Body Image

The Body Appreciation Scale: Development and psychometric evaluation

Laura Avalos, Tracy L. Tylka *, Nichole Wood-Barcalow

Department of Psychology, Ohio State University, 1465 Mt. Vernon Avenue, Marion, OH 43302, USA

Abstract

Body image has been conceptualized and assessed almost exclusively in terms of its negative dimensions. Therefore, a measure reflecting body appreciation, an aspect of positive body image, was developed and evaluated via four independent samples of college women. Study 1 ($N = 181$) supported the Body Appreciation Scale's (BAS) unidimensionality and construct validity, as it was related as expected to body esteem, body surveillance, body shame, and psychological well-being. Study 2 ($N = 327$) cross-validated its unidimensionality. Study 3 ($N = 424$) further upheld the construct validity of the BAS, as it was: (a) related as expected to appearance evaluation, body preoccupation, body dissatisfaction, and eating disorder symptomatology and (b) unrelated to impression management. Studies 1 and 3 also indicated that the BAS predicted unique variance in psychological well-being above and beyond extant measures of body image. Study 4 ($N = 177$) demonstrated that its scores were stable over a 3-week period. All studies supported the internal consistency reliability of its scores. The BAS should prove useful for researchers and clinicians interested in positive body image assessment.
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Introduction

According to many scholars (e.g., Cash, 2002; Cash, Jakatdar, & Williams, 2004; Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999), body image is a complex, multidimensional construct that includes self-perceptions and attitudes (i.e., thoughts, feelings, and behaviors) with regard to the body. It involves many individual albeit related components, such as

(but not limited to) appearance evaluation, appearance orientation, body esteem, and accuracy of size perception (Thompson et al., 1999). Although these components can range from positive to negative, the study of body image primarily has been a pathology-focused endeavor with much extant research focused on assessing the extent individuals' adopt a negative orientation toward their bodies (Cash, 2002). This extensive body of literature has greatly enhanced awareness of individual, cultural, familial, and interpersonal predictors (e.g., low self-esteem, pressure for thinness) and outcomes (e.g., eating disorder symptomatology, negative affect, social anxiety and inhibition,

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* Corresponding author. Tel.: +1 740 389 6786x6384; fax: +1 614 292 5817.

E-mail address: tylka.2@osu.edu (T.L. Tylka).

impaired sexual functioning) of negative body image (Cash & Deagle, 1997; Cash & Fleming, 2002; Noles, Cash, & Winstead, 1985; Powell & Hendricks, 1999; Stice, 2002; Tylka & Subich, 2004; Wiederman, 2002).

Much less is known about predictors and outcomes of positive body image. According to Striegel-Moore and Cachelin (1999), variables contributing to or a result of positive body image could be the opposite of those associated with negative body image (e.g., high self-esteem in lieu of low self-esteem). Also, these authors argue that it is very likely that positive body image could be related to variables not documented for negative body image. Only one study to our awareness has focused on identifying characteristics of women with a positive body image (Williams, Cash, & Santos, 2004). Recognizing the need for research on positive body image, Williams et al. (2004) delineated body image groups from cluster analysis and revealed that women in the positive body image group reported greater appearance satisfaction, less body image distress, and a greater tendency to feel that their body image favorably influenced their life and functioning than women in the negative body image group and normative body discontent group. In terms of personality characteristics and coping strategies, these authors found that women with a positive body image had higher levels of optimism, self-esteem, and coping via positive rational acceptance and lower levels of self-presentational perfectionism and coping by avoidance and appearance fixing than women with negative body image and normative body discontent.

Studying the adaptive facets of body image would be consistent with the positive psychology movement by underscoring character strengths and virtues that increase and maintain individuals' well-being. Proponents of this movement (e.g., Seligman & Csikszentmihalyi, 2000) have argued that researchers need to be reminded that psychology is not just the study of pathology, weakness, and damage, but it is the study of positive personality traits that contribute to and maintain overall psychological health. Studying positive body image could aid psychologists in understanding how to prevent body image disturbance, as they would uncover human strengths that act as buffers against this distress. As a result, psychologists need to focus on conducting quality research in this area.

For reasons offered by Seligman and Csikszentmihalyi (2000), Striegel-Moore and Cachelin (1999), and

Williams et al. (2004), exploring positive body image seems a necessary next step for research on body attitudes. Knowledge gained by researching specific characteristics that promote positive body image would facilitate practitioners' work with their clientele and advance research and theory on character strengths. Given the fact that negative body image has been the main construct of interest, instruments have been constructed to capture individuals' negative rather than positive body attitudes. By mostly focusing on weaknesses, psychologists have perpetuated an assessment process that is out of balance (Lopez, Snyder, & Rasmussen, 2003). It should be noted that some extant measures assess neutral or positive body attitudes by investigating the degree to which respondents like various aspects of their body (i.e., Body Esteem Scale; Franzoi & Shields, 1984) or believe that they are good looking and sexually appealing (i.e., appearance evaluation subscale of the Multidimensional Body Self-Relations Questionnaire; Brown, Cash, & Mikulka, 1990). Yet, these instruments largely measure individuals' satisfaction with their appearance and not other characteristics of positive body image.

To date, an instrument has yet to be developed that assesses the following characteristics often identified (e.g., Cash, 1997; Freedman, 2002; Maine, 2000; Williams et al., 2004) as qualities of positive body image: (a) favorable opinions of the body (regardless of actual physical appearance), (b) acceptance of the body in spite of weight, body shape, and imperfections, (c) respect of the body by attending to its needs and engaging in healthy behaviors, and (d) protection of the body by rejecting unrealistic body images portrayed in the media. Measures of positive body image are necessary, as psychologists must develop scales that extend beyond a pathology-driven model and use these scales in their exploration of human strengths (Peterson, 2000; Williams et al., 2004). Thus, the purpose of the present study was to develop such a measure. In these four studies, we report the development and preliminary psychometric evaluation of this measure, the Body Appreciation Scale (BAS). We chose to initially investigate the BAS among women and not men, as much of the positive body image literature that guided its development has been based solely on women.

Study 1

The purpose of Study 1 was to develop the BAS items, to explore its factor structure, to determine whether its scores demonstrate evidence of internal consistency reliability, and to evaluate its construct and incremental validity. Consistent with previous theory and research on body image (e.g., Cash et al., 2004; Williams et al., 2004), the BAS was expected to be related positively to certain components of body esteem and related negatively to both body surveillance (i.e., monitoring the body and emphasizing appearance over internal qualities) and body shame (i.e., negative emotions associated with not meeting cultural expectations of the ideal body). As women with a positive body image have been found to have higher levels of self-esteem, optimism, and adaptive coping (Williams et al., 2004), the BAS was expected to be related positively to these indices of psychological well-being. Moreover, the BAS was expected to predict these indices of well-being above and beyond the other measures of body image examined in the present study.

Method

Participants and procedure

Participants were 181 college women ranging in age from 17 to 55 years ($M = 20.24$, $SD = 5.17$) recruited from a large Midwestern university. Most women (82.2%) identified as Caucasian American, followed in frequency by African American (5.0%), multiracial (8.3%), Asian American (3.9%), and Native American (0.6%). Women classified themselves as first-year students (68.3%), sophomores (17.8%), juniors (5.6%), or seniors (6.7%); two participants (1.1%) did not specify their college rank. Many participants described themselves as middle class (45.3%) and upper-middle class (39.7%), whereas fewer women endorsed working class (12.3%) and upper class (2.8%) labels.

Women enrolled in introductory psychology courses volunteered to participate through the psychology department's organized research program. After we obtained their informed consent and ensured that their responses would be anonymous, they completed the questionnaires in a classroom setting used as a research laboratory. The measures were counterbalanced to control for order effects. In exchange for participation, they received credit that was applied toward their course grade.

Measures

The development of the BAS was rational. We created items to reflect aspects of positive body image that have been identified across many theoretical writings (e.g., Cash, 1997; Freedman, 2002; Levine & Smolak, 2001; Maine, 2000) describing positive body image and ways to increase positive body image. Specifically, items were designed to assess the extent to which women: (a) hold favorable opinions of their bodies, (b) accept their bodies in spite of their weight, body shape, and imperfections, (c) respect their bodies by attending to their body's needs and engaging in healthy behaviors, and (d) protect their body image by rejecting unrealistic images of the thin-ideal prototype portrayed in the media. These aspects reflect unconditional approval and respect of the body, a construct of positive body image we termed body appreciation.

Sixteen items initially were created to reflect the construct of body appreciation. As a group, we met and discussed each item, revising it for clarity and determining whether it contributed uniquely to the measure. This process resulted in the rewording of 4 items and the deletion of 3 items that were redundant in content with 3 of the remaining 13 items. Following initial item generation, we sought feedback from a counseling psychologist who conducts research on body image to assess content validity; she believed that the items accurately reflected the content domain and suggested that we reword two items for clarity. This measure was piloted on 23 undergraduate college women who indicated that each item was easy to read. Scores for these items were found to be internally consistent ($\alpha = .93$), and each item correlated at or above .46 with the total score. Therefore, each item was retained without additional modification. BAS items are rated along a 5-point scale (i.e., 1 = *never*, 2 = *seldom*, 3 = *sometimes*, 4 = *often*, 5 = *always*) and are averaged to obtain an overall body appreciation score. Higher scores reflect greater body appreciation.

The Body Esteem Scale (BES; Franzoi & Shields, 1984) measures satisfaction with various aspects of the body. Items are rated on a 5-point scale ranging from *strongly dislike* to *strongly like*. For women, a 13-item sexual attractiveness (SA) subscale, a 10-item

weight concern (WC) subscale, and a 9-item physical condition (PC) subscale can be calculated by averaging subscale items. These subscales' internal consistency estimates are adequate and they have garnered construct validity evidence among college women (Franzoi & Herzog, 1986; Franzoi & Shields, 1984).

The body surveillance and body shame subscales of the Objectified Body Consciousness Scale (OBC; McKinley & Hyde, 1996) assess the degree to which women engage in body surveillance and experience body shame. Each subscale includes eight items rated on a scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Subscale items are averaged. McKinley and Hyde (1996) reported that the body surveillance and body shame subscale scores were internally consistent, stable over a 2-week period, and demonstrated evidence of construct validity.

Self-esteem was assessed using the Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965). It contains 10 items rated on a scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Its items are averaged. Scores on the RSE have been shown to demonstrate acceptable internal consistency, test–retest reliability over a 2-week period, and convergent validity (Robinson & Shaver, 1973).

The Life Orientation Test-Revised (LOT-R; Scheier, Carver, & Bridges, 1994) contains six items that assess an individual's level of generalized optimism and four filler items that are rated on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). In order to obtain a total score, the six nonfiller items are averaged. LOT-R scores have yielded evidence of internal consistency, temporal stability, and construct validity (Scheier et al., 1994).

The proactive coping subscale from the Proactive Coping Inventory (PCI; Greenglass, Schwarzer, & Taubert, 1999) was used to assess women's levels of adaptive coping. Proactive coping refers to efforts to develop resources that facilitate promotion toward challenging goals and personal growth. This subscale contains 14 items, and participants indicate how true each statement is for them on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Its items are averaged. Greenglass et al. (1999) reported that its scores were internally consistent and that it demonstrated construct validity.

Results and discussion

Five women who did not complete at least 90% of any given measure were not entered into the data set. We examined the data first to ensure that the variables' distributions would not violate statistical assumptions of the analyses we intended to perform. We determined the measures' skewness and kurtosis levels and visually examined the shape of their distributions. No large deviations from normality were present, and the slight deviations would not significantly affect the analyses (Tabachnick & Fidell, 2001). Means, standard deviations, alphas, and Pearson r correlations of the measures are included in Table 1. Correlations of .10

Table 1
Means, standard deviations, alphas, and correlations among the measures of Study 1 ($N = 181$)

Measures	1	2	3	4	5	6	7	8	9
1. Body Appreciation Scale	.94								
2. BES: sexual attractiveness	.50[**]	.86							
3. BES: weight concern	.72[**]	.53[**]	.92						
4. BES: physical condition	.60[**]	.60[**]	.66[**]	.90					
5. OBC: body surveillance	−.55[**]	−.21[*]	−.36[**]	−.21[*]	.86				
6. OBC: body shame	−.73[**]	−.55[**]	−.66[**]	−.53[**]	.56[**]	.86			
7. Rosenberg Self-Esteem Scale	.53[**]	.48[**]	.36[**]	.41[**]	−.27[**]	−.40[**]	.88		
8. LOT-R (optimism)	.42[**]	.35[**]	.24[**]	.33[**]	−.18	−.26[**]	.66[**]	.86	
9. PCI: proactive coping	.41[**]	.42[**]	.26[**]	.46[**]	−.17	−.21[*]	.61[**]	.56[**]	.87
M	3.48	3.79	2.87	3.54	3.25	3.67	3.24	2.92	3.76
SD	.79	.63	.99	.86	1.17	1.18	.51	.60	.55

Note: Alphas for each measure are presented along the diagonal. BES: Body Esteem Scale, OBC: Objectified Body Consciousness Scale, LOT-R: Life Orientation Test-Revised; PCI: Proactive Coping Inventory.

[*] $p < .01$.
[**] $p < .001$.

were considered small, correlations of .30 were considered moderate, and correlations of .50 were considered large (Cohen, 1992).

Exploratory factor analysis

The significance of Bartlett's test of sphericity ($\chi^2[78] = 1899.80$, $p < .001$) and the size of the Kaiser–Meyer–Oklin measure of sampling adequacy (KMO = .94) revealed that the BAS was an excellent candidate for factor analysis (Tabachnick & Fidell, 2001). To evaluate the structure of the BAS, we used a common factor analysis with principal axis factoring and quartimax rotation, which is the orthogonal rotation procedure of choice when a general factor is expected (Pedhazur & Schmelkin, 1991). As recommended by Tabachnick and Fidell (2001), the number of factors was determined by factor eigenvalues above 1.0 and a noticeable change in the slopes within the scree plot. We examined the rotated factor matrix to pinpoint items that loaded on these factors. Criteria for factor loadings included item values ≥.40 on the primary factor and values ≤.25 on the other factors.

A one- and two-factor solution produced eigenvalues of 7.91 and 1.18, respectively. No satisfactory solution was evident with two factors, as most items loaded on both factors. Item loadings on the single-factor solution ranged from .43 to .91 and accounted for 60.8% of item variance. These factor loadings, as well as the BAS items, are presented in Table 2. The fact that this solution had six high loading (i.e., >.80)

marker variables affirmed that our sample size of 181 was sufficient to carry out this analysis (Tabachnick & Fidell, 2001). Therefore, these results provide initial support for the unidimensionality of the BAS.

Internal consistency reliability

To determine the internal consistency of the BAS scores, we used Cronbach's alpha and examined item-total correlations. Alpha was .94, and corrected item-total correlations ranged from .41 to .88 (mean = .73). These values support the internal consistency of the BAS scores.

Validity

As hypothesized, higher BAS scores were strongly associated with higher body esteem (perceptions of sexual attractiveness ($r = .50$, $p < .001$), physical condition ($r = .60$, $p < .001$), and lower weight concern ($r = .72$, $p < .001$)), lower body surveillance ($r = -.55$, $p < .001$), and lower body shame ($r = -.73$, $p < .001$). These findings provide initial support for the BAS's convergent validity.

Also as predicted, BAS scores were strongly related to self-esteem ($r = .53$, $p < .001$) and moderately-to-strongly related to optimism ($r = .42$, $p < .001$) and proactive coping ($r = .41$, $p < .001$), supporting its association with several indices of psychological well-being. Next, we determined whether the BAS predicts each index of well-being above and beyond other body image measures (i.e., the

Table 2

Body Appreciation Scale (BAS) items and factor loadings obtained from the exploratory factor analysis of the data of Study 1 ($N = 181$) and the confirmatory factor analysis of the data of Study 2 ($N = 327$)

	Items	Overall body appreciation	
		Study 1	Study 2
1	I respect my body	.78	.78
2	I feel good about my body	.85	.89
3	On the whole, I am satisfied with my body	.89	.92
4	Despite its flaws, I accept my body for what it is	.87	.87
5	I feel that my body has at least some good qualities	.78	.82
6	I take a positive attitude toward my body	.91	.91
7	I am attentive to my body's needs	.67	.62
8	My self-worth is independent of my body shape or weight	.55	.57
9	I do not focus a lot of energy being concerned with my body shape or weight	.62	.51
10	My feelings toward my body are positive, for the most part	.91	.90
11	I engage in healthy behaviors to take care of my body	.43	.49
12	I do not allow unrealistically thin images of women presented in the media to affect my attitudes toward my body	.61	.56
13	Despite its imperfections, I still like my body	.85	.91

BES and OBC subscales). In order to test this hypothesis, these other measures of body image were entered at Step 1 of a hierarchical regression equation, and the BAS was entered at Step 2 of this equation, in the prediction of each well-being measure. The first hierarchical regression supported that the BAS predicted self-esteem ($\beta = .45$, $t = 4.21$, $p < .001$, $\Delta R^2 = .06$) after the BES sexual attractiveness ($\beta = .33$, $t = 3.96$, $p < .001$), BES weight concern ($\beta = -.05$, $t = -.52$, ns), BES physical condition ($\beta = .14$, $t = 1.45$, ns), OBC body surveillance ($\beta = -.14$, $t = -2.04$, $p < .05$), and OBC body shame ($\beta = -.15$, $t = -1.77$, ns) were entered, final $F(6,174) = 15.88$, $p < .001$, final $R^2 = .35$, final adjusted $R^2 = .33$. The second hierarchical regression supported that the BAS predicted optimism ($\beta = .46$, $t = 3.89$, $p < .001$, $\Delta R^2 = .07$) after the BES sexual attractiveness ($\beta = .23$, $t = 2.54$, $p < .05$), BES weight concern ($\beta = -.11$, $t = -1.02$, ns), BES physical condition ($\beta = .19$, $t = 1.85$, ns), OBC body surveillance ($\beta = -.11$, $t = -1.40$, ns), and OBC body shame ($\beta = -.10$, $t = -1.12$, ns) were entered, final $F(6,174) = 8.62$, $p < .001$, final $R^2 = .23$, final adjusted $R^2 = .20$. The third hierarchical regression also supported that the BAS predicted proactive coping ($\beta = .37$, $t = 3.30$, $p < .01$, $\Delta R^2 = .04$) after the BES sexual attractiveness ($\beta = .23$, $t = 2.81$, $p < .01$), BES weight concern ($\beta = -.17$, $t = -1.67$, ns), BES physical condition ($\beta = .42$, $t = 4.43$, $p < .001$), OBC body surveillance ($\beta = -.11$, $t = -1.50$, ns), and OBC body shame ($\beta = -.04$, $t = -.45$, ns) were entered, final $F(6,174) = 13.00$, $p < .001$, final $R^2 = .31$, final adjusted $R^2 = .29$. These findings support the BAS's construct and incremental validity.

Study 2

The aim of Study 2 was to determine whether the BAS's unidimensional factor structure, as demonstrated in Study 1, would generalize to a different sample of women.

Method

Participants and procedure

College women ($N = 327$) from a large Midwestern university participated in Study 2. They ranged in age from 17 to 30 years ($M = 18.45$, $SD = 1.04$), and most (88.1%) identified as Caucasian American, followed in frequency by Asian American (5.2%), African American (3.0%), Latina (2.1%), and multiracial (1.5%). Women classified themselves as first-year students (84.4%), sophomores (11.6%), juniors (2.1%), or seniors (1.2%); two participants (0.6%) did not indicate their college rank. Many women described themselves as upper-middle class (48.3%) and middle class (44.9%), whereas fewer women endorsed working class (4.3%) and upper class (2.5%) labels.

Participants read a description of the study and enrolled via the psychology department website. After participants were guaranteed anonymity and signed the informed consent form, they completed the BAS in a classroom used as a research laboratory. They received general psychology course credit for their involvement. The 13-item BAS, discussed in detail in Study 1, was used in Study 2 ($M = 3.45$, $SD = .68$).

Results and discussion

Three women who did not answer 90% or more of the BAS items were not included in the data set. Our sample size was large enough to perform confirmatory factor analysis on the BAS items (Tabachnick & Fidell, 2001). Data were empirically examined (i.e., skewness and kurtosis levels) at the item-level to make certain that the BAS's distribution was in accordance with the statistical assumptions of confirmatory factor analysis. No substantial violation was indicated within our data.

We used Mplus (Muthén & Muthén, 2001), a common confirmatory factor analysis program, to determine whether the BAS items conformed to its hypothesized structure. The maximum likelihood (ML) estimation was used to estimate the population covariance matrix. The adequacy of fit was determined by three indices recommended by Hu and Bentler (1999): the comparative fit index (CFI), the standardized root-mean square residual (SRMR), and the root-mean square error of approximation (RMSEA). According to Hu and Bentler (1999, p. 27), an excellent fit to the data is indicated by CFI values "close to" .95, SRMR values "close to" .08, and RMSEA values "close to" .06. A less ideal but still acceptable fit to the data is indicated by CFI values between .90 and .95, SRMR values between .08 and .10, and RMSEA values between .06 and .10

(Browne & Cudeck, 1993; Hu & Bentler, 1999; MacCallum, Browne, & Sugawara, 1996).

The 13 BAS items served as indicators for the body appreciation latent variable. Results demonstrated that the model provided an acceptable fit to the data, as fit statistics ranged from adequate (CFI = .94, RMSEA = .09) to excellent (SRMR = .05). All indicators loaded significantly on the body appreciation latent factor; these standardized estimates are presented in Table 2. No residual variance exceeded an absolute value of 3.0 (range = .17–.80, mean value = .40), providing additional support for the BAS's adequacy. Thus, Study 2 cross-validated the BAS's single-factor structure.

Study 3

The purpose of Study 3 was to further explore the construct and incremental validity of the BAS. Previous theory and research on body image (e.g., Cash, 1997; Levine & Smolak, 2001; Mazzeo, 1999; Thompson et al., 1999; Williams et al., 2004) guided our hypotheses for this study. Body appreciation and appearance evaluation should be strongly related in a positive direction to one another, as they are considered aspects of positive body image. Moreover, body appreciation should be strongly related in a negative direction to aspects of body image disturbance, such as body preoccupation and body dissatisfaction. The BAS also was expected to be negatively related to eating disorder symptomatology. In addition, the BAS was expected to predict indices of well-being (i.e., self-esteem, optimism, and proactive coping) above and beyond the other measures of body image examined. Last, the BAS scores should be either not related or negligibly related (i.e., correlations below .20, indicating low practical significance; Walsh & Betz, 2001) to impression management, a biased form of responding that reflects the tendency to give inflated self-descriptions to an audience.

Method

Participants and procedure

Participants were 424 college women (*M* = 19.86 years, *SD* = 4.64, age range 17–50 years) from a large Midwestern university. They identified as Caucasian American (77.6%), African American (9.2%), Asian American (5.0%), multiracial (5.9%), or Latina (2.4%). Women were first-year students (67.2%), sophomores (18.6%), juniors (5.4%), seniors (8.3%), or post-baccalaureate (0.5%) students. Most women described themselves as middle class (55.2%) and upper-middle class (33.3%); fewer women endorsed working class (9.7%) and upper class (1.4%) labels.

Participants were enrolled in introductory psychology courses. They were instructed that their responses would remain anonymous. After providing their consent, they completed the measures, which were counterbalanced, in a classroom used as a research laboratory. In exchange for their participation, they received credit that was applied toward their course grade.

Measures

Participants completed the BAS, RSE, LOT-R, and proactive coping subscale of the PCI, each of which has been described in detail in Study 1, as well as the following scales.

The appearance evaluation subscale of the Multidimensional Body Self-Relations Questionnaire (MBSRQ; Brown et al., 1990) was used to measure participants' body satisfaction and evaluation. Each of its seven items are rated from 1 (*definitely disagree*) to 5 (*definitely agree*) and averaged to obtain a total score. Brown et al. (1990) indicated that this subscale was upheld via factor analyses and that its subscale scores were internally consistent.

The Body Shape Questionnaire-Revised-10 (BSQ-R-10; Mazzeo, 1999) includes 10 items measuring body preoccupation, or the strength of negative body image attitudes (e.g., ''Have you found yourself brooding about your shape?'', ''Have you been particularly self-conscious about your shape when in the company of other people?''). The BSQ-R-10 is a shortened version of the original BSQ (Cooper, Taylor, Cooper, & Fairburn, 1987). Mazzeo (1999) revised the original BSQ, as many of its items did not measure body preoccupation. BSQ-R-10 items are rated from 1 (*never*) to 6 (*always*) and summed. Among college women, its scores were internally consistent, stable over a 3-week period, unidimensional, and strongly related to body dissatisfaction (Mazzeo, 1999; Tylka & Subich, 2004).

The body dissatisfaction subscale of the Eating Disorder Inventory-2 (EDI-2; Garner, 1991) contains

nine items that reflect overall body dissatisfaction and the belief that several body parts (e.g., hips, buttocks) are too large. For the purposes of this study, only this subscale of the EDI-2 was administered. Its items are rated on a scale ranging from 1 (*never true of me*) to 6 (*always true of me*). Garner (1991) recommended that item responses *never true of me*, *seldom true of me*, and *sometimes true of me* receive a score of 0 and the responses *often true of me*, *very often true of me*, and *always true of me* receive scores of 1, 2, and 3, respectively. This method restricts the range of responses, so we averaged the coded responses (i.e., 1–6) to prevent range restriction. Tylka and Subich (2004) also used this scoring method. Its scores have yielded evidence of internal consistency, test–retest reliability, and construct validity with college women (Tylka & Subich, 2004; Wear & Pratz, 1987).

The Eating Attitudes Test-26 (EAT-26; Garner, Olmsted, Bohr, & Garfinkel, 1982) was used to assess eating disorder symptomatology. Each of its 26 items is rated on a scale ranging from 1 (*never*) to 6 (*always*). Given that our sample was nonclinical, continuous scoring was used; other researchers (e.g., Mazzeo, 1999; Tylka & Subich, 2004) also have used this scoring method with nonclinical samples of women. Items were averaged to obtain a total score. Among college women, its scores have been shown to be internally consistent, stable over a 3-week period, and strongly related to eating disorder diagnostic measures (Mazzeo, 1999; Tylka & Subich, 2004).

The Balanced Inventory of Desirable Responding-6 (BIDR-6; Paulhus, 1994) impression management subscale was used to assess participants' tendencies to answer in a socially desirable manner. It contains 20 items that are each rated along a scale ranging from 1 (*not at all true*) to 5 (*very true*). After appropriate items are reverse-scored, one point is added for each "4" or "5" item response, and responses are summed. Paulhus (1994) found that its scores were internally consistent, stable over a 5-week period, and strongly related to other measures of socially desirable responding.

Results and discussion

Eight women who did not answer at least 90% of any given measure were not included in the final data set. Data were examined (i.e., skewness and kurtosis levels) first to ensure that the variables' distributions were in accordance with the statistical assumptions of the planned analyses. No violations were indicated within our data. Table 3 presents the means, standard deviations, alphas, and Pearson r correlations of the Study 3 measures.

Validity

As predicted, higher BAS scores were strongly associated in a positive direction with a greater tendency to evaluate one's appearance favorably ($r = .68$, $p < .001$) and in a negative direction with body preoccupation ($r = -.79$, $p < .001$) and body dissatisfaction

Table 3
Means, standard deviations, alphas, and correlations among the measures of Study 3 ($N = 424$)

Measures	1	2	3	4	5	6	7	8	9
1. Body Appreciation Scale	.93								
2. MBSRQ: appearance evaluation	.68**	.90							
3. BSQ-R-10 (body preoccupation)	−.79**	−.66**	.96						
4. EDI-2: body dissatisfaction	−.73**	−.71**	.78**	.89					
5. EAT-26 (disordered eating)	−.60**	−.41**	.70**	.51**	.91				
6. Rosenberg Self-Esteem Scale	.65**	.62**	−.57**	−.50**	−.44**	.91			
7. LOT-R (optimism)	.51**	.41**	−.40**	−.35**	−.29**	.77**	.87		
8. PCI: proactive coping	.36**	.27**	−.20**	−.23**	−.11	.55**	.66**	.87	
9. BIDR-6: impression management	.14*	.06	−.16**	−.07	−.09	.13*	.11	.10	.71
M	3.44	3.21	34.30	3.64	2.59	3.21	2.97	3.84	7.59
SD	2.35	.82	12.70	1.10	.76	.53	.61	.50	3.28

Note: Alphas for each measure are presented along the diagonal. MBSRQ: Multidimensional Body Self-Relations Questionnaire; BSQ-R-10: Body Shape Questionnaire-Revised-10; EDI-2: Eating Disorder Inventory-2; EAT-26: Eating Attitudes Test-26; BIDR-6: Balanced Inventory of Desirable Responding-6.
* $p < .01$.
** $p < .001$.

$(r = -.73, p < .001)$. These findings provide additional support for the BAS's convergent validity.

The BAS was strongly related in a negative direction to eating disorder symptomatology $(r = -.60, p < .001)$, supporting our hypothesis. We also assessed whether the BAS predicted the dimensions of psychological well-being above and beyond other measures of body image. To test this hypothesis, other measures of body image (i.e., MBSRQ appearance evaluation, BSQ-R-10, and EDI-2 body dissatisfaction) were entered at Step 1 of a hierarchical regression equation, and the BAS was entered at Step 2 of this equation, in the prediction of each of the three psychological well-being measures. The first hierarchical regression supported that the BAS predicted self-esteem $(\beta = .45, t = 6.17, p < .001, \Delta R^2 = .05)$ after the MBSRQ appearance evaluation $(\beta = .34, t = 6.29, p < .001)$, BSQ-R-10 $(\beta = -.17, t = -2.89, p < .01)$, and EDI-2 body dissatisfaction $(\beta = -.23, t = 3.74, p < .001)$ were entered, final $F(4,419) = 100.51, p < .001$, final $R^2 = .49$, final adjusted $R^2 = .49$. The second hierarchical regression supported that the BAS predicted optimism $(\beta = .44, t = 5.09, p < .001, \Delta R^2 = .05)$ after the MBSRQ appearance evaluation $(\beta = .21, t = 3.37, p < .01)$, BSQ-R-10 $(\beta = .13, t = 1.81, ns)$, and EDI-2 body dissatisfaction $(\beta = -.39, t = 5.25, p < .001)$ were entered, final $F(4,419) = 37.77, p < .001$, final $R^2 = .27$, final adjusted $R^2 = .26$. The final hierarchical regression supported that the BAS predicted proactive coping $(\beta = .25, t = 2.63, p < .01, \Delta R^2 = .02)$ after the MBSRQ appearance evaluation $(\beta = .28, t = 4.09, p < .001)$, BSQ-R-10 $(\beta = .27, t = 3.56, p < .001)$, and EDI-2 body dissatisfaction $(\beta = -.23, t = -2.88, p < .001)$ were entered, final $F(4,419) = 13.58, p < .001$, final $R^2 = .12$, final adjusted $R^2 = .11$. These findings contribute additional support for the BAS's construct and incremental validity.

Finally, as hypothesized, BAS scores were only negligibly related to impression management $(r = .14, p < .01)$. Thus, the discriminant validity of the BAS was supported.

Study 4

Evaluating the temporal stability of the BAS is necessary. Therefore, Study 4 was conducted to assess the test–retest reliability of its scores.

Method

Participants and procedure

Women $(N = 177;$ mean age $= 22.34$ years, $SD = 6.93;$ range 17–46) enrolled in general and upper-level psychology classes at a regional and main campus of a large Midwestern university participated. Most (94.4%) identified as Caucasian American, followed in frequency by African American (2.8%), multiracial (1.2%), Asian American (1.1%), and Latina (0.6%). Women indicated that they were first-year students (48.0%), sophomores (17.5%), juniors (9.0%), seniors (23.2%), or post-baccalaureate students (2.3%). They described themselves as middle class (61.6%), upper-middle class (25.4%), and working class (13.0%); no participant reported an upper class socio-economic orientation.

Women were recruited via verbal announcements of the experiment given in their psychology classes or through a description of the experiment on the psychology department webpage. For each administration, participants were instructed to write a code on their questionnaire that permitted the experimenters to match participants' initial and follow-up responses. After we ensured the anonymity of their responses and obtained their consent to participate, they completed the BAS, described in Study 1, in a classroom used as a research laboratory. They also completed the BAS 3 weeks later in the same setting. Participants received class credit that was applied toward their course grade. The BAS's total score mean was 3.45 $(SD = .66)$ for the initial administration and 3.47 $(SD = .67)$ for the second administration.

Results and discussion

To be entered into the data set, women had to complete the BAS during the first and second administration; 13 participants who completed the BAS during the first administration did not return for the second administration. Results indicated that BAS scores demonstrated adequate temporal stability over a 3-week period $(r = .90, p < .001)$. A paired samples t-test revealed that this stability was not simply due to everyone's scores increasing or decreasing over time $(t[176] = -.99, ns)$. Furthermore, its alphas for the initial $(\alpha = .91)$ and second $(\alpha = .93)$ administrations were high.

Overall discussion

Several scholars (Cash, 2002; Striegel-Moore & Cachelin, 1999; Williams et al., 2004) have asserted that a void exists in the body image literature: professionals lack the theoretical and empirical foundation needed for understanding positive body image and variables associated with it. In order to contribute to this research, it is imperative that measures of positive body image are created and evaluated (Williams et al., 2004). Therefore, we developed a measure of body appreciation (i.e., the BAS) that contained several central aspects of positive body image and examined its psychometric properties within four studies. Collectively, results demonstrated that the BAS has excellent psychometric support among women, as its hypothesized factor structure was upheld, its scores were internally consistent and stable over a 3-week period, and it demonstrated evidence of construct and incremental validity.

The BAS would be useful for researchers in their investigations of predictors and outcomes of positive body image, as articulating such factors would vastly contribute to the body image literature (Striegel-Moore & Cachelin, 1999; Williams et al., 2004). Adequate reliability and validity of measure scores are needed to meet the assumptions of many statistical designs (e.g., structural equation modeling, hierarchical multiple regression, longitudinal analyses), and the psychometric evidence garnered for the BAS scores supports the use of these analyses with this measure. Also, the BAS is easily administered and scored, and it requires only a few minutes to complete. These appealing features would facilitate its incorporation within research questionnaire packets and implementation within various clinical settings.

The BAS further could be used to identify which particular variables contribute to and emanate from positive body image. Such investigations could increase practitioners' understanding of how to promote greater body appreciation in their clientele and promote reflection on the impact that their body appreciation has on their clients' overall psychological well-being. As a result, we argue that the BAS would be valuable for clinicians in a variety of venues, such as college counseling centers, elementary and high schools, private practice settings, and eating disorder programs.

Interestingly, mean BAS scores were fairly consistent across all studies, ranging from 3.44 (Study 3) to 3.48 (Study 1) on a scale ranging from 1 (*never*) to 5 (*always*). Given that this score is between the *sometimes* and *often* responses, women on average endorsed fairly positive body attitudes, cognitions, and behaviors. This finding is noteworthy, as it challenges the extant belief that the average woman holds a more negative orientation toward her body (e.g., Thompson et al., 1999). Given the strong cultural messages that encourage women to be dissatisfied with their bodies, women on average may experience some discontent with their body size and shape (Striegel-Moore, Silberstein, & Rodin, 1986) but still may hold a fair amount of appreciation for their bodies.

Limitations and future research

Evidence of the reliability and validity of the BAS scores should be considered tentative, as additional psychometric investigation is imperative. Only samples of college women were used to investigate its psychometrics properties. Most of these women were young-adult, Caucasian, first-year students, and middle to upper-middle class. It is important to determine whether the BAS yields reliable and valid scores with other samples of women, such as women of color, pre-adolescent and adolescent girls, community women not in college, female athletes, and women in outpatient and inpatient eating disorder programs. Within each study, the ethnic distributions of the participants do not reflect the distribution of ethnicities within the United States, therefore limiting the generalizability of the results. Also, future research endeavors could be aimed at demonstrating whether its psychometric properties are upheld with samples of men. This endeavor would require minor modifications to Item 12 (i.e., "I do not allow unrealistically *thin* images of *women* presented in the media to affect my attitudes toward my body"). When giving the BAS to men, researchers need to simply revise this item to "I do not allow unrealistically *muscular* images of *men* presented in the media to affect my attitudes toward my body", as research (e.g., Leit, Pope, & Gray, 2001) has indicated that media emphasizes a muscular ideal image for men.

We generated items to represent four characteristics of positive body image noted in the literature. Yet, we did not write an equal number of items for each characteristic. Some items reflected more than one characteristic; however, only three items tapped body respect (i.e., attending to the body's needs and engaging in healthy behaviors) and only one item tapped protection of the body by rejecting unrealistic media images of women. If more items were generated assessing these characteristics, then more than one factor may have emerged. Another limitation of the BAS is that all its items are stated in the positive direction. Furthermore, no items measured the occurrence of positive body image emotions and absence of negative body image emotions in day-to-day life, which recently has been noted (Cash et al., 2004) as relevant to body image assessment.

Another limitation of the present study is that we did not collect information on participants' body mass index. While we believe that it is possible for women to appreciate their bodies when their appearance does not conform to societal ideals of attractiveness, we predict that BAS scores would be negatively related to body mass, as women in Western culture are socialized to connect their self and body image to the extent to which they appear similar to the societal ideal (Maine, 2000). Studying the relationship between the BAS and body mass index could help determine the extent to which the BAS is associated with the degree to which individuals look similar to the societal ideal. Researchers also could investigate whether the BAS is less related to body mass index than other measures of body image. In addition, future research could explore whether the BAS is related to self-deceptive enhancement, as measures of character strength and well-being tend to be related to this construct (Lopez et al., 2003).

Future studies might also examine the BAS in terms of its influence on adaptive or intuitive eating and prevention of harmful behaviors used in attempt to alter body shape (e.g., chronic dieting, vomiting after eating, skipping meals, use of laxatives, and excessive exercise). Given that internalization of the thin-ideal stereotype and sociocultural pressures for thinness predict negative body image (Stice, 2002), prospective designs using the BAS could determine whether women's rejection of the societal thin-ideal stereotype and others' unconditional acceptance of their body

shape predict their future levels of body appreciation. Moreover, since body image disturbance predicts future levels of disordered eating (Stice, 2002), it would be expected that initial levels of body appreciation would predict future levels of adaptive eating and resistance to using maladaptive weight control techniques. The BAS's sensitivity to treatment change can be explored by practitioners administering it to their clientele presenting with body image and eating disorder related concerns; the BAS can be given to clients when they initially come in for treatment and at their termination session. If the clients' levels of body appreciation increase as a result of counseling, additional psychometric evidence would be accrued for this measure.

Last, the BAS was developed from theoretical speculations (see Cash, 1997; Freedman, 2002; Levine & Smolak, 2001; Maine, 2000) as to what constitutes positive body image. Outside of Williams et al.'s (2004) study, researchers have not investigated whether these speculations are supported among women with a positive body image. Women with a positive body image may endorse different and/or additional qualities than what the BAS currently assesses. Therefore, qualitative research addressing positive body image (e.g., garnering information on its themes, domains, and components) is encouraged so as to adequately understand the complexity and comprehensiveness of this construct. Findings emanating from such studies could be used to further investigate the validity of the BAS, shape additional assessment instruments of positive body image, and guide quantitative research exploring predictors and outcomes of positive body image.

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