

Self-Competence and the Prediction of Bulimic Symptoms in Older Women

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Previous research in undergraduate women has demonstrated that an individual's level of self-competence was a stronger predictor of bulimic symptom change than their level of self-liking (Bardone, Perez, Abramson, & Joiner, 2003). The authors examined whether self-competence would similarly predict bulimic symptom change in a sample of older women. In April 2000, a large group of adults attending mood disorder conferences completed questionnaires about eating disorder symptoms and self-esteem. Approximately 2.5 years later, 150 women, 45 years of age and older, were contacted for a follow-up study. Eighty-eight women completed follow-up eating disorder and self-esteem measures. Consistent with prior research, self-competence emerged as a stronger predictor of bulimic symptom change than self-liking, such that lower self-competence was associated with an increase in bulimic symptoms. The results indicate that self-competence may serve as a useful prognostic indicator and therapeutic target for older women seeking treatment for eating disorders.

RESEARCH IN THE AREA of eating disorders suggests that self-esteem is an important variable to consider with regard to the etiology and treatment of bulimia nervosa. This reflects the fact that self-esteem has repeatedly emerged as a correlate of bulimic symptoms, such as disordered eating attitudes and behavior (Bulik, Wade, & Kendler, 2000; Button, Sonuga-Barke, & Thompson, 1996; Fisher, Pastore, Schneider, Pegler, & Napolitano, 1994; Tomori & Rus-Makovc, 2000). Multiple cognitive-behavioral models indicate self-esteem as a factor in the onset of bulimia (Byrne & McLean, 2002; Fairburn & Wilson, 1993; Johnson, Connors, & Tobin, 1987; Mizes, 1988; Stice, 1994; Vohs, Bar-

done, Joiner, Abramson, & Heatherton, 1999). For example, Fairburn and Wilson (1993) proposed that societal pressures to be thin have a greater effect on individuals with low self-esteem than on individuals with high self-esteem. Accordingly, individuals with low self-esteem are more likely to turn to dieting to fit societal standards of slimness, thus increasing their risk for the development of bulimic symptoms. In another study, Vohs et al. found that women with high levels of perfectionism, and who perceived themselves as overweight, were particularly likely to develop bulimic symptoms over time if they also had low self-esteem. They conjectured that women with low self-esteem were more susceptible to self-sabotaging bulimic behavior (i.e., binge eating) because of their negative expectations for themselves. Finally, one prospective study found low self-esteem to be predictive of disordered eating symptoms in adolescent girls over a 4-year period (Button et al., 1996). Across studies, low self-esteem has been linked to the development of bulimic symptoms, while high self-esteem appears to serve as a buffer from bulimic symptom development.

These findings have led to the evaluation of self-esteem as a prognostic indicator within the context of treatment for bulimia nervosa. For example, Fairburn, Kirk, O'Connor, Anastasiades, and Cooper (1987) found that self-esteem was the only variable in their study that predicted treatment outcome for bulimic women, where women with lower levels of self-esteem were significantly less likely to have positive treatment outcome than women with higher levels of self-esteem. Additional studies have found that bulimic women with the lowest levels of self-esteem do least well in cognitive-behavioral, interpersonal, and behavioral therapy as compared to women with moderate or high levels of self-esteem (Fairburn et al., 1995; Schneider, O'Leary, & Agras, 1987). Collectively, these empirical studies suggest that self-esteem may serve as an important prognostic indicator for the course of bulimic symptoms.

Self-esteem has typically been regarded as a uni-

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dimensional construct reflecting an individual's overall view of herself. In fact, the Rosenberg Self-Esteem Scale, which has been consistently used since its development in 1965, was designed to tap a unitary construct. However, theorists (Franks & Marolla, 1976) formally challenged this notion of self-esteem, proposing that self-esteem is experienced bidimensionally. Tafarodi and Swann (1995, 2001) provided empirical support for two dimensions that comprise global self-esteem: self-liking (sense of self-worth) and self-competence (sense of personal efficacy). Self-liking is an individual's judgment about themselves based upon how they feel others view them (cf. "looking glass self"; Cooley, 1902). People with high levels of self-liking tend to be self-accepting and feel comfortable in social settings. In contrast, people who have low levels of self-liking tend to be self-critical and have difficulty in social contexts. On the other hand, self-competence focuses on an individual's beliefs about their abilities to control and manipulate their environment. Thus, people who are high in self-competence tend to feel motivated and have a generalized expectancy for success. By contrast, individuals who are low in self-competence tend to have arrested motivation and low expectations for themselves.

Despite the distinction, self-liking and self-competence are thought to be highly related facets of global self-esteem. For example, it is not difficult to imagine that an individual who views herself as competent will elicit positive judgment from others. Likewise, it is probable that an individual who feels socially confident will feel more effective in social contexts. Because of the shared empirical relationship between these two facets of self-esteem, it is necessary to study the unique variance of each dimension by holding the other dimension constant (Tafarodi & Swann, 1995).

Which of the dimensions of self-esteem is more associated with change in bulimic symptoms over time? In the only study to look at this issue, Bardone, Perez, Abramson, and Joiner (2003) "dismantled" self-esteem to determine which of the two dimensions was most related to change in bulimic symptoms. They found self-competence to be more predictive than self-liking of bulimic symptom change over time. They proposed that women who had higher levels of self-competence would be more likely to take healthy measures to meet their weight goals because of a belief in their capability to change their weight. They suggested that self-liking was not as closely related to the development of future bulimic symptoms because it reflects an individual's current feelings of self-worth rather than her expectations about the future. For example, a woman may dislike herself currently (i.e., low

self-liking) because she feels overweight, but if she believes she can lose weight (i.e., has high self-competence), then she may be more likely to utilize a healthy diet and exercise to achieve weight goals. In contrast, women who are low in self-competence may resort to the self-sabotaging behaviors of bulimia because of their disbelief in their ability to change their body weight. This explanation is consistent with the findings of Bardone, Abramson, Vohs, Heatherton, and Joiner (2003), who found that women with high levels of perfectionism, who perceived themselves as overweight, were particularly vulnerable to bulimic symptom development if they had low self-efficacy (cf. self-competence). In this connection, Heatherton and Baumeister's (1991) escape theory of binge eating and Bardone, Abramson, Vohs, Heatherton, and Joiner's (2004) expanded escape theory of binge eating predict that individuals with low expectations for themselves binge eat as a means of escaping distress about their inability to change for the better.

Do Bardone, Perez, et al.'s (2003) findings about the differential relations between dimensions of self-esteem and bulimic behavior apply to older women as well? Hay (1998) conducted an epidemiological study in a community-based Australian sample, and found that older women had higher rates of eating disorders than expected. In fact, purging was most common among women in the 35- to 44-year age range as compared to other age groups. She concluded that problematic eating disorder behaviors were more common in older women than expected, thus warranting further research attention. However, few studies on eating disorders in older women exist, likely due to the typical association of eating disorders with younger women (high school and college-aged), despite Hay's findings and despite evidence that bulimic symptoms remain fairly stable at least 10 years after women leave college (Joiner, Heatherton, & Keel, 1997). In addition, Cosford and Arnold (1992) conducted a review of case studies of women 50 years of age and older diagnosed with either bulimia or anorexia, and found symptom presentation to be akin to eating disorder symptoms in younger women. Also, studies have found that risk factors for eating disorders (e.g., concern about appearance, weight, eating, and body dissatisfaction) continue throughout the lifespan (Altabe & Thompson, 1993; Pliner, Chaiken, & Flett, 1990; Stevens & Tiggeman, 1998; Tiggeman & Stevens, 1999). One difference that may exist involving the variable of age in eating disorders is that traditionally studied college samples likely involve individuals who are experiencing their first onset of bulimic symptoms (American Psychiatric Association, 1994), while older women

may have eating disorders that have either relapsed and remitted or persisted since initial onset. Thus, it is necessary to test these hypotheses empirically before generalizing relations of self-esteem to bulimia in younger samples to older samples. Considering the apparent similarities between eating disorder symptoms across age groups, we proposed that self-esteem (specifically self-competence) would emerge as a significant predictor of change in bulimic symptoms over time in older women as well.

It is proposed that Bardone, Perez, et al.'s (2003) findings reflect the fact that self-competence specifically embodies an individual's expectations and beliefs about her *behavior*, including future efforts to regulate eating, while self-liking is descriptive of a person's current feelings about how others view her. Clearly, these dimensions are related; however we expected the distinction between the two dimensions to emerge (as it has in previous research: Tatarodi & Swann, 1995, 2001) in their differential relations to bulimic behavior. Therefore, based upon previous work and theoretical reasoning, we hypothesized that self-competence would be a stronger predictor of bulimic symptoms in a sample of older women than would self-liking. We tested this hypothesis in a 2.5-year longitudinal study of women 45 years of age and older.

Method

PARTICIPANTS AND PROCEDURE

In April 2000 (Time 1), 2,383 men and women (primarily health professionals seeking continuing education credits) attending seminars on mood disorders and related conditions in 10 states in the Midwest and in southern regions of the United States were asked to fill out brief questionnaires about their mood and behaviors if they wished to participate in data collection for research purposes. They were informed that their answers would remain confidential, and to include their contact information if they were willing to be contacted for future research. Participants' mean age was 45.19 (range = 19 to 84). The majority of the sample was female (79%). Ethnicity information is not available regarding the Time 1 sample.

In November 2003 (Time 2: approximately 2.5 years later), the authors randomly selected 150 women who were 45 years of age and older for the present study. The women were sent questionnaires (identical to Time 1) and letters explaining that the authors were conducting a follow-up study and that if they wished to participate by completing the forms, their information would remain confidential. The current study focuses on the 88 participants (64% response rate) who qualified to participate in the study as they filled out the questionnaires in their

entirety at Time 1 and Time 2. Attrition analyses indicate that there were no significant differences between completers and noncompleters regarding initial levels of self-liking, $t(148) = -0.54$, $p = .59$, self-competence, $t(148) = -1.21$, $p = .23$, or bulimic symptoms, $t(148) = -.039$, $p = .70$.

MEASURES

Rosenberg Self-Esteem Scale (SES; Rosenberg, 1965). The SES is a reliable and valid scale that measures global self-esteem (Blascovich & Tomaka, 1991). Participants were asked to rate six statements, such as "I feel that I have a number of good qualities," on a scale from 0 (*strongly disagree*) to 3 (*strongly agree*). Tatarodi and Swann (1995) demonstrated that factors corresponding to self-competence and self-liking were valid and distinct dimensions of global self-esteem. Following their approach, we summed SES Items 1, 2, and 4 to obtain an index of self-competence, and SES Items 8, 9, and 10 to obtain an index of self-liking. Alpha coefficients in this sample were .75 for self-competence and .76 for self-liking. Scores were computed such that higher scores signified higher levels of self-competence and self-liking.

Eating Disorders Inventory-2 (EDI; Garner, 1991). The EDI is a commonly used 64-item self-report measure of eating-related attitudes and behaviors. The scale is reliable and has been extensively validated (see Garner, Olmsted, & Polivy, 1983). It yields eight subscales: Drive for Thinness, Bulimia, Body Dissatisfaction, Ineffectiveness, Perfectionism, Interpersonal Distrust, Interoceptive Awareness, and Maturity Fears. The present study focused on six items from the Bulimia subscale which measure bulimic attitudes and behaviors. The participants were asked to rate the frequency of a statement, such as "I eat moderately in front of others and stuff myself when they're gone," on a scale from 1 (*never*) to 6 (*always*). The alpha coefficients for this sample were .87 for Time 1 and .85 for Time 2. Scores were computed so that higher scores indicated greater bulimic tendencies.

Results

Table 1 displays sample means and standard deviations (see diagonal), as well as the zero-order correlations among all measures. As displayed in Table 1, self-competence was significantly correlated with Time 1 Bulimia ($r = -.35$, $p < .01$) and Time 2 Bulimia ($r = -.43$, $p < .01$). Self-liking was also significantly correlated with Time 1 Bulimia ($r = -.41$, $p < .01$) and Time 2 Bulimia ($r = -.38$, $p < .01$). As advocated by Meng, Rosenthal, and Rubin (1992), we used a *Z* (normal curve) test for the significance of the difference between the Time 1 Bulimia-self-

TABLE 1 Means, Standard Deviations, and Intercorrelations Among All Measures

	1	2	3	4
1. Self-competence	6.98 (1.73)			
2. Self-liking	.77*	6.47 (2.01)		
3. Time 1 Bulimia	-.35*	-.41*	12.09 (4.94)	
4. Time 2 Bulimia	-.43*	-.38*	.72*	11.19 (4.42)

Note. Means and standard deviations (in parentheses) on diagonal. Self-competence and self-liking indices were computed from items of the Rosenberg Self-Esteem Scale. The Rosenberg Self-Esteem Scale was scored on a 0-to-3 scale; range of scores for each was 0 to 9. Higher scores indicate higher self-competence and self-liking. Bulimia indices are from the Eating Disorders Inventory. The Eating Disorder Inventory-Bulimia subscale was scored on a 1-to-6 scale; range of scores was 6 to 36. Higher scores indicate more severe bulimic tendencies.
* $p < .01$.

competence correlation and the Time 1 Bulimia-self-liking correlation ($-.35$ vs. $-.41$), and found that there was not a statistically significant difference ($Z = .99, p = ns$). Similarly, the difference between the Time 2 Bulimia-self-competence correlation and the Time 2 Bulimia-self-liking correlation ($-.43$ vs. $-.38$) was not statistically significant ($Z = .76, p < ns$).

However, as mentioned above, it is necessary to study the *unique* variance of each dimension by holding the other constant because of their strong empirical interrelation (Tafarodi & Swann, 1995). Accordingly, the above analyses were repeated using partial correlations, which were conducted by comparing the two measures of bulimic symptoms (Time 1 and Time 2) to the two self-esteem dimensions, controlling for the other self-esteem dimension (e.g., self-competence correlated to Time 2 Bulimia, controlling for self-liking). Self-liking had a significantly higher correlation with Time 1 Bulimia ($pr = -.23, p < .05$) than did self-competence ($pr = -.06, p < ns$; Z [normal curve] test for the significance of the difference; $Z = 2.32, p < .05$; Meng et al., 1992¹). In contrast, self-competence had a significantly higher correlation with Time 2 Bulimia ($pr = -.23, p < .05$) than did self-liking ($pr = -.08, p = ns$; $Z = -2.90, p < .01$).

It is important to emphasize that this mixed pattern of findings on zero-order correlations is quite similar to the results of Bardone, Perez, et al. (2003).

¹Meng et al.'s Z (normal curve) test for the significance of difference between two sample correlation coefficients is not designed to compare partial correlations. We used Meng et al.'s technique as an estimate.

The crucial test of our hypothesis involved the prediction of *change over time* in bulimic symptoms. We posited that self-competence would be predictive of change over time in bulimic symptoms because it specifically embodies an individual's expectations and beliefs about her *behavior*, including future efforts to regulate eating. By contrast, we did not expect self-liking to be predictive of change in bulimic symptoms because it characterizes a person's current feelings about how others view her.

The correlation figures above describe the strength of the relationship between each dimension of self-esteem and each measure of bulimic symptoms (Time 1 and Time 2). However, a regression analysis is crucial to the testing of our hypothesis that self-competence is a stronger predictor than self-liking of change in bulimic symptomatology. Consistent with the suggestions of Cohen, Cohen, West, and Aiken (2003), a setwise hierarchical multiple regression procedure was used to test the relations of self-competence and self-liking to change in bulimic symptoms over time. Time 2 Bulimia served as the dependent variable. Time 1 (baseline) Bulimia scores were entered first into the regression equation, thus establishing residual change scores in bulimic symptoms from Time 1 to Time 2. Next, Time 1 self-competence and self-liking scores were simultaneously entered into the regression equation as predictors of change in bulimic symptoms. Regression analysis indicated that self-liking was not related to residual changes in bulimic scores from Time 1 to Time 2, $pr = .10, t(84) = 0.95, p = ns$. In contrast, self-competence was related to changes in bulimic symptoms from Time 1 to Time 2 ($pr = -.26, t[84] = -2.44, p < .05$), such that lower self-competence predicted an increase in bulimic symptoms, similar to the findings of Bardone, Perez, et al. (2003).² Self-competence uniquely accounted for approximately 7% of the variance in the prediction of Time 2 bulimic symptoms.

Discussion

Bardone, Perez, et al. (2003) dismantled global self-esteem in order to determine which of two dimensions was more predictive of change in bulimic symptoms over time. They found that self-competence was a stronger predictor of change in

²In order to test the possibility that depression symptoms affected the results, we conducted another regression equation controlling for Time 1 Beck Depression Inventory (Beck, Rush, Shaw, Emery, & 1979) scores. The results were virtually identical: Time 1 depression symptoms did not significantly predict Time 2 bulimic symptoms ($pr = .13, t(84) = 1.13, p = ns$); self-liking was not related to residual changes in bulimic symptoms from Time 1 to Time 2 ($pr = .09, t(84) = .78, p = ns$); and self-competence was a significant predictor of changes in bulimic symptoms from Time 1 to Time 2 ($pr = -.24, t(84) = -2.18, p < .05$).

bulimic symptoms than was self-liking in undergraduate women. The objective of the current study was to determine if this finding would generalize to a sample of older women. Our results were generally consistent with Bardone et al.'s findings. A mixed pattern emerged from the two sets of zero-order correlations: self-liking had a significantly stronger negative correlation with concurrent bulimic symptoms (Time 1), while self-competence had a significantly stronger negative correlation with future bulimic symptoms (Time 2: approximately 2.5 years later). However, the prospective regression analysis, which was crucial to the test of our hypothesis, was supportive of our prediction that Time 1 self-competence would emerge as a stronger predictor of change in Time 2 bulimic symptoms than would Time 1 self-liking. Consistent with our predictions, participants with lower levels of Time 1 self-competence tended to have higher levels of bulimic symptoms at Time 2. Conversely, women with higher levels of self-competence generally had lower levels of Time 2 bulimic tendencies. Therefore, it appears that self-competence may play a stronger role than self-liking in the change of bulimic symptoms over time, across age groups of women.

The findings that self-liking does not predict increase in bulimic symptoms suggest that believing that one is unlikable is not related to change in bulimic symptoms over time, but may have to do with other stages of bulimia, such as maintenance. Perhaps it is the case that bulimic women tend to dislike themselves, but beliefs about their ability to change is a stronger predictor of their future behavior. Alternatively, the variance that self-liking accounts for in the prediction of change in bulimic symptoms may be the variance it shares with self-competence. Examination of the nature of how these processes work in the context of bulimic symptoms provides an interesting area for future research.

The results of our study corroborated past theoretical distinctions (Franks & Marolla, 1976) and empirical findings (Tafarodi & Swann, 1995) regarding the bidimensional structure of self-esteem. We replicated the well-supported finding that self-esteem is composed of the dimensions self-liking and self-competence by demonstrating that each had a unique relationship with bulimic symptoms. Second, we have replicated general findings that self-competence may play a role in bulimic behavior. This finding suggests that individuals who are low in self-competence may be more vulnerable to bulimic symptom development, perhaps due to feelings of ineffectiveness that lead to the extreme behaviors associated with bulimia (e.g., highly re-

strictive dieting) rather than more adaptive behaviors of weight loss (e.g., healthy diet and exercise).

In addition to theoretical implications, our findings may have clinical applications. If therapists implement exercises designed to build self-competence in eating disorder clients (e.g., setting attainable goals), according to our findings, a decrease in bulimic symptoms may occur. For example, cognitive-behavioral therapy may be a useful way to challenge maladaptive cognitions about self-competence. Increased self-competence may aid in the therapeutic process two-fold. First, clients may be less prone to the negative features associated with low self-competence and bulimic symptoms, such as negative affect and depression. Second, clients may feel more motivated about therapy via the more optimistic expectancy associated with high self-competence. Finally, self-competence may be a useful prognostic indicator for eating disorder clients. Severe self-competence deficits may indicate the need for a longer or more intense course of treatment.

The results of this study should be evaluated with consideration of its limitations. First, our measures were limited to self-report, and the exclusive use of this method has been criticized regarding research on eating disorders (e.g., self-presentational biases; Fairburn & Beglin, 1994). In response, the facts that the participants were ensured confidentiality, had no face-to-face contact with researchers after completing the questionnaires, and provided information through reliable and valid self-report measures may have minimized self-representational biases. Still, future studies using multiple methods should strengthen the accuracy of assessment. In addition, our indices of self-competence and self-liking were derived from the Rosenberg SES, which was designed to measure global self-esteem. It is noted, however, that previous empirical research supports this method (Tafarodi & Swann, 1995). Future research may benefit from the use of the Self-Liking/Self-Competence Scale (Tafarodi & Swann, 1995), which was specifically designed to tap global self-liking and self-competence.

It is also worth noting some limitations about the sample. We utilized a community sample of health professionals rather than a clinical sample to test our hypotheses. While data provided by this sample may reveal information about the nature of bulimic symptoms, it is not clear whether the results can be generalized to women with a diagnosis of bulimia nervosa. It is likely that the bulimic symptoms that did exist in participants were at subclinical levels. Future studies in clinical samples may shed light on potential discrepancies about the interrelations of bulimic symptoms and self-esteem between clinical and nonclinical samples. Also, some

might object to the use of a sample of mental health professionals, because of a belief that they have greater access to health care (including mental health care), and thus may be psychologically healthier than the rest of the population. However, studies indicate that health professionals may suffer from psychopathology at similar or higher rates than the general population (e.g., higher suicide rates in physicians and dentists; Lindeman, Laeerae, Hakko, & Loennqvist, 1996; Stack, 1996, respectively). Finally, our response rate was 64%; thus, there is a chance of an attrition bias. However, the likelihood of an attrition bias accounting for our findings is minimized because there were no significant statistical differences between completers and non-completers regarding the variables under examination: self-liking, self-competence, and bulimic symptoms.

Despite the limitations of the study, there are important strengths that deserve mention. First of all, we tested our hypotheses in older women—a population which is especially understudied in the area of eating disorders. Consequently, little information is known about the course of bulimic symptoms in this population. Our findings demonstrate that self-competence may be a useful prognostic indicator in this age group. In this vein, the participants were followed over 2.5 years, which suggests that self-competence may have predictive value over a substantial period of time. In addition, our sample included women from 10 different states in two different regions of the United States, which contributes to geographic generalizability. Finally, our results were consistent with Bardone, Perez, et al.'s (2003) study of undergraduate women, suggesting that there may be similarities in the relationship between self-esteem and bulimic symptoms across age groups. This could reflect the fact that initial onset of bulimic symptoms occurs in a parallel fashion in younger and older women, or it could reflect the stability of bulimic symptoms and related variables over time (Joiner et al., 1997). Future research investigating the typical course of bulimic symptoms from early to middle adulthood, including history of full-syndrome bulimia nervosa and its effect on related variables (i.e., levels of hopelessness) over time, may illuminate the specific nature of our findings.

Brandstädter and Greve (1994) proposed that individuals age “successfully” by means of three interdependent processes: (a) compensatory activities in a domain central to one's identity (e.g., buying trendy clothes in order to enhance appearance), (b) accommodations of self-evaluative standards (e.g., adjusting one's ideal body shape); and (c) immunizing mechanisms (i.e., rejecting or reinterpret-

ing self-discrepant data). They argued that individuals who utilize such adaptive processes tend to maintain high self-esteem and consequently protect themselves from negative mental health consequences (e.g., depression), despite common negative life events that occur throughout the aging process (e.g., physical ailments, loss of loved ones). Based on the current findings, we speculate that women who successfully maintain their self-competence through such mechanisms may be buffered from the development of bulimic symptoms. That is, older women who actively compensate to maintain their self-identity as capable, accommodate self-evaluations so that they can reasonably meet their standards, and reject evidence suggesting their ineffectiveness may be less likely to develop bulimic symptoms. Future evaluation of how these adaptive processes function and interrelate with bulimic symptoms in older women presents an interesting area for future research.

In summary, we have replicated Bardone, Perez, et al.'s (2003) finding that level of self-competence uniquely predicts change in bulimic symptoms over time. Furthermore, we have tested this phenomenon in a sample of older women over a 2.5-year time period, which supports generalization of this finding across age groups. Our findings may have modest implications for theoretical models, as well as therapeutic procedures for the treatment of bulimia nervosa in middle-aged women. It is hoped that the findings in the current study will serve to facilitate deeper examination of the relationship between aging, self-esteem, and bulimic symptoms.

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