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Examining an Elaborated Sociocultural Model of Disordered Eating Among College Women: The Roles of Social Comparison and Body Surveillance

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Abstract

Social comparison (i.e., body, eating, exercise) and body surveillance were tested as mediators of the thin-ideal internalization-body dissatisfaction relationship in the context of an elaborated sociocultural model of disordered eating. Participants were 219 college women who completed two questionnaire sessions 3 months apart. The cross-sectional elaborated sociocultural model (i.e., including social comparison and body surveillance as mediators of the thin-ideal internalization-body dissatisfaction relation) provided a good fit to the data, and the total indirect effect from thin-ideal internalization to body dissatisfaction through the mediators was significant. Social comparison emerged as a significant specific mediator while body surveillance did not. The mediation model did not hold prospectively; however, social comparison accounted for unique variance in body dissatisfaction and disordered eating 3 months later. Results suggest that thin-ideal internalization may not be “automatically” associated with body dissatisfaction and that it may be especially important to target comparison in prevention and intervention efforts.

Keywords

social comparison; body surveillance; thin-ideal internalization; body dissatisfaction; disordered eating; sociocultural model

There is support for sociocultural models of disordered eating among college women (e.g., Dual Pathway Model – Stice, 1994; Stice, Nemeroff, & Shaw, 1996; Tripartite Influence Model – Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999) – a group with high rates of diagnosable eating disorders, disordered eating, and body dissatisfaction in the USA and other Western countries (e.g., Berg, Frazier, & Sherr, 2009; Eisenberg, Nicklett, Roeder, & Kirz, 2011; Mikolajczyk et al., 2010; Said, Kypri, & Bowman, 2013; White, Reynolds-Malear, & Cordero, 2011). These sociocultural models tend to have several elements in common. According to them, disordered eating is partially a result of pressure for women to achieve the thin ideal (Striegel-Moore, Silberstein, & Rodin, 1986). In order for this pressure to have the most pronounced negative impact, it must be internalized. Indeed, if a woman internalizes this pressure/the thin ideal, it is likely that this thin-ideal internalization will have adverse effects (Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004). It is of note though that among samples of college women, pressure for thinness accounts for unique variance in body dissatisfaction, even above and beyond the variance accounted for by thin-ideal internalization (e.g., Stice et al., 1996). That is, on their own, repeated messages that one is not thin enough may increase dissatisfaction with the body (e.g., Stice, 2001). Thus, pressure for thinness may result in body dissatisfaction both directly and indirectly via its influence on thin-ideal internalization (e.g., Stice & Shaw, 2002).

Both cross-sectional and prospective research studies have demonstrated that thin-ideal internalization is associated with body dissatisfaction (e.g., Keery, van den Berg, & Thompson, 2004; Shroff & Thompson, 2006; Stice & Whitenton, 2002). Body dissatisfaction can in turn lead to disordered eating (Halliwell & Harvey, 2006). Yet, as highlighted by Fitzsimmons-Craft, Harney, and colleagues (2012), sociocultural models of disordered eating typically lack explanations as to how thin-ideal internalization leads to body dissatisfaction and subsequent disordered eating. In theory, women who have internalized the thin ideal would be at risk for developing body dissatisfaction when the ideal is not met, but how does a woman come to know that there is a discrepancy between what she would ideally like to look like and what she currently looks like? A better understanding of the mechanisms through which thin-ideal internalization is associated with body dissatisfaction would inform prevention and intervention efforts and provide researchers and clinicians with a more comprehensive understanding of the sociocultural influences underlying body dissatisfaction development. The current study focused on two prominent social psychological theories, namely social comparison (Festinger, 1954) and objectification (Fredrickson & Roberts, 1997; McKinley & Hyde, 1996) theories, as explanations of the thin-ideal internalization-body dissatisfaction relation in the context of a sociocultural model among college women.

Social Comparison

Social comparison theory (Festinger, 1954) holds that humans have a natural drive to assess their progress and standing in life. There is ample evidence that college women engage in frequent comparisons with peers (e.g., Leahey, Crowther, & Mickelson, 2007), and research and theory have suggested that social comparisons with peers, which are usually in the upward direction (i.e., an individual compares herself to someone whom she perceives to be “better off” in some way), may be one pathway through which internalized pressures for thinness develop into body dissatisfaction and disordered eating (Dittmar, 2005; Dittmar & Howard, 2004; Fitzsimmons-Craft, Harney, et al., 2012; Leahey et al., 2007). It may be that via social comparison, individuals come to know that they have not yet actualized their ideal. Indeed, appearance-related social comparison and body comparison have been found to mediate the relation between thin-ideal internalization and body dissatisfaction in cross-sectional studies of preadolescent and adolescent girls (Blowers, Loxton, Grady-Flessler, Occhipinti, & Dawe, 2003; Carey, Donaghue, & Broderick, 2014). However, Fitzsimmons-Craft, Harney, et al. (2012) found that neither general nor appearance-related social comparison tendencies uniquely mediated this relation (above and beyond the effects of body surveillance) in a cross-sectional study of college women. They hypothesized that the general measure of social comparison used in this study may have been too general and that the appearance-related social comparison measure may have been too narrow. For example, other social comparison domains, such as those related to eating and exercise, may also stem from thin-ideal internalization and be associated with body image disturbance. Thus, examining the roles of body, eating, *and* exercise comparisons may be important in terms of coming to a more comprehensive understanding of the ways in which social comparison behavior contributes to body dissatisfaction and disordered eating.

Body Surveillance

Objectification theory holds that within dominant American culture, the female body has been constructed as an object to be looked at (Fredrickson & Roberts, 1997; McKinley & Hyde, 1996). As a result, girls and women learn to view themselves from an observer’s perspective and to treat themselves as objects to be looked at. This self-objectification is thought to behaviorally manifest itself in the act of body surveillance (Moradi & Huang, 2008), which involves thinking about how one’s body looks to an outside observer and thinking more about how one’s body looks than how it feels (McKinley & Hyde, 1996). In other words, self-objectification describes a perspective of oneself, while body surveillance is the active, behavioral manifestation of this viewpoint. It is via this surveillance that many women realize there is a discrepancy between what they see and what they would ideally like to look like, and thus, may experience negative consequences, such as body dissatisfaction (e.g., Knauss, Paxton, & Alsaker, 2008; McKinley & Hyde, 1996). Indeed, Myers and Crowther (2007) and Fitzsimmons-Craft, Harney, and colleagues (2012) found that both the process of self-objectification and the behavior of body surveillance mediated the relation between internalization of the thin ideal and body dissatisfaction in cross-sectional studies of college women.

The Current Study

Research on sociocultural models of disordered eating typically lacks a comprehensive understanding as to how thin-ideal internalization leads to body dissatisfaction and subsequent disordered eating. Additionally, although aspects of sociocultural models of disordered eating have been tested longitudinally (e.g., Stice, Shaw, & Nemeroff, 1998), much of the work in this area has been cross-sectional (e.g., Stice, Schupak-Neuberg, Shaw, & Stein, 1994; Twamley & Davis, 1999), which has precluded understanding causal mechanisms. Further, the longitudinal work that has been done has typically not controlled for the temporal stability of study constructs (Stice, 2001; Stice & Bearman, 2001). This study addresses these limitations of prior research by collecting data from female undergraduates via questionnaires administered at two time points: at the beginning of an academic semester (Time 1; T1) and about 3 months later at the end of the academic semester (Time 2; T2).

The current study should be considered an extension of Fitzsimmons-Craft, Harney, et al. (2012), which simultaneously examined social comparison (general and appearance-related) and body surveillance as mediators of the thin-ideal internalization-body dissatisfaction relation using a cross-sectional design and manifest variables. In the present study, we examined social comparison (including body, eating, and exercise comparisons) and body surveillance, which are correlated but distinct constructs (e.g., Fitzsimmons-Craft, Harney, et al., 2012), as mediators of the thin-ideal internalization-body dissatisfaction relation in the context of an elaborated sociocultural model of disordered eating (i.e., that includes social comparison and objectification theories) using latent variables (see Figure 1). All paths specified between constructs in the model were grounded in previously discussed empirical findings and/or in theory. It was hypothesized that the elaborated sociocultural model of disordered eating would provide a good fit to the data and that social comparison and body surveillance would significantly mediate the thin-ideal internalization-body dissatisfaction relation within this model. Of note is the fact that the Tripartite Influence Model (Thompson et al., 1999) examines social comparison and thin-ideal internalization as mediators of the relationship between sociocultural influence (similar to pressure for thinness) and body dissatisfaction. As such, the elaborated sociocultural model examined in the current study should be considered a revision and extension of the Tripartite Influence Model. We also examined a model not including social comparison and body surveillance (i.e., a “more traditional” sociocultural model: pressure for thinness → thin-ideal internalization → body dissatisfaction → disordered eating, and including a path from pressure for thinness to body dissatisfaction) in order to ascertain what (if anything) is gained by incorporating these constructs in the model. These models were examined cross-sectionally (i.e., using only the T1 data).

In a more exploratory fashion, we examined the prospective relations among the constructs involved in the mediational component of this model (i.e., thin-ideal internalization, social comparison, body surveillance, body dissatisfaction). In particular, we examined if these constructs significantly predicted levels of and change in one another over time, prior to examining whether social comparison and body surveillance mediated the relation between thin-ideal internalization and body dissatisfaction prospectively. We also examined the

prospective relations between social comparison/body surveillance and disordered eating (the endpoint of sociocultural models), as we were interested in both whether social comparison and body surveillance predicted future levels of disordered eating and whether social comparison and body surveillance predicted change in disordered eating over the course of 3 months.

Method

Participants

Participants were 238 women attending a large, US public Southeastern university; at the first study assessment, they ranged in age from 17 to 22 years, with a mean age of 18.71 years ($SD = 1.00$). Recruitment occurred through introductory psychology courses. Most women (68.5%) identified themselves as White, 8.4% as African American or Black, 7.6% as Asian, 4.2% as Hispanic, 1.3% as American Indian or Alaskan Native, 9.7% as multiracial/multiethnic, and .4% as other races/ethnicities. Highest parental education was used as a proxy for socioeconomic status and ranged from 7 to 21 years ($M = 16.50$ years, $SD = 2.68$). This sample's mean score on the Eating Attitudes Test-26 (EAT-26; Garner, Olmsted, Bohr, & Garfinkel, 1982) was 9.24 ($SD = 7.30$). The EAT-26 is a commonly used measure of eating disorder attitudes and behaviors, and a score of 20 or more indicates a probable eating disorder (King, 1989, 1991). On average, this sample exhibited a level of disordered eating that was similar in magnitude to that observed in other studies of college women (e.g., Desai, Miller, Staples, & Bravender, 2008; Fitzsimmons-Craft, Bardone-Cone, & Harney, 2012). Weston and Gore (2006) recommend a minimum sample size of 200 for any structural equation model (SEM); thus, the current sample size should be sufficient for detecting significant effects if they exist.

Measures at Time 1 (T1) and Time 2 (T2)

Where possible, we assessed each study construct via at least three different measures so that latent variables with multiple indicators could be used in our SEM analyses (described below). However, there were three constructs for which we did not use three separate measures. In the case of pressure for thinness, we used only two measures to assess this construct given that we identified only two psychometrically-supported existing measures of this construct in the literature. In the case of social comparison, this construct was assessed via one measure (the Body, Eating, and Exercise Comparison Orientation Measure (BEECOM); Fitzsimmons-Craft, Bardone-Cone, & Harney 2012), which comprehensively assesses eating disorder-related social comparison behavior with three subscales. For SEM analyses, these three subscales were used as indicators of an eating disorder-related social comparison behavior latent variable. Given that, to our knowledge, only one measure of body surveillance exists, this was the only measure of this construct that was administered, and the items that comprise this measure were used as indicators of a body surveillance latent variable in SEM analyses.

Demographics—Demographic data for age, parents' highest levels of education, and race/ethnicity were collected at T1 via a set of questionnaires created for this study. Additionally, participants reported on their current weight and height at T1, and we used this information

to compute body mass index (BMI), as we were interested in the ways in which BMI may relate to the study constructs. There is evidence that individuals are generally accurate with their self-reported weights (Shapiro & Anderson, 2003).

Pressure for thinness—Pressure for thinness was measured via two questionnaires. The Perceived Sociocultural Pressure Scale (PSPS; Stice & Agras, 1998; Stice & Bearman, 2001; Stice, Ziemba, Margolis, & Flick, 1996) assesses perceived pressure from family, friends, dating partners, and the media to be thin. This measure consists of eight items that are rated on a 1 (*none*) to 5 (*a lot*) scale, and items are averaged to create a total score. Past research with a similar measure has found that child reports of parental pressure to lose weight correspond well with parental self-reports of such pressure (Thelen & Cormier, 1995), and research has indicated adequate internal consistency among samples of adolescent females and individuals with bulimia nervosa (Cronbach's alphas from .83–.88; Stice & Agras, 1998; Stice, Ziemba, et al., 1996). In the current study, alpha was .79 at T1.

We also used the Pressures subscale of the Sociocultural Attitudes Toward Appearance Questionnaire-4 (SATAQ-4; Schaefer et al., in press) to assess pressure for thinness. This subscale of the SATAQ-4 assesses perceived pressure from family, peers, and the media to be thin/to strive for cultural ideals of beauty. The subscale consists of 12 items that are rated on a 1 (*definitely disagree*) to 5 (*definitely agree*) scale, and items are summed to create a total score. Schaefer et al. (in press) reported high internal consistency (Cronbach's alphas = .85–.96) in a large sample of college women collected from four sites and demonstrated excellent construct validity (e.g., the Pressures subscale correlated with a measure of eating disorder psychopathology). In the current study, alpha was .92 at T1.

Thin-ideal internalization—The construct of thin-ideal internalization was assessed using three measures. First, we used the Ideal-Body Stereotype Scale-Revised (IBSS-R; Stice & Agras, 1998; Stice, Ziemba, et al., 1996), which assesses participants' level of agreement with statements concerning what attractive women look like. This measure consists of six items that are rated on a 1 (*strongly disagree*) to 5 (*strongly agree*) scale, and items are averaged to create a total score. Regarding convergent and discriminant validity, the IBSS-R evidenced a stronger correlation with a body dissatisfaction measure than with a measure of negative affect (Stice, Ziemba, et al., 1996) in a sample of adolescent females. Adequate internal consistency has been demonstrated among samples of adolescent females and individuals with bulimia nervosa (Cronbach's alphas from .89–.91; Stice & Agras, 1998; Stice, Ziemba, et al., 1996). In the current study, alpha was .72 at T1.

Thin-ideal internalization was also measured via the Internalization-Thin/Low Body Fat subscale of the SATAQ-4 (Schaefer et al., in press), which assesses endorsement and acceptance of messages that espouse unrealistic ideals for female beauty and the striving toward such ideals. This subscale consists of five items that are rated on a 1 (*definitely disagree*) to 5 (*definitely agree*) scale, and items are summed to create a total score. Evidence of good construct validity has been demonstrated (e.g., relatively high correlation with a measure of eating disorder pathology; Schaefer et al., in press) and high internal consistency has been reported in a large sample of college women from four sites (alphas of .87–.92; Schaefer et al., in press). In the current study, alpha was .83 at T1.

Finally, thin-ideal internalization was measured via the Importance of Being Attractive and Thin subscale of the Beliefs About Attractiveness Scale-Revised (BAAR; Petrie, Rogers, Johnson, & Diehl, 1996), which assesses agreement with Western societal values regarding the importance of being thin and attractive. This measure consists of 10 items that are rated on a 1 (*strongly disagree*) to 7 (*strongly agree*) scale, and items are averaged to create a total score. Evidence of construct validity in a sample of college women is demonstrated by the subscale's significant associations with bulimic symptomatology, concern with body size and shape, and depression (Petrie et al., 1996). In samples of college women, alphas of .84–.86 have been reported for this subscale (Bradford & Petrie, 2008; Wood & Petrie, 2010). In the current study, alpha was .89 at T1.

Social comparison—Social comparison behavior, including body, eating, and exercise social comparison tendencies, was assessed using the BEECOM (Fitzsimmons-Craft, Bardone-Cone, & Harney, 2012). This measure consists of 18 items that are rated on 1 (*never*) to 7 (*always*) scale. Items are summed to create subscale scores (i.e., Body Comparison Orientation, Eating Comparison Orientation, and Exercise Comparison Orientation) and the total score (i.e., eating disorder-related social comparison orientation). Evidence of construct validity is demonstrated by the subscales' and total score's significant positive correlations with general social comparison orientation, eating disorder symptomatology, and body dissatisfaction in a female college sample (Fitzsimmons-Craft, Bardone-Cone, & Harney, 2012). Fitzsimmons-Craft, Bardone-Cone, and Harney (2012) found estimates of internal consistency for the subscale and total scores that ranged from .93 to .97. In the current study, alphas for the BEECOM total and subscale scores were all .91 or greater at both T1 and T2.

Body surveillance—Body surveillance was assessed via the Body Surveillance subscale of the Objectified Body Consciousness Scale (OBCS; McKinley & Hyde, 1996). This subscale consists of eight items that are rated on a 1 (*strongly disagree*) to 7 (*strongly agree*) scale, and items are averaged to create a subscale score. This subscale contains one comparison-related item (i.e., “I rarely compare how I look with how other people look”); in order to minimize issues related to construct overlap, this item was not included when computing the subscale score, so that all analyses were run using the 7-item version of the OBCS Body Surveillance score. Also of note, if more than two items are missing on an OBCS subscale (with a “not applicable” response option being counted as missing), then the score for that subscale is not computed (McKinley & Hyde, 1996). However, no study participants had more than two items missing on the Body Surveillance subscale at either T1 or T2. Construct validity in a sample of college women is demonstrated by high correlations with public self-consciousness and nonsignificant relations with private self-consciousness (McKinley & Hyde, 1996). McKinley and Hyde (1996) reported a coefficient alpha of .89 in a sample of student and nonstudent women. In the current study, alpha was .79 at T1 and .86 at T2 for the 7-item version of the OBCS Body Surveillance subscale.

Body dissatisfaction—The construct of body dissatisfaction was assessed in a number of ways. First, we measured body dissatisfaction using the Body Shape Questionnaire (BSQ; Cooper, Taylor, Cooper, & Fairburn, 1987), which assesses concerns about body shape, in

particular, participants' experience of "feeling fat" over the past four weeks. This measure consists of 34 items that are rated on a 1 (*never*) to 6 (*always*) scale, and items are summed to create a total score. The BSQ has demonstrated validity and reliability in samples of body image therapy patients, obese individuals seeking weight reduction, and nonclinical samples of college students and adults (e.g., Rosen, Jones, Ramirez, & Waxman, 1996). For example, research has indicated that scores on the BSQ are correlated with other types of negative body image symptoms, including concerns about non-weight-related appearance features (Rosen et al., 1996). In the current study, alpha was .97 at T1 and .98 at T2.

Next, we measured body dissatisfaction via the Body Dissatisfaction subscale of the Eating Disorder Inventory (EDI-BD; Garner, Olmsted, & Polivy, 1983), which assesses the belief that specific parts of the body are too large (e.g., hips, thighs, buttocks). This measure consists of nine items that are rated on a six-point scale ranging from *never* to *always*. Garner et al. (1983) originally recommended that item responses *never*, *rarely*, and *sometimes* receive a score of 0, and the responses *often*, *usually*, and *always* receive scores of 1, 2, and 3 respectively; however, because this reduces the variability in responses in non-clinical samples, we coded these responses using the continuous six-point scale (see Tylka & Subich, 2004). Items are summed to create a total subscale score. Construct validity in samples of college women is demonstrated by the measure's high correlations with body preoccupation (Tylka & Subich, 2004) and eating disordered behavior (Spillane, Boerner, Anderson, & Smith, 2004). Reliability coefficients for college women range from .83 to .93 (Garner et al., 1983). In the current study, alpha was .91 at T1 and .92 at T2.

Finally, body dissatisfaction experienced over the past 28 days was assessed via the Weight Concern and Shape Concern subscales of the Eating Disorder Examination-Questionnaire (EDE-Q; Fairburn & Beglin, 2008), which is one of the most commonly used measures of disordered eating attitudes and behaviors in clinical and community populations (Anderson & Williamson, 2002). These two subscales focus on weight and shape dissatisfaction and the degree to which one's self-worth and acceptance of oneself are defined by weight or shape, and were combined since previous work has indicated that these two subscales load onto one underlying factor (Peterson et al., 2007). In particular, the 12 items that comprise these two subscales were rated on a 0 to 6 scale (with items either rated on a *no days* to *everyday* scale or a *not at all* to *markedly* scale). Items are averaged to create a total body dissatisfaction score. The Weight Concern and Shape Concern subscales have demonstrated good internal consistency (alphas of .89–.93; Luce & Crowther, 1999) and convergent validity (Fairburn & Beglin, 1994; Grilo, Masheb, & Wilson, 2001) among samples of college women and community and patient groups. In the current study, alpha for this combined subscale was .94 at both T1 and T2.

Disordered eating—We used several measures of disordered eating in order to capture various facets of this construct. First, we used the Bulimia Test-Revised (BULIT-R; Thelen, Farmer, Wonderlich, & Smith, 1991) to assess bulimic attitudes and behaviors. This measure consists of 36 items (with 28 items contributing to the BULIT-R score) that have a five-option multiple choice format. Construct coverage is broad, with items on binge eating, purging, and negative attitudes related to weight and shape. Items are summed to create a total score. The BULIT-R has well-established psychometric properties and has been

successfully used to aid in the diagnosis of bulimia nervosa and in the measurement of bulimic symptom severity in clinical and nonclinical populations (Thelen et al., 1991; Williamson, Anderson, Jackman, & Jackson, 1995). In the current study, alpha was .93 at both T1 and T2.

We used the Restraint subscale of the EDE-Q (Fairburn & Beglin, 2008) to assess attempts to restrict food intake over the past four weeks. This subscale consists of five items that are rated on a 0 (*no days*) to 6 (*everyday*) scale, and items are averaged to create a total subscale score. The Restraint subscale has demonstrated good internal consistency (alphas of .84–.85; Luce & Crowther, 1999) and convergent validity (Fairburn & Beglin, 1994; Grilo et al., 2001) among samples of college women and community and patient groups. In the current study, alpha was .81 at T1 and .83 at T2.

Finally, the Eating Attitudes Test-26 (EAT-26; Garner et al., 1982) was used to assess eating disorder symptoms more generally. The EAT-26 is one of the most widely used standardized measures of eating disorder attitudes and behaviors (Garner, 1993). This measure consists of 26 items that are rated on a 1 (*never*) to 6 (*always*) scale. Items endorsed as 1, 2, or 3 are scored as “0,” while items marked as 4, 5, or 6, are scored as “1,” “2,” or “3,” respectively. Items are then summed to create a total score. Additionally, good internal consistency ($\alpha = .83-.90$) and test-retest reliability ($r = .84$) have been demonstrated in samples of young women (Carter & Moss, 1984; Garner et al., 1982). In the current study, alpha was .81 at both T1 and T2.

Procedure

As part of a larger study, a questionnaire battery was administered at baseline (beginning of semester, T1) and then again at the end of the semester (T2; about 3 months later), so as to complete data collection within a single semester and maximize retention. Informed consent was obtained at T1. Questionnaire completion occurred online in private locations of the participants' choosing (e.g., their homes), and each battery of questionnaires (T1 and T2) took about one hour to complete. Participants were provided with research credit in their introductory psychology courses for participating in this study. Participants were also entered into a drawing for one of six \$100 prizes if they adequately completed all components of the larger study (including completing both questionnaire sessions). This study was reviewed and approved by the university's Institutional Review Board.

Regarding attrition, three study participants (out of a total N of 238) only completed T1 (i.e., did not complete T2). Two of these individuals dropped their introductory psychology course after completing T1 and thus no longer needed credit for this course; the third individual dropped the study for personal reasons. Thus, in total, 235 individuals completed both T1 and T2; however, the data from the three individuals who completed only T1 were used for analyses involving only T1 data. Additionally, in an attempt to control for random responding and inattentiveness, a validity check item was included in both the T1 and T2 questionnaire batteries (about three-quarters of the way through the survey). These items asked participants to choose a specific response choice (i.e., the items stated: “Please choose ‘Disagree Strongly’”); not responding appropriately to these items suggests possible random or inattentive responding. Of the 238 participants who completed T1, 12 “failed” the T1

validity check (5.1%), and of the 235 participants who completed T2, eight “failed” the T2 validity check (3.4%). Of the 235 participants who completed both T1 and T2, 16 “failed” either the T1 or T2 validity check or both validity checks (6.8%). For analyses involving T1 but not T2 data, we excluded all who failed the T1 validity check (resulting in $n = 226$), and for analyses involving T2 but not T1 data (e.g., obtaining alphas for measures at T2), we excluded all who failed the T2 validity check (resulting in $n = 227$). For analyses involving both T1 and T2 data, we excluded all who failed either validity check or both validity checks (resulting in $n = 219$).

Analytic Strategy

SEM using data from T1 and Mplus Version 6.1 (Muthén & Muthén, 2010) was used to examine the more traditional and elaborated sociocultural models of disordered eating. Because these two models are not nested, it was not possible to test the difference in fit between them using a nested chi-square difference test (Widaman & Thompson, 2003). Instead, we focused on determining whether the total and specific indirect effects of thin-ideal internalization on body dissatisfaction via social comparison and body surveillance were significant and on the size of the residual direct effect from thin-ideal internalization to body dissatisfaction once these mediators were included in the model.

We used maximum likelihood estimation to examine the more traditional and elaborated versions of the sociocultural model of disordered eating cross-sectionally using latent variables. Goodness-of-fit was evaluated using the root mean square error of approximation (RMSEA), the standardized root-mean-square residual (SRMR), the comparative fit index (CFI), and the Tucker-Lewis Index (TLI). Good model fit was defined by the following criteria: RMSEA values of about .08 or below (Browne & Cudeck, 1993), SRMR values less than about .08 (Hu & Bentler, 1999), CFI values of about .95 or above (Bentler, 1990; Hu & Bentler, 1999), and TLI values above about .90 (Hu & Bentler, 1999). Multiple fit indices were used together because they provide a more conservative and reliable approach to the evaluation of model fit than the examination of a single index of fit.

Next, we examined if thin-ideal internalization prospectively predicted social comparison and body surveillance and if social comparison and body surveillance prospectively predicted body dissatisfaction both without and with controlling for baseline levels of the outcome variable. We used latent variables and SEM for investigating these possibilities and used a similar strategy for investigating the prospective relations between social comparison/body surveillance and disordered eating as well.

If we determine that these constructs (i.e., thin-ideal internalization, social comparison, body surveillance, body dissatisfaction) significantly predict change in one another over time, our intention was to proceed with examining whether social comparison and body surveillance mediated the relation between thin-ideal internalization and body dissatisfaction prospectively. Since our data came from two time points, “half-longitudinal” tests were to be employed in this study (Cole & Maxwell, 2003). We intended to first estimate the paths in the regression of the T2 mediators onto T1 thin-ideal internalization controlling for T1 mediator values (i.e., the a_1 and a_2 regression coefficients). Then we intended to estimate the paths in the regression of T2 body dissatisfaction onto the T1 mediators controlling for T1

levels of body dissatisfaction (i.e., the b_1 and b_2 regression coefficients). Estimates of the specific indirect effects can be calculated by means of multiplying together the a_1 and b_1 terms and the a_2 and b_2 terms. The total indirect effect associated with the two mediators can then be calculated using the formula $a_1b_1 + a_2b_2$, where the two terms represent the indirect effects of thin-ideal internalization on body dissatisfaction through social comparison and body surveillance, respectively. Assuming that the conditions for stationarity (i.e., stable casual relationship between two variables over time; Kenny, 1979) are met, paths between the T1 mediators and T2 body dissatisfaction would be equal to the paths between T2 mediators and a hypothetical T3 body dissatisfaction. Under this assumption, the $a_i b_i$ product terms provide estimates of the mediational effect of thin-ideal internalization on body dissatisfaction through social comparison and body surveillance.

Results

Descriptive and Preliminary Analyses

We evaluated skewness and kurtosis for each measure (including the individual items of the OBCS Body Surveillance subscale) that was to be used in the SEM analyses at either T1 or both T1 and T2. We determined that no substantial violations existed (per Tabachnick & Fidell, 2012), and thus, no measures/items were transformed. Table 1 contains means and standard deviations for the study variables at T1, and Table 2 contains correlations among the study variables at T1. Correlations were in the directions expected based on the literature; that is, we found positive correlations between all measured variables, with the exception that BMI exhibited a significant negative correlation with the IBSS-R ($r = -.18, p = .006$). In SEM analyses, it is recommended that indicators of separate latent variables not be very highly correlated (i.e., r s should be less than .90; Tabachnick & Fidell, 2012). As can be seen in Table 2, many indicators of separate latent variables are related but the r s do not reach .90. This was also the case when we examined the correlations between the OBCS Body Surveillance subscale items, which were used as indicators of the body surveillance latent variable, and the other study constructs at T1, and when we examined correlations for the study variables/items at T2 that were used in SEM analyses.

Structural Equation Modeling (SEM) Analyses

More traditional sociocultural model of disordered eating—Following the recommendations of Tabachnick and Fidell (2012), we evaluated the adequacy of the more traditional sociocultural model of disordered eating measurement model before simultaneously evaluating both the measurement and structural components of the model. The SRMR (.042), CFI (.959), and TLI (.941) all approximated good fit for the more traditional sociocultural model measurement model according to the aforementioned criteria. However, the RMSEA value we obtained (.088; 90% confidence interval: .068–.108) indicated mediocre model fit (MacCallum, Browne, & Sugawara, 1996). Chen, Curran, Bollen, Kirby, and Paxton (2008) recommend that RMSEA values be evaluated in the context of other fit indices, rather than solely on strict cutoff values. On this basis, and considering that the other fit indices indicated good model fit, we concluded that the more traditional sociocultural model measurement model had an acceptable fit. Additionally, all measures loaded significantly onto their respective latent factors. This information suggests

that these latent factors were adequately operationalized. Thus, this measurement model was used to test the more traditional sociocultural model of disordered eating structural model. Correlations between the latent variables were all positive and significant (r s of .54–.86, all p s < .001), and factor loadings are included in Figure 2.

Next, we evaluated the more traditional sociocultural model structural model. As with the measurement model, the structural model provided an acceptable fit to the data. The SRMR (.048), CFI (.951), and TLI (.933) all approximated good fit. However, the RMSEA (.093; 90% confidence interval: .074–.113) again indicated mediocre model fit (MacCallum et al., 1996). Considering that the other fit indices indicated good model fit, we concluded that the more traditional sociocultural model structural model had an acceptable fit. All model paths were positive and significant and are presented in Figure 2. Results indicated that pressure for thinness accounted for 37.7% of the variance in thin-ideal internalization. Pressure for thinness and thin-ideal internalization accounted for 65.7% of the variance in body dissatisfaction. Lastly, body dissatisfaction accounted for 75.2% of the variance in disordered eating.

Elaborated sociocultural model of disordered eating—We next examined an elaborated sociocultural model of disordered eating that incorporated social comparison and body surveillance as mediators of the thin-ideal internalization-body dissatisfaction relation. We again first tested the measurement model before analyzing the structural model. The RMSEA (.068; 90% confidence interval: .058–.078), SRMR (.054), CFI (.935), and TLI (.921) all approximated good fit according to the aforementioned criteria. Further, all measures/items loaded significantly onto their respective latent factors. This information suggests that the latent factors were adequately operationalized, and thus, this measurement model was used to examine the elaborated sociocultural model structural model. Correlations between the latent variables were all positive and significant (r s of .38–.86, all p s < .001), and factor loadings are included in Figure 3.

We then evaluated the structural model for the elaborated sociocultural model of disordered eating, which provided an acceptable fit to the data. The RMSEA (.070; 90% confidence interval: .060–.079), SRMR (.057), and TLI (.917) all approximated good fit. The CFI (.928) was slightly below the aforementioned criterion of .95; however, some work has indicated that CFI values greater than roughly .90 may indicate adequate fit (Kline, 2005). Additionally, given that other fit indices indicated good model fit, we concluded that the elaborated sociocultural model structural model had an acceptable fit. All model paths except for two were positive and significant; the non-significant paths were: the path from thin-ideal internalization to body dissatisfaction ($\beta = .07, p = .703$) and the path from body surveillance to body dissatisfaction ($\beta = .11, p = .196$). See Figure 3 for the full structural model for the elaborated sociocultural model of disordered eating. Results indicated that pressure for thinness accounted for 40.4% of the variance in thin-ideal internalization. Thin-ideal internalization accounted for 77.3% of the variance in eating disorder-related social comparison and for 51.5% of the variance in body surveillance. Pressure for thinness, thin-ideal internalization, eating disorder-related social comparison, and body surveillance accounted for 72.0% of the variance in body dissatisfaction. Thus, by including social comparison and body surveillance in the model, an additional 6.3% of the variance in body

dissatisfaction was explained. Finally, body dissatisfaction accounted for 75.2% of the variance in disordered eating.

Given our interest in examining whether social comparison and body surveillance would mediate the thin-ideal internalization-body dissatisfaction relation in the context of the sociocultural model of disordered eating, it is notable that the path from thin-ideal internalization to body dissatisfaction was no longer significant once these constructs (i.e., social comparison, body surveillance) were included in the model. Indeed, results indicated that the total indirect effect of thin-ideal internalization on body dissatisfaction through social comparison and body surveillance (as a set) was significant, with a standardized point estimate of .47 ($p < .001$). Thus, social comparison and body surveillance significantly mediated the relation between thin-ideal internalization and body dissatisfaction in the context of this model. Given that the direct effect of thin-ideal internalization on body dissatisfaction in this model was not significant ($\beta = .07, p = .703$), this suggests indirect-only mediation (Zhao, Lynch, & Chen, 2010), which is also known as “full mediation” (Baron & Kenny, 1986). The specific indirect effects of each mediator showed that social comparison was a unique and significant mediator, with a standardized point estimate of .39 ($p = .003$). However, body surveillance was not a significant specific mediator of the thin-ideal internalization-body dissatisfaction relation, with a standardized point estimate of .08 ($p = .198$). A contrast confirmed that the indirect effect of social comparison in the thin-ideal internalization-body dissatisfaction relation was significantly stronger ($p = .001$) than the indirect effect of body surveillance.

Prospective examination of social comparison and body surveillance as mediators of the thin-ideal internalization-body dissatisfaction link—

Given that the elaborated sociocultural model of disordered eating provided a good fit to the data and the fact that social comparison and body surveillance (as a set) were found to significantly mediate the thin-ideal internalization-body dissatisfaction relation in the context of this cross-sectional model, we were interested in investigating whether this mediation model would hold when investigating it using half-longitudinal techniques (i.e., using the paths in the regression of the T2 mediators onto T1 thin-ideal internalization controlling for T1 mediator values and the paths in the regression of T2 body dissatisfaction onto the T1 mediators controlling for T1 levels of body dissatisfaction to estimate the specific indirect effects). However, before examining whether social comparison and body surveillance mediated the relation between thin-ideal internalization and body dissatisfaction half-longitudinally, it was necessary to examine whether these constructs prospectively predicted one another and if they prospectively predicted one another when controlling for baseline levels of the outcome variable. A single analysis using latent variables (using the same indicators as shown in Figure 3 but at T2 in the case of social comparison and body surveillance) was conducted to assess the relationships between the thin-ideal internalization at T1 and social comparison and body surveillance at T2. Results indicated that thin-ideal internalization at T1 predicted significant variance in both social comparison ($\beta = .65, p < .001; R^2 = .43$) and body surveillance ($\beta = .54, p < .001; R^2 = .29$) at T2. However, this model did not provide a good fit to the data (RMSEA: .131; SRMR: .076; CFI: .832; TLI: .789), and thus, it was unclear whether these parameter estimates could be meaningfully

interpreted. Next, a single analysis using latent variables (using the indicators shown in Figure 3 but at T2 in the case of body dissatisfaction) was conducted to assess the relationships between social comparison and body surveillance at T1 and body dissatisfaction at T2. Results indicated that T1 social comparison predicted unique variance in T2 body dissatisfaction ($\beta = .67, p < .001$), while body surveillance did not ($\beta = .01, p = .957$). This model explained 45.2% of the variance in T2 body dissatisfaction and provided a modest fit to the data (RMSEA: .086; SRMR: .056; CFI: .929; TLI: .911).

We then investigated whether these constructs prospectively predicted one another when controlling for baseline levels of the dependent variable. Examining these effects in a single model with latent variables, results indicated that thin-ideal internalization at T1 did not predict T2 social comparison ($\beta = .01, p = .936$) or body surveillance ($\beta = -.01, p = .952$) after controlling for baseline levels of these constructs. Additionally, this model did not provide a good fit to the data (RMSEA: .102; SRMR: .069; CFI: .814; TLI: .788). Likewise, social comparison and body surveillance at T1 did not predict body dissatisfaction at T2 after controlling for baseline levels ($\beta = .03, p = .781$; $\beta = -.07, p = .361$, respectively). This model provided a possibly acceptable fit to the data (RMSEA: .100; SRMR: .055; CFI: .911; TLI: .891). Given that these constructs were not found to predict change in one another over the course of 3 months, it was not possible that social comparison and body surveillance would mediate the thin-ideal internalization-body dissatisfaction relation prospectively. Thus, a half-longitudinal mediation model was not investigated.

Examination of the prospective relations between social comparison/body surveillance and disordered eating—Finally, we investigated the relations between social comparison and body surveillance at T1 and disordered eating at T2 both without and with controlling for baseline levels of disordered eating. A single analysis using latent variables was conducted to assess the relationships between social comparison and body surveillance at T1 and disordered eating at T2. Results indicated that T1 social comparison predicted unique variance in T2 disordered eating ($\beta = .74, p < .001$), while body surveillance did not ($\beta = -.12, p = .328$). This model explained 43.3% of the variance in T2 disordered eating and provided a modest fit to the data (RMSEA: .086; SRMR: .060; CFI: .912; TLI: .890). A separate analysis revealed that social comparison and body surveillance at T1 did not predict disordered eating at T2 after controlling for baseline levels of disordered eating ($\beta = -.08, p = .577$; $\beta = -.14, p = .143$, respectively). This model did not provide a good fit to the data (RMSEA: .101; SRMR: .062; CFI: .871; TLI: .842).

Discussion

The current study aimed to extend research on sociocultural models of disordered eating by examining whether social comparison (i.e., body, eating, and exercise comparisons) and body surveillance fit into an elaborated version of this model as mediators of the thin-ideal internalization-body dissatisfaction relation. Results indicated that, when examined cross-sectionally, the elaborated sociocultural model of disordered eating provided a good fit to the data and that the total indirect effect of thin-ideal internalization on body dissatisfaction through this set of mediators was significant. The specific indirect effects of each mediator showed that social comparison was a unique and significant mediator while body

surveillance was not. These findings are in contrast to the results of Fitzsimmons-Craft, Harney, et al. (2012), which also examined social comparison and body surveillance as mediators of the thin-ideal internalization-body dissatisfaction relation simultaneously. Of particular interest is the fact that when we examined a more traditional sociocultural model of disordered eating, the path from thin-ideal internalization to body dissatisfaction was strong and significant. However, once social comparison and body surveillance were included in the model as mediators of the thin-ideal internalization-body dissatisfaction relation, the direct path between these two constructs (i.e., thin-ideal internalization and body dissatisfaction) was near zero and no longer significant, suggesting "full" mediation. Results of the current study provide support for the notion that social comparison behavior in particular, including body, eating, and exercise comparisons, may be motivated by thin-ideal internalization as a way for women to assess their standing relative to the thin ideal. Such comparison behavior may make salient the discrepancy between what a woman currently looks like and what she would ideally like to look like, which may in turn be associated with discontent with the body.

Contrary to our hypothesis, body surveillance did not emerge as a significant specific mediator of the thin-ideal internalization-body dissatisfaction relation in the context of this elaborated sociocultural model. This finding is in contrast to some prior work (e.g., Fitzsimmons-Craft, Harney, et al., 2012). It may be that social comparison is a more "potent" mediator of this relation when it is assessed more comprehensively. Social comparison behavior may provide a woman with a very direct means of assessing whether she "measures up" (i.e., by comparing herself to others). Body surveillance may represent a less direct or less powerful way of obtaining the same type of information, as via body surveillance, a woman surveys her body from an outsider's perspective and may then consider whether she matches up to her own internalized standards. However, the notion that a woman will consider how to matches up to a certain standard is somewhat implied and is not key to the actual construct of body surveillance as it was operationalized by McKinley and Hyde (1996).

Overall, these results suggest that it is important to consider how thin-ideal internalization is associated with body dissatisfaction in the context of sociocultural models of disordered eating. Indeed, when we included mediators (i.e., social comparison, body surveillance) of this relation in the model, the direct relationship between thin-ideal internalization and body dissatisfaction became non-significant. Thus, these results suggest that it may not be a "given" or "automatic" that internalization of the thin ideal is associated with discontent with the body. Therefore, future research on sociocultural models of disordered eating should include relevant behaviors, such as social comparison and body surveillance, as mediators of the thin-ideal internalization-body dissatisfaction relation.

We then wished to examine whether this mediational model would hold prospectively. Our findings advance prior cross-sectional and experimental research that has demonstrated links between social comparison and body dissatisfaction (e.g., Heinberg & Thompson, 1992; Myers & Crowther, 2009) given that in this sample of college women, social comparison tendencies (i.e., including body, eating, and exercise comparisons) predicted unique variance in body dissatisfaction 3 months later above and beyond the effects of body surveillance.

Again, this may suggest that when social comparison is measured in a way that more comprehensively assesses the types of comparison that play a role in eating pathology, it is a more powerful predictor of dissatisfaction with the body than body surveillance. Results also indicated that thin-ideal internalization predicted variance in both social comparison and body surveillance 3 months later, but this model did not provide a good fit to the data (and thus it is unclear as to whether these results can be meaningfully interpreted). Furthermore, there was no evidence that thin-ideal internalization predicted change in social comparison or body surveillance over the course of 3 months or that social comparison or body surveillance predicted change in body dissatisfaction over the course of 3 months.

One factor to keep in mind in attempting to predict change is that the 3-month temporal stability coefficients for the social comparison, body surveillance, and body dissatisfaction latent variables used in the current study were high ($r = .80$ for social comparison, $r = .81$ for body surveillance, $r = .87$ for body dissatisfaction, all $ps < .001$). Therefore, on average, participants were very stable in their reports of these traits over the course of 3 months, which meant that a large amount of the variance in these constructs at T2 was already accounted for by baseline levels. It may be that these constructs would account for change in one another over time if the time frame between study assessments was lengthened; that is, the amount of time between T1 and T2 in the current study (i.e., 3 months) may have simply been too short to allow for such change to occur. It may also be important for future work in this area to use younger samples, as research has indicated that girls as young as 3 years demonstrate evidence of thin-ideal internalization (Harriger, Calogero, Witherington, & Smith, 2010) and that body image is particularly salient among younger adolescent girls (Carey, Donaghue, & Broderick, 2011; Carey et al., 2014). Given that these constructs were not found to predict change in one another over the course of the study, it was not possible that social comparison and body surveillance would mediate the thin-ideal internalization-body dissatisfaction relation prospectively using a half-longitudinal design.

We also investigated whether social comparison and body surveillance predicted levels of disordered eating 3 months later both without and with controlling for baseline levels of disordered eating. Results indicated that social comparison significantly predicted unique variance in disordered eating 3 months later, while body surveillance did not. This finding provides additional support for notion that eating disorder-related social comparison behavior is associated with negative effects. However, neither social comparison nor body surveillance significantly predicted change in disordered eating over the course of 3 months. Again, it may have been that the amount of time between T1 and T2 was too short to allow for social comparison and body surveillance to impact change in disordered eating.

This study contributes to the existing literature by expanding our understanding of sociocultural models of disordered eating and the concurrent and prospective effects of eating disorder-related social comparison and body surveillance. An additional strength of the current study is that participants provided data at two time points, which allowed for the prospective examination of the mediation model. Although there was no evidence that social comparison and body surveillance mediated the relation between thin-ideal internalization and body dissatisfaction prospectively using a half-longitudinal design, we were able to use these data to examine whether these constructs prospectively predicted levels of and change

in one another over time and how social comparison and body surveillance related prospectively to disordered eating. Another strength of the current study involves the way in which we more comprehensively assessed social comparison. In the current study, we assessed body-, eating-, and exercise-related social comparisons. Indeed, tendencies to engage in all three of these types of social comparison have been found to be associated with body dissatisfaction and disordered eating (Fitzsimmons-Craft & Bardone-Cone, 2014; Fitzsimmons-Craft, Bardone-Cone, & Harney, 2012), and results of the current study provide additional information on the potential harmfulness of engaging in comparisons in these three domains.

One limitation of the current study is generalizability, which is limited to similar samples (i.e., college women). However, high levels of body dissatisfaction and disordered eating among college women (e.g., Berg et al., 2009; Neighbors & Sobal, 2007) highlight the importance of examining factors, such as social comparison and body surveillance, that may contribute to this pathology. Therefore, the focus on college women in the current study may be conceptually appropriate. Additionally, this undergraduate sample was largely homogenous in terms of race/ethnicity and educational experiences. It will be important for future research to determine if these findings replicate in more racially/ethnically diverse samples, community samples, clinical samples, and in males. Although a strength of the current study is that we had participants complete a set of measures at the beginning and end of an academic semester, a limitation is that the amount of time (i.e., about 3 months) between these two assessments was rather short. This time frame was chosen so as to allow data collection to occur within a single semester, which minimized study attrition, but it may have been that this time frame was too short to allow for meaningful change to occur in the study constructs. As aforementioned, the study constructs exhibited a high level of temporal stability over the course of 3 months. Finally, the half-longitudinal mediational approach used in the current study is limited in terms of its ability to make causal inferences. Because only two time points were used, it is not possible to confirm whether the mediators changed prior to the dependent variable, which is information that would be needed in order to establish causality.

Results of the current study suggest various avenues for future research. As aforementioned, in the context of a sociocultural model of disordered eating, eating disorder-related social comparison emerged as a significant specific mediator of the thin-ideal internalization-body dissatisfaction relation while body surveillance did not. Given this, it would be interesting for future research to examine if body surveillance emerges as a significant specific mediator for certain groups of individuals (e.g., those with a diagnosable eating disorder) or under certain conditions (e.g., for those with high levels of appearance-contingent self-worth). Similarly, future research should ascertain whether social comparison and body surveillance would mediate the thin-ideal internalization-body dissatisfaction relation prospectively under certain moderating conditions (e.g., for those with high levels of perseveration) or when the length of time between study assessments is lengthened. Future research may also wish to examine alternative links among the study constructs (e.g., body comparison as a moderator of the body surveillance-disordered eating relationship – Tylka & Sabik, 2010; “downward spirals” of thin-ideal internalization, body surveillance, social comparison, and body dissatisfaction – Fitzsimmons & Bardone-Cone, 2011) and how

negative affect weights the relationships observed in the study models, given that negative affect has been found to play a significant role in body dissatisfaction and eating pathology (e.g., Bearman, Presnell, Martinez, & Stice, 2006; Presnell, Bearman, & Stice, 2004; Stice, 2002).

Findings from the current study have interesting implications for prevention and intervention programming. Several eating disorder prevention programs use cognitive dissonance to target thin-ideal internalization by having participants speak and act in ways that are inconsistent with this ideal (e.g., Becker, Smith, & Ciao, 2006; Stice & Presnell, 2007). Although significant progress has been made in terms of eating disorder prevention efforts (e.g., Stice, Marti, Spoor, Presnell, & Shaw, 2008; Stice, Shaw, Burton, & Wade, 2006), there is room for improvement. Per Stice, South, and Shaw (2012), prevention researchers should work to create programs that produce larger effects that last for longer periods of time. As suggested by these authors, it may be that larger effects could be achieved by targeting multiple risk factors (Stice et al., 2012). Based on the current results, it may be of value to test the efficacy of an intervention that goes beyond targeting thin-ideal internalization to also targeting behaviors that have been found to translate thin-ideal internalization into body dissatisfaction and disordered eating, namely social comparison. For example, body, eating, and exercise comparisons could be addressed in prevention programming by aiding participants in understanding the consequences and functions of such behavior. Participants could be provided with Psycho education about comparison-making by discussing and participating in activities related to: the fact that individuals tend to selectively compare themselves to others whom they perceive as “better off” (e.g., thinner, eats less, exercises more; Cash, 2008); the concern that women make comparisons that are appearance- or body-related in some way to the exclusion of making comparisons in other domains (e.g., academics, extra-curricular activities); and the association between engaging in social comparisons and body dissatisfaction and disordered eating. Overall, it may be useful to target social comparison in both prevention and intervention efforts. Indeed, Fairburn (2008) suggests that such behavior should be addressed in cognitive-behavioral therapy for eating disorders given that social comparisons aid in maintaining concerns about weight and shape.

The current study extended research on sociocultural models of disordered eating and social comparison and objectification theories. Results indicated that eating disorder-related social comparison (i.e., including body, eating, and exercise comparisons) was a significant specific mediator of the thin-ideal internalization-body dissatisfaction relation in the context of a sociocultural model while body surveillance was not. Although this mediational model did not hold prospectively, eating-disorder related social comparison was found to significantly predict body dissatisfaction and disordered eating 3 months later, above and beyond the effects of body surveillance. Overall, these results provide support for the notion that thin-ideal internalization is not “automatically” associated with body dissatisfaction. Thus, it may be important for researchers and clinicians to consider behaviors that provide women with an understanding that they do not live up to their own internalized standards and thus feel badly about their bodies.

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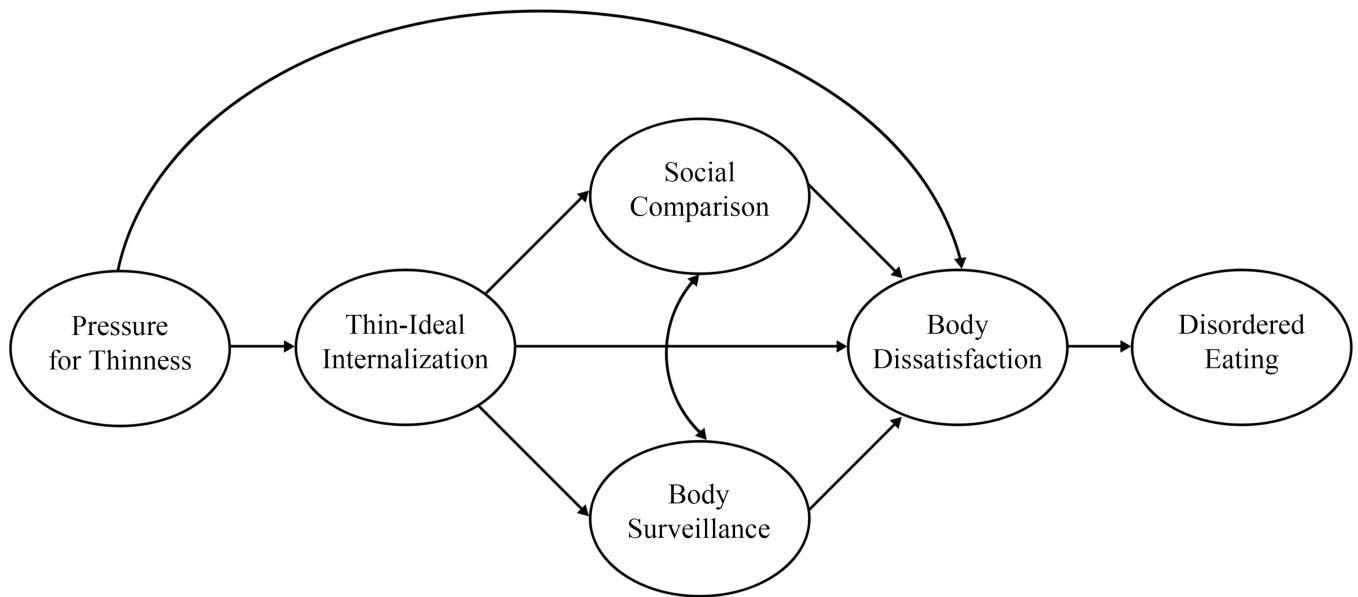


Figure 1.

An elaborated sociocultural model of disordered eating. Social comparison and body surveillance are conceived as mediators of the thin-ideal internalization-body dissatisfaction link.

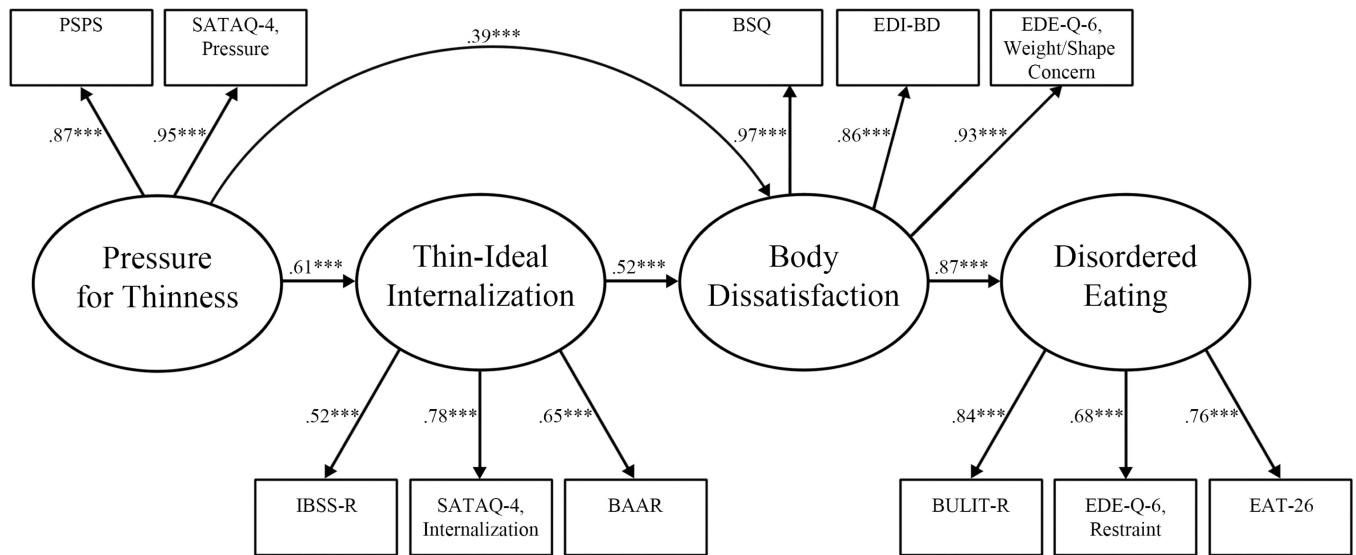


Figure 2. Standardized path coefficients and factor loadings for a more traditional sociocultural model of disordered eating structural model. PSPP = Perceived Sociocultural Pressure Scale. SATAQ-4 = Sociocultural Attitudes Toward Appearance Questionnaire-4. IBSS-R = Ideal-Body Stereotype Scale-Revised. BAAR = Beliefs About Attractiveness Scale-Revised; we note that we are using the Importance of Being Attractive and Thin subscale. BSQ = Body Shape Questionnaire. EDI-BD = Eating Disorder Inventory-Body Dissatisfaction. EDE-Q-6 = Eating Disorder Examination-Questionnaire-6. BULIT-R = Bulimia Test-Revised. EAT-26 = Eating Attitudes Test-26. *** $p < .001$.

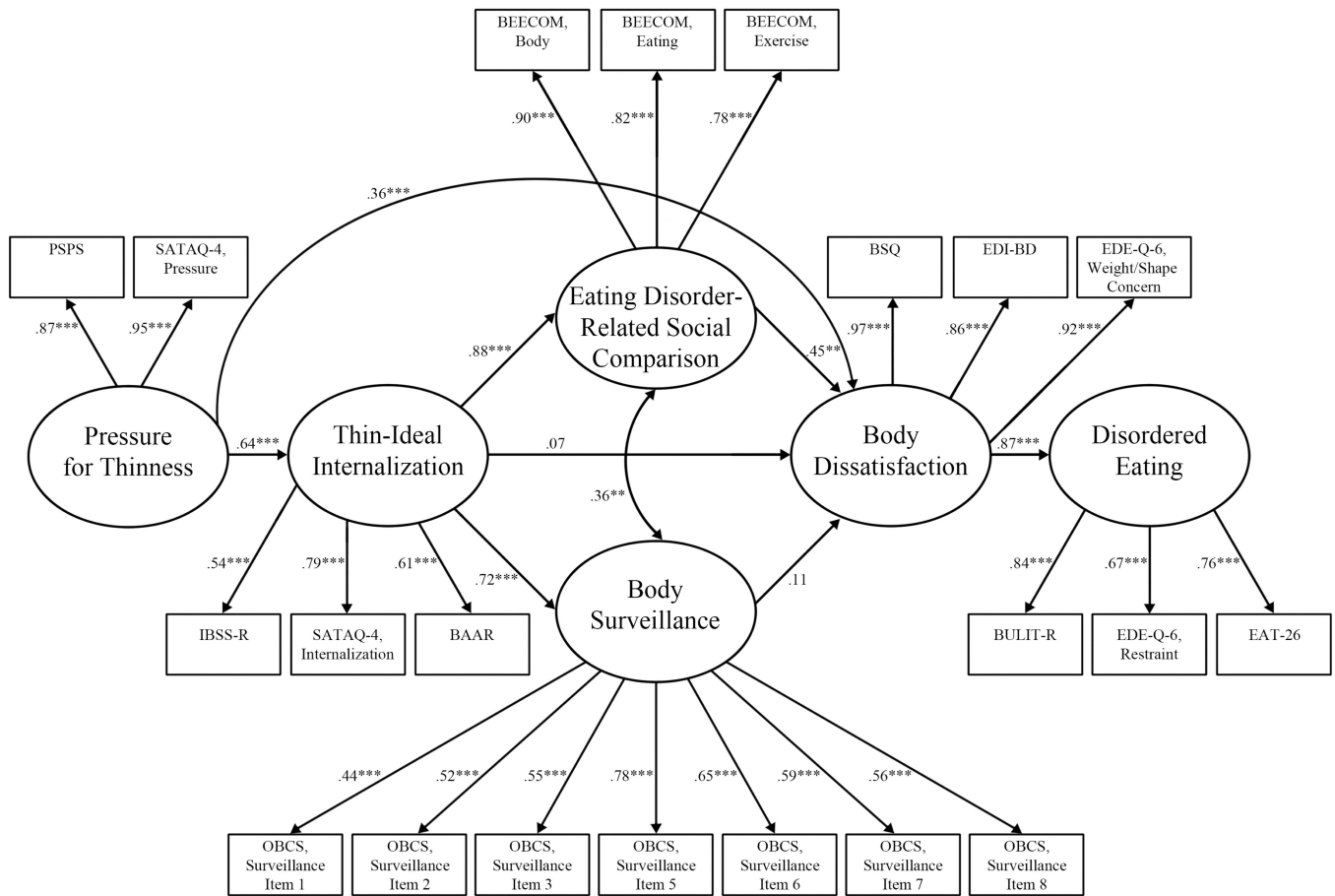


Figure 3. Standardized path coefficients and factor loadings for the elaborated sociocultural model of disordered eating structural model. PSPS = Perceived Sociocultural Pressure Scale. SATAQ-4 = Sociocultural Attitudes Toward Appearance Questionnaire-4. IBSS-R = Ideal-Body Stereotype Scale-Revised. BAAR = Beliefs About Attractiveness Scale-Revised; we note that we are using the Importance of Being Attractive and Thin subscale. BEECOM = Body, Eating, and Exercise Comparison Orientation Measure. OBCS = Objectified Body Consciousness Scale. BSQ = Body Shape Questionnaire. EDI-BD = Eating Disorder Inventory-Body Dissatisfaction. EDE-Q-6 = Eating Disorder Examination-Questionnaire-6. BULIT-R = Bulimia Test-Revised. EAT-26 = Eating Attitudes Test-26. ** $p < .01$. *** $p < .001$.

Table 1

Means and Standard Deviations of the Measured Variables at T1 (n = 226)

Construct	Measure	M	SD	Possible Range
Pressure for thinness	1. Perceived Sociocultural Pressure Scale (PSPS)	2.48	0.75	1–5
	2. Sociocultural Attitudes Toward Appearance Questionnaire-4 (SATAQ-4), Pressure	34.42	11.08	12–60
Thin-ideal internalization	3. Ideal-Body Stereotype Scale-Revised (IBSS-R)	3.78	0.53	1–5
	4. SATAQ-4, Internalization	17.48	4.75	5–25
	5. Beliefs About Attractiveness Scale-Revised (BAAR), Importance of Being Attractive and Thin	3.04	1.15	1–7
Social comparison	6. Body, Eating, and Exercise Comparison Orientation Scale (BEECOM), Body	31.26	7.20	6–42
	7. BEECOM, Eating	28.26	7.43	6–42
	8. BEECOM, Exercise	22.97	8.03	6–42
	9. BEECOM, Total	82.51	20.48	18–126
Body surveillance	10. Objectified Body Consciousness Scale (OBCS), Surveillance	5.04	0.93	1–7
Body dissatisfaction	11. Body Shape Questionnaire (BSQ)	92.17	34.48	34–204
	12. Eating Disorder Inventory-Body Dissatisfaction (EDI-BD)	31.94	10.22	9–54
	13. Eating Disorder Examination-Questionnaire-6 (EDE-Q-6), Weight Concern/Shape Concern	2.67	1.53	0–6
Disordered eating	14. Bulimia Test-Revised (BULIT-R)	49.57	16.39	28–140
	15. EDE-Q-6, Restraint	1.50	1.36	0–6
	16. Eating Attitudes Test-26 (EAT-26)	9.24	7.30	0–78
Body mass index	17. Body mass index (BMI)	22.69	3.42	Actual range: 17.43–41.60

Table 2

Correlations Among the Measured Variables at T1 (n = 226)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. PSPS	-																
2. SATAQ-4, Pressure	.82***	-															
3. IBSS-R	.17*	.26***	-														
4. SATAQ-4, Internalization	.40***	.49***	.42***	-													
5. BAAR, Importance of Being Attractive and Thin	.32***	.36***	.41***	.45***	-												
6. BEECOM, Body	.49***	.52***	.45***	.61***	.42***	-											
7. BEECOM, Eating	.44***	.50***	.38***	.56***	.42***	.73***	-										
8. BEECOM, Exercise	.39***	.43***	.41***	.52***	.43***	.69***	.69***	-									
9. BEECOM, Total	.50***	.55***	.47***	.63***	.48***	.90***	.90***	.89***	-								
10. OBSC, Surveillance	.28***	.30***	.34***	.52***	.39***	.65***	.47***	.47***	.60***	-							
11. BSQ	.61***	.66***	.28***	.57***	.46***	.70***	.65***	.62***	.74***	.54***	-						
12. EDI-BD	.56***	.61***	.20**	.47***	.44***	.60***	.53***	.49***	.61***	.45***	.85***	-					
13. EDE-Q-6, Weight Concern/Shape Concern	.49***	.57***	.26***	.60***	.48***	.67***	.61***	.55***	.68***	.52***	.89***	.81***	-				
14. BULIT-R	.41***	.45***	.25***	.46***	.41***	.54***	.56***	.49***	.60***	.38***	.74***	.58***	.71***	-			
15. EDE-Q-6, Restraint	.30***	.36***	.18*	.42***	.30***	.35***	.46***	.40***	.45***	.29***	.56***	.42***	.61***	.54***	-		
16. EAT-26	.34***	.39***	.27***	.57***	.41***	.50***	.54***	.49***	.57***	.44***	.62***	.48***	.64***	.65***	.56***	-	
17. BMI	.32***	.40***	-.18**	.02	.10	.20**	.22**	.18**	.22**	.09	.48***	.47***	.38***	.31***	.14*	.14	-

Note. PSPS = Perceived Sociocultural Pressure Scale, SATAQ-4 = Sociocultural Attitudes Toward Appearance Questionnaire-4, IBSS-R = Ideal-Body Stereotype Scale-Revised, BAAR = Beliefs About Attractiveness Scale-Revised, BEECOM = Body, Eating, and Exercise Comparison Orientation Scale, OBSC = Objectified Body Consciousness Scale, BSQ = Body Shape Questionnaire, EDI-BD = Eating Disorder Inventory-Body Dissatisfaction, EDE-Q-6 = Eating Disorder Examination-Questionnaire-6, BULIT-R = Bulimia Test-Revised, EAT-26 = Eating Attitudes Test-26, BMI = Body mass index. Variables are continuous, with higher values reflecting higher levels of the construct.

* $p < .05$.
** $p < .01$.
*** $p < .001$.

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