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Examining the moderating role of social norms between body dissatisfaction and disordered eating in college students ☆

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ABSTRACT

Body dissatisfaction is a well-replicated risk factor for disordered eating, yet not all individuals with body dissatisfaction exhibit disordered eating. This study examined the role of perceptions of social norms on the relationship between body dissatisfaction and disordered eating. Perceptions of descriptive and injunctive peer norms, body dissatisfaction, and disordered eating were examined in a non-clinical sample of college men and women using cross-sectional survey methods. For women, perceptions of the injunctive norms of peer thinness and peer acceptability moderated the relationship between body dissatisfaction and disordered eating with an additive effect; perceptions of the descriptive norm peer prevalence of disordered eating behaviors did not. In men, norms did not moderate the relationship between body dissatisfaction and disordered eating. Endorsement of injunctive norms is associated with reported disordered eating in women with high body dissatisfaction. Norm-based interventions may be best suited for women with high body dissatisfaction.

1. Introduction

Body dissatisfaction is a potent risk factor for eating pathology (Jacobi, Hayward, de Zwaan, Kraemer, & Agras, 2004; Stice, 2002; Striegel-Moore & Bulik, 2007) and prospectively predicts worsening disordered eating (i.e. eating disorder attitudes and behaviors) in college populations (Cooley & Toray, 2001; Striegel-Moore, Silberstein, Frensch, & Rodin, 1989). Approximately 10% of college women exhibit pathological levels of body preoccupation (Klemchuk, Hutchinson, & Frank, 1990) reflecting the notion of a "normative discontent" in college women (Rodin, Silberstein, & Striegel-Moore, 1984). However, diagnosable eating disorders are rare, with lifetime prevalence ranging between .3 and 2.0% for men and between .9 and 3.5% for women, depending on diagnosis (Hudson, Hiripi, Pope, & Kessler, 2007; Smink, van Hoeken, & Hoek, 2012). The perception of the social environment may interact with body dissatisfaction such that those with high body dissatisfaction may have the greatest disordered eating when social norms encourage thinness and disordered eating. The current study investigates whether the perceptions of social norms (i.e., peer thinness ideals, peer acceptance of eating disorder behaviors, prevalence of eating disorder behaviors in peers) moderate the relationship between body dissatisfaction and eating disorder symptoms. Specifically, the study examines two types of social norms: descriptive norms regarding the prevalence of behaviors and injunctive norms regarding the acceptability of behaviors (Cialdini, Reno, & Kallgren, 1990).

With a median age of onset between 18 and 21 years (Hudson et al., 2007), young adults, and young adult women in particular (Jacobi et al., 2004; Striegel-Moore & Bulik, 2007), are at increased risk for developing eating disorders. Eating disorder symptoms are common in college women, remain consistent throughout the first year in college (Vohs, Heatherton, & Herrin, 2001), and increase in those women who were asymptomatic prior to college (Striegel-Moore et al., 1989). Disordered eating is also present in men throughout college, with an estimated 4–6% showing bulimic-like concerns and another 31–34% showing high likelihood of dietary restriction and overeating (Cain, Epler, Steinley, & Sher, 2012). However, disordered eating is not as prevalent as body dissatisfaction. Approximately, 67.6% of college women and 31.3% of college men endorse body dissatisfaction, but only 5.1% of women and .4% of men report binge eating (Keel, Heatherton, Dorer, Joiner, & Zalta, 2006). Likewise, only 9.3% of college women and 2.2% of college men endorse compensatory behaviors like purging and fasting (Keel et al., 2006).

Examining moderators of the relationship between body dissatisfaction and disordered eating may illuminate why body dissatisfaction is associated with disordered eating in some women and men, but not all women and men. Body surveillance, neuroticism (Brannan & Petrie, 2008; Tylka, 2004), the presence of a family member with an eating disorder (Tylka, 2004), and perfectionism (Tylka, 2004; Welch, Miller, Ghaderi, & Vaillancourt, 2009) each moderate the link between body dissatisfaction and eating disorder symptomatology. Other factors, such as optimism, self-esteem, and life satisfaction seem to buffer the

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effects of body dissatisfaction on disordered eating (Brannan & Petrie, 2011).

These moderating factors, with the exception of the presence of a family member, reflect differences within individuals. Social contexts also play a role in disordered eating. For example, in older male and female adolescents, perceptions of peer pressure to be thin predict disordered eating over time (Shomaker & Furman, 2009). In college sororities, bingeing behavior relates to popularity; membership in certain sorority friend groups predicts increases in bingeing behavior over time (Crandall, 1988). Finally, college residence halls are another context for the socialization of bulimic symptomatology. Specifically, spending more time with peers relates to greater pathology whereas time away leads to a decrease in symptomatology (Zalta & Keel, 2006).

Perceptions of descriptive and injunctive norms may be one type of peer influence that affects disordered eating, regardless of the accuracy of perceptions. Whereas women and men's overall perceptions of friends' dieting were not accurate, perceptions of the prevalence of friends' dieting relate to women and men's own drive for thinness (Gravener, Haedt, Heatherton, & Keel, 2008). Similarly, perceptions of friends' and peers' weight control behaviors relate to college women and men's own weight control behaviors (Clemens, Thombs, Olds, & Gordon, 2008). In college women, the injunctive norm of friend acceptability of disordered eating is associated with intentions to engage in disordered eating (Giles, Helme, & Krcmar, 2007). Other researchers have found that college women who feel discrepant from the injunctive norm of thinness report more disordered eating than women who do not feel discrepant from the norm (Sanderson, Darley, & Messinger, 2002). Finally, experimental manipulations activating descriptive norms influence food choice (Burger et al., 2010). Taken together, these findings suggest that norms are associated with disordered eating and body dissatisfaction.

Body satisfaction and norms, specifically the injunctive norm of peer of acceptability and the descriptive norm of prevalence, interact to cross-sectionally predict disordered eating intentions in college women (Giles et al., 2007). However, Giles and colleagues' study did not include men, and their study did not use well-validated measures of body dissatisfaction and disordered eating, making it unclear if the desired constructs were measured. We extend this previous research by examining the relationship between body dissatisfaction and disordered eating with norms as moderators using well-validated measures of body dissatisfaction and disordered eating in a sample of women and men. We hypothesize that both injunctive and descriptive norms will moderate the relationship between body dissatisfaction and disordered eating when using well-validated measures of body dissatisfaction and disordered eating. Specifically, we hypothesize that three social norms – importance of thinness, acceptability of disordered eating, and prevalence of disordered eating behaviors – will each moderate this relationship in both women and men.

2. Materials and method

2.1. Participants

As part of a larger study, a total of 454 university students from a mid-sized Midwestern university participated. Of those who completed the measures for this study, participants had a mean age of 20.70 ($SD = 1.40$) years. They reported being female (75.3%, $n = 223$), Caucasian (90.2%, $n = 267$), heterosexual (95.3%, $n = 282$), in or intending to join a fraternity or sorority (36.4%, $n = 108$), and in their senior year (45.9%, $n = 136$). A majority reported that their parents were married (77.4%, $n = 229$) and well educated (Father's education — college degree or above, 68.5%, $n = 203$; Mother's education — college degree or above, 67.2%, $n = 199$). Few women reported being diagnosed with an eating disorder (4.1%, $n = 12$) or a history of treatment for an eating disorder (3.7%, $n = 11$). No men reported a history of an eating disorder diagnosis or treatment. Participants who completed measures for analyses were included; those missing measures were deleted in a list-wise fashion. Therefore, sample size ranges from 204 to 211 for analyses with women and from 64 to 65 for analyses with men.

2.2. Procedure

Data was collected as part of a larger cross-sectional study on multiple health behaviors. Four counterbalanced versions of the online survey were distributed. Participants were recruited through research pools, class extra credit opportunities, email invitations, and email listservs. Participants recruited through email invitations and email listservs had the opportunity to choose to enter a raffle to win one of ten $50 gift cards. The authors' university institutional review board approved the study.

3. Measures

3.1. Demographics

Participants reported their gender, year in school, ethnicity, previous eating disorder diagnosis and treatment, family income, fraternity or sorority involvement, height, weight, and age. Self-reported height and weight were used to calculate body mass index (BMI) in kg/m^2.

3.2. Body dissatisfaction

The Body Shape Questionnaire (BSQ; Cooper, Taylor, Cooper, & Fairburn, 1987) consists of 34 items inquiring about body preoccupation and shape concerns over the previous four weeks on a six-point scale from “never” to “always.” Higher scores indicate more pathological attitudes and behaviors regarding one's body and shape. Items include “Have you avoided wearing clothes that make you particularly aware of the shape of your body?” and “Have you felt ashamed of your body?” Cronbach's alpha in this sample was .98. The BSQ discriminates between high-weight concern and no-weight concern individuals in non-clinical samples (Cooper et al., 1987) and has a 3-week test-retest reliability of .88 (Cooper, Taylor, Cooper, & Fairburn, 2000). Previous work supports the discriminant validity of this measure in college and adult men (Kearney-Cooke & Steichen-Asche, 1990; Russell & Keel, 2002). Table 1 presents the mean and standard deviation for women and men in this study.

3.3. Disordered eating

The Eating Attitudes Test-26 (EAT-26; Garner, Olmstead, Bohr, & Garfinkel, 1982) consists of 26 items that measure abnormal attitudes about eating and weight and behavioral symptoms and features of eating disorders. Previous work supports the validity of this measure

Table 1
Study scales means, standard deviations, and intercorrelations.

Variable	1.	2.	3.	4.	5.	6.
1. EAT-26	–	.68***	.31***	.28***	.20**	.12
2. BSQ	.53***	–	.34***	.33***	.28***	.30***
3. Peer norms — thinness	.21	.07	–	.47***	.15*	−.05
4. Peer norms — acceptability	.34**	.11	.32**	–	.20**	−.04
5. Peer norms — prevalence	−.04	−.01	.09	−.05	–	.18**
6. BMI	.28*	.34**	.10	−.06	.08	–
Female M	10.55	91.89	3.33	2.25	2.90	22.42
Female SD	11.23	38.21	1.06	.83	.60	3.18
Male M	8.46	60.45	2.96	2.11	2.42	24.46
Male SD	9.24	28.00	1.04	.77	.61	3.68

Note: Male correlations below the diagonal. Female correlations are above the diagonal. EAT-26 is Eating Attitudes Test-26; BSQ is Body Shape Questionnaire.
* $p < .05$.
** $p < .01$.
*** $p < .001$.