. Is your primary reason for exercising to counteract the effects of binges or to prevent weight gain?

YES NO

For the following questions, circle the response that best reflects your answer.

6. Does your weight and/or body shape influence how you feel about yourself?

1	2	3	4	5
Not at all	A Little	A moderate amount	Very Much	Extremely or Completely

7. How afraid are you of becoming fat?

1	2	3	4	5
Not at all	A Little	A moderate amount	Very Much	Extremely or Completely

8. How afraid are you of gaining weight?

1	2	3	4	5
Not at all	A Little	A moderate amount	Very Much	Extremely or Completely

9. Do you consider yourself to be:

1	2	3	4	5	6
Grossly Obese	Moderately Obese	Overweight	Normal Weight	Low Weight	Severely Underweight

10. Certain parts of my body (e.g., my abdomen, buttocks, thighs) are too fat.
YES NO

11. I feel fat all over.
YES NO

12. I believe that how little I weigh is a serious problem.
YES NO

13. I have missed at least 3 consecutive menstrual cycles (not including those missed during a pregnancy). YES NO

Q-EDD Scoring Manual

Circle diagnosis after scoring. Circle both category and sub-category.

EATING DISORDERED (Anorexia, Bulimia, Subthreshold Bulimia, Menstruating Anorexia, Binge-Eating Disorder, Nonbingeing Bulimia)

NON-EATING DISORDERED (Symptomatic, Asymptomatic)

Calculate BMI:

Convert inches to meters:

___ feet x 12 = ___ inches + their leftover inches = ___ total inches

___ total inches x .0254 = ___ meters

___ meters x ___ meters = ___ meters squared

Convert pounds to kilograms

___ pounds x .454 = ___ kilograms

BMI = kilograms/meters squared = ___ = ___

Assign Weight Category (WC): Circle the appropriate category (round to 2 decimals)

Equal to or below 18 = Severe Underweight (SU)

18.1 – 20 = Low Weight (LW)

20.1 – 25 = Normal (N)

25.1 – 30 = Overweight (OW)

30.1 – 40 = Moderately Obese (MO)

Over 40.1 = Grossly Obese (GO)

Anorexia (307.1)

307.1A (ANWT): Does BMI = 17.5 or below

A ANWT (307.1A)

YES NO

307.1B (FEAR)

Does BMI – 20 or below and Q.7 or Q.8 = 4 or 5

B FEAR (307.1B)

YES NO

307.1C (DIST., INF., SERIOUSNESS—D.I.S.)

307.1C1 (DIST.)

Q.10 = YES or Q.11 = YES

or

Weight Category (WC) = SU or LW and Q.9 = OW, MO, GO

DIST (307.1C1)

YES NO

307.1C2 (INF)
Q.6 = 4 or 5

INF (307.1C2)
YES NO

307.1C3 (SERIOUS)
Q.12 = NO (Circle YES)

SERIOUS (307.1C3)
YES NO

C ANY (C1, 2, or 3)
= YES, then
307.1C (D.I.S.)

YES NO

307.1D (MENST)
Q.13 = YES

D MENST (307.1D)
YES NO

Anorexia Nervosa:
ALL Boxes (A, B, C, D) = YES

(Circle appropriate category, if any)
Anorexia

Boxes A, B, C = YES and D = NO

Menstruating Anorexia

If Anorexia circled, specify TYPE:
Q.1 = YES or Q.4 = YES to vomit, or laxative,
or diuretic, or enema

Binge-Eating/Purging Type

Q.1 = NO and Q.4 = NO to vomit, and laxative,
and diuretic, and enema

Restricting Type

STOP HERE IF ANY CIRCLED

Bulimia (307.51)

307.51A (B.E.)
Q.1 = YES and Q.2 = YES

A B.E. (307.51A)
YES NO

307.51B (COMP)
Q.4 = YES for at least one: vomit, laxative,
diuretic, enema, or fast

B1 COMP (307.51B)
YES NO

Q.4 = YES for exercise and 5b or 5c = YES
and 5d = YES

YES NO

307.51C (FREQ)

Q.3a (first parantheses) = 2, 3, 4, 5, or 6 and
 Q.3b (second parantheses) = 3 months or more

C1 FREQ (307.51C)**YES NO**

On Q.4, for at least one behavior (vomit, laxative,
 diuretic, enema, or fast) How Often = Daily or Twice
 a Week and How Long = 3 months or more

Or

For two of these behaviors, (vomit, laxative,
 diuretic, enema, or fast) How Often = Once a Week
and How Long = 3 months or more

C2**YES NO**307.51D (SELF-EV)

Q.6 = 4 or 5

D SELF-EV (307.51D)**YES NO****Bulimia Nervosa:**

(Circle the appropriate category, if any)

Boxes (A, B1, C1, C2, and D) = YES

BulimiaBoxes A, B1, and D = YES and Box C1 or C2 = NO**Subthreshold Bulimia**

Boxes A, B2, C1, and D = YES

Exercise Bulimia**If Bulimia circled, specify TYPE:**

Q.4 YES to any: vomit, laxative, diuretic, or enema

Purging TypeQ.4 NO to all of the above and YES to fast**Nonpurging Type****STOP HERE IF ANY CIRCLED** _____**ADDITIONAL EDNOS:**A. WC = Normal and Q.1 = NOA
YES NO

B. Q.4 = YES to any: vomit, laxative, diuretic, enema, or fast

B
YES NOC1. On Q.4, for at least one behavior (vomit, laxative,
 diuretic, enema, or fast) How Often = Daily or Twice a Week
and How Long = 3M, 4M, 5-12M, or More than a yearC1
YES NO

C2. For two of these behaviors, (vomit, laxative, diuretic, enema, or fast) How Often = Once a Week or more and How Long = 3M or more

C2
YES NO

C C1 or C2 = YES

YES NO

ALL Boxes (A, B, C) = YES

Nonbingeing Bulimia

Q.4 = YES to Chew/Spit only

Chew/Spitters

Q.1 = YES and Q.2 = YES and Q.3 first (parentheses) = 2 or more and second (parentheses) = 6-12M or More than a year, and Q.4 = NO to all: vomit, laxative, diuretic, enema, fast, and strict diet and Q.5b = NO and Q.5c = NO

Binge-Eating Disorder

STOP HERE IF ANY CIRCLED _____

If BMI = 17.6 – 19.0 and Anorexia Boxes B, C, and D = YES, put in **SYMPTOMATIC** category (see below) and check the first box on the next page.

Q.1 = NO and Q.4 = NO to all except Exercise a Lot

(This means NO to vomit, laxatives, diuretics, fast, chew/spit, enema, appetite control pills, and strict dieting)

ASYMPTOMATIC

Circle Weight Category:	Severe Underweight: RED FLAG
	Low Weight
	Normal
	Overweight
	Moderately Obese
	Grossly Obese: RED FLAG

STOP HERE IF ANY CIRCLED _____

SYMPTOMATIC

If no other diagnosis was circled above, circle Symptomatic (i.e., assign this label). Then, go to the next page to determine a symptomatic subtype, if desired.

Reminder: Symptomatic is a sub-type of Non-Disordered. These are individuals without DSM-IV Eating Disorder Diagnoses, but with some eating disorder symptoms.

SYMPTOMATIC SUBTYPES

Examples: Check all boxes that apply. In most cases you will only check one box. However, the following two may overlap: Low weight anorexic and Low weight Nonbingeing bulimic.

___ **Low-weight anorexia:** BMI = 17.6 – 19.0 and meets all other criteria for anorexia.

___ **Nonnormal-weight nonbingeing bulimia:** Meets all criteria for nonbingeing bulimia except is in a weight category other than normal. Circle weight category: Severe Underweight; Low Weight; Overweight; Moderately Obese; Grossly Obese.

___ **Subthreshold nonbingeing bulimia:** Any weight category, no binges, compensates (i.e., fast, vomit) but not at a high enough frequency to be classified as a nonbingeing bulimic. Circle weight category: Severe Underweight; Low Weight; Overweight; Moderately Obese; Grossly Obese.

___ **Subthreshold binge-eating disorder:** All criteria for binge-eating disorder but not at a high enough frequency.

___ **Binge dieter:** Binges and compensates by strict dieting (no other compensatory behaviors such as fast, vomit, etc.).

___ **Behavioral bulimia:** Meets all criteria for bulimia including frequency, except reports feeling in control during a binge and/or that self-esteem is not unduly influenced by weight or body shape.

___ **Subthreshold behavioral bulimia:** Meets all criteria for bulimia except frequency and reports feeling in control during a binge and/or that self-esteem is not unduly influenced by weight or body shape.

___ **Chronic dieter:** Does not binge, uses strict dieting and/or appetite control pills but no inappropriate compensatory behavior (i.e., fast, vomit, excessive exercise, laxatives).

___ **Other:** Does not fall into any categories listed above. Give descriptive label and describe behavior.

Appendix C: Extended Personal Attributes Questionnaire (EPAQ)

(Spence, Helmreich, & Holahan, 1979)

Instructions: The items below inquire about what kind of person you think you are. Each item consists of a pair of contradictory characteristics--that is, you cannot be both at the same time. The letters form a scale between the two extremes. You are to circle the letter that describes where you fall on the scale.

- | | | | | | |
|--|---|---|---|---|---|
| 1. Not at all aggressive | | | | | Very aggressive |
| | A | B | C | D | E |
| 2. Very whiny | | | | | Not at all whiny |
| | A | B | C | D | E |
| 3. Not at all independent | | | | | Very independent |
| | A | B | C | D | E |
| 4. Not at all arrogant | | | | | Very arrogant |
| | A | B | C | D | E |
| 5. Not at all emotional | | | | | Very emotional |
| | A | B | C | D | E |
| 6. Very submissive | | | | | Very dominant |
| | A | B | C | D | E |
| 7. Very boastful | | | | | Not at all boastful |
| | A | B | C | D | E |
| 8. Not at all excitable in
a major crisis | | | | | Very excitable in
a major crisis |
| | A | B | C | D | E |
| 9. Very passive | | | | | Very active |
| | A | B | C | D | E |
| 10. Not at all egotistical | | | | | Very egotistical |
| | A | B | C | D | E |
| 11. Not at all able to devote
self completely to others | | | | | Able to devote self
completely to others |
| | A | B | C | D | E |
| 12. Not at all spineless | | | | | Very spineless |
| | A | B | C | D | E |
| 13. Very rough | | | | | Very gentle |
| | A | B | C | D | E |
| 14. Not at all complaining | | | | | Very complaining |
| | A | B | C | D | E |

- | | | | | | |
|--|---|---|---|---|--|
| 15. Not at all helpful to others | | | | | Very helpful to others |
| | A | B | C | D | E |
| 16. Not at all competitive | | | | | Very competitive |
| | A | B | C | D | E |
| 17. Subordinates oneself to others | | | | | Never subordinates oneself to others |
| | A | B | C | D | E |
| 18. Very home oriented | | | | | Very worldly |
| | A | B | C | D | E |
| 19. Very greedy | | | | | Not at all greedy |
| | A | B | C | D | E |
| 20. Not at all kind | | | | | Very kind |
| | A | B | C | D | E |
| 21. Indifferent to others' approval | | | | | Highly needful of others' approval |
| | A | B | C | D | E |
| 22. Very dictatorial | | | | | Not at all dictatorial |
| | A | B | C | D | E |
| 23. Feelings not easily hurt | | | | | Feelings easily hurt |
| | A | B | C | D | E |
| 24. Doesn't nag | | | | | Nags a lot |
| | A | B | C | D | E |
| 25. Not at all aware of feelings of others | | | | | Very aware of feelings of others |
| | A | B | C | D | E |
| 26. Can make decisions easily | | | | | Has difficulty making decisions |
| | A | B | C | D | E |
| 27. Very fussy | | | | | Not at all fussy |
| | A | B | C | D | E |
| 28. Give up very easily | | | | | Never gives up easily |
| | A | B | C | D | E |
| 29. Very cynical | | | | | Not at all cynical |
| | A | B | C | D | E |
| 30. Never cries | | | | | Cries very easily |
| | A | B | C | D | E |
| 31. Not at all self-confident | | | | | Very self-confident |
| | A | B | C | D | E |
| 32. Does not look out only
for self; principled | | | | | Looks out only for
self; unprincipled |
| | A | B | C | D | E |

- | | | | | | |
|--|---|---|---|---|------------------------------------|
| 33. Feels very inferior | | | | | Feels very superior |
| | A | B | C | D | E |
| 34. Not at all hostile | | | | | Very hostile |
| | A | B | C | D | E |
| 35. Not at all understanding of others | | | | | Very understanding of others |
| | A | B | C | D | E |
| 36. Very cold in relations with others | | | | | Very warm in relations with others |
| | A | B | C | D | E |
| 37. Very servile | | | | | Not at all servile |
| | A | B | C | D | E |
| 38. Very little need for security | | | | | Very strong need for security |
| | A | B | C | D | E |
| 39. Not at all gullible | | | | | Very gullible |
| | A | B | C | D | E |
| 40. Goes to pieces under pressure | | | | | Stands up well under pressure |
| | A | B | C | D | E |

Appendix D: Revised Unmitigated Communion Scale (UCS)

(Fritz & Helgeson, 1998)

Instructions: Using the scale below, place a number in the blank beside each statement that indicate the extent to which you agree or disagree. Think of the people close to you--friends or family--in responding to each statement.

Strongly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Strongly Agree
1	2	3	4	5

1. I *always* place the needs of others above my own.
2. I never find myself getting overly involved in others' problems.*
3. For me to be happy, I need others to be happy.
4. I worry about how other people get along without me when I am not there.
5. I have great difficulty getting to sleep at night when other people are upset.
6. It is impossible for me to satisfy my own needs when they interfere with the needs of others.
7. I can't say no when someone asks me for help.
8. Even when exhausted, I will always help other people.
9. I often worry about others' problems.

*Item is reverse scored.