

Boise State University
ScholarWorks

Psychology Faculty Publications and Presentations

Department of Psychology

8-1-2008

Disordered Eating in Undergraduates: Does Gender Role Orientation Influence Men and Women the Same Way?

Mary Pritchard
Boise State University

This is an author-produced, peer-reviewed version of this article. The final, definitive version of this document can be found online at *Sex Roles*, published by Springer. Copyright restrictions may apply. DOI: [10.1007/s11199-008-9449-8](https://doi.org/10.1007/s11199-008-9449-8)

Disordered Eating in Undergraduates: Does Gender Role Orientation Influence Men and Women the Same Way?

Abstract

Previous studies have examined the influence of femininity on disordered eating behavior in female undergraduates, but few studies have examined the relation between gender roles and disordered eating in male undergraduates. The present study examined whether gender roles relate to disordered eating behaviors the same way in male and female undergraduates. 512 undergraduates (58% female) at a large university in the Pacific West region of the United States responded to a survey asking about eating behaviors and gender role orientation. Women displayed higher levels of disordered eating than did men. Undifferentiated and masculine women had higher levels of disordered eating than did androgynous women, whereas undifferentiated and feminine men had higher levels of disordered eating than did masculine and androgynous men.

Keywords: Gender roles, disordered eating, college students, gender

Introduction

Traditionally, disordered eating has been viewed as a “women’s issue.” Research certainly supports the notion that female undergraduates may be more vulnerable to certain aspects of disordered eating behaviors than male undergraduates (e.g., Johnson, Crosby et al., 2004; Milligan & Pritchard, 2006; Muth & Cash, 1997). However, researchers are beginning to suggest that it may not be that simple. In addition to suggesting that gender may only affect certain types of disordered eating behaviors (Anderson & Bulik, 2004; Smolak & Levine, 1994; Wilcox, 1997), researchers are beginning to question whether gender is really affecting differences in disordered eating behavior at all. Rather than gender, some researchers are beginning to suggest that what we are taking for ‘gender differences’ in certain disordered eating behaviors might in fact be gender role orientation differences in disordered eating behaviors (e.g., Bekker & Boselie, 2002; Paxton & Sculthorpe, 1991; Sitnick & Katz, 1984; Williams & Ricciardelli, 2001). However, there is little agreement on which gender role orientation (e.g., masculine, feminine) makes you more vulnerable. Furthermore, very few studies have examined this question in both male and female undergraduates – most studies have relied primarily on female undergraduates. Thus, in order to understand whether gender role orientation affects disordered eating behaviors in the same way in males and females, the present study (1) examined whether there are gender differences in drive for thinness, bulimia, and body dissatisfaction in a sample of undergraduate students, and (2) investigated whether gender role dimensions (femininity, masculinity, undifferentiated, and androgynous) related to male and female college students’ disordered eating behaviors in the same way.

Gender Differences in the Prevalence of Disordered Eating

Muth and Cash (1997) found that female undergraduates express higher levels of body dissatisfaction (as measured by the Body-Image Affect Inventory, Body-Image Ideals Questionnaire and the Multidimensional Body-Self Relations Questionnaire), body image dysphoria (as measured by the Situational Inventory of Body-Image Dysphoria), and are more invested in their appearance than are their male counterparts (see also Anderson & Bulik, 2004). Milligan and Pritchard (2006) found that among Division I collegiate athletes, more female than male athletes displayed disordered eating behaviors as evidenced by higher scores on the Eating Attitudes Test (see also Johnson, Crosby et al., 2004). Similarly, female undergraduates report lower levels of satisfaction with several specific body parts and are more likely to utilize a variety of weight-loss strategies than are their male counterparts (Kashubeck-West, Mintz,

& Weigold, 2005; see also Mintz & Kashubeck, 1999). In fact, in a study of factors predicting disordered eating in college students, gender was the primary predictor of drive for thinness and body dissatisfaction, and was also a predictor of bulimic behaviors as measured by the Eating Disorders Inventory (Shea & Pritchard, 2007).

However, research is beginning to question the gender gap in disordered eating behaviors. Furthermore, some researchers argue that the disordered eating behavior in question matters. For example, Smolak and Levine (1994) reported no gender differences in body dissatisfaction as measured by the Body Esteem Scale, but found that girls reported more weight loss attempts than did boys. Similarly, Wilcox (1997) found no gender differences in body attitudes (as measured by the Multidimensional Body-Self Relations Questionnaire) in a sample of U.S. adults. Tata, Fox, and Cooper (2001) found that although female undergraduates exhibited higher levels of most disordered eating behaviors on the Eating Attitudes Test, males actually exhibited higher levels of excessive exercise on the Sports and Exercise Questionnaire (see also Anderson & Bulik, 2004). In addition, whereas adolescent females are more likely to report wanting to lose weight, adolescent males are more likely to report wanting to gain weight (O'Dea & Abraham, 1999; see also Brook & Tepper, 1997; Furnham, Badmin, & Sneade, 2002). Similar results have been found in college students, with correct weight males believing they were underweight and wishing to be heavier, and correct weight females believing they were overweight and wishing to be thinner (Raudenbush & Zellner, 1997).

Gender Role Orientation Differences in Disordered Eating Behaviors

Researchers are now beginning to suggest that rather than there being gender differences in disordered eating behaviors, what we may be seeing is gender role orientation differences in disordered eating behaviors. However, conflicting research exists concerning which gender role orientation makes someone more vulnerable to disordered eating behaviors. For example, Bekker and Boselie (2002) found that women with eating disorders (as measured by scores on the Eating Disorders Inventory) reported both more feminine gender role stress and more masculine gender role stress on the Gender Role Stress Scale than did their non-eating disordered counterparts. Similarly, Thornton, Leo, and Alberg (1991) found that female undergraduates who identified strongly with either masculine or feminine gender roles on the Personality Attributes Questionnaire were more likely to display disordered eating on the Eating Disorders Inventory than were those who displayed more androgynous orientations. However, Williams and Ricciardelli (2001) reported that female college students who displayed symptoms of disordered eating on the Eating Disorders Inventory showed more negative and positive feminine traits on the Australian Sex Roles Scale, but there was no relation between disordered eating and masculine traits. Similarly, Steiger, Fraenkel, and Leichner (1989) found that eating disordered women tended to show hyper-feminine gender role identifications and an absence of masculine gender role traits on the Bem Sex Role Inventory (see also Pettinati, Franks, Wade, & Kogan, 1987; Sitnick & Katz, 1984). Furthermore, Paxton and Sculthorpe (1991) suggested that disordered eating in college women is related to the possession of more negative feminine characteristics, but is also influenced by a perceived discrepancy between current self and having an ideal image of the self that is more masculine in nature. Similarly, Silverstein, Carpman, Perlick, and Perdue (1990) found that college women who reported wishing that they were more male or androgynous in nature as measured by the Draw A Person test were also more likely to engage in bingeing and purging behaviors.

The Present Study

As the above research demonstrates, several studies have tried to ascertain the influence of gender role orientation on disordered eating or eating disorders in women. Most researchers tend to agree that high levels of femininity make women more at risk for disordered eating (e.g., Bekker & Boselie, 2002; Steiger et al., 1989; Thornton et al., 1991). However, research on the influence of masculine gender roles on disordered eating in women is more controversial, with some research reporting a relation between high masculine gender roles (or masculine gender role stress) and disordered eating (Bekker & Boselie; Thornton et al) and other studies finding no such relation (Pettinati et al., 1987; Sitnick & Katz, 1984; Steiger et al.; Williams & Ricciardelli, 2001).

Although a number of studies have examined the influence of sexual orientation on disordered eating behavior in women (e.g., Connor, Johnson, & Grogan, 2004; Hospers & Jansen, 2005; Meyer, Blissett, & Oldfield, 2001; Russell & Keel, 2002), few studies have examined the influence of gender role orientation

on disordered eating in men. Previous research suggests that it may be important to examine how gender role orientation affects disordered eating in men. In fact, studies of homosexual men (e.g., Hospers & Jansen, 2005) suggested that men with higher levels of body dissatisfaction as measured by the Body Satisfaction Questionnaire displayed lower levels of masculinity on the Bem Sex Roles Inventory (BSRI). Similarly, Meyer et al. reported that possessing high femininity scores on the BSRI was a risk factor for disordered eating on the Eating Attitudes Test in women and homosexual men, whereas masculinity served as a buffer against the development of disordered eating attitudes and behaviors. Lakkis, Ricciardelli, and Williams (1999) reported that heterosexual and homosexual college students exhibiting higher scores on negative femininity (as measured by the Australian Sex Role scale) displayed more disordered eating behaviors on the Eating Disorders Inventory (although gender role was less predictive of disordered eating in men than was sexual orientation). In addition, studies of body dissatisfaction have also highlighted the importance of gender role orientation. For example, Johnson, Monacelli, and Vojick (2004) reported that collegiate men and women with more masculine orientations preferred larger ideal body images. However, Davis, Dionne, and Lazarus (1996) reported that whereas masculinity (as measured by the Bem Sex Roles Inventory) was positively related to body image (as measured by the Body Esteem Scale) in females, femininity was related to body satisfaction in men. Finally, Wilcox (1997) found that adult men and women who exhibited higher levels of masculinity on the Personal Attributes Questionnaire also reported more body satisfaction on the Multidimensional Body-Self Relations Questionnaire.

In sum, to say that there are gender differences in patterns of disordered eating seems to be too simplistic, as it may depend on the behavior in question. In addition, gender may interact with other factors (such as gender role orientation) in its influence on disordered eating patterns. In fact, in a review of articles on gender role orientation and disordered eating in women, Lancelot and Kaslow (1994) conclude that the relation between the two variables is unclear and is affected by a number of constructs. They call for more research to be done to better elucidate the connection. Furthermore, most research studies have examined only the influence of femininity and masculinity, and have neglected to examine the influence of undifferentiated or androgynous gender roles. However, Thornton et al. (1991) and Silverstein et al. (1990) suggest that androgyny may be an important factor to examine in college women (neither studied examined men). No study has examined the influence of the undifferentiated gender role on disordered eating. Thus, it is important to consider all four gender role dimensions (e.g., Bem, 1984; Spence, Helmreich, & Stapp, 1975) in order to get a complete understanding of how gender roles might relate to disordered eating.

To further complicate the issue, previous research has used a variety of measures to assess both disordered eating and gender role orientation. It is likely that this may explain some of the contradictory findings reported in the literature review. For the purposes of the present research, the Eating Disorders Inventory (EDI; Garner, Olmstead, & Polivy, 1983) was utilized to assess disordered eating as it was the survey most commonly used in previous research. For the same reason, the researchers chose to utilize the Bem Sex Role Inventory (BSRI; Bem, 1974) to measure gender role orientation. Not only was the BSRI the survey most commonly used by previous researchers, but it was also the only survey that assessed all four gender role orientation categories. By utilizing more common measures of disordered eating and gender role orientation, and by making use of all four gender role categories, the present study hopes to clarify and extend previous research on the relation between gender role orientation and disordered eating

The purpose of the present study was twofold: 1) to examine whether there are gender differences in male and female college students in three predominant disordered eating behaviors as measured by the Eating Disorders Inventory (drive for thinness, bulimia, body dissatisfaction; Garner et al., 1983), and 2) to determine separately for men and women whether individuals classified as feminine, masculine, undifferentiated, or androgynous are vulnerable to disordered eating behaviors in the same way (e.g., are feminine men more vulnerable than masculine men, but masculine women more vulnerable than feminine women?). Specifically, based on previous research it was predicted that: 1) women would exhibit more drive for thinness and bulimia than men would, but that there would be no gender differences in body dissatisfaction (c.f., Smolak & Levine, 1994; Wilcox, 1997). 2) Based on previous research (c.f., Silverstein et al., 1990; Lakkis et al., 1999; Meyer et al., 2001; Thornton et al., 1991), it was predicted that feminine women would report more disordered eating behaviors than would masculine and androgynous women. Because previous research has not investigated whether undifferentiated women would be vulnerable to disordered eating, no predictions were made regarding that dimension. Few studies have examined the

influence of gender role orientation on disordered eating in heterosexual men and the few that have found conflicting results. For example, Davis et al. (1996) reported that femininity was related to body satisfaction in men, whereas Wilcox (1997) found masculinity predicted body satisfaction in men (it should be noted that they used different measures of gender role orientation, which may explain the contradictory findings). Regardless of the reason for the conflicting findings, no predictions were made regarding the relation between disordered eating and of any of the four gender role dimensions in men.

Method

Participants

Five hundred twelve undergraduates (299 women, 213 men) at a large state university in the Pacific Northwestern region of the United States participated in this study. They were all students of Psychology 101 and received course credit for their participation in this study. Participants were given a packet of questionnaires to complete in a 50 minute session. The participants were 85.5% Caucasian, 2.1% African American, 7.7% Hispanic American, 1.7% Asian American, and 3% Other. The ages ranged from 17 to 57 ($M = 21.82$, $SD = 5.52$). 95% of the participants were heterosexual. The Institutional Review Board approved the study prior to data collection.

Measures

Disordered eating and body dissatisfaction. Disordered eating behaviors were assessed with the Eating Disorder Inventory (Garner et al., 1983), which asked about students' eating habits (e.g., I eat when I am upset) as well as how they feel about their bodies (e.g., I think that my stomach is too big). Responses were rated on a 5-point scale ($0 = \text{never/rarely}$, $4 = \text{always}$), with higher scores indicating more disordered eating and body dissatisfaction. Sum scores were created for the three subscales most often identified with disordered eating and body image dissatisfaction: drive for thinness (preoccupation with weight and dieting; 7 items; $\alpha = .83$), bulimia (tendencies to think about and engage in bingeing or purging; 7 items; $\alpha = .73$), and body dissatisfaction (dissatisfaction with shape and size of various body parts such as stomach; 9 items; $\alpha = .89$).

Gender roles. The Bem Sex Role Inventory (BSRI; Bem, 1974) is a 60-item inventory developed to measure masculine ($N=20$; e.g., assertive, strong personality, dominant) and feminine ($N=20$; e.g., emotional, sympathetic, understanding) gender role characteristics among men and women. The rest of the inventory ($N=20$) is composed of neutral items, which are perceived neither as men's nor women's characteristics (e.g., conscientious, unpredictable, reliable) and are not scored. Participants assessed how well each of the 60 characteristics describes themselves by using a 7-point scale ($1 = \text{never or almost never true}$, $7 = \text{always or almost always true}$).

Before analyzing the data, individuals were categorized into one of four categories (feminine, masculine, androgynous, or undifferentiated) using the median split model proposed by Spence et al. (1975). Individuals who fell below the median on both femininity (4.85) and masculinity (4.90) were categorized as undifferentiated ($N_{\text{Men}} = 54$; 25.7% of the men; $N_{\text{Women}} = 59$; 19.5% of the women); students who were below the median on masculinity but at or above the median on femininity were classified as feminine ($N_{\text{Men}} = 20$; 9.5% of the men; $N_{\text{Women}} = 104$; 34.4% of the women); individuals who fell at or above the median on masculinity, but below the median on femininity were classified as masculine ($N_{\text{Men}} = 93$; 44.3% of the men; $N_{\text{Women}} = 47$; 15.6% of the women); individuals that fell at or above the mean on both femininity and masculinity were classified as androgynous ($N_{\text{Men}} = 43$; 20.5% of the men; $N_{\text{Women}} = 92$; 30.5% of the women).

Results

Hypothesis 1: The Influence of Gender on Disordered Eating Behavior

It was hypothesized that women would exhibit more drive for thinness and bulimia than men would, but that there would be no gender differences in body dissatisfaction. To examine whether there were gender differences in the three disordered eating behaviors, we conducted a multivariate ANOVA to examine the

relation between gender (male/female) and disordered eating scores (body dissatisfaction, bulimia, drive for thinness). The hypothesis was partially supported. The analysis yielded a significant multivariate effect, $F(3, 517) = 286.08, p < .001$. Univariate analyses indicated that gender was significantly associated with bulimia, $F(1, 519) = 10.40, p \leq .001, \eta^2 = .02$, body dissatisfaction, $F(1, 519) = 104.78, p < .001, \eta^2 = .17$, and drive for thinness, $F(1, 519) = 81.00, p < .001, \eta^2 = .14$. As displayed in Table 1, women displayed significantly more of all three disordered eating behaviors than did men.

Hypothesis 2: The Influence of Gender Role Orientation on Disordered Eating Behavior in Men and Women

Based on previous research (c.f., Silverstein et al., 1990; Lakkis et al., 1999; Meyer et al., 2001; Thornton et al., 1991), it was predicted that feminine women would be more vulnerable to disordered eating behaviors than would masculine and androgynous women. Because previous research has not investigated whether undifferentiated women would be vulnerable to disordered eating, no predictions were made regarding that dimension. We conducted separate multivariate ANOVAs (one for women and one for men) to examine the relation between gender role orientation (feminine, masculine, androgynous, or undifferentiated) and disordered eating scores (body dissatisfaction, bulimia, drive for thinness).

For women, the analysis yielded a significant multivariate effect, $F(3, 296) = 237.27, p < .001$. Univariate analyses indicated that gender role orientation was significantly associated with bulimia, $F(3, 298) = 3.15, p < .05, \eta^2 = .03$, and body dissatisfaction, $F(3, 298) = 3.37, p < .05, \eta^2 = .03$; however, there was no significant effect of gender role orientation on drive for thinness, $F(3, 298) = 1.55$. To examine the influence of gender role orientation category on bulimia and body dissatisfaction, post hoc tests were conducted using the LSD method. Undifferentiated women had significantly higher bulimia scores than did women classified as androgynous, $MD = 1.19, SE = 0.50, p < .05$ (see Table 2). In addition, contrary to the hypothesis, masculine women had significantly higher bulimia scores than did women classified as androgynous, $MD = 1.41, SE = 0.54, p < .01$. Masculine women also had significantly higher body dissatisfaction scores than did women classified as androgynous, $MD = 4.18, SE = 1.35, p < .01$. Finally, feminine women had significantly higher body dissatisfaction scores than did androgynous women, $MD = 2.15, SE = 1.08, p < .05$ (see Table 2).

No predictions were made regarding the influence of any of the four gender role dimensions in men due to limited and conflicting extant research (c.f. Davis et al., 1996; Wilcox (1997)). For men, the analysis also yielded a significant multivariate effect, $F(3, 204) = 75.64, p < .001$. Univariate analyses indicated that gender role orientation was significantly associated with body dissatisfaction, $F(3, 206) = 3.98, p < .01, \eta^2 = .06$; however, there was no significant effect of gender role orientation on drive for thinness, $F(3, 206) = 0.73$, or bulimia, $F(3, 206) = 1.84$. To examine the influence of gender role orientation category on body dissatisfaction, post hoc tests were conducted using the LSD method. Undifferentiated men had significantly higher body dissatisfaction scores than did men classified as masculine, $MD = 1.88, SE = 0.87, p < .05$ (see Table 2), and men classified as androgynous, $MD = 2.61, SE = 1.04, p < .05$. Feminine men also had significantly higher body dissatisfaction scores than did men classified as masculine, $MD = 2.96, SE = 1.25, p < .05$, or androgynous, $MD = 3.69, SE = 1.38, p < .01$ (see Table 2).

Discussion

The first purpose of the present study was to examine whether there are gender differences in male and female college students in drive for thinness, bulimia, and body dissatisfaction. It was hypothesized that women would exhibit more drive for thinness and bulimia than men would, but that there would be no gender differences in body dissatisfaction (c.f., Smolak & Levine, 1994; Wilcox, 1997). In the present study, female undergraduates displayed higher levels of all three disordered eating behaviors than did male undergraduates. Although contrary to our hypothesis about body dissatisfaction, these results are in line with previous research (Anderson & Bulik, 2004; Johnson, Crosby et al., 2004; Kashubeck-West et al., 2005; Milligan & Pritchard, 2006; Mintz & Kashubeck, 1999; Muth & Cash, 1997; Shea & Pritchard, 2007). It is unclear why some studies find gender differences in body dissatisfaction (as in the present study) and some do not. It may have to do with the discrepancy in the way that body dissatisfaction has been measured in previous studies. For example, Smolak and Levine utilized the Body Esteem Scale to measure body dissatisfaction and Wilcox used the Multidimensional Body-Self Relations Questionnaire,

and neither study reported gender differences in body dissatisfaction. On the other hand, Anderson and Bulik, Johnson, Crosby et al., and Shea and Pritchard utilized the Eating Disorders Inventory (as was used in the present study) and did report gender differences. Regardless, this apparent discrepancy in research findings warrants further investigation. Perhaps there are differences in region of the country, age, athletic status, family history, body mass index, etc. that would explain why some studies report gender differences in body dissatisfaction and some do not.

The second purpose of the present study was to determine whether gender role dimensions (femininity, masculinity, undifferentiated, and androgynous) relate to male and female college students' disordered eating behaviors in the same way. The present study found that in fact there were differences in the way gender roles related to disordered eating behaviors in male and female undergraduates. It was predicted that feminine women would be more vulnerable to disordered eating behaviors than would masculine and androgynous women (c.f., Silverstein et al., 1990; Lakkis et al., 1999; Meyer et al., 2001; Thornton et al., 1991). The hypothesis was partially supported. Similar to previous research that utilized the Personal Attributes Questionnaire (Thornton et al., 1991), androgynous women in the present study reported lower levels bulimia and body dissatisfaction than did women with other predominant gender role classifications. It is encouraging that two studies using different measures of gender role orientation (PAQ v. BSRI) had similar findings and may suggest that the findings relating to androgyny are in fact robust and generalizable.

However, contrary to the hypothesis, masculine women had higher levels of body dissatisfaction and bulimia than did androgynous women. Previous research had indicated that femininity was more of a risk factor for disordered eating than masculinity (Silverstein et al; Lakkis et al; Meyer et al.). However, it should be noted that none of the previous studies mentioned utilized both the BSRI and the EDI, which may explain the contradictory findings. In addition, despite contradicting several previous studies, this finding is not unique. For example, Bekker and Boselie (2002), who did use the EDI, found that women with eating disorders reported both more feminine and more masculine gender role stress than did their non-eating disordered counterparts. In addition, Thornton et al. (1991), who also used the EDI, found that female undergraduates who identified strongly with either masculine or feminine gender roles were more likely to display disordered eating than were those who displayed more androgynous orientations. There are a number of reasons why some studies may have found that femininity was a risk factor for disordered eating and some have not. Because many previous studies have focused solely on femininity and masculinity, with few focusing on the other two gender role dimensions, perhaps adding androgyny and undifferentiated women into the mix changes the outcome of research studies examining the influence of gender role dimensions on disordered eating in collegiate women. It seems that comparing women solely on the basis of femininity and masculinity would yield quite different results than comparing women from all four categorical dimensions. This assumption warrants further investigation to determine the role androgyny and undifferentiation play in the development of disordered eating behaviors. Finally, the present study was the first to examine the relation between 'undifferentiation' and disordered eating behaviors in collegiate women. The results of the present study suggest that this is an important dimension to examine. Undifferentiated women displayed more bulimia than did androgynous women. Future studies should attempt to replicate this finding to see if it holds in different populations. In addition, it is possible that the use of differing measures of gender role orientation and disordered eating by previous studies may have contributed to the conflicting findings. For example, Lakkis et al. utilized the Australian Sex Roles Scale to measure gender role orientation and Silverstein et al. utilized the Draw A Person scale and both studies found that femininity predicted disordered eating. The present study, on the other hand, utilized the Bem Sex Role Inventory and did not find that femininity was related to disordered eating. In addition, Meyer et al., who found that femininity predicted disordered eating, utilized the Eating Attitudes Test whereas the present study utilized the EDI. Perhaps future studies examining these issues should utilize multiple measures of disordered eating and gender role orientation to determine whether utilizing different measures of these two constructs influences the outcome of the study within the same population.

Due to conflicting results in the literature on the influence of gender role dimensions on disordered eating in heterosexual men (Davis et al., 1996; Wilcox, 1997), no predictions were made regarding the influence of any of the four gender role dimensions in men. Similar to Wilcox, who utilized the Multidimensional Body-Self Relations Questionnaire to measure disordered eating, we found that for male undergraduates,

masculinity seemed to serve as a buffer against bulimia and body dissatisfaction, as masculine men reported lower levels of body dissatisfaction than did men with other predominant gender role orientations. Replicating a finding from previous research that utilized different measures of both disordered eating (MBSRQ v. EDI) and gender role orientation (Personal Attributes Questionnaire v. BSRI) is encouraging, and may indicate that this finding is robust and generalizable. Similar to the findings with women in the present study, men with undifferentiated gender roles displayed higher levels of body dissatisfaction than did men with other predominant gender role orientations. Thus, future studies need to examine the importance of all four gender role dimensions in predicting disordered eating in men rather than merely focusing on femininity and masculinity. In addition, similar to research with homosexual men (Lakkis et al., 1999; Meyer et al.), the present study of primarily heterosexual men found that feminine men reported higher levels of body dissatisfaction than did other men. Again, replication of this finding is encouraging as neither of the previous studies utilized both the BSRI and the EDI that were used in the present study. Gender role orientation was unrelated to drive for thinness or bulimia in men. However, the levels of these two variables in men were quite low, and may not have allowed for enough variability to make an accurate prediction. Future research may wish further examine disordered eating in men to ascertain whether the lack of findings with drive for thinness and bulimia is due to the low occurrence of these habits in men or if gender role orientation simply does not relate to some aspects of disordered eating in collegiate men.

Limitations

The present study was conducted at a single university in the United States with only undergraduate students. Different results may be obtained at different university settings or with students of different ages (e.g., elementary or high school). Second, the majority of our participants were Caucasian, making it difficult for us to generalize results to undergraduates of other racial backgrounds. Third, disordered eating can be very intricate and our results are correlational and cross-sectional in nature. Future studies may wish to examine the relation between gender role traits and disordered eating over longer periods of time. Fourth, the present study examined disordered eating – not eating disorders. Future studies may wish to examine the impact of gender role orientation on eating disordered patients. Fifth, the present study utilized the EDI to examine disordered eating. It is possible that because this inventory was designed for use in women, that it is not sensitive enough to detect disordered eating in men, or may simply ask the wrong questions. For example, previous research suggests that men may be more vulnerable to excessive exercise (Anderson & Bulik, 2004) and are more likely to report wanting to gain weight rather than become thinner (Brook & Tepper, 1997; Furnham et al., 2002; O’Dea & Abraham, 1999; Raudenbush & Zellner, 1997), yet the EDI does not measure either of these variables. In addition, previous research has indicated that whereas bulimia may be more common in women than in men (Weltzin et al., 2005), binge eating disorder is equally common among men and women (Grucza, Przybeck, & Cloninger, 2007); yet, the EDI assesses bingeing and purging together in the bulimia scale. Future research may wish to utilize a more robust measure of disordered eating designed for men in particular. Sixth, the present study did not measure self-esteem. Self-esteem is known to relate to disordered eating (see Shea & Pritchard, 2007 for a review), and previous research has suggested that there is a relation between gender role orientation and self-esteem (Alpert-Gillis & Connell, 1989; Buckley & Carter, 2005). Thus, it is unclear whether the differences in disordered eating found in the present study are due in fact to differences in gender and gender role or to differences in self-esteem. Seventh, the present study did not measure participants’ height and weight. It is possible that there may have been gender role differences in participant body mass index (BMI) that may have accounted for any relation found between gender role orientation and disordered eating. Future studies should measure height and weight as well as self-esteem to better account for any possible mediation effects of these variables on the relation between disordered eating and gender role orientation. Finally, the Chronbach’s alpha value of the EDI bulimia scale was .73, slightly below the accepted alpha value of .80. This could be because the scale was not designed for a male population or because it measures bingeing and purging together. Regardless, the results concerning bulimia should be interpreted with caution. As mentioned previously, future studies may wish to utilize a different scale when examining disordered eating in men and women.

Conclusion

The findings of this study suggest that gender differences in disordered eating behaviors still exist in college students. Furthermore, gender role dimension appears to relate to such behaviors in slightly different ways in collegiate men and women. Clinicians and college counselors treating male and female

undergraduates for disordered eating behaviors need to be cognizant of the gender differences as well as gender role differences in factors predicting disordered eating and may wish to address these varying factors in different ways in their male and female clients.

References

- Alpert-Gillis, L. J., & Connell, J. P. (1989). Gender and sex-role influences on children's self-esteem. *Journal of Personality, 57*, 97-114.
- Anderson, C. B., & Bulik, C. M. (2004). Gender differences in compensatory behaviors, weight and shape salience, and drive for thinness. *Eating Behaviors, 5*, 1-11.
- Bekker, M. H. J., & Boselie, A. H. M. (2002). Gender and stress: Is gender role stress? A re-examination of the relationship between feminine gender role stress and eating disorders. *Stress and Health, 18*, 141-149.
- Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology, 42*, 155-162.
- Bem, S. L. (1984). Androgyny and gender schema theory: A conceptual and empirical integration. *Nebraska Symposium on Motivation, 32*, 179-226.
- Brook, U., & Tepper, I. (1997). High school students' attitudes and knowledge of food consumption and body image: Implications for school based education. *Patient Education and Counseling, 30*, 283-288.
- Buckley, T. R., & Carter, R. T. (2005). Black adolescent girls: Do gender role and racial identity impact their self-esteem? *Sex Roles, 53*, 647-661.
- Conner, M., Johnson, C., & Grogan, S. (2004). Gender, sexuality, body image, and eating behaviors. *Journal of Health Psychology, 9*, 505-515.
- Davis, C., Dionne, M., & Lazarus, L. (1996). Gender-role orientation and body image in women and men: The moderating influence of neuroticism. *Sex Roles, 34*, 493-505.
- Furnham, A., Badmin, N., & Sneade, I. (2002). Body image dissatisfaction: Gender differences in eating attitudes, self-esteem, and reasons for exercise. *The Journal of Psychology, 136*, 581-596.
- Garner, D. M., Olmsted, M. P., & Polivy, J. (1983). Development and validation of a multidimensional eating disorder inventory for anorexia nervosa and bulimia. *International Journal of Eating Disorders, 2*, 15-34.
- Gruzca, R. A., Przybeck, T. R., & Cloninger, C. R. (2007). Prevalence and correlates of binge eating disorder in a community sample. *Comprehensive Psychiatry, 48*, 124-131.
- Hopsers, H. J., & Jansen, A. (2005). Why homosexuality is a risk factor for eating disorders in males. *Journal of Social & Clinical Psychology, 24*, 1188-1201.
- Johnson, C., Crosby, R., Engel, S., Mitchell, J., Powers, P.S., Wittrock, D. & Wonderlich, S. (2004). Gender, ethnicity, self-esteem and disordered eating among college athletes. *Eating Behaviors, 5*, 147-156.
- Johnson, H. D., Lamont, J., Monacelli, J., & Vojick, A. (2004). Sex-role orientation associations with college students' body image preferences. *Perception and Motor Skills, 99*, 995-998.
- Kashubeck-West, S., Mintz, L. B., & Weigold, I. (2005). Separating the effects of gender and weight-loss desire on body satisfaction and disordered eating behavior. *Sex Roles, 53*, 505-518.

- Lakkis, J., Ricciardelli, L. A., & Williams, R. J. (1999). The role of sexual orientation and gender-related traits in disordered eating. *Sex Roles, 41*, 1-16.
- Lancelot, C., & Kaslow, N. J. (1994). Sex role orientation and disordered eating in women: A review. *Clinical Psychology Review, 14*, 139-157.
- Meyer, C., Blisset, J., & Oldfield, C. (2001). Sexual orientation and eating psychopathology: The role of masculinity and femininity. *International Journal of Eating Disorders, 29*, 314-318.
- Milligan, B., & Pritchard, M. E. (2006). The relationship between gender, sport, self-esteem and eating disordered behaviors in Division I athletes. *Athletic Insight, 8*, 9-43.
- Mintz, L. B., & Kashubeck, S. (1999). Body image and disordered eating among Asian American and Caucasian college students: An examination of race and gender differences. *Psychology of Women Quarterly, 23*, 781-796.
- Muth, J. L., & Cash, T. F. (1997). Body-image attitudes: What difference does gender make? *Journal of Applied Social Psychology, 27*, 1438-1452.
- O'Dea, J. A., & Abraham, S. (1999). Onset of disordered eating attitudes and behaviors in early adolescence: Interplay of pubertal status, gender, weight and age. *Adolescence, 34*, 671-679.
- Paxton, S. J., & Sculthorpe, A. (1991). Disordered eating and sex role characteristics in young women: Implications for sociocultural theories of disturbed eating. *Sex Roles, 24*, 587-598.
- Pettinati, H. M., Franks, V., Wade, J. H., & Kogan, L. G. (1987). Distinguishing the role of eating disturbance from depression in the sex role self-perceptions of anorexic and bulimic inpatients. *Journal of Abnormal Psychology, 96*, 280-282.
- Raudenbush, B., & Zellner, D. A. (1997). Nobody's satisfied: Effects of abnormal eating behaviors and actual and perceived weight status on body image satisfaction in males and females. *Journal of Social and Clinical Psychology, 16*, 95-110.
- Russell, C. J., & Keel, P. K. (2002). Homosexuality as a specific risk factor for eating disorders in men. *International Journal of Eating Disorders, 31*, 300-306.
- Shea, M., & Pritchard, M. E. (2007). Is self-esteem the primary predictor of disordered eating? *Personality and Individual Differences, 42*, 1527-1537.
- Silverstein, B., Carpman, S., Perlick, D., & Perdue, L. (1990). Nontraditional sex role aspirations, gender identity conflict, and disordered eating among college women. *Sex Roles, 23*, 687-695.
- Sitnick, T., & Katz, J. L. (1984). Sex role identity and anorexia nervosa. *International Journal of Eating Disorders, 3*, 81-87.
- Smolak, L., & Levine, M. P. (1994). Toward an empirical basis for primary prevention of eating problems with elementary school-children. *Eating Disorders: The Journal of Treatment and Prevention, 2*, 293-307.
- Steiger, H., Fraenkel, L., & Leichner, P. (1989). Relationship of body distortion to sex-role identifications, irrational cognitions, and body weight in eating-disordered females. *Journal of Clinical Psychology, 45*, 61-65.
- Tata, P., Fox, J., & Cooper, J. (2001). An investigation into the influence of gender and parenting styles on excessive exercise and disordered eating. *European Eating Disorders Review, 9*, 194-206.

- Thornton, B., Leo, R., & Alberg, K. (1991). Gender role typing, the superwoman ideal, and the potential for eating disorders. *Sex Roles, 25*, 469-484.
- Weltzin, T. E., Weisensel, N., Franczyk, D., Burnett, K., Klitz, C., & Bean, P. (2005). Eating disorders in men: Update. *Journal of Men's Health & Gender, 2*, 186-193.
- Wilcox, S. (1997). Age and gender in relation to body attitudes: Is there a double standard of aging? *Psychology of Women Quarterly, 21*, 549-565.
- Williams, R. J., & Ricciardelli, L. A. (2001). Sex-role traits and the comorbidity of symptoms of disordered eating and problem drinking, *Eating Behaviours, 2*, 67-77.

Table 1

Means (and Standard Deviations) of Disordered Eating Behaviors by Gender

	Women	Men
Drive for Thinness	6.03 (5.45)	2.33 (3.04)
Bulimia	1.88 (3.02)	1.12 (1.95)
Body Dissatisfaction	11.74 (7.62)	5.61 (5.19)

Note: Items were rated on a scale from 0=*never/rarely* to 4=*always*). Sum scores were created for each variable, with higher scores indicating more disordered eating and body dissatisfaction. Scores could range from 0 to 28 for drive for thinness (7 items) and bulimia (7 items), and from 0 to 30 for body dissatisfaction (9 items).

Table 2

Means (and Standard Deviations) of Disordered Eating Behaviors by Gender and Gender Role Orientation

	Drive for Thinness	Bulimia	Body Dissatisfaction
<i>Women</i>			
Undifferentiated	6.19 (4.85)	2.44 (3.59) ^a	11.88 (6.47) ^{a,b}
Feminine	6.08 (5.67)	1.78 (2.74) ^{a,b}	12.20 (8.14) ^a
Masculine	7.43 (6.20)	2.66 (3.95) ^a	14.23 (8.00) ^a
Androgynous	5.32 (5.14)	1.25 (2.17) ^b	10.05 (7.25) ^b
<i>Men</i>			
Undifferentiated	2.35 (2.53)	1.50 (2.27)	6.81 (4.71) ^a
Feminine	1.65 (3.44)	1.35 (1.63)	7.90 (6.87) ^a
Masculine	2.65 (3.34)	0.99 (1.94)	4.94 (4.72) ^b
Androgynous	2.09 (2.89)	0.65 (1.25)	4.21 (5.36) ^b

Note: For each significant univariate test for each gender (bulimia and body dissatisfaction for women and body dissatisfaction for men), post hoc tests were conducted using the LSD method. Within each column for each gender, means with different superscript are significantly different from each other whereas those with the same superscripts are not.