Research Article

Similar but Different: Sociocultural Attitudes towards Appearance, Body Shape Dissatisfaction, and Weight Control Behaviors among Male and Female College Students

Rita DeBate, Melissa Lewis, Yan Zhang, Heather Blunt, and Sharon H. Thompson

ABSTRACT

Background: *Although females have a higher incidence of eating disorders than males, there is evidence that among college students both males and females are vulnerable to risk factors associated with eating disorders.* ***Purpose:*** *To explore the relationship between sociocultural attitudes towards appearance (SCATA), body shape (dis)satisfaction (BSD), and attempts to change body weight among male and female college students.* ***Methods:*** *Participants were undergraduates (n=224) attending a large southeastern university. A paper-pencil survey was completed that included demographic information, SATAQ-R, the Contour Drawing Rating Scale, and a single item assessing current attempts at changing body weight.* ***Results:*** *Logistic regression models revealed that factors related to current attempt to change body weight differed by gender. The two significant factors observed for males included Internalization of SCATA (OR=1.18) and BSD (OR=3.16). Significant factors for females included awareness of SCATA (OR=1.10) and BSD (OR=8.09).* ***Discussion:*** *Although both males and females exhibit SCATA and body shape dissatisfaction, the specific factors related to their current attempts to change body weight differed.* ***Translation to Health Education Practice:*** *College eating disorder prevention should be directed and tailored to all students regardless of gender. Specifically, primary and secondary prevention programs for males should be tailored to explore internalization of SCATA and body image.*

BACKGROUND

Several studies have explored issues pertaining to eating disorders among college populations.[1-3] Research in relation to college females suggests that approximately 17% to 20% exhibit some form of eating disorder.[2, 4] This number is consistent with research data on this population because it is more likely for younger females between the ages of 18 and 21 to develop eating disorders.[4] Although males generally have a lower incidence of eating disorders than females, there is evidence that male and female college students are both vulnerable to disordered eating behaviors (e.g. caloric restriction, selective food restriction, laxative/diuretic misuse, etc).[2, 5] One study observed 10% of males and 20% of females exhibiting disordered eating behaviors.[2] This large proportion of males may suggest that the college male population may be more affected by eating disorders than presumed.[2]

Rita DeBate is an associate professor in the Department of Community and Family Health, University of South Florida, MDC 56, 13201 Bruce B. Downs Blvd, Tampa, FL 33612; E-mail: rdebate@health.usf.edu. Melissa Lewis is a student in the Honors College, University of South Florida, MDC 56, 13201 Bruce B. Downs Blvd, Tampa, FL 33612. Yan Zhang is an assistant professor in the Division of Health Services Research, Department of Family and Community Medicine, Texas Tech University Health Science Center, STOP 8161 – Room 1C165D, 3601 4th St., Lubbock, TX 79430. Heather Blunt is a graduate research assistant, College of Public Health, University of South Florida, MDC Box 56, 13201 Bruce B. Downs Blvd, Tampa, FL 33612. Sharon H. Thompson is a professor in the Department of Health, Physical Education, and Recreation, Spadoni College of Education, Coastal Carolina University, PO Box 261954, Conway, SC 25928.

Risk factors associated with eating disorders and associated disordered eating behaviors are body shape dissatisfaction and internalization of the "body ideal."[6,7] College females tend to exhibit more body dissatisfaction (i.e., a greater discrepancy between current body and ideal body) than their male counterparts.[8,9] Although, generally speaking, college males tend to be satisfied with their bodies, previous research observed dissatisfaction among males in terms of their chest, upper arms, and abdomen.[8] This observed dissatisfaction may indicate a desire among male college students to attain what they perceive as the "ideal" muscular male body.[8,10]

Sociocultural attitudes towards appearance (SCATA) may increase the risk for body shape dissatisfaction and subsequent eating disorders.[11-13] Two main components of SCATA are *Awareness* and *Internalization.*[12] *Awareness* refers to "the extent to which an individual is aware of the importance placed on appearance and thinness in Western culture;" whereas, *Internalization* refers to the extent to which an individual "internalizes these values by endorsing and desiring to emulate appearance-related social standards." [13] Moreover, internalization of the thin body ideal has been identified as a primary risk factor for the development of body dissatisfaction, negative body image, as well as predicting dieting, the onset of binge eating, and bulimic symptoms.[11,14,15] Stark-Wroblewski and colleagues observed internalization accounting for 9% of the variance in disordered eating scores beyond that explained by awareness; thus, supporting the idea that internalization is an important factor in disordered eating beyond just awareness of current Western ideals.[11] Current literature suggests most individuals are aware of the Westernized thin body ideal but not all individuals internalize this ideal to the same extent. Consequently, some individuals are more vulnerable to internalization of sociocultural ideals than others.[14]

Females generally exhibit higher levels of internalization of SCATA than their male counterparts.[16] However, acculturation and internalization of the Western male ideal body shape are also relevant to eating disorder pathology in men.[17] Males experience more body image concerns after they compare themselves to a culturally "ideal" male.[18] Studies of males of varying race/ethnicity not living in or exposed to the influence of Western body ideals have found that these men have lower rates of body image concerns than those living in Western societies.[19-21] In the Western media, the male body has become increasingly muscular throughout the 1990s.[22-24] This growing prevalence of the ideal muscular male body in society could lead to males developing a greater sense of awareness and internalization of these sociocultural attitudes towards appearance. Thus, it is important to assess sociocultural awareness towards appearance in men and explore the relation to disordered eating behaviors.

PURPOSE

The purpose of this study was to explore the relationship between sociocultural attitudes towards appearance, body shape (dis)satisfaction, and attempts to change body weight among male and female college students. More specifically, this study sought answers to the following questions: (1) Do sociocultural attitudes towards appearance differ by gender and race/ethnicity? (2) What is the relationship between sociocultural attitudes towards appearance, body shape (dis)satisfaction, and current attempts to change body weight? (3) Does the relationship between sociocultural attitudes towards appearance, body shape dis(satisfaction), and current attempts to change body weight differ by gender and race/ethnicity?

METHODS

Design

This study employed a cross-sectional study design using quantitative methods. The survey was anonymous; no individual identifying information was collected from the participants. The paper-and-pencil self-administered questionnaire consisted of pre-existing scales including the Sociocultural Attitudes Towards Appearance Questionnaire-Revised (SATAQ-R both male and female versions) [25] and the Contour Drawing Rating Scale [26] in addition to a single item assessing current attempts at changing body weight. Demographic variables included age, race/ethnicity, and gender. Participants took an average of 15 minutes to complete the survey.

Participants

Participants for this study were male and female undergraduate college students between 18 and 24 years of age attending a large southeastern university in the U.S. Participants were volunteers recruited from a convenience sample of undergraduate public health classes. Two hundred thirty-six students in seven classes were invited to participate in the study. Demographic characteristics of respondents closely resembled the undergraduate student population of the study site.[27]

Procedures

Approval for this study was granted by the Principal Investigator's University Human Subjects Institutional Review Board. The Principal Investigator distributed the surveys to the participants during a regularly scheduled class time. All participants were briefed about the purpose of the study and study procedures. All participants provided passive consent prior to participating. No individual identifying information was collected.

Instrument

The Sociocultural Attitudes Towards Appearance Questionnaire-Revised (SATAQ-R) includes 14 items that assess recognition and acceptance of social standards pertaining to appearance.[25] The current study utilized both the female and male versions. The questionnaire comprises a two-factor (Internalization and Awareness) structure including accounting for 44% of the variance: (1) *Internalization*. Internalization of SCATA consisted of 12 items. Reliability estimates included a Cronbach's alpha of .71.[25] Reliability estimates observed for the current study included a Cronbach's alpha of .66 for females and .60 for males. Responses were scored on a five-point scale from 1- "completely disagree" to 5- "completely

agree" (i.e. 1=completely disagree; 3=neither agree nor disagree; 5=completely agree). Items were summed to create an Internalization score. Scores ranged from 12-60, with larger scores indicating greater Internalization. (2) *Awareness*. Awareness of SCATA consisted of nine items. Reliability estimates indicate a Cronbach's alpha of .86.[25] Reliability estimates observed for the current study included a Cronbach's alpha of .65 for females and .68 for males. Responses were scored on a five-point scale from 1- "completely disagree" to 5- "completely agree" (i.e. 1=completely disagree; 3=neither agree nor disagree; 5=completely agree). Items were summed to create an Awareness score. Scores ranged from 9-45, with larger scores indicating greater Awareness. For both the Internalization and Awareness sub-scales, good concurrent validity with widely used measures of body image and disordered eating has been reported (Internalization scale: α=.36-.61; Awareness scale: α=.28-.44).[28]

The Contour Drawing Rating Scale (male and female version) [26] assessed satisfaction with body shape and size. Reliability estimates indicate a strong test-retest reliability (r=.78, p<.005).[26] Concurrent validity estimates reveal a strong correlation with BMI for both female (r=.76, p=.001) and male college students (r=.72, p=.0001).[26] Each participant was asked to indicate which silhouette they thought they looked like, and which silhouette they would like to look like. The difference between the ratings is calculated to be the discrepancy index and is considered to be the participant's level of dissatisfaction with their body shape/size. A discrepancy score of 0 indicates that the participant is satisfied with their body shape/size. A discrepancy score of greater than 0 indicates that the person is dissatisfied with his/her body shape/size and would like to be smaller. A discrepancy score of less than 0 indicates that the person is dissatisfied with his/her body shape/size and would like to be larger. Additionally, a single item assessing current attempt to change body shape, "Are you currently attempting to change you body shape?" Response categories were "yes" or "no."

Table 1. Demographic Characteristics of Participants (n=224)

Sex	Male n(%)	Female n(%)	Total n(%)
	85(38.0)	139(62.0)	224(100)
Race/ethnicity			
Caucasian	62 (72.9)	75 (54.0)	137(61.2)
African American	11 (12.9)	37(26.6)	48(21.4)
Hispanic	12 (14.1)	27(19.4)	39(17.4)
Age	m±sd	m±sd	m±sd
	20.76±1.92	20.57±1.56	20.64±1.71

Statistical Analysis

Data were analyzed using SPSS v14. Univariate statistics were performed to provide descriptive data (means, frequencies, percents). Chi-square analyses and t-tests were performed to test for differences between gender and ethnicity. Relationships among SCATA, body shape (dis)satisfaction and currently attempting to change body shape were determined by independent t-test and Chi-square. Three logistic regression models were generated to examine the effect of Awareness and Internalization of SCATA, body shape (dis)satisfaction, and currently attempting to change body shape among all participants, male participants, and female participants separately.

RESULTS

Demographic characteristics

Among the 236 students eligible for participation in the study (i.e. were enrolled in one of the seven classes and present the day of data collection), four did not provide consent resulting in a total of 232 participants representing a 98.3% participation rate. Data from eight participants were excluded from data analysis due to incomplete information leaving a final sample of 224. The mean age of participants was 20.64 ± 1.71 years and the majority were female (62%). As per Table 1, 61.2% of participants reported themselves as Caucasian followed by 21.4% African-American, and 17.4% Hispanic.

Sociocultural attitudes towards appearance

Table 2 depicts findings pertaining to Awareness and Internalization SATAQ-R subscales by gender. Results reveal no statistically significant differences in Awareness of SCATA by gender (p=.615) with both male and female participants scoring above the mid point of the range (30.95 ± 4.81 and 31.28 ± 4.79, respectively). Conversely, statistically significant differences were observed for Internalization of SCATA by gender (p<.001). Although the mean scores for both males and females were well above the mid point of the range, females had a higher mean score (38.01 ± 6.35) than their male counterparts (34.48 ± 6.24). When Internalization and Awareness subscales were assessed according to race/ethnicity of male and female participants, results revealed no statistically significant differences pertaining to Awareness (males p=.575, females p=.636) or Internalization (males p=.250, females p=.353).

Body shape (dis)satisfaction and currently attempting to change body weight

Analysis of body shape discrepancy scores revealed statistically significant differences between males and females (p=.020) as the mean body shape discrepancy score observed among females was 1.03 ±1.42 and .64±1.06 among males. No statistically significant differences were observed by race/ethnicity.

Results reveal no statistically significant differences for currently attempting to change body shape by gender (p=.644) as the majority of both males (63.5%) and females (60.4%) indicated that they were currently

Table 2. Sociocultural Attitudes towards Appearance by Gender (n=224)

Factor	Male (n=85)	Female (n=139)
	(m±sd)	(m±sd)
Awareness[1]	31.28 ± 4.79	30.95 ± 4.81
Internalization[2]	34.48 ± 6.24	38.01 ± 6.35**
Body shape discrepancy score[3]	.64±1.06	1.03±1.42*
Attempting to change body shape	n(%)	n(%)
Yes	54 (63.5)	84 (60.4)
No	31 (36.5)	55 (39.6)

*t-test is significant at p<.05

**t-test is significant at p<.01

[1] Scores ranged from 9-45, larger scores indicating greater awareness. Items include: In our society fat people are not regarded as attractive; Attractiveness is very important if you want to get ahead in our culture; It's important for people to look attractive if they want to succeed in today's culture; Most people believe that a toned and physically fit body improves how you look; People think that the more attractive you are, the better you look in clothes; In today's society, it's important to always look attractive; A physically fit woman [man] is admired for his/her looks more than someone who is not fit and toned; People find individuals who are in shape more attractive than individuals who are not in shape; In our culture, someone with a well-built body has a better chance of obtaining success.

[2] Scores ranged from 12-60, larger scores indicating greater internalization. Items include: I would like my body to look like the women [men] who appear in TV shows and movies; I believe that clothes look better on women [men] that are in good physical shape; Music videos that show women who are in good physical shape make me wish that I were in better physical shape; I do not wish to look like the female [male] models who appear in magazines; I tend to compare my body to TV and movie stars; Photographs of physically fit women [men] make me wish that I had a better muscle tone; I wish I looked like the women [men] pictured in magazines who model underwear; I often read magazines and compare my appearance to the female [male] models; People with well-proportioned bodies look better in clothes; How I look does not affect my mood in social situations; I often find myself comparing my physique to that of athletes' pictures in magazines; I do not compare my appearance to people I consider very attractive.

[3] Scores of 0 indicated no desire to change body shape; scores below 0 indicated desire to have a larger body shape; scores above 0 indicated desires to have a smaller body shape.

attempting to change their body weight.

Relationship between Awareness and Internalization of SCATA, body shape (dis) satisfaction, and currently attempting to change body weight

The data presented in Table 3 depict relationships between SCATA, body shape discrepancy scores, and currently attempting to change body weight by gender. For both male and female participants who indicated that they were attempting to change their body weight results revealed significantly higher body shape discrepancy scores as compared to participants reporting they were not currently attempting to change (p<.05). Both males and females who indicated they were attempting to change their body weight were observed with significantly higher scores (p<.05) with respect to Internalization of SCATA. However, only females who indicated that they were currently attempting to change their weight had significantly higher scores concerning Awareness of SCATA (p<.05).

The overall logistic regression model revealed gender as not a significant factor related to attempting a change of body shape (Table 4). Awareness and Internalization of SCATA were positively related to attempting to change body shape (Awareness, OR=1.08, 95%CI=1.01-1.15; Internalization OR=1.08, 95%CI=1.02-1.14). Those participants who were not satisfied with their body shape were approximately five times more likely to attempt to change their body weight as compared to those who were satisfied (OR=5.20, 95%CI=2.54-10.64). Logistic regression models also revealed factors related to currently attempting to change body weight were different for males and females (Table 4). The two significant factors observed for males were found to be Internalization of SCATA (OR=1.18, 95%CI=1.06-1.32) and body shape dissatisfaction (OR=3.16, 95%CI=1.07-9.38). With regard to females, results indicate Awareness of SCATA (OR=1.10, 95%CI=1.01-1.21) and body shape dissatisfaction (OR=8.09, 95%CI=2.84-22.99) were associated with current attempts to change body weight.

DISCUSSION

The purpose of this study was two-fold. First, we sought to explore differences in SCATA by gender and race/ethnicity. Second, we sought to explore the relationship between sociocultural attitudes towards appearance, body shape (dis)satisfaction, and attempts to change body weight among male and female college students. Generally speaking, the results of this study revealed no statistically significant differences by race/ethnicity regarding SCATA, body shape satisfaction, and currently attempting to change body weight. These findings are consistent with a current meta-analysis of the relationship between sociocultural attitudes towards appearance and body image, in that ethnicity was not found to be a statistically significant moderator of internalization and body image or awareness and body image.[29]

Nevertheless, in reference to the first research question, males and females in the current study both scored above the mid point of the range for both the Awareness and Internalization subscales of SATAQ-R. Thus, the results seem to indicate that college students are generally aware of SCATA and, moreover, have internalized these sociocultural attitudes. Moderately high degrees of internalization occurred for both males and females in this study with females indicating a greater degree of internalization. These findings may suggest that male and female college students are equally aware of sociocultural attitudes, but that they internalize them to a different degree. Subsequently, the

Table 3. Correlations by Gender Between Sociocultural Attitudes Towards Appearance, Body Shape (Dis)satisfaction, and Attempting to Change Body Weight

Participants	Male		Female	
	Attempting to change body weight (n=54)	Not attempting to change body weight (n=31)	Attempting to change body weight (n=84)	Not attempting to change body weight (n=54)
1. Body shape discrepancy score	.87±1.05	.23±.99*	1.54±1.19	.25±1.42*
2. Awareness of SCATA	31.69±4.91	30.58±4.56	31.96±3.99	29.37±5.53*
3. Internalization of SCATA	36.58±5.72	30.87±5.45*	39.31±5.51	36.02±7.05*

*t-test is significant at the 0.05 level

Table 4. Logistic Regression Models of Factors Related to Attempt to Change Body Weight (Not Attempting to Change=Reference)

	Overall Model (n=224)		Male (n=85)		Female (n=139)	
	B (S.E)	OR (95%CI)	B (S.E)	OR (95%CI)	B (S.E)	OR (95%CI)
Sex (Male=reference)	.62 (.34)	.54 (.27-1.06)	n/a		n/a	
Awareness	-.07(.07)	1.08 (1.01-1.15)*	-.03 (.06)	1.03 (.92-1.15)	-.10 (.04)	1.10 (1.01-1.21)*
Internalization	-.07 (.07)	1.08 (1.02-1.14)*	-.17 (.05)	1.18 (1.06-1.32)**	-.02 (.04)	1.02 (.95-1.09)
BICAT (Satisfied=reference)	-1.65 (.34)	5.20 (2.54-10.64)**	-1.15 (.55)	3.16 (1.07-9.38)*	-2.09 (.53)	8.09 (2.84-22.99)**

*p<.05
**p<.01

current findings are important for consideration of primary and secondary prevention programming as internalization of sociocultural attitudes towards appearance has been found to be related to body image and disordered eating behaviors.[11]

In addition, no statistically significant differences by gender were found regarding current attempts to change body weight. Our findings that both males and females showed a desire to change their body weights are consistent with those of a study (Furnham et al.)[30] in that both genders had no absolute differences in body weight dissatisfaction, but differed in terms of direction of desired weight change. That is to say, although both were dissatisfied, men desired to have a larger body shape as compared with women who desired a smaller body shape.

The second aim of this study was to determine if the relationship between Awareness and Internalization of SCATA, body shape (dis)satisfaction, and current attempts to change body weight differ by gender. Among female participants in this study, currently attempting to change body weight was significantly related to higher degrees of Awareness of SCATA and body shape dissatisfaction. More specifically, females who were dissatisfied with their body shape were nine times more likely to self-report that they were currently attempting to change their body weight. In contrast, among male participants the relationship between these variables differed, as a greater degree of Internalization of SCATA and body shape dissatisfaction were significantly associated with currently attempting to change body weight. This finding provides an important insight. Whereas males were found to have significantly less body dissatisfaction, body dissatisfaction and Internalization of SCATA

does increase the risk for attempts at changing body shape. Moreover, the identification of Internalization of SCATA is noteworthy as Internalization has been identified as a risk factor for disordered eating behaviors.

This study contributes important information about body dissatisfaction among males, internalization of male cultural ideals, and desire to change their body weight or shape. The cultural ideal of the male body consists of a V-shaped body of muscular tone in the chest/shoulders and abdomen.[8,31] Our findings that internalization of cultural ideals is significantly related to a desire to change body weight in males is consistent with previous research[32] that observed internalization significantly mediated the relationship between males' body satisfaction and their attempts to increase muscle mass.

Current results may support previous findings examining the relationship among internalization, body dissatisfaction, and disordered eating among males. Halliwell and Harvey [14] found that for male adolescents, internalization had a mediated effect on disordered eating through body dissatisfaction, but that this mediation was not significant in girls. In the present study, Internalization of SCATA and body shape dissatisfaction were significantly associated with current attempts to change weight among males. However, among females, Internalization was not found to be significant, as Awareness of SCATA and body shape dissatisfaction were significantly associated.

Although the findings from this cross-sectional study expand our knowledge regarding SCATA and its relationship to body shape (dis)satisfaction and desire to change body weight among male and female college students, a variety of limitations are present that must be noted. The use of a cross-sectional study design with a convenience sample limits the interpretation of findings. Also, the study only assessed SCATA at one college campus in the southeastern U.S., thus, limiting the generalization of study observations. Lastly, although SATAQ-R reliability statistics in this study were found to be acceptable, statistics were a bit lower for both Internalization and Awareness subscales as compared to previous studies.

TRANSLATION TO HEALTH EDUCATION PRACTICE

This study illustrates the degree of awareness and internalization of sociocultural attitudes towards appearance among college student regardless of gender or race/ethnicity. In addition, our study displays the relationship among SCATA, body shape satisfaction, and current attempts to change body shape differ by gender. These findings suggest that college eating disorder prevention efforts (primary or secondary) should be directed across the student body, not merely focused on females.

Although a current review of the literature regarding eating disorder prevention programs in college settings suggests the merit of prevention programs in addressing psychosocial risk factors for eating disorders, the programs focused solely on females.[33] Given that the literature does indicate the existence of eating disorders among male college students,[2] and sub-clinical disordered eating behaviors, it is critical that university based prevention programs address this underserved population. Previously, researchers have noted that adolescent males with poor coping strategies are at greater risk for eating disorders. Research is needed to determine prevention strategies that are effective for the male population.[34] Primary and secondary eating disorder prevention programs should be tailored specifically for college aged males. Possible areas for programming include: (1) increasing awareness of warning signs for eating disorders among males; (2) increasing awareness and exploration of media influences regarding cultural attitudes regarding "ideal" male masculinity and sexuality; (3) male only support groups; and (4) activities that aim for lifestyle mastery instead of body focused.[35,36] Equally, programs tailored for males should explore internalization of sociocultural attitudes towards appearance and provide skills for reducing sociocultural pressures, and developing a resistance to these pressures as they may be related to the development of disordered eating behaviors.

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