SEX DIFFERENCES ON THE EATING DISORDER INVENTORY-3 SUBSCALES

A thesis presented to the faculty of the graduate school of Western Carolina University in partial fulfillment of the requirements for the degree of Specialist in School Psychology

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November 2011

ACKNOWLEDGEMENTS

I am so grateful for all of the help that has been given to me in writing this thesis. I would like to thank my committee members, Dr. Mickey Randolph, Dr. Candace Boan-Lenzo, and Dr. Kia Asberg, for their ongoing assistance, feedback, and support throughout every step of the thesis writing process. I would like to further thank Dr. Randolph and Dr. Boan-Lenzo for graciously allowing me to use their data already collected from a previous study. I would also like to extend sincere thanks to my program director, Dr. Lori Unruh, for her guidance and to my cohort for their support, encouragement, and willingness to listen. Finally I would like to thank my parents, James and Rosemary Vice, who have been cheering me on throughout my entire school career. Without their love and guidance, graduate school would not have been possible

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ABSTRACT

SEX DIFFERENCES ON THE EATING DISORDER INVENTORY-3

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The purpose of this study was to examine potential sex differences among six of the subscales in the Eating Disorder Inventory-3 (EDI-3) instrument. These subscales were: Drive for Thinness, Body Dissatisfaction, Bulimia, Low Self-Esteem, Emotional Dysregulation, and Perfectionism. Participants consisted of 147 males and 177 females undergraduate students from two southeastern universities. Results of MANOVA subscale analyses found no sex differences among any of the scales measured. Additionally, mean scores on all scales fell into the average range. These results may be attributed to the possibility that variables beyond sex may predict eating disordered behaviors.

CHAPTER 1: INTRODUCTION

Although there is no exact date when eating disorders were first identified as a valid psychological problem, there has been documentation of what is now known as Anorexia Nervosa since the 15th century (Silverman, 1997).

Since the early definitions, specific diagnostic criteria and related characteristics of Anorexia Nervosa have included: an irrational fear of gaining weight, a distorted body image and a Body Mass Index (BMI) of 17.5 or lower (Abraham, 2008). Women with the disorder may experience an absence or delayed onset of their menstrual cycle. Individuals with Anorexia Nervosa tend to control their weight by dieting, obsessively monitoring caloric intake, and engaging in extreme amounts of exercise (Abraham, 2008). A smaller percentage of individuals with Anorexia Nervosa control their weight by use of laxatives (Abraham, 2008).

The current diagnostic criteria used for diagnosing Anorexia Nervosa can be found in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (DSM-IV-TR; American Psychiatric Association, 2000). The DSM-IV-TR defines Anorexia Nervosa as:

> A. Refusal to maintain a minimally normal body weight at or above a minimally normal weight for age and height (e.g., weight loss leading to maintenance of body weight less then 85% of that expected; or failure to make expected weight gain during period of growth, leading to body weight less than 85% of that expected
>
> B. Intense fear of gaining weight or becoming fat, even though underweight

C. Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or denial of the seriousness of the current low body weight

D. In postmenarcheal females, amenorrhea, i. e., the absence of at least three consecutive menstrual cycles (American Psychiatric Association, 2000).

Another type of eating disorder that is discussed in the literature is Bulimia Nervosa. Symptoms of bulimia were originally considered an aspect of Anorexia Nervosa and were not established as a distinct disorder until 1975 (Russell, 1997). Factors that currently characterize Bulimia Nervosa are: periods of binge eating, following compensatory behaviors such as purging, fasting, or excessive exercise, and a preoccupation with body shape as well as thoughts of food (Abraham, 2008). Between binges, these individuals often diet and try to withstand the desire to binge eat.

The DSM-IV-TR categorizes Bulimia Nervosa as:

A. Recurrent episodes of binge eating. An episode of binge eating is characterized by both of the following:

1. eating, in a discrete period of time (e. g. within any 2 hour period), an amount of food that is definitely larger then most people would eat during a similar period of time and under similar circumstances.
2. a sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop eating or control what or how much one is eating)

B. Recurrent inappropriate compensatory behavior in order to prevent weight gain, such as self-induced vomiting; misuse of laxatives, diuretics, enemas, or other medications; fasting; or excessive exercise.

C. The binge eating and inappropriate compensatory behaviors both occur, on average, at least twice a week for 3 months.

D. Self-evaluation is unduly influenced by body shape and weight.

E. The disturbance does not occur exclusively during episodes of Anorexia Nervosa. (American Psychiatric Association, 2000)

Ever since the definitions of Anorexia Nervosa and Bulimia Nervosa were publicized, eating disorders have been a burgeoning topic in literature. The following literature review will discuss the sex differences in the short and long term correlates of eating disorders, etiology, and prevalence. It will also discuss the relevance of the Eating Disorder Inventory-3 to the detection and measurement of eating disorder symptoms.

The American Psychiatric Association (2000) estimates the prevalence of Anorexia Nervosa in women to be about 5% and .5% in men. For Bulimia Nervosa, the estimated prevalence is 1% to 3% in women and .1% to .3% in men (American Psychiatric Association, 2000). Eating disorders most commonly develop among individuals ages 18-20, as life changes that frequently occur within this age bracket can be stressful (American Psychiatric Association, 2000).

Short and Long Term Effects and Correlates

There are many short-term and long-term effects of eating disorder symptoms that may negatively impact the lives of individuals. These outcomes may be physical,

emotional, or psychological. Some of physical effects include brittle hair, nails (National Institute of Mental Health, 2010) and lack of bone density, dental problems, and growth retardation (Treasure Claudino, & Zucker, 2010). Some of the emotional effects include intense fears of weight gain and a self-perception of being overweight, even when severely underweight (National Institute of Mental Health, 2010). Individuals could also experience depression, anxiety, and may even become suicidal (National Institute of Mental Health, 2010). Psychological effects include mood deterioration, in which individuals' mood becomes more negative and an increased preoccupation with food, in which individuals' thoughts become focused on food and eating (National Institute of Mental Health, 2010). Long-term effects of starvation have shown to contribute to social introversion, intimacy problems, and social avoidance (Holliday et al., 2006).

If untreated, people with Anorexia Nervosa are up to ten times more likely to die from illnesses than those without the disorder (National Institute of Mental Health, 2010). Death can also occur after 'severe binging' in individuals with Bulimia Nervosa (Eating Disorders Coalition, 2010).

In addition to documenting physical, emotional, and psychological consequences of eating disorders, research has indicated there are specific variables that are frequently associated with the development of eating disorders.

CHAPTER 2: SEX AND EATING DISORDERS

Etiology

Past research has proposed many theories about the development of eating disorders. Commonly found theories can be classified into three broad categories: Bio-medical, Psychological, and Socio-cultural. Bio-medical theories examine the influence of hormones on the development of eating disorders. Psychological theories examine psychological factors commonly linked to the presence of eating disorders, such as personality traits and emotional trauma. The etiological model that tends to be one of the most frequently discussed models in eating disorder literature is the socio-cultural theory, which suggests the impact of gender roles, societal expectations, and media exposure on eating disorders (Cohen, 2006).

Socio-cultural Theories

According to Socio-cultural theory, cognitive development is significantly influenced by culture, social perception, and institutionalized contexts (as cited in Minick, Stone, & Forman, 1993). Lev Vygotsky, who was a prominent contributor to this theory, argued that an individual's environment must be examined before the individual can be fully understood (Minick, Stone, & Forman, 1993). In other words, individuals learn about themselves through social means and are greatly impacted by their external environment.

Socio-cultural theories of eating disorders propose that individuals' dissatisfaction about their bodies is significantly influenced by media and culture. Western culture typically over-values images of women who are thin, and images of men who are

muscular, while systematically under-values images of overweight men and women (Cohen, 2006). As these images rise in exposure, people increasingly believe that the images are accurate representations of the world. This phenomenon sets an unrealistic standard to which many people tend to compare themselves (Cohen, 2006). When an individual tries and fails to create a body image that falls in line with this culture, they can begin to experience feelings and symptoms that drive them towards eating disordered behaviors. It should be noted that countries that do not have a prominent history of eating disorder cases have seen a significant rise in reports of eating disorders since being exposed to or adopting aspects of Western culture (Pike & Borovoy, 2004). For example, Western aspects that have been gradually integrated into Asia's culture include the idealization of an underweight body shape and the unhealthy means with which to achieve this body image. It has been increasingly acceptable for Asian women to binge and purge, and practice self-starvation as exposure to Western media increases (Pike & Borovoy, 2004).

Socio-cultural theories have also addressed issues related to sex differences in eating disorders. One question regards the discrepancy of the proportion of eating disorder cases between males and females, as the vast number of individuals reported to have eating disorders are female (American Psychiatric Association, 2000). There is a great deal of research that examines the influence of western cultural standards for female beauty (Lewinson, Seeley, Moerk, & Striegal-Moore, 2002). Western standards for beauty are culturally derived from a fear of becoming overweight (Al-Adawi, Dorvlo, Martin, Yoishiuchi, Kumano, & Kuboki, 2006). Pressure from outside sources, such as the media, family, friends, and dating partners can have an adverse effect on body image

of women (Stice & Shaw, 2002), as they tend to internalize these pressures. These internalized pressures often transform into a form of objectification and individuals evaluate themselves based on the perceptions of others. One study found that women who have a high rates of exposure to magazines, receive frequent sexual gazes from men, and feel pressure to be thin in most aspects of their lives often report frequently engaging in body surveillance (Tylka & Hill, 2004). Body surveillance is a tendency for an individual to obsessively examine his or her body and think about how others perceive him or her (Tylka & Hill, 2004). Stice and Bearman (2001) assert that, for girls, body dissatisfaction and a drive for thinness are linked in a belief that thinness will lead to social benefits, such as popularity and academic success. Failure to achieve this thinness would deprive the individual from these benefits and thus result in body dissatisfaction.

Socio-cultural theories also suggest that society promotes the idea of thinness and beauty through the enforcement of gender roles. These gender roles create expectations that women should be skinny, feminine, and submissive, while men are expected to be strong, dominant, and exhibit a muscular physique (Striegel-Moore, et. al., 2009). Hepp, Spinder, and Milos (2005) proposed that pressure to adhere to gender roles may be a factor in the development of eating disorders in both men and women because these roles limit the amount of acceptable behavioral options for each gender. Smolak and Murnan (2008) also suggest that gender roles may be a significant factor in developing eating disorders, specifically a drive for thinness. Contrary to Hepp et al (2005), Smolak and Murnan (2008) argue that sociocultural influences only negatively impact women, stating, “thinness is actually part of and fostered by the femininity gender role” (Smolak & Murnan, 2008, p. 251). In other words, they contend that thinness is a defining aspect

of the feminine gender role. Lewinson, Seely, Moerk, and Striegel-Moore (2002) offer a similar explanation in which the female gender role teaches women to feel guilty about overeating and these negative feelings towards eating put them at risk for developing an eating disorder.

Masculinity may be a protective factor in that studies show that both males and females who rank low on masculinity scales have reported more eating disorder symptoms (Murnen & Smolak, 1997) and those who rank highly on masculinity scales have reported fewer eating disorder symptoms (Hepp, Spindler, and Milos, 2005). However, Hepp et. al (2005) also found that individuals who rank highly on both masculinity and femininity scales experienced the most significant protective effect against eating disordered behaviors, which suggests that androgynous individuals may be even less likely to develop eating disorders. These individuals feel much less limited in their means of behavioral expression and feel less pressure to achieve a specific body type than those who subscribe to traditional gender roles (Hepp et. al., 2005). Overall, findings of previous research suggested that feminine individuals are more susceptible to eating disordered behaviors than masculine individuals behaviors through external influences such as social standing/popularity, media exposure, and approval from others (Stice & Bearman, 2001; Tylka & Hill, 2004; Stice & Shaw, 2002).

Most research from the socio-cultural theory has generally suggested that eating disorders manifest themselves in males and females for differing reasons. Females tend to be susceptible to pressures from outside influences that contribute to cognitive thought processes. Males on the other hand, seem to be at a generally lower risk for developing eating disorders but become susceptible through identification with the female gender

role (Murnen & Smolak, 1997). However, research involving males and eating disorders is minimal, and there are likely more complex explanations regarding their eating disorder development beyond the scope of this study. These theories involve the interactions between the male gender and variables such as homosexuality, desire for muscularity, and athletic involvement (Grossbard, Lee, Neighbors, & Larimer, 2009).

The Eating Disorder Inventory-3

The Eating Disorder Inventory-3 (EDI-3) is a self-report measure of psychological traits associated with eating disorders (Garner, 2004). The original EDI (1981) had eight subscales: *(1)* Drive for Thinness, *(2)* Bulimia, *3)* Body Dissatisfaction, *4)* Ineffectiveness, 5) Perfectionism, *6)* Interpersonal Distrust, *7)* Interoceptive Awareness and *8)* Maturity Fears. It was designed to identify individuals with Anorexia and Bulimia (Garner et al, 1983) but later individuals with Bulimia were revaluated separately (Schaefer et al, 1998).

The EDI-2 was updated in 1991 and included 27 items in order to assess additional factors related to eating disorders, such as impulse regulation. Although several studies have found the EDI and EDI-2 to be generally reliable, consistent (Garner et al., 1983, Crowther et. al, 1992, Schaefer et al, 1998), and comparable between sexes (Spillane et al., 2004), it is accepted that the EDI-3 is currently the best version of the instrument (Cumella, 2006).

The EDI-3 consists of twelve scales: three of the scales directly pertain to eating disorders, while the remaining nine are strongly linked, but not specific to, eating disorders. See Table below for a brief description of each EDI-3 scale. Participants rate responses on a six-item scale that ranges from “always” to “never” (Garner, 2004).

Table 1: Eating Disorder Inventory-3 Scales

Scale	Measured construct(s)
Drive for Thinness (DT)	Concerns about dieting, preoccupation of diet restrictions, and fear of weight gain
Bulimia (B)	The tendency to think about or engage in uncontrollable overeating, purging to lose weight, and being emotionally upset in response to these behaviors
Body Dissatisfaction (BD)	Overall feelings with the shape and size of one's body
Low Self-Esteem (LSE)	Feelings of negative self-evaluation
Personal Alienation (PA)	Feelings of aloneness or emptiness, and a poor sense of self-understanding
Interpersonal Insecurity (II)	Level of discomfort in social situations
Interpersonal Alienation (IA)	Disappointment, distance, and lack of trust in relationships.
Interoceptive Deficits (ID)	Amount of confusion in recognizing and responding to emotional states.
Emotional Dysregulation (ED)	A tendency towards impulsivity and recklessness
Perfectionism (P)	A tendency to strive for flawlessness and set excessively high performance standards.
Asceticism (A)	A tendency to seek virtue though the pursuit of spiritual ideals.
Maturity Fears (MF)	The desire to return to the security of childhood.

Note: Taken from Eating Disorder Inventory-3 (Garner, 2004)

Although the EDI-3 has twelve scales, the current study will focus on six scales that have been previously studied with regard to sex differences. These scales will be

Drive For Thinness, Bulimia, Body Dissatisfaction, Low Self-Esteem, Emotional Dysregulaton, and Perfectionism. This research will further focus on possible sex differences in the aforementioned six scales in this latest revision of the EDI-3. Differences that distinguish the experiences of men and women with eating disorders may help to improve the early identification and treatment of these individuals. The next section will discuss sex differences in eating disorders in general and on the specific scales of interest in this study.

Sex and Drive for Thinness

Drive for Thinness refers to an irrational need to be thin (Garner, 2004). An elevated score on this scale would indicate that the participant is overly concerned about being thin and has strong fears about gaining weight (Garner, 2004). Research comparing males and females on measures of Drive for Thinness has consistently found that females report higher levels than males.

Research using the Drive for Thinness scale has found that adolescent females scored higher on the scale than adolescent males (Smolak & Murnan, 2008; Lewinsohn, Seeley, Moerk, & Striegal-Moore, 2002). In another study using same-sex pairs of twins, Anderson and Bulik (2003) also found that the females rated higher on the EDI-2 Drive for Thinness scale than the males.

In an examination of Drive for Thinness along with Perceived Peer Dieting, late adolescents, adults, and middle-aged participants completed self-report surveys. Findings indicated significant associations between the two variables in college-age females but not in males of any age group (Gravener, Haedt, Heatherton, & Keel, 2008). Adolescent

females also reported high levels of a drive for thinness, while middle-aged females did not (Gravener et. al., 2008).

While previous research has found that females experience a greater Drive for Thinness than males, many studies have concluded these sex differences on this instrument using the 2nd edition of the EDI (Smolak & Murnan, 2008; Anderson & Bulik, 2003; Lewinsohn et. al., 2002) Additionally, some of the studies used participant pools that greatly varied in age (Lewinsohn et. al., 2002), and disproportionate sex ratios (Gravener et. al., 2008). Gravener et. al. (2008) also did not examine Drive for Thinness as its own construct, but rather its association with peer dieting. However, the results from these studies strongly suggest that women are more likely to experience a Drive for Thinness than their male counterparts (Smolak & Murnan, 2008; Anderson & Bulik, 2003; and Lewinsohn et. al., 2002).

Sex and Bulimia

The Bulimia scale on the EDI-3 refers to a compulsion to consume large amounts of food and later purge (Garner, 2004). An elevated score on the Bulimia scale indicates recurrent thoughts and incidents of overeating. This behavior must also involve secrecy, emotional distress, and vomiting or thoughts of vomiting to lose weight (Garner, 2004). Research comparing males and females on Bulimia has consistently shown that females report more bulimic symptoms than males.

One finding investigating the EDI-2 Bulimia scale indicated that adolescent females scored higher on the Bulimia scale than adolescent males in a sample of 1,709 high school students (Lewinsohn, et. al, 2002). This finding was further supported by Strigel-Moore et. al. (2009) who found that men and women reported experiencing

different aspects of bulimic symptoms. More women reported a loss of control over what or how much they ate while more men reported overeating. Nearly 4% of the women in the study reported that they vomited "often" in the past 3 months prior to the study in order to make up for overeating (Strigel-Moore et. al., 2009,).

Similar results were found by Penas-Lledo, Ferdandez, and Waller (2004) who surveyed 131 Spanish-speaking undergraduate students on anger and bulimic behaviors and found that more women than men reported higher levels of bulimic behavior. This finding was especially significant when they also reported higher levels of anger. However, results from a Spanish-speaking population may not generalize to the English-speaking population in this study.

Conversely, when assessing adolescent males and females and relationships between disordered eating, biological factors (such as BMI) and psychological factors, McCabe and Vincent (2003) did not find sex differences in reported levels of binge eating or bulimic tendencies. However, this study examined children ages 11-17 and the young age of some of the participants may have skewed results. Additionally, this study attributes these results to possible sex differences in definitions of binge eating and the effects of engaging in binging among each sex.

Differences in sex-related definitions of binge eating are investigated by Laporte (1997), who conducted a study on binge eating and its emotional effects on groups of males and females. The groups were instructed to watch a video of one or more women and one or more men eating a number of doughnuts (which ranged from 3-6 doughnuts per person). There were significant differences between what the male and female participants considered to be binge eating. The majority of females considered three

doughnuts to be binge eating, while the majority of males only considered it binging when six doughnuts were eaten. When asked how they would feel if they ate the binging amount of doughnuts, females reported higher levels of negative feelings than the males.

The results from these studies suggest that females are more likely to purge than males (Strigel-Moore et. al., 2009;Lewinison, et. al, 2002; Penas-Lledo, Ferdandez, & Waller, 2004) and that women are more likely to feel psychological distress after binge eating (Laporte, 2007). However, these findings could be attributed to disparities between the sexes as to what constitutes binge eating (McCabe & Vincent, 2003; Laporte, 2007) and varying age in the groups being measured (McCabe & Vincent, 2003). These studies also used instruments to assess bulimic behaviors that are less current than the EDI-3 (Strigel-Moore et. al., 2009;Lewinison, et. al, 2002; Penas-Lledo, Ferdandez, & Waller, 2004; McCabe & Vincent, 2003).

Sex and Body Dissatisfaction

Body Dissatisfaction refers to displeasure in one's overall body and/or specific areas of the body (Garner, 2004). An elevated score on this scale would indicate that the participant is experiencing extreme disapproval with his or her body weight and specific body regions such as the hips and thighs (Garner, 2004). Several studies have found sex differences in body dissatisfaction. Research comparing males and females on Body Dissatisfaction has found that females report higher levels of Body Dissatisfaction than males.

In a study correlating disordered eating with a variety of risk factors, college-aged women scored significantly higher on disordered eating and body dissatisfaction than

college-aged men (Elgin & Pritchard, 2006). Furthermore, 14% of the women in the study and 2% of the men were considered at risk for developing an eating disorder.

Myers and Crowther (2009) examined and compared multiple studies and found that women were significantly more likely than men to experience body dissatisfaction when measuring the relationship between body dissatisfaction and social comparison. Women also reported a higher level of weight/body shape concerns than men when controlling for contingent self-esteem. Contingent self-esteem was defined as, "the extent to which one's positive self-image is conditional or contingent upon social approval, meeting externally imposed expectations, or other perceived criteria, including appearance" (Grossbard, Lee, Neighbors, & Larimer, 2008).

Other studies explore men's experiences with body dissatisfaction differently from women's experiences. Karazsia and Crowther (2008) believe that although men are generally less likely than women to report experiencing body dissatisfaction, it may be because the body type that they tend compare themselves is often different than the one women use for comparison. Men may choose images that portray a muscular physique rather than a thin, skinny physique that women often strive to achieve (Karazsia & Crowther, 2008). Bergeron and Tylka (2007) argue that Drive for Muscularity and Body Dissatisfaction are almost completely different constructs and should be assessed on separate scales. This concept is further explored by Cahill and Mussap (2007), who used tangible images to measure levels of body dissatisfaction and found that women experienced a decrease in body dissatisfaction and an increase in unhealthy emotional reactions, such as state anger, after being exposed to pictures of thin female models. However, men reported a decrease in body satisfaction after being exposed to pictures of

muscular men, which implies that men may desire a different type of body image than females. This finding is supported by Grossbard et. al. (2008), who found when measuring for Contingent Self-Esteem, males reported a higher scores on Drive for Muscularity, but not Weight/Body Shape Concerns.

These studies suggest that women experience higher levels of body dissatisfaction than do men (Elgin & Pritchard, 2006; Myers & Crowther, 2009; Grossbard et. al., 2008). Some of the studies propose that this trend is due to the possibility that men may not experience body dissatisfaction in the same ways as women (Karazsia & Crowther, 2008; Bergeron & Tylka, 2007; Grossbard et. al., 2008). However, many of these studies examine body dissatisfaction differently from each other. Some studies examine an individual's general body dissatisfaction (Elgin & Pritchard, 2006; Grossbard et. al. 2008), while others examine body dissatisfaction in terms of how an individual compares themselves to others (Myers & Crowther, 2009; Cahill & Mussap, 2007). These studies (Elgin & Pritchard, 2006; Myers & Crowther, 2009; Grossbard et. al., 2008; Cahill & Mussap, 2007) also measure body dissatisfaction on scales less current than the EDI-3.

Sex and Low Self-Esteem

The Low Self-Esteem scale measures feelings of failing and self-doubt that are often associated with eating disorders (Garner, 2004). An elevated score on this scale indicates "extreme feelings of personal insecurity, inadequacy, and a lack of personal worth" It also "involves persistent negative self-perception of being unable to achieve personal standards" (Garner, 2004, p. 61). Research comparing males and females on Low Self-Esteem has consistently shown that women tend to report experiencing low self-esteem to a greater degree than men when associated with eating behaviors.

Some studies examining self-esteem found low self-esteem to be involved in eating disorders or disordered eating behavior when associated with being female rather than being male. For example, Elgin and Pritchard (2006) found self-esteem to be the second most prominent predictor of eating disordered behavior in women, surpassed only by mass media influence. Additionally, self-esteem was not found to be a predictor of disordered eating in men. Shea and Pritchard (2007) found that self-esteem was only a significant predictor when combined with other factors, such as sex of participant in which females reported experiencing lower levels of self-esteem than did males. This data was collected from 101 male and female undergraduates ages 16 to 56. However, the extreme age range of participants could have impacted this finding.

A meta-analysis examining sex differences in self-esteem across a variety of domains (such as academic, athletic, social acceptance, physical appearance, and personal self), found that males rated themselves higher on self-esteem levels related to physical appearance than women. Males rated themselves significantly higher in this self-esteem area from childhood through adulthood, but sex differences in these ratings were most pronounced in adulthood (Gentile, Grabe, Dolan-Pascoe, Twenge, Wells, & Maitina, 2009).

A study examining differences in self-esteem among adolescents across ethnicity, gender, and age found a moderately sex difference in self-esteem levels, with males reporting slightly higher levels of self-esteem in females. Multivariate controls for grade and future college plans heightened these differences (Bachman, O'Malley, Freedman-Doan, Trzesniewski, & Donnellan, 2011). Another study examining self-esteem and optimism in adolescents from rural backgrounds found similar results. Males scored

significantly higher on both self-esteem and optimism measures than females (Puskar, Bernardo, Ren, Haley, Tark, Switala, & Siemon, 2010).

When measuring a clinical population of females based on their self-affiliated gender role orientation, Hepp et. al. (2005) found self-esteem to be a partial mediator between gender role orientation and disordered eating. The findings showed that androgynous participants tended to rate themselves higher on items endorsing self-esteem. Undifferentiated participants, who have no clearly defined gender role, reported lower levels on items relating to self-esteem. It should be noted that the participants in this study had been diagnosed with either Anorexia Nervosa or Bulimia Nervosa, and therefore these results may only apply to a clinical population.

In contrast, Kashubeck-West, Mintz, and Weigold (2005) found a strong association was found between low self-esteem and groups that had a desire to lose weight, regardless of sex. There were sex differences on self-esteem and certain body parts in which women reported higher relations, but these differences disappeared when desire to lose weight was considered.

These studies suggest that feelings of low self-esteem are more likely to be a factor in the development of eating disorders for women than for men (Elgin & Pritchard, 2006; Shea & Pritchard, 2007; Gentile et. al., 2009; Bachman et. al., 2011; Puskar et. al., 2010). However, the studies examined self esteem differently in terms of its impact on sex; some measured it as a predictor (Elgin & Pritchard, 2006; Shea & Pritchard, 2007), as a correlational factor (Kashubeck-West, Mintz, & Weigold, 2005) or a mediator to gender role orientation identification (Hepp et. al., 2005). Also, all studies used instruments that are not as current as the EDI-3 (Elgin & Pritchard, 2006; Shea &

Pritchard, 2007; Hepp et. al., 2005; Kashubeck-West, Mintz, & Weigold, 2005;Gentile et. al., 2009; Bachman et. al., 2011; Puskar et. al., 2010).

Sex and Emotional Dysregulation

The Emotional Dysregulation scale measures impulse control and issues of substance abuse, as they are characteristic to eating disorders (Garner, 2004). An elevated score on this scale "indicates an extreme tendency toward mood instability, impulsivity, recklessness, anger, and self-destructiveness. There may be associated problems with substance abuse involving alcohol, drugs, or both" (Garner, 2004, p. 70). There are a limited number of studies that compare males and females on Emotional Dysregulation.

One study that compared men and women in factors related to impulse control was conducted by Fischer and Smith (2007). This study measured the relationships between a range of variables such as Bulimia-Nervosa symptoms, problem drinking, and pathological gambling to urgency, or "the tendency to act rashly when distressed" (Fischer & Smith, 2007). The sample of 246 undergraduates ages 18 through 40, indicated that women were more likely than men to expect binge eating to help ease negative feelings if it was associated with urgency. Men were more likely than women to expect gambling to help ease negative feelings if it was associated with feelings of urgency. No further gender differences were found (Fisher & Smith, 2007).

Additionally, Melka, Lancaster, Bryant, and Rodriguz (2011) conducted a study that examined men and women responses on the Emotional Regulation Questionnaire. The results of this study found that males were significantly more likely to suppress their emotions than females.

Other studies focused solely on the impact of Emotional Dysregulation symptoms on women. For example, Holliday et al. (2006) examined the personalities of women who were diagnosed with Anorexia Nervosa and compared them against women who did not have symptoms of an eating disorder. Women with Anorexia scored high on personality features associated with emotional dysregulation, inhibition, and compulsivity.

Another factor related to impulse control is alcohol. Anderson, Martens, and Cimini (2005) found that women who reported purging behavior also reported more alcohol use than women who did not report purging. Women who purged also reported experiencing more severe consequences (e.g., self-injury, engaging in risky sexual activity) than those who did not report such behaviors. It is unclear whether or not these findings apply to men who purge, as there is such limited research on the topic.

Feelings of anger and sadness were also investigated by Ioannou and Fox (2009). This study included women who had been diagnosed with various eating disorders. They reported a negative correlation between emotional expression and drive for thinness, bulimia, and body dissatisfaction symptoms. They also found that the most significant predictor of poor emotional expression was the threat of anger. The threat of anger is suggested to be frightening and unmanageable to women with eating disorders, viewing it as a “dangerous” emotion. Upon experiencing these feelings, the individuals make an attempt to distract themselves from threatening negative emotions though engaging in disordered eating behaviors.

This finding is further confirmed by Fox (2009) in a qualitative study that explored the emotions experienced by women with Anorexia nervosa and how they

managed these emotions. Anger was consistently found to be present in these individuals. Sadness was also commonly discussed, but it was regarded as a "weak" emotion and participants believed they should not be allowed to express it. Many of them had experienced a traumatic event in their lives, such as the loss of a close family member, and became overwhelmed by the emotions that they felt from it. They then developed their eating disorder symptoms to regain a sense of control and inhibit the emotions they were feeling.

Considerable research has demonstrated a relationship between Emotional Dysregulation for females (Holliday et al., 2006; Anderson, Martens, & Cimini, 2005; Piquero et al., 2010; Ioannou & Fox, 2009; Fox, 2009), however; little research has been conducted using males (Fisher & Smith, 2007; Melka, et. al., 2011). Therefore, the results from these studies as they pertain to sex differences in Emotional Dysregulation symptoms are inconclusive.

Sex and Perfectionism

Perfectionism refers to a need to set and attain extremely high standards for oneself (Garner, 2004). An elevated score on this scale indicates "an incessant demand for achieving the highest possible standards for performance. Failure to meet these standards is associated with self-criticism" (Garner, 2004, p. 73). Research comparing males and females on Perfectionism have found mixed results.

One study found that men displayed perfectionism more when associating it with a lifetime history of fasting while women tended to display perfectionism more when associating it with purging. However, the overall levels of perfectionism were similar between both sexes (Forbush, Heatherton, and Keel, 2007).

In contrast, Woodside et al. (2004) compared the personalities of both sexes with various types of eating disorders and found that men displayed less perfectionistic personality traits than women. These results were consistent across types of eating disorders and states of physical health.

A third conclusion was reached by Joiner et. al. (2000) who found that men reported higher levels of perfectionism than women. However, there were only 14 males in the study compared to 97 females, so the validity of these results is questionable.

Elgin and Pritchard (2006) found that perfectionism was a significant predictor of disordered eating in men but not in women. Moreover, perfectionism was the strongest predictor of disordered eating in men.

The results of these studies do not seem to strongly favor Perfectionism symptoms in males or females, so it is unclear as to which sex the trait is more predominantly found (Forbush, Heatherton, & Keel, 2007; Woodside et. al., 2004; Joiner et. al., 2000; Elgin & Pritchard, 2006). However, these studies varied greatly in the populations they examined. One study had significantly more females than males (Joiner et. al., 2000) and one focused on individuals who had already been diagnosed with an eating disorder (Woodside et. al., 2004). Also, none of the studies used instruments that were as current as the EDI-3 (Forbush, Heatherton, & Keel, 2007; Woodside et. al., 2004; Joiner et. al., 2000; Elgin & Pritchard, 2006)

Statement of Purpose

Research on Drive for Thinness has consistently shown that females tend to exhibit a higher Drive for Thinness than males (Smolak & Murnan, 2008; Anderson &

Bulik, 2003; Lewinsohn, Seeley, Moerk, & Striegal-Moore, 2002; Gravener, Haedt, Heatherton, & Keel, 2008). Research on Bulimia suggests that females are more likely to experience bulimic symptoms (Strigel-Moore et. al., 2009; Penas-Lledo, Ferdandez, & Waller, 2004; Lewinison, et. al, 2002) and more likely to feel guilty after binging than males (Laporte, 1997). Research on Body Dissatisfaction has consistently shown that women are more likely than men to report high levels of body dissatisfaction, (Elgin & Pritchard, 2006; Myers and Crowther, 2009; Grossbard, et. al 2008; Cahill & Mussap, 2007). Research on Low Self Esteem has either not found sex differences (Kashubeck-West, Mintz, & Weigold, 2005) or has found that females experience low self-esteem more significantly than males (Elgin & Pritchard, 2006; Shea & Pritchard, 2007).Research on Emotional Dysregulation has been inconclusive, as such little research has been done with males who experience these symptoms (Holliday et al., 2006; Research on Perfectionism has been mixed in determining prevalence in one sex or the other (Forbush, Heatherton, & Keel, 2007; Woodside et. al., 2004; Joiner et. al., 2000; Elgin & Pritchard, 2006).

This study contributes to body of eating disorder research in a variety of ways. First, it examines both males and females on eating disorder constructs, which many related studies have failed to do. This is evident in studies with a significantly unequal number of male and female participants (Elgin & Pritchard, 2006; Joiner et. al., 2000; Shea and Pritchard, 2007) or in studies focusing solely on females (Holliday et. al., 2006; Anderson et. al., 2005; Ioannou &Fox, 2009). It also examines a college population within a specific age bracket. The onset of eating disorders typically occurs in individuals ages 18-20, and is associated with stressful life events, such as the transition

from home to college (American Psychiatric Association, 2000). This phenomenon makes college students particularly vulnerable for the development of eating disorders. Since eating disorders have been recognized as a condition, much of the research conducted on the topic has been predominantly focused on upper-class, Caucasian females (Adams, et. al, 2000). Consequently, there is limited research on the ways eating disorders impact males (Forman-Hoffman, 2004), although some research suggests that aspects of their disordered eating experiences may be more complex than their female counterparts (Grossbard et. al., 2009; Karazsia & Crowther, 2008).

The Eating Disorder Inventory-3 is a valid and reliable instrument for measuring variables that often accompany or associate with the presence of eating disorders (Garner, 2004). This study will focus on six of twelve scales on the EDI-3; Drive for Thinness (DT), Bulimia (B), Body Dissatisfaction (BD), Low Self-Esteem (LSE), Emotional Dysregulation (ED), and Perfectionism (P).

Although eating disorders have been examined considerably in previous research, there have been many inconsistencies in regard to males' and females' experiences (Kashubeck-West, Mintz, & Weigold, 2005; Forbush, Heatherton, & Keel, 2007; Woodside et. al., 2004; Joiner et. al., 2000; Elgin & Pritchard, 2006). The purpose of this study is to examine potential sex differences in college students among six of the subscales in the new EDI-3 instrument. The data collected using the EDI-3 will potentially help clarify the inconsistencies in previous research and contribute to future interventions for individuals who might be susceptible to disturbed eating behaviors. College students in particular are significantly vulnerable to eating disorders (Hoyt & Ross, 2003), therefore, it may be beneficial to examine a college-age participant pool.

Hypothesis 1: It is hypothesized that females will rate themselves higher on the Drive for Thinness scale then males.

Hypothesis 2: It is hypothesized that females will rate themselves higher on the Bulimic scale than males.

Hypothesis 3: It is hypothesized that females and males will rate themselves the same on the Body Dissatisfaction scale.

Hypothesis 4: It is hypothesized females will rate themselves higher on the Low Self Esteem scale than males.

CHAPTER 3: METHOD

Participants

Data was gathered from 147 males and 177 females attending two southeastern universities as part of a larger study which included a variety of assessment instruments. The study was approved by each university's Institutional Review Board. Students were volunteers from introductory classes to fulfill part of their requirements for research. Instruments were administered in a group format. Demographic variables such as ethnicity, mother's education level, father's education level, and other possibly relevant factors were analyzed in this study to ensure that there are no significant differences between males and females on these variables. None of these variables were significant predictors of hypotheses. There were no significant differences [$F(1,315)=1.04, p=.31$] between the groups with regard to age. The mean age of participants was 19.21 (SD=1.69). The ethnic diversity of participants included 89.3% European American, 4.1% African American, 3.8% Hispanic American, and 2.7% Other. The majority of participants were Freshman (51.5%) or Sophomores (33.9%).

Materials

Demographic Form. Participants completed a demographics form that was designed to measure things such as mother's education, father's education level, mother's

occupation, father's occupation, ethnicity, and other variables related to personal histories (see Appendix A).

The *Eating Disorder Inventory, Third Edition* (EDI-3; Garner, 2004) is an instrument designed to measure the extent to which eating disorder symptoms are present in an individual. The instrument measures twelve domains; 1) Drive for Thinness, (2*)* Bulimia, 3) Body Dissatisfaction, 4) Low Self-Esteem, 5) Personal Alienation 6) Interpersonal Insecurity, 7) Interpersonal Alienation, 8) Introceptive Deficits, 9) Emotional Dysregulation, 10) Perfectionism, 11) Asceticism, and 12) Maturity Fears. Each domain has empirical evidence to support its relevance to eating disorders. The EDI-3 is a questionnaire that consists of 91 items. Each item has a six-point scale with responses ranging from "Always" to "Never".

Each raw score is converted into T-scores and the T-scores are summed to comprise two composite scores. The Eating Disorder Risk Composite is made up of the first three scales (Drive for Thinness, Bulimia, and Body Dissatisfaction) (Garner, 2004). The General Psychological Maladjustment Composite is made up of the remaining nine (Low Self-Esteem, Personal Alienation, Interpersonal Insecurity, Interpersonal Alienation, Introceptive Deficits, Emotional Dysregualation, Perfectionism, Asceticism, and Maturity Fears). Together, these composite scores assess an individual's risk of having or developing an eating disorder.

The instrument was normed on adolescent and adult females who were clinically diagnosed with Bulimia Nervosa, Anorexia Nervosa, and Eating Disorders Not Otherwise Specified as well as adult and adolescent males and females from non-clinical populations. However, the majority of the non-clinical sample was non-U.S. participants.

The sample used in the EDI-3 was larger and more accurately reflects the population of individuals who experience eating disorder symptoms than does the EDI-2 sample (Cumella, 2006).

Calculations using Cronbach's alpha determined a reliability range from .76 to .92 for eating disorder patients and a range from .78 to .93 for controls (Garner, 2004). Validity was assessed through intercorrelations between the EDI-3 scales and three normative groups (Garner, 2004). The most significant correlations were found for the Drive for Thinness and Body Dissatisfaction scales, which were .96 and .97, respectively (Garner, 2004).

Test-retest stability was established by administering the EDI-3 to a group of 34 participants over a period of 1-7 days (Garner, 2004). The participants were all female and had been previously treated for eating disorders. The test-retest correlations were very high with a coefficient of .98 for the EDRC and a coefficient of .97 for the GPMC Validity was determined through correlations between the EDI-3 scales and composites between three normative groups.

Procedure

This study was designed to analyze archival data that was collected as part of a larger study. The study had approval from the Institutional Review Board. Informed consent was obtained prior to administration of the instruments (see Appendix B for the informed consent form). Instruments were group administered and their order was counterbalanced to control for order effects. A correlation was run on Eating-Disorder Inventory-3 subscales to ensure that that the variables were correlated but not so highly correlated that they were to be excluded from analysis. A MANOVA was run on the

selected four subscales to determine if there were significant sex differences on responses.

CHAPTER 4: RESULTS

Preliminary Analysis

A correlational analysis was conducted to examine the relationship between each of the six Eating Disorder Inventory-3 subscales. The purpose of this preliminary analysis was to ensure that the domains were measuring distinct constructs (multicollinearity) and that the domains were actually related (and warranted an analysis with a MANOVA). All of the dependent variables (Drive for Thinness, Bulimia, Body Dissatisfaction, Low Self-Esteem, Emotional Dysregulation, and Perfectionism) were correlated, but were not correlated so highly to exclude from the analyses. A Chi Square analysis was also conducted, but found no significant differences between sex and other variables including mother's education levels X^2 (5, N= 324) = 6.79, p = .24, father's education levels X^2 (5, N= 324) = 4.94, p = .42, mother's occupation level X^2 (3, N= 324) = 6.14, p = .614, and father's occupation level X^2 (3, N= 324) = 4.68, p = .20. Table 2:

Correlations Among EDI-3 Subscales

	DT Score Score	B Score	BD Score	LSE Score	ED Score	P
DT score	1	.463**	.684**	.427**	.258**	.116*
B Score		1	.430**	.455**	.437**	.008
BD Score			1	.480**	.222**	-.11
LSE Score				1	.480**	.059
ED Score					1	.156**
P Score						1

Hypothesis Testing

A MANOVA was used to examine differences on the Drive for Thinness, Bulimia, Body Dissatisfaction, and Low Self-Esteem scales based on gender. Overall, there was no statistically significant difference between groups on the combined factors, F (6, 301) = .45, p =.83. This suggests that there was no significant difference between males and females on the dependent variables assessed. On the scale of Drive for Thinness, males' ratings (M= 5.96, SD= 6.59) did not significantly differ from females' ratings (M= 5.49, SD= 5.72). On the scale of Bulimia, males' ratings (M= 3.29, SD= 3.96) did not significantly differ from females' ratings (M= 2.95, SD= 4.17). On the scale of Body Dissatisfaction, males' ratings (M= 11.30, SD= 9.54) did not significantly differ from females' ratings (M= 9.88, SD= 8.44). On the scale of Low Self-Esteem, males'

ratings (M=3.49, SD= 3.98) did not significantly differ from females' ratings (M= 3.15, SD= 3.73). Table 2 and Table 3 compare the means normed on the EDI-3 to the means obtained from this study's participants. Means obtained from the current study were similar to the means obtained from the controls on the EDI-3.

Table 3: Subscale sum scores for current participants

	Participants (N=324)	
	Mean	SD
Drive for Thinness	5.76	6.19
Bulimia	3.16	4.08
Body Dissatisfaction	10.57	9.01
Low Self-Esteem	3.43	3.95

CHAPTER 5: DISCUSSION

The purpose of this research was to investigate potential differences in responses between college-aged males and females on select scales from the Eating Disorder Inventory-3 instrument. After a review of previous research, this study analyzed responses based on sex on the four of the six examined scales of the EDI-3. However, no significant sex differences in ratings between men and women on Drive for Thinness, Bulimia, Body Dissatisfaction, and Low Self-Esteem scales were found. Furthermore, there were no clinically significant levels of responses on any of the examined scales.

The findings of this study contradict the majority of research that has examined eating disorder symptoms in males and females. These studies (Smolak & Murnan, 2008; Lewinsohn, Seeley, Moerk, & Striegal-Moore, 2002; Strigel-Moore et. al., 2009; Elgin & Pritchard, 2006) have generally found females to be at a higher risk for developing eating disorder symptoms than males. However, the average ratings obtained in this study are consistent with the controls used in norming the Eating Disorder Inventory-3 instrument. Studies that examined sex differences using similar characteristics of male and female participants typically did not find gender differences in eating disordered behaviors unless additional variables, such as contingent self-esteem or specific purging behaviors were examined (Kashubeck-West, Mintz, & Weigold, 2005:

Forbush et. al., 2007; McCabe & Vincent, 2003), which suggests that other factors may be better predictors of disturbed eating behaviors. It is also possible that disordered eating behaviors are dependent on an interaction between gender and other variables such as peer comparison (Myers & Crowther, 2009; Grossbard et. al., 2008), weight preoccupation (Pritchard, 2010), or pervasive negative emotions (Penas-Lledo, et. al., 2004; Laporte, 2007; Ioannou &Fox, 2009).

On the Drive for Thinness scale, there were no differences found between the responses of males and females. These results contradict the results of all cited studies conducted on Drive for Thinness, which generally found that females expressed a higher Drive for Thinness than males (Smolak & Murnan, 2008; Anderson & Bulik, 2003; Lewinsohn et. al., 2002; Gravener et. al., 2008). It is unclear as to why these results occurred. Perhaps the variability in participant pools regarding age and ethnicity contributed to the results found in previous research on this variable (Smolak & Murnan, 2008; Lewinsohn, et. al., 2002).

On the Bulimia scale, there were no differences found between the responses of males and females. These results contradict the results of all cited studies conducted on Bulimia, which typically found that females expressed a higher level of Bulimia symptoms than males (Strigel-Moore et. al., 2009; Lewinison, et. al, 2002; Penas-Lledo, Ferdandez, & Waller, 2004; Laporte, 2007). However, there is evidence to suggest that both men and women engage in bulimic behaviors (McCabe & Vincent, 2003), but definitions of these behaviors may vary according to sex (Laporte, 2007). Additionally, men are more likely to report feeling happy after a binge (Laporte, 2007; Leon, Fulkerson, Perry, & Cudeck, 2003), and would therefore be less likely to report the

feelings of distress typically associated with binging. Women are more likely to report bulimic behaviors when these behaviors are influenced by negative feelings or emotions (Penas-Lledo, et. al., 2004; Laporte, 2007).

On the Body Dissatisfaction scale, there were no differences found between the responses of males and females. This finding contradicts the majority of previous research conducted on Body Dissatisfaction, which typically found that females expressed higher levels of Body Dissatisfaction than males (Karazsia & Crowther, 2008; Elgin & Pritchard, 2006; Myers & Crowther, 2009; Grossbard et. al., 2008; Cahill & Mussap, 2007). Previous research has suggested that a desire to lose weight, rather than gender, may predict body dissatisfaction (Kashubeck-West, et. al., 2005). Other research suggests that there are no significant differences in body dissatisfaction between males and females, but that differences do occur between individuals in regards to their self-identified gender-role orientation (Seely et. al., 2002; Smolack & Murnan, 2008; Hepp et. al., 2005). From this perspective, identification with the masculine gender role has been found to be a protective factor against eating disordered behaviors (Hepp, et. al., 2005).

On the Low Self-Esteem scale, there were no differences found between the responses of males and females. Although the results of the Low Self-Esteem scale was consistent with Kashubeck-West, Mintz, & Weigold, 2005, the majority of previous research differs from the results found in the current study. Research on Low Self-Esteem has found that females generally express more significant levels of Low Self-Esteem than males (Elgin & Pritchard, 2006; Shea & Pritchard, 2007). However, gender differences in self-esteem are more commonly found when measured as a moderator between other variables related to eating disorders (Hepp et. al., 2005; Elgin & Pritchard,

2006; Shea & Pritchard, 2007; Pritchard, 2010), rather than as a sole predictor of sex differences.

The results of this study are consistent with the limited research that did not report sex differences in the presence of bulimia, anorexia, or disturbed eating behaviors (Vince & Walker, 2008; Kashubeck-West, Mintz, & Weigold, 2005).

Limitations

Results may have been influenced by the participants included. Unlike the current study, previous studies frequently included participants within a wider age range (Shea & Pritchard, 2007; McCabe & Vincent, 2003; Gravener et. al., 2003; Fischer & Smith, 2007) or studied participants that were younger than college-age (Smolak & Murnan, 2008; Lewinsohn, et. al, 2002; Adams et. al., 2000). Several of the cited studies included more ethnically diverse participants (Kashubeck-West, et. al., 2005; Elgin & Pritchard, 2006; Gravener et. al., 2008; Forbush et. al., 2007; Joiner et. al., 2000). Other studies also used twin comparisons (Anderson & Bulik, 2003) or participants from different countries (Penas-Lledo, et. al., 2004)

Another limitation is that the Eating Disorder Inventory 3 subscales were normed on a clinical population, and therefore participants must indicate a substantially significant presence of symptoms in order for their score to be elevated. Additionally, the current study did not examine external components outside of the variables measured by the EDI-3 that may have impacted disordered eating behaviors. Studies that incorporated additional factors, such as peer comparison and gender-role identification, found significant differences between the sexes when considering these factors (Gravener, et. al., 2008; Myers & Crowther, 2009; Hepp et. al., 2005).

Suggestions for Future Research

Studies that examine sex differences in the future should continue to include both male and female participants, as data on males are vastly unrepresented in eating disorder research. Future research should also continue to use the Eating Disorder Inventory-3 scale to examine diverse populations in other areas of the United States. Researchers could administer the instrument to groups of adolescents, such as high school and middle school students order to better determine which age ranges may be at the most risk of developing eating disorders. Identifying eating disorder symptoms early may help prevent or reduce the risk for developing eating disorders later in life.

Another interesting area to explore would be sex differences between definitions of eating disordered behavior, such as binge eating, as previous research suggests that such differences may exist (Laporte, 1997). An examination of mass media influence and other external socio-cultural influences on eating disordered behaviors on men and women may also yield informative results (Cohen, 2006; Kashubeck-West, Mintz, & Weigold, 2005; Tylka & Hill, 2004; Stice & Bearman, 2001). Researchers could also consider using a clinical population of males, as there appears to be an extremely limited about of research with this population. Finally, the interaction of gender role orientation and disordered eating could continue to be investigated, since these factors have been found to play important roles in individuals' body image perception (Murnen & Smolak, 1997; Hepp et. al., 2005; Seely, et. al., 2002).

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Appendix A

Personal History Questionnaire

1. College or University: _____

2. ID Number: _____

3. Your age: _____ Race: _____

4. ___ Male ____ Female

5. What is your current college status:

____ Freshman ____ Sophomore _____ Junior _____ Senior

6. Major: _____

7. What is the highest level of education completed by your mother:

a. some high school
b. completed high school
c. some college
d. completed college w/ Associate degree
e. completed college w/ Bachelor degree
f. graduate degree

8. Check the category that best describes your mother's occupation:

___ Managerial or Professional (exs: Doctor, Nurse, Lawyer, Accountant, Teacher, Engineer)

___ Technical or Clerical: (exs: Secretary, Cashier, Police Officer, Sales, Computer Operators)

___ Skilled Worker: (exs: Carpenter, Plumber, Painter, Mechanic, Driver, Tailor)

___ Unskilled: (exs: Laborer, Custodian)

9. What is the highest level of education completed by your father?

a. some high school
b. completed high school
c. some college
d. completed college w/ Associate degree
e. completed college w/ Bachelor degree
f. graduate degree

10. Check the category that best describes your father's occupation:

___ Managerial or Professional (exs: Doctor, Nurse, Lawyer, Accountant, Teacher, Engineer)

___ Technical or Clerical: (exs: Secretary, Cashier, Police Officer, Sales, Computer Operators)

___ Skilled Worker: (exs: Carpenter, Plumber, Painter, Mechanic, Driver, Tailor)

___ Unskilled: (exs: Laborer, Custodian)

11. What factors led you to select this college/university as the one you would attend:

___ I was accepted
___ my parents wanted me attend
____ it was a liberal school
____ it was a conservative school

___ it had the major/program I wanted

___ it was close to home

___ it had a philosophy I agreed with spiritually

___ friends were attending

___ cost

____ safe school

____ other _____

12. What activities on campus do you currently participate in on a regular basis:

___intramurals

___ academic clubs

___ church groups

___ Fraternities/sororities

___ athletics

___ outdoors groups

___ band

___ music

___ college newspaper

___ literary groups

___service organizations

___ honors clubs

___ theatre

13. What activities were you previously involved with on campus that you no longer participate in:

___intramurals

___ academic clubs

___ church groups

___ Fraternities/sororities

___ athletics

___ outdoors groups

___ band

___ music

___ college newspaper

___ literary groups

___service organizations

___ honors clubs

___ theatre

___ political groups

14. Where do you live while attending college:

____ home with parents

___ single sex campus residence hall

___ co-ed residence hall

___off campus apartment

___ fraternity/sorority house

15. What is your school's rule regarding alcohol use:

alcohol is:

____ prohibited for everyone on campus

____ prohibited for all students

____ prohibited for anyone under the age of 18

____ no school policy

____ do not know

16. How many hours on an average day do you spend on the following activities:

Watching Television

Playing video Games

Studying outside class

Attending Class

Socializing with friends

Student Organizations

Playing or practicing collegiate sports

Playing intramural sports

Volunteer work

Other physical activities

OTHER _____

Please answer the following questions referring to the time when you were growing up – before coming to college:

17. Check the category that best describes your mother's (alcoholic) drinking behavior

_____ does not drink ____ drinks once a month

_____ drinks once a year ____ drinks once a week

_____ drinks a few times a year _____ drinks almost daily

18. Check the category that best describes your father's (alcoholic) drinking behavior

_____ does not drink ____ drinks once a month

_____ drinks once a year ____ drinks once a week

_____ drinks a few times a year _____ drinks almost daily

19. your mother's religious affiliation:

___ Protestant

___ Catholic

___ Jewish

___ Buddhist

___ Islam

___ Atheist

___ Agnostic

___ Unknown

20. your father's religious affiliation:

___ Protestant

___ Catholic

___ Jewish

___ Buddhist

___ Islam

___ Atheist

___ Agnostic

___ Unknown

21. How often did your mother go to religious services:

___ more than once a week

___ once a week

___ a few times a month

___ once a month

___ a few times a year

___ once a year

___ never

___ do not know

22. How often did your father go to religious services:

___ more than once a week

___ once a week

___ a few times a month

___ once a month

___ a few times a year

___ once a year

___ never

___ do not know

23. How often did you go to religious services:

___ more than once a week

___ once a week

___ a few times a month

___ once a month

___ a few times a year

___ once a year

___ never

___ do not know

24. What kinds of church related activities did you participate in:

___ church choirs

___ church socials

___ church camps

___ church dinners

___ church teen groups

___ church missionary trips

___ other _____

Appendix B:

Consent Form

Dear Student,

You are being asked to participate in a research study involving YHC students. This data will be used in several research studies exploring adjustment issues during the college years. The data collected from the surveys will be used anonymously, and all data will remain confidential. Your participation or lack of participation in this study will not have any effect on your grade in this course. However, your participation will provide valuable information that will advance knowledge and understanding of college students.

If you are willing to participate in this study, please sign on the line below.