

Weight Preoccupation, Body Image Dissatisfaction, and Self-Efficacy in Female Undergraduates

Stephanie A. Valutis, Assistant Professor, Chatham University, valutis@chatham.edu

Anthony J. Goreczny, Associate Professor, Chatham University, goreczny@chatham.edu

Leena Abdullah, MS Counseling Psychology, Chatham University

Emily Magee, BA Psychology, Chatham University

Joseph A. Wister, Associate Professor, Chatham University, wister@chatham.edu

Abstract

Previous research has shown a relationship between body dissatisfaction and weight preoccupation. Body image is complex and multidimensional, and there may be mediating factors present in studies of body dissatisfaction and weight preoccupation. This study assessed the relationships between self-efficacy, body dissatisfaction, and weight preoccupation in young adult college females. Results indicate that self-efficacy with respect to body image, eating behavior, and weight are all predictors of weight preoccupation. These findings suggest that self-efficacy has a place in weight preoccupation and both researchers and clinicians need to take these relationships into account when working toward prevention, assessment, and intervention.

Introduction

Interest in improving understanding of disordered eating, its predictors, symptoms, and treatment continues to flourish. In an effort to decrease the prevalence of eating disorders overall, researchers have spent years exploring body dissatisfaction, weight preoccupation, and correlates of disordered eating (Denisoff & Endler, 2000; Kandiah, Yake, Jones, & Meyer, 2006; Klemchuk, Hutchinson, & Frank, 1990; VanBoven & Espelage, 2006; Vaz, Penas, & Ramos, 1999). Research has provided significant support for relationships between weight preoccupation and disordered eating (Afifi-Soweid, Kteily, & Shediach-Rizkallah, 2002), coping and weight preoccupation (Denisoff & Endler, 2000), and body dissatisfaction with both weight preoccupation and disordered eating (Leon, Fulkerson, Perry, & Cudeck, 1993; Valutis, Goreczny, Wister, Newton, Popp, & Vavrek, 2008; Vaz et al., 1999). Although the relationship between body image dissatisfaction and weight preoccupation appears to be quite strong, there remains a need for clarity in the definition of body image dissatisfaction as well as exploration of possible mediating factors in this relationship.

Review of Related Literature

Body Image

Many researchers currently believe that body image is not a unidimensional construct, but one that consists of affective, cognitive, and behavioral components (Banfield & McCabe, 2002; Cash, 1994; Kostanski, Fisher, & Gullone, 2004; Thompson, Altabe, Johnson, & Stormer, 1994; Tiggemann, 1996; Vaz et al., 1999). Although such a multidimensional conception of body image is evidence of the progression of research regarding the construct beyond previous one-dimensional conceptualizations, an understanding of how these multiple dimensions fit together is still vague (Banfield & McCabe, 2002). Specifically, some researchers (e.g., Kostanski et al., 2004) have expressed concern about difficulties defining the concept of body dissatisfaction and the many variations of conceptualizations that exist. Related to this concern is an overabundance of instruments available to measure body image and concerns about accuracy with which they can assess the multiple dimensions of body dissatisfaction. Thompson et al. (1994) have reported from 40 to nearly 100 body image disturbance assessments in use over the past decade (Kostanski et al., 2004).

Despite the surplus of body dissatisfaction instruments, many studies of body image dissatisfaction use difference scores between participants' perceived current and desired or ideal body size (Allaz, Bernstein, Rouget, Archinard, & Morabia, 1998; Vaz et al., 1999). In fact, Kostanski et al. (2004) stated that the most commonly used measure of global body image is the Figure Rating Scale (FRS) (Stunkard, Sorenson, & Schulsinger, 1983). This scale asks participants, via schematic figures, to indicate their perception of which figures best represent various body sizes, including the figure that most closely represents their current figure and the figure they would ideally like to have.

Although this is an accepted measure of body dissatisfaction, researchers have identified some intricacies of such a measure that require attention. Specifically, Tiggemann (1996) asserted that affective and cognitive ratings of body size on the FRS are distinct variables. These are evidenced by different ratings and subsequent discrepancy scores of participants when they are asked to identify the body size they 'feel' they currently look as opposed to how they 'think' they currently look. Although both affective and cognitive aspects of body dissatisfaction may be of interest, it is important to note subtleties of a measure such as the FRS, particularly as implications for each aspect of body dissatisfaction differ with respect to both understanding and interventions. "The fact that the two discrepancy measures each explain unique variance associated with these measures clearly demonstrates their distinctiveness and provides evidence for their separate construct validity" (Tiggeman, 1996, p. 23). Additionally, Vaz et al. (1999) noted that "body image" in the literature has referred to participants' mental image of physical self, evaluation of physical self, and influences of these on behavior. This definition extends beyond perception to behavior, an element not included in measures using figure ratings and discrepancies. Several researchers have defined body dissatisfaction as the discrepancy between ideal and perceived actual body sizes (Canpolat, Orsel, Akdemir, & Ozbay, 2005; Phelps, Johnston, & Augustyniak, 1999), and that discrepancy forms the basis for most common measures of body dissatisfaction. The numerous complexities noted support the need for additional exploration and distinction of body image and its multifaceted components.

Body Image and Self-Efficacy

Related to this discussion is evidence (Valutis et al., 2008) of a discrepancy in two indices of body image dissatisfaction as measured by the Body Image Assessment for Obesity (BIA-O) (Williamson et al., 2000). This has led to speculation that mediating factors in body image may help explain some of the issues related to this complex construct. The BIA-O uses a method similar to the FRS. Dissatisfaction is calculated using difference scores between current and ideal body sizes as well as between current and realistic body sizes. Each body size is identified by participants according to numbered schematic figures. Although both are indices of body size dissatisfaction, in the Valutis et al. findings, only the discrepancy between current and ideal body sizes predicted weight preoccupation, and only the discrepancy between current and realistic sizes correlated with any styles of coping. Specifically, Valutis et al. found that participants with the greatest discrepancy between their current and realistic body size disengaged both behaviorally and mentally, and those with the greatest discrepancy between their current and ideal body size did not. It was this group (i.e., those with large discrepancies between current and ideal body sizes) that reported the greatest amount of weight preoccupation.

This may have significant implications in terms of both conceptualizing eating disordered behavior and the development of treatment programs for individuals with eating disorders. Although other researchers have distinguished between the body size one 'feels' and one 'thinks' in relation to oneself, Valutis et al. (2008) distinguished between a potentially attainable (realistic) and potentially unattainable (ideal) body size. Subsequently, individuals who are far from a size that they believe they could physically reach have a different perception and experience than individuals who are far from a size that they only believe they would like to be, not what they could ever hope to be.

Along the lines of Tiggeman's (1996) argument for the distinction between affective and cognitive components of body dissatisfaction, Valutis et al. (2008) argued that body size discrepancies between realistic versus ideal are also distinct components of this construct and may influence or mediate efforts for changes in, as well as attitudes about, body size. Specifically, they proposed that self-efficacy may affect how one reacts to the discrepancy between perceived current body size and realistic body size, given that those with the greatest discrepancy between perceived current and realistic body size utilized

disengaged coping. In other words, individuals with large differences between current body size and realistic body size may have ceased putting mental or behavioral energy into the issue, implying low weight-related self-efficacy. This is consistent with efficacy research that suggests that low efficacy indicates a person's belief that she or he cannot achieve a particular task and subsequently is not likely to make efforts to do so (Bandura, 1977). Lacking from Valutis et al.'s study, however, as well as from most every study investigating weight preoccupation was a measure of self-efficacy.

Current Research

Research has supported a relationship between eating self-efficacy and dieting behaviors (Stotland, Zuroff, & Roy, 1991; Toray & Cooley, 1997). Specifically, Toray and Cooley found that participants whose weight was stable scored higher in "self-efficacy for controlling eating" (p. 389) on all items of the efficacy scale than those participants whose weight fluctuated. Self-efficacy, however, appears to be situation specific. Although several investigators have studied self-efficacy in relation to various health behaviors (Gerin, Litt, Deich, & Pickering, 1995; Pinto, Guarda, Heinberg, & DiClemente, 2006; Schneider, O'Leary, & Agras, 1987; Toray & Cooley, 1997), there are comparatively few published articles on self-efficacy as related to eating, weight preoccupation or body image. Berman (2006) suggested that knowledge of self-efficacy and eating behaviors within nonclinical samples is particularly sparse. Although Berman contributed to this knowledge base, she did not include a measure of weight preoccupation.

The purpose of the current study was to assess relationships between self-efficacy, body image, and weight preoccupation. Specifically, we predicted self-efficacy is a mediating factor for weight preoccupation. In addition, we examined distinctions between two indices of body dissatisfaction as measured by the BIA-O.

Method

Participants

Participants came from a non-clinical sample of undergraduate female college students recruited via classrooms. Participants included 56 women with an average age of 23.16 (SD=7.906) years. Of these, 14.3% (n=8) were first year students, 25% (n=14) were sophomores, 50% (n=28) were juniors, and 10.7% (n=6) were seniors. Thirty-nine of the participants (69.6%) were European-American, six (10.7%) were Black/African American, four (7.1%) was Asian/Asian American, three (5.4%) were Hispanic, one (1.8%) identified as Middle Eastern, and three (5.4%) identified as multiracial/other.

Measures

Students completed the Body Image Assessment for Obesity (BIA-O) (Williamson et al., 2000), The Eating Disorder Inventory - 3 (EDI-3) (Garner, 2004), and a 9-item self-constructed scale of self-efficacy in relation to eating behavior, weight, and body image. In addition, we obtained height and weight in order to calculate body mass index (BMI).

Body Image Assessment for Obesity (BIA-O). The BIA-O is an extension of the original Body Image Assessment (Williamson, Davis, Bennett, Goreczny, & Gleaves, 1989). The original BIA consists of 9 body size silhouettes, and the BIA-O uses 18 silhouettes in order to provide increased variance in size of silhouettes. The latter measure provides participants of various body sizes a suitable range of body size options from which to select. Silhouettes are black and white outlines of female bodies ranging from very small to very large in size. Participants select a card that represents what they believe to be their current body size (CBS), ideal body size (IBS), and the body size they believe to be realistic for them to maintain over a long period of time (RBS). Each card is numbered on the back from 1-18, allowing for recording of each participant's CBS, IBS, and RBS numerically. This facilitates computation of difference scores and provides indices of body dissatisfaction (CBS-IBS and CBS-RBS). Specifically, body dissatisfaction is the value of CBS minus the value of IBS (CBS-IBS) and also the value of CBS minus the value of RBS (CBS-RBS). Indices range from -17 to 17. It is the extent of discrepancy, rather than directionality or actual sizes chosen, that is of interest, so that a score of 0 indicates no discrepancy in body sizes, and a score of 17/-17 indicates the maximum body discrepancy. Test-retest reliability correlation coefficients over a two week interval were .93 for CBS, .77 for IBS, and .85 for RBS (Williamson et al., 2000). In addition,

Williamson et al. found positive correlations between discrepancy scores and the Body Shape Questionnaire (Cooper, Taylor, Cooper, & Fairburn, 1987), offering support for validity of the discrepancy scores as a measure of body dissatisfaction.

Eating Disorder Inventory. The EDI-3 (Garner, 2004) is a 91-item questionnaire requiring participants to respond to items on a 6-point scale that ranges from "Always" to "Never." It provides a measure of eating attitudes and behaviors via 12 subscales, 3 of which are specific to eating disorders and 9 that are general psychological scales relevant to eating disordered behavior. It also provides six composite scales, including Eating Disorder Risk, Ineffectiveness, Interpersonal Problems, Affective Problems, Overcontrol, and General Psychological Maladjustment. Research has validated use of the EDI with both clinical and non-clinical populations. Garner provided psychometric information, including factor analysis and correlations with other scales, which revealed the EDI-3 has acceptable reliability and validity. A composite score of the first 3 subscales of the EDI-3, drive for thinness, bulimia, and body dissatisfaction, has been used (e.g., Denisoff & Endler, 2000) as a measure of weight preoccupation for non-clinical populations. This is equivalent to the Eating Disorder Risk composite scale.

Self-Efficacy. The self-efficacy measure was a 9-item self-constructed scale of self-efficacy in relation to eating behavior, weight, and body image, with three items designated to each. Items used a 6-point Likert scale ranging from 1 (Strongly Agree) to 6 (Strongly Disagree), with each item analyzed individually. Consistent with the theoretical conceptualization that self-efficacy measurement needs to be specific to the situation or concept of interest (Gerin et al., 1995), the self-efficacy measure we used was one we developed specifically for this study.

Body Mass Index. Height and weight for each participant was recorded by a research assistant so that BMI could be calculated using the equation $BMI = \text{Weight (inches)} / \text{Height (pounds)}^2 * 703$.

Procedure

Research assistants recruited participants via classrooms by briefly explaining the project and then asking students to participate in research about satisfaction with their body and about various thoughts and behaviors related to eating and weight. Those choosing to participate first read and signed an informed consent form, after which they completed two written surveys (EDI-3 and Self-Efficacy) in a classroom. After completing the written surveys, each participant went alone to a private room for administration of the BIA-O, the measure of body dissatisfaction. According to standardized administration procedures, all 18 silhouette cards were shuffled and presented in random order and participants chose the one silhouette that they perceived to depict their current body size. After reshuffling, participants then chose the silhouette that depicted the body size they would most prefer. Following a third reshuffling, the participant chose the body size she believed is realistic for them to maintain over a long period of time. Upon completion of the BIA-O, participants had their height and weight taken by a research assistant in another private room.

Results

An index of weight preoccupation was computed using a composite score of the first three scales of the EDI (Drive for Thinness, Bulimia, and Body Dissatisfaction). Measures of body dissatisfaction were computed according to standardized instructions by subtracting participants' ratings of their Current Body Size from their Ideal Body Size (CBS-IBS) and from their Realistic Body Size (CBS-RBS) respectively, as per their choices on the BIA-O. We conducted data analyses on self-efficacy items based on answers to each of the nine individual questions on the self-efficacy scale.

We used correlations to explore relationships between body dissatisfaction, BMI, and weight preoccupation (see Table 1) as well as between self-efficacy, weight preoccupation, and body dissatisfaction (see Table 2). There were no significant correlations between BMI and any of the self-efficacy items. Similar to previous research (Valutis et al., 2008; Vaz et al., 1999), there were correlations between indices of body dissatisfaction and weight preoccupation (CBS-IBS; $r=.575$, $p=.000$ and CBS-RBS; $r=.388$, $p=.004$). Furthermore, weight preoccupation correlated with seven of the nine self-efficacy scale items (see Table 2). Finally, a number of the variables of the study that correlated significantly with

CBS-IBS differed from those that correlated significantly with CBS-RBS. Specifically, although both correlate with BMI (CBS-IBS; $r=.535$, $p=.000$ and CBS-RBS; $r=.492$, $p=.000$), weight preoccupation (CBS-IBS; $r=.575$, $p=.000$ and CBS-RBS; $r=.388$, $p=.004$) and one of the items of the self-efficacy scale, “It will be hard for me to maintain my weight at the level I want” (CBS-IBS; $r=-.475$, $p=.000$ and CBS-RBS; $r=-.397$, $p=.003$), they differ on three of the self-efficacy scale items: “I have confidence in my ability to avoid eating when I am anxious” (CBS-IBS; $r=.329$, $p=.015$ and CBS-RBS; $r=.147$, $p=.287$), “I believe in my ability to obtain and maintain a body size that makes me feel ok about myself” (CBS-IBS; $r=.334$, $p=.015$ and CBS-RBS; $r=.133$, $p=.344$), and “When confronted with unrealistic media images, it is difficult for me to maintain a positive attitude toward my body” (CBS-IBS; $r=-.441$, $p=.001$ and CBS-RBS; $r=-.264$, $p=.054$). These three items all correlated with the index measuring the difference between current and ideal body size (CBS-IBS) but not that measuring the difference between current and realistic body size (CBS-RBS).

Table 1: Correlations Between Weight Preoccupation, Body Dissatisfaction and BMI

	Weight Preoccupation	CBS-IBS	CBS-RBS	BMI	Mean (SD)
Weight Preoccupation	----	.575**	.388**	.235	33.41 (22.66)
CBS-IBS		----	.786**	.535**	1.911 (2.84)
CBS-RBS			----	.492**	.607 (2.71)
BMI				----	25.70 (6.06)

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

Table 2: Correlations Between Weight Preoccupation, Body Dissatisfaction and Self-Efficacy scale scores

Self-Efficacy scale item	Weight Preoccupation	CBS-RBS	CBS-IBS	Mean (SD)
I believe I can develop a healthy body image	.610**	.067	.183	2.22 (1.06)
I have confidence in my ability to avoid eating when I am anxious	.675**	.147	.329*	2.69 (1.34)
It will be hard for me to maintain my weight at the level I want	-.673**	-.397**	-.475**	3.35 (1.58)
I am able to control my food intake, even when pressured by my friends	.464**	.025	.213	2.80 (1.43)
I can resist eating foods that will make me gain weight	-.010	-.132	-.012	3.33 (1.26)
I can cope with stress w/o resorting to eating	.421**	-.135	.050	2.83 (1.54)
I believe in my ability to obtain and maintain a body size that makes me feel ok about myself	.610**	.133	.334*	2.83 (1.54)
I have the ability to change my weight if I try hard enough	.089	-.215	-.122	2.06 (1.12)
When confronted with unrealistic media images, it is difficult for me to maintain a positive attitude toward my body	-.590**	-.264	-.441**	3.46 (1.67)

*p < .05 **p < .01

A stepwise regression analysis was utilized, following computation of the correlations, to determine predictors of weight preoccupation. Those variables that correlated significantly with weight preoccupation (CBS-IBS, CBS-RBS and seven of the nine self-efficacy measure items) were included in the regression analyses. As seen in Table 3, a three model regression analysis emerged from the stepwise regression analysis, with “I have confidence in my ability to avoid eating when I am anxious,” “It will be hard for me to maintain my weight at the level I want,” and “When confronted with unrealistic media images, it is difficult for me to maintain a positive attitude toward my body” predicting 70.8% of the variance in weight preoccupation. Incremental R² as well as significance levels for each of the successive models appear in Table 3. Beta coefficients appear in Table 4.

Table 3: Summary of Stepwise Regression Analysis of Body Dissatisfaction and Self-Efficacy in Predicting Weight Preoccupation

Model	<i>R</i>	<i>R</i> ²	<i>R</i> ² change	F	df	p
1 – I have confidence in my ability to avoid eating when I am anxious	.679	.462	.462	42.00	1	.000
2 – It will be hard for me to maintain my weight at the level I want	.798	.637	.175	42.11	2	.000
3 – When confronted with unrealistic media images it is difficult for me to maintain a positive attitude toward my body	.841	.708	.071	37.96	3	.000

Table 4: Beta coefficients of Stepwise Regression Analysis of Body Dissatisfaction and Self-Efficacy in Weight Preoccupation

Predictor	unstandardized B	standardized beta	t	p
1 – I have confidence in my ability to avoid eating when I am anxious	11.435	.679	6.481	.000
2 – It will be hard for me to maintain my weight at the level I want	- 6.766	-.465	- 4.815	.000
3 – When confronted with unrealistic media images, it is difficult for me to maintain a positive attitude toward my body	- 4.133	-.304	-3.377	.001

Discussion

As predicted, results of this study provide evidence that self-efficacy can serve as a mediating factor in weight preoccupation. Although Valutis et al. (2008) found support for body dissatisfaction as a predictor of weight preoccupation, the current study shows that when both measures of self-efficacy and body dissatisfaction enter into a regression equation to predict weight preoccupation, only self-efficacy emerges as a predictor for weight preoccupation. Specifically, when there is little confidence the ability to avoid eating when anxious, a woman's ability to maintain a weight that she desires, or her ability to maintain a positive attitude about her own body when faced with unrealistic media images, she is likely to have a large amount of preoccupation with her weight. Therefore, it is not body dissatisfaction itself that predicts weight preoccupation but, rather, self-efficacy related to one's eating, weight and body image that predicts weight preoccupation.

As previously stated, Valutis et al. (2008) argued, based on Bandura's (1977) explanation of self-efficacy, that one's self-efficacy regarding weight, eating, and body size can influence whether or not one spends cognitive and/or behavioral energy on the discrepancy between one's current and realistic or ideal body size. Current findings support the claim that even more than the extent or direction of differences in perceived body sizes (current, realistic, and ideal), low self-efficacy predicts weight preoccupation; arguably a measure of cognitive energy exerted. It is not how far one is from her realistic or ideal body size, but what she believes about her abilities related to eating, weight maintenance, and body attitude that predict the energy she might put into related thoughts. We should note that it is not clear from the current results how weight preoccupation and self-efficacy work together. It could be that low self-efficacy contributes to weight preoccupation, or that weight preoccupation is contributing to low self-efficacy. Further research is needed to clarify this relationship.

One implication of these findings relates to understanding appropriate foci of prevention and intervention efforts. Berman (2006) noted that research has shown, in clinical as well as non-clinical populations, eating can occur with emotional triggers and emotion-related eating has been correlated with disordered eating (Toray & Cooley, 1997; Vanderlinden, Grave, Vandereycken, & Noorduyn, 2001; Waller & Matoba, 1999). Other research has found an association between maladaptive coping strategies and disordered eating symptoms (Shatford & Evans, 1986; VanBoven & Espelage, 2006). Although some researchers have explained this relationship as a lack of coping skills available or use of maladaptive coping strategies to deal with the stressor or emotional trigger, the current data, along with Berman's (2006) findings, suggest that it is also necessary to consider self-efficacy in relation to such behavior, not coping skills alone. In both of these studies, confidence in one's ability to control eating in the face of negative emotions (e.g., anxiety) is a predictor of disordered eating characteristics or weight preoccupation. It may not be a lack of coping skills that leads to disordered eating or weight preoccupation in the face of emotional experiences, but instead the lack of a belief in one's ability to control eating or manage emotions at those times.

Self-efficacy is thought to be situation specific, and as expressed by Berman (2006), "self-efficacy beliefs may have a powerful influence on actual behaviors" (p. 88). This suggests that a person may have any number of effective coping strategies available but will not necessarily believe in her ability to make use of them in specific situations or in her ability to avoid other reactions, such as eating, despite the possession of other strategies. Toray and Cooley (1997) found lower self-efficacy in participants whose weight fluctuated as opposed to those whose weight remained stable and stated that "...this self-efficacy deficit seemed particularly marked when dealing with emotions" (p. 390). Beyond whether coping strategies are available, self-efficacy could affect which coping strategies individuals choose to implement. In other words, self-efficacy with respect to eating, body image, and weight must be sufficient for an individual to continue to expend effort on related tasks. Implications of this for prevention and treatment are clear: improving self-efficacy with regard to eating behavior may positively influence future attempts to engage in healthy behaviors. In fact, the National Institute of Mental Health Committee on Prevention Research report of 1995 identified both self-efficacy and coping skills as protective elements that clinicians can successfully teach and modify and that individuals are likely to effectively utilize coping skills and develop self-efficacy in prevention of disorders (Phelps, Johnston & Augustyniak, 1999).

A second purpose of this study was to examine distinctions between two indices of body dissatisfaction as measured by the BIA-O. Results do clarify the ongoing challenge of understanding the construct of body dissatisfaction and designing measures that adequately quantify it in individuals. Specifically, they offer support for Valutis et al.'s (2008) suggestion that current and ideal or realistic body size discrepancies, as perceived by participants viewing silhouettes, have important differences that could facilitate understanding of body dissatisfaction overall. Support for this notion lies in the finding that although there were relationships between both of these indices of body dissatisfaction (CBS-IBS and CBS-RBS) with BMI and weight preoccupation, they differed in three of the four self-efficacy items to which they each correlated respectively. The common correlation was that those with greatest discrepancy between current body size and both ideal and realistic body sizes most strongly agreed that "It will be hard for me to maintain my weight at the level I want." The more one believed in the difficulty of maintaining a desired weight, the greater the discrepancy between current and realistic as well as ideal body sizes. However, according to the correlations, only those with the greatest discrepancy between perceived current and ideal body size reported difficulty maintaining a positive attitude about their own bodies when confronted with unrealistic media images, low belief in their ability to obtain and maintain a body size that makes them feel good about themselves, and low confidence in avoiding eating when feeling anxious.

It seems as though body dissatisfaction as a discrepancy between perceived current and ideal body size, which Valutis et al. (2008) termed 'unattainable' since it concerns whether one believes an ideal body size could be reached, is not only a function of the belief in one's ability to maintain a satisfactory weight, but also in one's belief in the ability to maintain a satisfactory body size, avoid eating when anxious, and maintain a positive attitude about her body despite media images. In contrast, those experiencing a discrepancy between perceived current and realistic body size, which Valutis et al. (2008) termed 'attainable' since it concerns what size a woman believes she could reach and maintain, is a function only of the belief in one's ability to maintain a satisfactory weight. This strengthens not only support for the distinction between 'realistic' and 'ideal' body size as different components of body dissatisfaction, but also supports the notion that self-efficacy is a mediating variable in individuals' efforts and beliefs related to reducing size discrepancies and potential impact of the presence of size discrepancies.

Limitations and Future Research Directions

Implications of current findings with regard to self-efficacy present exciting new areas for research, although the study is not without limitations. In particular, given the self-constructed nature of the self-efficacy scale, additional psychometric information is necessary to support reliability and validity of results using that measure. The predominant conceptualization of self-efficacy in the context of disordered eating is that of "eating self-efficacy," but this study used a broader conceptualization and measure for self-efficacy that included body image and weight. Accurate measurement of self-efficacy for clinical and non-clinical samples requires additional development. Future research will need to investigate the psychometric properties of self-efficacy measures as well as the implications of self-efficacy for both prevention of and intervention with disordered eating.

Given the presumptive links made between weight preoccupation, eating behaviors (based on previous research), and current research on self-efficacy future research needs to include measures of coping and eating behaviors along with the current measures utilized.

It also needs to be noted that existing research (e.g., Kostanski, Fisher, & Gullone, 2004) provides evidence that there are important gender differences in weight preoccupation, body image, and eating behaviors. The focus of this study was influenced by the prevalence of concern for females with relation to body dissatisfaction and disordered eating found in the existing literature (e.g., Johnson & Wardle, 2005; Kostanski et al., 2004). Given this focus, the current findings and discussion are specific to females. Recognizing, however, that gender differences have been identified in related literature, future research should include exploration of self-efficacy as a possible mediating factor in weight preoccupation in males.

Finally, an additional goal for future research is to clarify the relationship between self-efficacy and weight preoccupation by examining whether low self-efficacy contributes to weight preoccupation, or if weight preoccupation contributes to low self-efficacy.

Conclusion

It appears that self-efficacy is a significant factor in weight preoccupation and may be related to eating disordered behavior. As such, researchers and clinicians may need to include an intervention aimed at improving self-efficacy, both for treatment and prevention of disordered eating. Absence of a belief in ability to succeed in a goal can result in withdrawal of efforts toward that goal, or disengagement. Despite the literal attainability, efficacy theory suggests that the greater the belief that one is unable to attain a desirable body size, maintain a positive attitude toward one's body, and control one's eating across situations and affective states, the less effort one will put forth.

Finally, research is necessary to continue to decipher the complex dimensions of body dissatisfaction as well as its measurement. In particular, there is mounting evidence that there are differences between 'attainable' and 'unattainable' body sizes. Although discrepancy between one's current body size and either of these constitutes body dissatisfaction, experience of each is unique and carries unique implications for practitioners.

References

- Afifi-Soweid, R.A., Kteily, M.B.N., & Shediak-Rizkallah, M.C. (2002). Preoccupation with weight and disordered eating behaviors of entering students at a university in Lebanon. *International Journal of Eating Disorders, 32*(1), 52-57.
- Allaz, A-F., Bernstein, M., Rouget, P., Archinard, M., & Morabia, A. (1998). Body weight preoccupation in middle-age and ageing women: A general population survey. *International Journal of Eating Disorders, 23*(3), 287-294.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191-215.
- Banfield, S.S., & McCabe, M.P. (2002). An evaluation of the construct of body image. *Adolescence, 37*(146), 373-393.
- Berman, E.S. (2006). The relationship between eating self-efficacy and eating disorder symptoms in a non-clinical sample. *Eating Behaviors, 7*, 79-90.
- Canpolat, B.I., Orsel, S., Akdemir, A., & Ozbay, M.H. (2005). The relationship between dieting and body image, body ideal, self-perception, and body mass index in Turkish adolescents. *International Journal of Eating Disorders, 37*, 150-155.
- Cash, T.F. (1994). Body image attitudes: Evaluation, investment and affect. *Perceptual and Motor Skills, 78*, 1168-1170.
- Cooper, P.J., Taylor, M.J., Cooper, Z., & Fairburn, C.G. (1987). The development and validation of the body shape questionnaire. *International Journal of Eating Disorders, 6*(4), 485-494.
- Denisoff, E., & Endler, N.S. (2000). Life experiences, coping, and weight preoccupation in young adult women. *Canadian Journal of Behavioural Science, 32*(2), 97-103.
- Garner, D.M. (2004). Eating Disorder Inventory – 3 (EDI-3): Professional Manual. Odessa, FL: Psychological Assessment Resources.
- Gerin, W., Litt, M., Deich, J., & Pickering, T. (1995). Self-efficacy as a moderator of perceived control effects on cardiovascular reactivity: Is enhanced control always beneficial? *Psychosomatic Medicine, 57*, 390-397.
- Johnson, F., & Wardle, J. (2005). Dietary restraint, body dissatisfaction, and psychological distress: A prospective analysis. *Journal of Abnormal Psychology, 114* (1), 119-125.
- Kandiah, J., Yake, M., Jones, J., & Meyer, M. (2006). Stress influences appetite and comfort food preferences in college women. *Nutrition Research, 26*(3), 118-123.
- Klemchuk, H.P., Hutchinson, C.B., & Frank, R.I. (1990). Body dissatisfaction and eating-related problems on the college campus: Usefulness of the eating disorder inventory with a nonclinical population. *Journal of Counseling Psychology, 37*(3), 297-305.
- Kostanski, M., Fisher, A., & Gullone, E. (2004). Current conceptualization of body image dissatisfaction: Have we got to wrong? *Journal of Child Psychology and Psychiatry, 45*(7), 1317-1325.
- Leon, G.R., Fulkerson, J.A., Perry, C.L., & Cudeck, R. (1993). Personality and behavioral vulnerabilities associated with risk status for eating disorders in adolescent girls. *Journal of Abnormal Psychology, 102*(3), 438-444.

- Phelps, L., Johnston, L.S., & Augustyniak, K. (1999). Prevention of eating disorders: Identification of predictor variables. *Eating Disorders*, 7, 99-108.
- Pinto, A.M., Guarda, A.S., Heinberg, L.J., & DiClemente, C.C. (2006). Development of the eating disorder recovery self-efficacy questionnaire. *International Journal of Eating Disorders*, 39(5), 376-384.
- Schneider, J.A., O'Leary, A., & Agras, W.S. (1987). The role of perceived self-efficacy in recovery from bulimia: A preliminary examination. *Behavioral Research Therapy*, 25, 429.
- Shatford, L.A., & Evans, D.R. (1986). Bulimia as a manifestation of the stress process: A LISREL causal modeling analysis. *International Journal of Eating Disorders*, 5(3), 451-573.
- Stotland, S., Zuroff, D.C., & Roy, M. (1991). Situational dieting self-efficacy and short-term regulation of eating. *Appetite*, 17(2), 81-90.
- Stunkard, A., Sorenson, T., & Schulsinger, F. (1983). Use of the Danish Adoption Register for the study of obesity and thinness. In S. Kety, L.P. Rowland, R.L. Sidman, & S.W. Matthysse (Eds.), *The Genetics of Neurological and Psychiatric Disorders* (pp. 115-120). New York: Raven Press.
- Thompson, J.K., Altabe, M., Johnson, S., & Stormer, S.M. (1994). Factor analysis of multiple measures of body image disturbance: Are we all measuring the same construct? *International Journal of Eating Disorders*, 16(3), 311-315.
- Tiggemann, M. (1996). "Thinking" versus "feeling" fat: Correlates of two indices of body image dissatisfaction. *Australian Journal of Psychology*, 48(1), 21-25.
- Toray, T., & Cooley, E. (1997). Weight fluctuation, bulimic symptoms, and self-efficacy for control of eating. *The Journal of Psychology*, 131(4), 383-392.
- Valutis, S.A., Goreczny, A.J., Wister, J.A., Newton, H., Popp, S. and Vavrek, J. (2008). Relationships among Coping, Weight Preoccupation, and Body Image in College Undergraduates. *Scientific Journals International, Journal of Psychiatry, Psychology and Mental Health*, 2(1). Retrieved February, 24, 2009 from <http://www.scientificjournals.org/journals2008/articles/1338.pdf>.
- VanBoven, A.M., & Espelage, D.L. (2006). Depressive symptoms, coping strategies, and disordered eating among college women. *Journal of Counseling & Development*, 84, 341-348.
- Vanderlinden, J., Grave, R.D., Vandereycken, W., & Noorduyn, C. (2001). Which factors do provoke binge-eating? An exploratory study in female students. *Eating Behaviors*, 2(1), 79-83.
- Vaz, F.J., Penas, E.M., & Ramos, M.I. (1999). Body image dissatisfaction in bulimia nervosa and atypical bulimia nervosa. *German Journal of Psychiatry*, 2(2), 59-74.
- Waller, G., & Matoba, M. (1999). Emotional eating and eating psychopathology in nonclinical groups: A cross-cultural comparison of women in Japan and the United Kingdom. *International Journal of Eating Disorders*, 26(3), 333-340.
- Williamson, D.A., Davis, C.J., Bennett, S., Goreczny, A.J. & Gleaves. (1989). Development of a simple procedure for assessing body image disturbances. *Behavioral Assessment*, 11(4), 433-446.
- Williamson, D.A., Womble, L.G., Zucker, N.L., Reas, D.L., White, M.A., Blouin, D.C., & Greenway, F. (2000). Body Image Assessment for Obesity (BIA-O): Development of a new procedure. *International Journal of Obesity*, 24, 1326-1332.