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# SOCIOCULTURAL, FEMINIST, AND PSYCHOLOGICAL INFLUENCES ON WOMEN'S BODY SATISFACTION: A STRUCTURAL MODELING ANALYSIS

Michelle Cororve Fingeret and David H. Gleaves
*Texas A&M University*

We explored sociocultural, feminist, and psychological influences on women's body dissatisfaction by examining the manner in which awareness and internalization of appearance standards, feminist ideology, and self-esteem affect body dissatisfaction. A main goal of the study was to test a model of potential protective mechanisms against internalization of appearance standards. The LISREL 8.5 program was used to perform structural modeling analyses on the proposed theoretical models. The results supported previous findings regarding the influential role of sociocultural variables on women's body dissatisfaction. In particular, internalization was found to mediate the relationship between awareness and body dissatisfaction. Feminist ideology and self-esteem were not found to serve as protective mechanisms against internalization. However, self-esteem appeared to directly affect body dissatisfaction.

Strikingly high rates of eating disorders, weight preoccupation, and body dissatisfaction among college women have been documented (Mintz & Betz, 1988; Spitzer, Henderson, & Zivian, 1999; Streigel-Moore, Silberstein, Grunberg, & Rodin, 1990). In one study, as many as 61% of college women were found to engage in various forms of disturbed eating behaviors including chronic dieting, bingeing, and purging (Mintz & Betz, 1988). Body dissatisfaction appears to be even more normative among women in university settings where rates greater than 80% have been reported (Spitzer et al., 1999). Body dissatisfaction is widely recognized as a risk factor for the development of eating disorders as there is consistent evidence that body image predicts severity of eating and dieting pathology (Gleaves, Williamson, Eberenz, Sebastian, & Barker, 1995; Rosen, 1990; Thompson, Penner, & Altabe, 1990). Further study of this risk factor is essential in order to discover protective mechanisms that might help curtail the rising prevalence of eating disorders.

Michelle Cororve Fingeret, Department of Psychology, Texas A&M University; David H. Gleaves, Department of Psychology, Texas A&M University.

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Address correspondence and reprint requests to: David H. Gleaves, Department of Psychology, Texas A&M University, College Station, TX 77843-4235. E-mail: dhg@tamu.edu

This study was guided by sociocultural and feminist theories of body image, which point to the role of the mass media in promoting a thin bodily standard for women and insist that cultural factors play a primary role in the etiology of eating and body image disturbances (Gilbert & Thompson, 1996; Heinberg, 1996). Empirical evidence supports the notion that media images promoting a thin bodily standard influence women's body satisfaction. Correlational studies have found a direct relationship among media exposure, eating disturbances, and body dissatisfaction, especially with thinness-depicting and thinness-promoting related media (Harrison & Cantor, 1997; Tiggeman & Pickering, 1996). In addition, experimental studies have found that direct exposure to media-communicated images of thinness and attractiveness produce an immediate increase in women's body dissatisfaction (Heinberg & Thompson, 1995; Irving, 1990; Posavac, Posavac, & Posavac, 1998). Other researchers have found an indirect relationship between media exposure and body dissatisfaction. Stice, Schupak-Neuberg, Shaw, and Stein (1994) examined a more complex relationship among media exposure, body dissatisfaction, and eating disorder symptomatology. Using structural equation modeling, they found that internalization of the thin ideal might mediate the relationship between media exposure and disturbed eating behavior. Furthermore, the effects of internalization of the thin ideal on eating pathology were also found to be primarily mediated through body dissatisfaction. This mediational model points to the substantial and direct role that internalization of the thin ideal has on body dissatisfaction.

A recent shift has been noted in the literature as researchers have given more attention to examining the effects of awareness and internalization of sociocultural norms of appearance on eating behavior and body image. This shift was prompted in part by the development of the Sociocultural Attitudes Toward Appearance Questionnaire (SATAQ; Heinberg, Thompson, & Stormer, 1995), a measure that assesses acknowledgment and personal acceptance of sociocultural standards of appearance. Although awareness and internalization have both been associated with body dissatisfaction and eating pathology, internalization of sociocultural norms has been found to be a stronger predictor of these disturbances (Heinberg et al., 1995). Cusumano and Thompson (1997) examined the impact of media exposure, awareness, and internalization of sociocultural standards of appearance on indices of body image, eating behavior, and self-esteem. Results revealed a distinct lack of a relationship between exposure and these indices. However, internalization was found to account for significant and substantial variance in predicting disturbances in body image, eating behavior, and self-esteem even after controlling for the role of awareness of sociocultural standards of appearance.

We aimed to further explore the relationship between internalization of sociocultural appearance standards and body dissatisfaction in women using structural equation modeling. One of our goals was to replicate previous findings indicating that internalization has a direct effect on body dissatisfaction. In particular, this study tested whether internalization serves as a mediator in the relationship between awareness of sociocultural attitudes toward appearance and body dissatisfaction. This study expanded upon this mediational model by exploring factors that may serve as protective mechanisms against internalization of sociocultural appearance standards as well as body dissatisfaction. The two variables that were explored as moderators in the relationship between awareness and internalization in this study were feminist ideology and self-esteem.

Feminist ideology emphasizes that physical appearance should not be so influential in determining a woman's self-worth. Previous research has indicated that general identification with feminism or specific feminist attitudes may serve to protect against the development of eating pathology and/or body dissatisfaction. Snyder and Hasbrouck (1996) found that feminist identity was negatively correlated with body dissatisfaction ($r = -.25$, $p < .10$), bulimic symptoms ($r = -.28$, $p < .05$) and feelings of ineffectiveness ($r = -.30$, $p < .05$). These results suggest that college women identifying with feminist values may be less influenced by factors promoting body dissatisfaction and disturbed eating compared to women with more traditional values. A study by Kelson, Kearney-Cooke, and Lansky (1990) supports the notion that feminists may be less susceptible to the negative effects of sociocultural standards of beauty for women. Findings suggested that feminists tend to judge their bodies based on internal sensations, whereas nonfeminists tend to judge their bodies based on external appearance. Additional studies have found that only certain feminist beliefs/gender attitudes are related to body satisfaction rather than an overall feminist identification. Dionne, Davis, Fox, and Gurevich (1995) found that women's feminist attitudes regarding physical attractiveness related significantly to body satisfaction but that an overall feminist identification did not. Cash, Ancis, and Strachan (1997) also found minimal relationships between body image attitudes and overall feminist identity. However, specific gender attitudes and role expectations at the level of male–female social interactions were associated with more dysfunctional assumptions about the importance of one's physical appearance. Women with traditional attitudes about male–female relations were found to be more invested in their appearance, have greater internalization of sociocultural attitudes toward appearance, and greater dysphoric body-image experiences compared to women with less traditional attitudes. Twamley and Davis (1999) suggested that feminist attitudes or beliefs per se do not protect against body dissatisfaction and eating pathology, rather the general propensity to disregard social norms or convention is the protective mechanism. Although women with high levels of nonconformity were found to be protected against body dissatisfaction and eating pathology in this study, Twamley and Davis failed to find a similar effect for women with high levels of feminist attitudes or for those rejecting a traditional feminine gender role.

Due to the equivocal findings, further exploration of the relationship between feminism, internalization of sociocultural appearance standards, and body dissatisfaction seems warranted. We examined feminist ideology as a possible moderating variable in the relationship between awareness of sociocultural attitudes toward appearance and internalization of these beliefs. We hypothesized that ascription to a feminist ideology may provide a buffer against the internalization of sociocultural standards of appearance for women.

The lack of a clear and consistent relationship between feminist beliefs and body dissatisfaction can perhaps be explained by the incongruous approaches that have been taken to measure the construct of feminist ideology. Of particular concern is the common use of self-identification as the means to distinguish between feminists and nonfeminists. Previous research has found that despite high levels of awareness of gender inequality and support for the women's movement, the majority of young women are clearly reluctant to identify themselves as feminists (Cowan, Mestlin, & Masek, 1992; Myaskovsky & Wittig, 1997; Renzetti, 1987). Therefore, the use of self-identification as the only indicator of feminist consciousness is problematic. In addition, the use of self-identification implies a dichotomous approach, which fails to take into account differing degrees of feminism (Henderson-King & Stewart, 1997). Prior to examining the relationship between feminist ideology and body image, we evaluated multiple indicators of feminist ideology to determine which measures serve as the strongest indicators of the construct of interest. Particular attention was given to ensure that the participants in this study held an

adequate range of feminist attitudes and beliefs. Women's studies students were therefore recruited in addition to general psychology students as research has found that women's studies courses contribute to feminist identity development (Bargad & Hyde, 1991; Thomsen, Basu, & Reinitz, 1995).

A final variable examined in this study was self-esteem, as it appears to be conceptually linked with the other constructs of interest. Internalization of sociocultural attitudes toward appearance has been found to be a significant predictor of self-esteem (Cusumano & Thompson, 1997). In addition, research indicates that feminist women are higher in self-esteem than nonfeminists (DeMan & Benoit, 1982). Numerous studies have found a significant positive relationship between body shape satisfaction and self-esteem (Abell & Richards, 1996; Carlock, 1999; Freedman, 1990). Twamley and Davis (1999) offered support for the protective nature of self-esteem against the development of eating pathology. They found that self-esteem significantly moderated the relationship between body dissatisfaction and eating pathology. The current study further explored the manner in which self-esteem may affect body dissatisfaction by examining self-esteem as a moderator in the relationship between awareness and internalization of sociocultural attitudes toward appearance.

## METHOD

### Participants

A total of 202 female college students, ages 18 to 45 ($M$ = 21.1) years old, from upper level psychology and women's studies courses at a university in the southwestern United States participated in this study. Only women with a body-mass index (BMI) of less than 31 ($n$ = 197) were included in subsequent analyses, because one of the indicators (the Body Image Assessment, see below) was not validated on samples with a greater body mass[1]. The self-reported racial/ethnic identification of this group was 78.2% Anglo American, 10.7% Hispanic/Latina American, 4.6% Asian American, 4.1% African American, and 2.4% other or nonidentified. All participants were offered course credit in compensation for participation.

### Materials

*Awareness of sociocultural appearance standards (2 initial indicators).* The SATAQ—Awareness subscale (SATAQA; Heinberg et al., 1995) contains 11 items and assesses the acknowledgment of sociocultural norms regarding appearance. Cusumano and Thompson (1997) reported an internal consistency of .83 for this subscale. The Societal Emphasis on Appearance Scale (SEA), a measure designed for this study, was also used to assess the awareness of sociocultural appearance standards. Items for this measure were designed to reflect one's acknowledgment of the stigmatization of obesity, the emphasis on and importance of attractiveness for women in our society, as well as the perceived sociocultural link between attractiveness and success for women.

*Internalization of sociocultural appearance standards (5 initial indicators).* The SATAQ—Internalization subscale (SATAQI; Heinberg et al., 1995) contains 10 items measuring the personal acceptance of sociocultural standards of appearance. This measure has been found to be a strong predictor of body image and eating dysfunction (Heinberg et al., 1995). Cusumano and Thompson (1997) reported an internal consistency of .89 for this scale. The Beliefs About Attractiveness Scale-Revised (Petrie, Rogers, Johnson, & Diehl, 1996)—Importance of Being Attractive and Thin subscale contains 10 items and measures one's endorsements of contemporary values concerning attractiveness. Petrie et al. (1996) reported an internal consistency of .85 for this subscale. The Appearance Schemas Inventory (Cash & Labarge, 1996) contains 14 items and assesses core beliefs or assumptions about the importance, meaning, and effects of appearance in one's life and has been found to predict dysfunctional body-image experiences. Cash and Labarge reported an internal consistency of .84 for this measure. The Multidimensional Body Self-Relations Questionnaire (MBSRQ; Cash, 1990)—Appearance Orientation subscale contains 12 items and assesses body image investment and the degree of cognitive importance/attention given to physical appearance as well as behaviors related to maintaining or improving physical appearance. Brown, Cash, and Mikulka (1990) reported an internal consistency of .84 for female respondents on this subscale. The Young Women's Experiences with Body Shape—Slimness as Quality of Life subscale (Delaney, O'Keefe, & Skene, 1997) contains 19 items and reflects the centrality of thinness to self-worth and self-consciousness about appearance that results from feeling scrutinized by others. Delaney et al. (1997) reported an internal consistency of .93 for this scale.

*Feminist ideology (13 initial indicators).* The Feminist Identity Scale (FIS; Rickard, 1987) assesses four stages of feminist identity development as discussed by Downing and Roush (1985). The stages (with $\alpha$ reported by Henderson-King and Stewart, 1997) are passive acceptance ($\alpha$ = .55), revelation ($\alpha$ = .68), embeddedness/emanation ($\alpha$ = .74), and synthesis ($\alpha$ = .59). Reported test-retest reliabilities over 4 months were .72 for passive acceptance, .68 for revelation, .75 for embeddedness/emanation, and .65 for synthesis (Henderson-King & Stewart, 1997). Each stage was evaluated as a separate indicator of feminist ideology. The Feminist Identity Development Scale (FIDS; Bargad & Hyde, 1991) is also based on Downing and Roush's model of feminist identity. It is a 39-item index of the five hypothesized stages and assesses passive acceptance ($\alpha$ = .85), revelation ($\alpha$ = .75), embeddedness/emanation ($\alpha$ = .82), synthesis ($\alpha$ = .65), and active commitment ($\alpha$ = .80; Bargad & Hyde, 1991). Although the passive acceptance scale is typically scored such that higher scores mean lower feminist

identity, we reverse-scored it so that it would be in the same direction as the other indicators. The Liberal Feminist Attitude and Ideology Scale (LFAIS; Morgan, 1996) was developed as a feminist attitude measure that taps the domains of gender role attitudes, goals of feminism, and feminist ideology. Morgan (1996) reported an internal consistency of .94 for the overall measure. The scale has been found to demonstrate convergent, concurrent, and discriminant validity, and is reported to not be susceptible to social desirability bias (Morgan, 1996). The Attitudinal inventory (as cited in Renzetti, 1987) contains 24 items and assesses attitudes of female respondents toward gender roles, gender inequality, and the women's movement. Original psychometric properties were not reported. The Attitude Toward Feminism and the Women's Movement Scale (Fassinger, 1994) contains 10 items and measures affective attitudes toward the feminist movement. Convergent and discriminant validity has been established for this measure, and Fassigner (1994) reported an internal consistency of .89 for this scale. The Attitudes Toward Women Scale (AWS; Spence & Helmreich, 1978)—Short Version is a widely used scale containing 15 statements about the rights and roles of women. Spence and Helmreich (1978) reported an internal consistency of .89 for this version of the test.

*Self-esteem (3 initial indicators).* The Self-Esteem Scale (Rosenberg, 1965) is a widely used 10-item scale measuring global feelings of self-worth or self-acceptance. On this scale, higher scores correspond to lower self-esteem so we reverse-scored it to ease interpretation (so higher scores reflect higher self-esteem). Internal consistency has reportedly ranged from .77 to .88 and a test-retest correlation of .85 has been reported after a 2-week interval (as cited in Blasovich & Tomaka, 1991). The Self-Esteem Inventory (Coopersmith, 1967) measures evaluative attitudes across several domains pertaining to the self. Higher scores reflect lower self-esteem so we also reverse-scored it. Because this scale was originally designed for use with children, modifications were made in order for this measure to be appropriate with adult samples. For the original measure, a split-half reliability of .90 has been reported, and test-retest correlations of .88 for a 5-week period and .70 for over 3 years have been reported (Blasovich & Tomaka, 1991). The Self-Esteem Inventory (Jerabek, 1996) contains 30 items and measures generalized evaluative attitudes toward the self. Higher scores correspond to higher self-esteem. Jerabek (1996) reported an internal consistency of .94 for this measure.

*Body dissatisfaction (4 initial indicators).* The Body Image Assessment Procedure (BIA; Williamson, Davis, Bennett, Goreczny, & Gleaves, 1989) is a method for assessing body image disturbance that utilizes silhouettes ranging from very thin to very large. Ratings for current body size and ideal body size are used to calculate a discrepancy score. The discrepancy score is conceptualized as an indicator of body dissatisfaction. The current study used a group administration format of the BIA as this method has been found to yield reliable and valid data (Williams, Gleaves, Cepeda-Benito, Erath, & Cororve, 2001). Test-retest reliability of .79 (for females) has been reported for the group version. The Body Shape Questionnaire (BSQ; Cooper, Taylor, Cooper, & Fairburn, 1987) assesses concerns with body shape. Convergent and discriminant validity for the BSQ has been demonstrated (Cooper et al., 1987). Rosen, Jones, Ramirez, and Waxman (1996) reported an $\alpha$ of .88. The Body Satisfaction Scale—Body subscale (Slade, Dewey, Newton, Brodie, & Kiemle, 1990) measures satisfaction or dissatisfaction with eight body parts. Higher scores reflect greater body dissatisfaction. Internal consistency for this subscale has reportedly ranged from .79 to .82 (as in Thompson et al., 1990). The Body Esteem Scale—Weight Concern subscale (Franzoi & Shields, 1984) measures feelings about one's own body and appearance particularly regarding weight concern. On this scale, higher scores correspond to greater body satisfaction so we reverse-scored it to make it consistent with the other indicators. Franzoi and Shields (1984) reported an internal consistency of .87 for this subscale.

### Procedure

A group administration format was used. The first 50 participants were given a packet of all the materials, presented in random order. Data analytic techniques (as described below) were then used to reduce the data set and materials packets to a more manageable size. Remaining participants received the indicators demonstrating optimal reliability and validity, presented in random order. This procedure led to the elimination of 9 out of 27 initial indicators and did not seem to alter the general time for participants to complete the study. It took participants between 60 to 90 minutes to complete the packet of questionnaires.

### Data Analysis

*Quality of indicators.* Preliminary steps were taken to examine the quality of each potential indicator. Data from the first 50 participants were analyzed to determine which indicators would be retained to test the structural models. Quality of each potential indicator was initially examined by calculating the internal consistency ($\alpha$). Then, principal components analyses were performed on the indicators for each construct, and the correlation matrix of all of the variables was examined.

*Structural modeling analyses.* The structural modeling analyses were performed using the LISREL 8.51 program (Joreskog & Sorbom, 1998). A two-step approach as described by Anderson and Gerbing (1988) was used. First, the measurement model was examined with confirmatory factor analysis to determine if the data best fit a

six-dimensional model with latent dimensions of awareness of sociocultural attitudes, internalization, feminist ideology, self-esteem, body dissatisfaction, and BMI. BMI was included as a separate dimension so that the measurement model could be compared with the structural models where body size was included to control for its effect. For all of the analyses, the error term for BMI was fixed to zero, assuming that it was measured without error. A series of nested confirmatory factor analysis models was examined to compare the fit of the proposed six-dimensional model against alternative models with one dimension, two dimensions (BMI and other constructs), three dimensions (BMI, body dissatisfaction, and other constructs), and five dimensions (BMI, body dissatisfaction, feminism, self-esteem, and other constructs).

Next, the structural models were tested by respecifying the data to be consistent with the previously stated hypothesis. The proposed moderator effects of feminism and self-esteem were analyzed separately to examine the unique effects of each of these variables on the relationship between awareness and internalization. To examine the proposed moderator effects, an approach to modeling interaction effects as described by Jaccard and Wan (1996) was used. In short, this method involves the creation of a product-term latent variable (although see Jaccard and Wan for the complexities of accurately specifying the model). The predictor variables are centered before creation of a product term to avoid problems with multicollinearity. Rigdon, Schumacker, and Wothke (1998) described the use of product terms as the "natural" (p. 4) approach when both variables are continuous (as in this case). An alternative approach to testing interaction involves the creation of subgroups and testing for invariance across groups. Jaccard and Wan (1996), Rigdon et al. (1998), and Jonsson (1998) described these methods in some detail including the relative advantages of using product terms versus subgroup analyses. Jonsson noted that the subgroup method is less powerful and might best be used only as a preliminary check for interactions or when one or more of the variables in question is naturally categorical. He also noted that, depending on which variable is used to create subgroups, different results might be found. Thus, although the subgroup approach may be more flexible (i.e., can be applied with continuous or discrete variables), the product-term approach seemed most appropriate for our purposes and we chose it as our primary approach (although we also performed subgroup analyses and they led to the same conclusion).

Model fit was determined by examining the $\chi^2$ statistic, the Goodness of Fit-Index (GFI), the Adjusted Goodness-of-Fit Index (AGFI), the Root Mean Square Error of Approximation (RMSEA), the Normed Fit Index (NFI), the Non-Normed Fit Index (NNFI), and the Comparative Fit Index (CFI). For the RMSEA, Browne and Cudeck (1993) noted that values greater than .10 suggest that a model should be modified, values around .08 suggest a reasonable fit, and values about .05 or less suggest a close fit. For the NFI, NNFI, and CFI, values at or above 0.9 are viewed as desirable (Bentler & Bonett, 1980; Cheung & Rensvold, 2002; Finch & West, 1997). The GFI and AGFI will sometimes be lower, but the AGFI should at least be above .80 (Cuttance, 1987). Goodness-of-fit of the individual model parameters was determined by examining $t$ values, standardized residuals, and modification indices.

## RESULTS

### *Quality of Indicators*

Internal consistency for each of the indicators ranged from $\alpha = .49$ to .97. The internal consistency of the newly designed measure, the SEA, was .75. The FIDS synthesis, FIS passive acceptance, and FIS embeddedness/emanation subscales were eliminated from subsequent analyses because of internal consistencies below .70. Alpha coefficients (based on the total sample) for the retained indicators are in Table 1.

Principal components analyses revealed that for the remaining indicators of awareness, internalization, self-esteem, and body dissatisfaction, one component was extracted for each construct (based on eigenvalues of greater than one). The MBSRQ—Appearance Orientation subscale was eliminated as an indicator of internalization due to a factor loading of .54 (other loadings ranged from .70 to .92). Two components were extracted from the feminist ideology indicators. Based on high loadings on the first factor and more widespread use in the literature, we retained four indicators: the LFAIS, AWS, and the FIDS subscales that represent Passive Acceptance (FIDSPA) and Synthesis and Active Commitment (FIDSAC) toward feminist ideology. The remaining six indicators were not used in subsequent analyses.

The correlation matrix of all the variables and the complete sample indicated convergent validity for measures within constructs and some evidence for discriminant validity across constructs (see Table 1). Feminist ideology and self-esteem measures had the lowest correlations with measures from other constructs, most of which were not statistically significant. However, self-esteem measures did correlate slightly higher with body dissatisfaction measures. Although measures of awareness, internalization, and body dissatisfaction tended to correlate more highly within construct than across construct, there were still significant correlations with these measures across the three constructs.

### *Measurement Model*

Examination of the univariate distributions of the 17 indicators revealed that 10 of these variables were significantly skewed or kurtotic. Because the data were non-normal, maximum likelihood with robust standard errors was used as the estimation method (see Finch, West, & MacKinnon, 1997). Initial examination of the modification indices for the measurement model revealed problems with the factor

**Table 1**

Alphas (on diagonal), Convergent, and Discriminant Validity Coefficients

| | *1* | *2* | *3* | *4* | *5* | *6* | *7* | *8* | *9* | *10* | *11* | *12* | *13* | *14* | *15* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. SATAQA | .81 | | | | | | | | | | | | | | |
| 2. SEA | **.71** | .75 | | | | | | | | | | | | | |
| 3. SATAQI | .59 | .42 | .91 | | | | | | | | | | | | |
| 4. BAAR | .57 | .47 | **.50** | .84 | | | | | | | | | | | |
| 5. SQLS | .59 | .44 | **.73** | **.58** | .93 | | | | | | | | | | |
| 6. LFAIS | −.09 | .03 | −.09 | −.21 | −.06 | .83 | | | | | | | | | |
| 7. AWS | −.03 | .10 | −.05 | −.16 | .00 | **.83** | .84 | | | | | | | | |
| 8. FIDSPA | −.09 | .08 | −.11 | −.22 | −.07 | **.78** | **.78** | .78 | | | | | | | |
| 9. FIDSAC | −.14 | −.04 | −.05 | −.18 | −.06 | **.65** | **.64** | **.62** | .87 | | | | | | |
| 10. SES | −.08 | .02 | −.30 | −.23 | −.35 | .03 | .02 | .06 | .02 | .83 | | | | | |
| 11. SEI | −.18 | −.07 | −.27 | −.21 | −.32 | −.02 | −.01 | .06 | .03 | **.70** | .79 | | | | |
| 12. SEI-J | −.22 | −.08 | −.33 | −.35 | −.43 | .09 | .09 | .15 | .02 | **.77** | **.72** | .94[a] | | | |
| 13. BESWTCN | .35 | .20 | .44 | .37 | .61 | −.02 | −.06 | −.13 | −.19 | −.33 | −.33 | −.35 | .92 | | |
| 14. BSSBOD | .25 | .17 | .42 | .30 | .41 | −.03 | −.06 | −.13 | −.07 | −.44 | −.45 | −.44 | **.61** | .80 | |
| 15. BIA | .25 | .17 | .30 | .28 | .48 | .01 | −.04 | −.05 | −.10 | −.25 | −.24 | −.31 | **.67** | **.37** | NA[b] |

*Note.* Convergent validity coefficients are shown in bold print. BIA = Body Image Assessment Procedure, BSSBOD = Body Satisfaction Scale—Body Subscale, BESWTCN = Body Esteem Scale—Weight Concern Subscale, SQLS = Body Shape—Slimness as Quality of Life Subscale, BAAR = Beliefs About Attractiveness Scale—Revised, SATAQI = SATAQ—Internalization Subscale, FIDSAC = Feminist Development Scale—Synthesis and Active Commitment Subscale, FIDSPA = Feminist Identity Development Scale—Passive Acceptance Subscale, AWS = Attitudes Toward Women Scale, LFAIS = Liberal Feminist Attitude and Ideology Scale, SEIJ = Self-Esteem Inventory (Jerabek), SEI = Self-Esteem Inventory (Coopersmith), SES = Self-Esteem Scale, SEA = Societal Emphasis on Appearance Scale, and SATAQA = Sociocultural Attitudes Toward Appearance Questionnaire—Awareness Subscale.

[a]This is the reported alpha in the literature. Alpha could not be calculated from this sample data because they were received as a combined total. [b]No internal consistency is reported for the BIA as it is based on a single item.

loadings of the Body Shape Questionnaire and Appearance Schemas Inventory, and with the correlated error of the FIS-synthesis subscale with another feminist identity measure. These measures were therefore dropped from subsequent analyses.

The results of the measurement model are presented in Table 2. The drop in $\chi^2$ when BMI was separated from the other measures was statistically significant, $\Delta\chi^2$ (1, $N$ = 197) = 842.12, $p < .01$. Next, the body dissatisfaction measures were separated from BMI and the other measures. This also led to a significant $\chi^2$ reduction, $\Delta\chi^2$ (2, $N$ = 197) = 194.22, $p < .01$. Separating the proposed moderating variables, feminism and self-esteem, from BMI, body dissatisfaction and other measures led to a significant $\chi^2$ reduction as well, $\Delta\chi^2$ (7, $N$ =197) = 789.11, $p < .01$. Finally, separating the five hypothesized constructs from one another and from BMI also led to a significant $\chi^2$ reduction, $\Delta\chi^2$ (5, $N$ = 197) = 82.99, $p < .01$. As can be seen in Table 3, all goodness of fit indices supported the hypothesized model (relative to other models) with six distinct constructs: awareness, internalization, feminism, self-esteem, body dissatisfaction, and BMI.

**Table 2**

Goodness of Fit Indices for Nested Measurement Models

| | | | *Index* | | | | | |
|---|---|---|---|---|---|---|---|---|
| *Dimensions* | *df* | $\chi^2$ | *RMSEA* | *NFI* | *NNFI* | *CFI* | *GFI* | *AGFI* |
| One[a] | 105 | 2090.98 | .31 | .08 | −.05 | .08 | .37 | .19 |
| Two[b] | 104 | 1248.86 | .24 | .36 | .27 | .37 | .52 | .37 |
| Three[c] | 102 | 1054.64 | .22 | .44 | .36 | .45 | .55 | .41 |
| Five[d] | 95 | 265.53 | .096 | .85 | .87 | .89 | .84 | .78 |
| Six[e] | 90 | 182.54 | .072 | .90 | .91 | .94 | .89 | .83 |

*Note.* RMSEA = Root Mean Square Error of Approximation, NFI = Normed Fit Index, NNFI = Non-Normed Fit Index, CFI = Comparative Fit Index, GFI = Goodness of Fit Index, AGFI = Adjusted Goodness of Fit Index.

[a]This model was tested with all indicators. [b]Two dimensions were BMI and all other indicators. [c]Three dimensions were BMI, body dissatisfaction, and all other indicators. [d]Five dimensions were BMI, body dissatisfaction, feminist ideology, self-esteem, and all other indicators. [e]Six dimensions were BMI, body dissatisfaction, feminist ideology, self-esteem, awareness, and internalization.

**Table 3**

Correlations Among Latent Variables (Phi Matrix with standard errors)

| | *Awareness* | *Internalization* | *Feminism* | *Self-Esteem* | *Body Dissatisfaction* |
|---|---|---|---|---|---|
| Awareness | — | | | | |
| Internalization | .74 (0.06) | — | | | |
| Feminism | −.07 (0.08) | −.11 (0.08) | — | | |
| Self-Esteem | −.18 (0.08) | −.48 (0.06) | .07 (0.07) | — | |
| Body Dissatisfaction | −.39 (0.07) | .70 (0.06 | −.08 (0.08) | −.49 (0.07) | — |
| BMI | .07 (0.08) | .13 (0.09 | .05 (0.08) | .01 (0.08) | 0.60 (0.06) |

*Note.* BMI = Body Mass Index.

Confidence intervals (+/−2 standard errors) around the correlations between the dimensions were examined, as Anderson and Gerbing (1988) noted that discriminant validity could be further established if the confidence interval around the correlation estimate between two factors does not include 1.0. None of these confidence intervals included 1.0 thereby further supporting the discriminant validity between the constructs. The final measurement model with the standardized parameter estimates is presented in Figure 1, and the parameter estimates for the phi matrix with standard errors is presented in Table 3.

### *Structural Models*

*Feminism and self-esteem as moderators.* Fit indices for the structural model with a product latent variable (awareness × feminism) entered into the structural model are presented in Table 4. The overall fit of the model with the product variable was adequate (see Table 4). However, the path between the product construct (awareness × feminism) and internalization was small ($\beta = .07$, 95% CI = −.05 to .19) and not statistically significant, $t = 1.12$ (in contrast, the parameter estimate for awareness was moderately large,

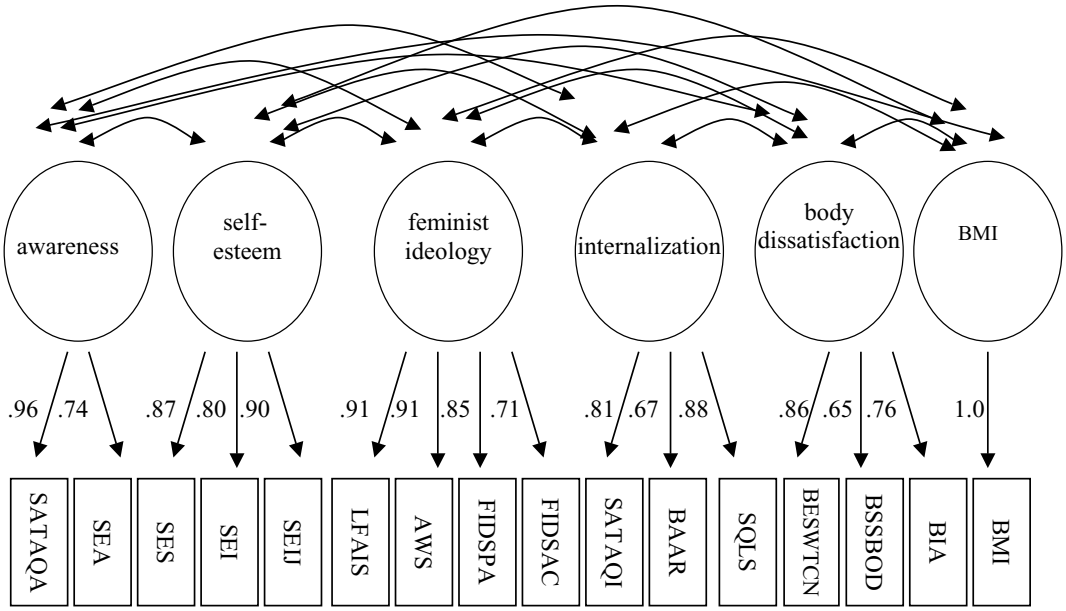


**Fig. 1.** Measurement model with standardized LISREL estimates. BMI = Body-Mass Index, BIA = Body Image Assessment Procedure, BSSBOD = Body Satisfaction Scale—Body Subscale, BESWTCN = Body Esteem Scale—Weight Concern Subscale, SQLS = Body Shape—Slimness as Quality of Life Subscale, BAAR = Beliefs About Attractiveness Scale—Revised, SATAQI = SATAQ—Internalization Subscale, FIDSAC = Feminist Identity Development Scale—Synthesis and Active Commitment Subscale, FIDSPA = Feminist Identity Development Scale—Passive Acceptance Subscale, AWS = Attitudes Toward Women Scale, LFAIS = Liberal Feminist Attitude and Ideology Scale, SEIJ = Self-Esteem Inventory (Jerabek), SEI = Self-Esteem Inventory (Coopersmith), SES = Self-Esteem Scale, SEA = Societal Emphasis on Appearance Scale, and SATAQA = Sociocultural Attitudes Toward Appearance Questionnaire—Awareness Subscale.

**Table 4**

Goodness of Fit Indices for Structural Models

| | | | *Index* | | | | | |
|---|---|---|---|---|---|---|---|---|
| *Moderator* | *df* | $\chi^2$ | *RMSEA* | *NFI* | *NNFI* | *CFI* | *GFI* | *AGFI* |
| Feminism | 73 | 166.54 | .081 | .88 | .90 | .92 | .88 | .83 |
| Self-Esteem | 61 | 165.60 | .094 | .85 | .86 | .89 | .87 | .80 |
| Direct Effects | 93 | 188.94 | .073 | .89 | .91 | .93 | .89 | .83 |

*Note*. RMSEA = Root Mean Square Error of Approximation, NFI = Normed Fit Index, NNFI = Non-Normed Fit Index, CFI = Comparative Fit Index, GFI = Goodness of Fit Index, AGFI = Adjusted Goodness of Fit Index.

$\beta = .56$, 95% CI = .32 to .80). This indicates that feminist ideology and awareness measures did not interact to influence internalization scores. Feminist ideology was therefore not found to serve as a moderator of internalization of sociocultural appearance standards.

For self-esteem as a moderator, the overall fit of this model was adequate (see Table 4). However, the path between the product construct (awareness × self-esteem) and internalization was small ($\beta = .05$, 95% CI = −.09 to .19) and not statistically significant, $t = 0.73$, indicating that self-esteem and awareness measures did not interact to influence internalization scores (the effects for awareness and self-esteem were $\beta = .51$ and $\beta = .40$, respectively, although these are better evaluated in the direct model below). Thus, self-esteem was also not found to serve as a moderator of internalization of sociocultural appearance standards.

*Direct effects.* An alternative model tested the direct effects of feminism and self-esteem on body dissatisfaction. This model cannot be directly compared using $\chi^2$ difference tests with the models examining the moderator effects of these variables because the models are not nested. However, the overall fit of the alternative model was adequate (see Table 4). All of the parameter estimates in the model were statistically significant ($t$ values greater than 2.0) with the exception of the paths between feminism and both body dissatisfaction, $t = 0.57$, and internalization, $t = 0.85$. The direct effects model with standardized LISREL estimates is depicted in Figure 2. This model does not support the hypothesis that feminist ideology directly affects body dissatisfaction or internalization, but it does indicate that self-esteem may directly affect both variables. Furthermore, it suggests that self-esteem may also have an indirect effect on body dissatisfaction through the mediating role of internalization.

## DISCUSSION

These findings add to our knowledge on sociocultural, feminist, and psychological influences on body dissatisfaction in a number of ways. Although previous research has examined the manner in which awareness and internalization of sociocultural attitudes toward appearance, self-esteem, and feminist ideology affect body dissatisfaction, this is the first investigation using structural equation modeling that examined these influences together. The examination of the potential moderating effects of feminism and self-esteem on the established relationship between awareness, internalization, and body dissatisfaction is believed to be strengthened by the attention given to measurement issues and the use of multiple indicators per construct.

This study provides additional support for the influential role of sociocultural variables on women's body dissatisfaction. In particular, internalization of sociocultural appearance standards appeared to mediate the relationship between awareness of these standards and body dissatisfaction. These findings replicated the results of Stice et al. (1994). The robustness of the relationship between awareness, internalization, and body dissatisfaction is supported as this investigation not only utilized different measures than the Stice et al. (1994) study, but also incorporated

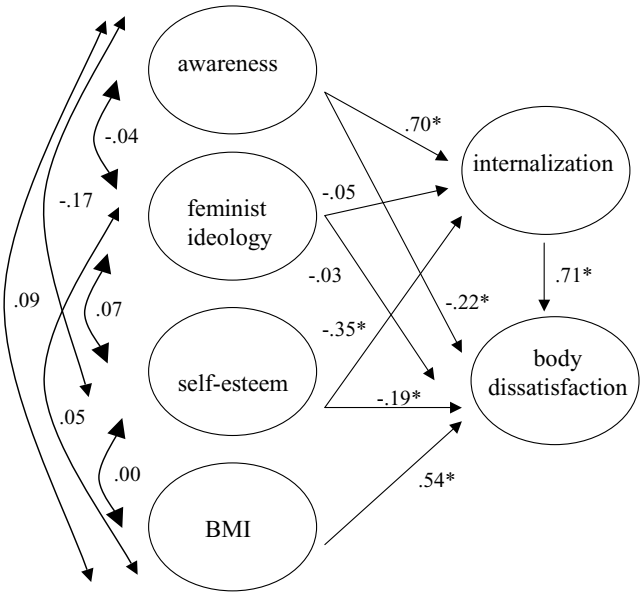


**Fig. 2.** Alternative Structural Model with standardized LISREL estimates. *denotes a statistically significant (p < .05) path.

multiple indicators of each construct into the structural models. However, in this study, awareness also appeared to have a direct effect on body dissatisfaction, above and beyond the effect mediated by internalization.

Findings from this study were not consistent with the hypotheses that feminism and self-esteem serve as protective mechanisms against internalization of sociocultural appearance standards. However, an alternative hypothesis supported by the data is that self-esteem directly affects both body dissatisfaction and internalization and also indirectly affects the former through the latter. Given the consistent evidence that body dissatisfaction is a primary determinant of eating pathology (Gleaves et al., 1995; Rosen, 1990; Thompson et al., 1990), this finding further implies that low self-esteem serves as a major risk factor for the development of eating disorders among women.

Although feminist ideology was not found to directly affect body dissatisfaction or to serve as a protective mechanism against internalization of sociocultural appearance standards, various explanations may account for these results. Because the data were drawn from a more politically conservative university in the southwestern United States, one possibility is that the level of feminist attitudes of the women in this sample was not representative of college women in general. However, the means of the feminist measures in this sample were generally consistent with those reported in other studies. Perhaps only certain feminist beliefs and gender attitudes, rather than a global feminist ideology, influence internalization of appearance standards and body dissatisfaction. Previous studies have found that specific feminist attitudes regarding physical attractiveness (Dionne et al., 1995) and gender role expectations at the level of male–female social interactions (Cash et al., 1997) were more highly associated with body dissatisfaction compared to overall feminist identity. An alternative explanation for these findings involves issues related to the measurement of global feminist ideology. Current measures of feminist ideology do not appear to measure behaviors specifically associated with activism and advocacy for feminist issues. Perhaps those women who actively engage in behaviors that support the women's movement are more likely to be protected against body dissatisfaction compared to those who merely hold feminist attitudes. Future studies could attempt to examine this theory; however, a measure of feminist behavior would first need to be developed.

Of course, it is possible that feminist ideology simply does not serve as a protective mechanism against internalization or body dissatisfaction among college women. Because body dissatisfaction appears to be remarkably widespread among female college students, perhaps some aspect of the college experience itself, such as the striving for intellectual/professional achievement, contributes to the high prevalence rates of body dissatisfaction as well as disordered eating found in this population (Silverstein, Carpman, Perlick, & Perdue, 1990; Streigel-Moore et al., 1990). This implies that the search for protective mechanisms against eating disorders and body dissatisfaction would need to be conducted differently with college and non-college educated women.

In conclusion, these data supported the hypothesized influence of sociocultural and psychological variables on body dissatisfaction. Although protective factors against internalization of sociocultural appearance standards and body dissatisfaction were not found in this study, we hope this investigation will stimulate further research in this area. These results suggest several additional avenues for future research particularly regarding the relationship between feminism and body dissatisfaction. Although these results appear to support previous findings that global feminist ideology is not related to body dissatisfaction, future studies can follow up on specific feminist beliefs and gender attitudes that may influence body satisfaction. Alternatively, discriminating between individuals holding feminist attitudes versus those willing to engage in behaviors that support the women's movement may result in greater understanding of the facets of feminism that can protect against internalization of sociocultural appearance standards.

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## NOTE

1. We also conducted all analyses including these 5 participants. The change in the results was negligible and actually led to slightly better fitting models. However, because of the concern over the validity of the BIA in this weight range, we chose to report analyses with those participants not included.

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