VALIDATION OF TWO BODY IMAGE MEASURES FOR MEN AND WOMEN

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Abstract

The Appearance Schemas Inventory-Revised (ASI-R) and the Body Image Quality of Life Inventory (BIQLI) are two recently developed measures of body image that have received relatively little psychometric evaluation. The present study was conducted to evaluate reliability and validity evidence for these measures in men and women aged 18-65. Convergent validity was also supported by correlating these two measures with various subscales of the Multidimensional Body-Self Relations Questionnaire (MBSRQ). The results of the present study extend the reliability and validity evidence for these two scales beyond college samples to community samples with greater age diversity.

Introduction

The majority of research on body image generally has been accumulated from young adult and college samples. However, with over 47% of Canada's population being 40 years of age or older (Statistics Canada, 2004) and 36% of the US's population being over the age of 45 (Infoplease, 2004), there is a great need for more body image research with community-based populations across wider age ranges. The first step in targeting these groups is through the availability of valid and reliable body image measures suitable to these populations. The Appearance Schemas Inventory-Revised (ASI-R; Cash, Melnyk, & Hrabosky, 2004) and the Body Image Quality of Life Inventory (BIQLI; Cash & Fleming, 2002) were chosen as the measures of interest in the present study because of their intuitive appeal for individuals of all ages. In addition, these measures are still in their infancy and are in great need of further psychometric evidence. Only one validation study has been conducted with the ASI-R, using a sample consisting of college-aged men and women (Cash et al.) and only two validation studies have been conducted with the BIQLI – one study with college-aged females (Cash & Fleming) and the other with college-aged males and females (Cash, Jakatdar, & Williams, 2004).

The present study will extend the extremely sparse literature on these two measures by assessing the reliability and validity of these measures in a community sample of men and

women over a wide age range. Validity evidence will be provided vis-à-vis confirmatory factor analysis and by correlating these measures to various subscales of the Multidimensional Body-Self Relations Questionnaire (MBSRQ; Cash & Pruzinsky, 1990), the most widely used measure of body image.

<div align="center">Method</div>

Participants

A total of 671 participants (250 males, 421 females) took part in this study. Participants ranged in age from 18 to 65. The mean age for males was 32.2 years ($SD = 13.52$) and for females was 37.1 years ($SD = 14.11$). The sample was predominantly White (74.9%) or East Asian (12.5%). Participants tended to be well-educated with 13.1% being high school graduates and 85.5% having more than high school. Nearly half of the participants (47.6%) identified themselves as being never married and 41.1% identified themselves as being married or common-law.

Procedure

Data collection for this study was conducted in two forms: a web-based survey ($n = 526$) and a paper and pencil survey ($n = 145$). Recruitment for the web survey took place in a number of ways: "snowball sampling" beginning with emails, posters distributed throughout the community, and oral classroom and community announcements. Individuals were provided with a link to the survey materials and interested individuals completed the survey at a time and location of their choice. All information was collected on a secure server. Recruitment for the paper and pencil version of the survey took place through posters distributed throughout the community, and oral classroom and community announcements. An envelope containing the research materials was provided to interested individuals and the survey was completed right away or taken home and returned at a later date.

Measures

ASI-R. The ASI-R is a self-report measure of "dysfunctional" schematic investment in appearance. This 20-item measure is summed to provide a Composite score, but is also composed of two subscales: Self-Evaluative Salience, which is the extent to which individuals' beliefs about their looks influence their personal or social sense of self, and Motivational Salience, which is the extent to which individuals attend to their appearance and engage in appearance-management behaviors.

BIQLI. The BIQLI is a self-report measure of the impact of body image on a variety of life domains. It consists of 19 items measuring the domains of "life in general, emotional states, same and other sex relations, eating and exercise, grooming activities, sexual experiences, and family and work/school contexts" (Cash & Fleming, 2002, p. 458).

MBSRQ. The MBSRQ is a self-report inventory that assesses cognitive, behavioral and affective components of body image (Cash, 2000). The 69-item MBSRQ consists of 10 subscales. Internal consistency for the subscales of the MBSRQ ranged from .67 to .85 for males and .71 to .86 for females.

Participants completed the questionnaires in the following order: MBSRQ, ASI-R, BIQLI, and a personal demographics sheet.

Results

Factor Analyses

Separate maximum likelihood confirmatory factor analyses were conducted for males and females to test the hypotheses that the ASI-R fits a two-factor model supporting the two subscales and the BIQLI fits a one-factor model supporting the use of a total score. For the ASI-R, results support a two-factor model for both sexes, with four of the five fit indices (i.e., RMSEA, NNFI, CFI, SRMR) indicating an acceptable fit (see Table 1). For the BIQLI, results support a one-factor model for both sexes, with three of the five fit indices (i.e., NNFI, CFI, SRMR) indicating an acceptable fit (see Table 1).

In addition, because the ASI-R can also be summed to a composite score, an exploratory factor analysis was conducted separately for both sexes to determine if essential unidimensionality is present, allowing for the use of a total score. An examination of the eigenvalues and scree plots indicated an essentially unidimensional scale for both males and females, with 37.68% and 33.24% of the variance accounted for by the first factor for each gender, respectively. The ratio of the first to second eigenvalue was 4.13 for males and 2.99 for females.

Internal Consistency

Internal consistency reliability estimates, using Cronbach's alpha, were computed for the ASI-R and the BIQLI. For the ASI-R, alpha was .90 (.91 for males, .89 for females) for the Composite score, .88 (.88 for males, .87 for females) for the Self-Evaluative Salience subscale, and .83 (.84 for males, .81 for females) for the Motivational Salience subscale. For the BIQLI, alpha was .96 (.95 for males and .96 for females).

Correlations

To provide evidence of convergent validity, Pearson correlations were calculated separately by gender, to test the hypotheses that:

(1) all three components of the ASI-R would be correlated positively with MBSRQ Appearance Orientation (see red values in tables)
(2) the Self-Evaluative Salience subscale would be correlated negatively with MBSRQ Body Areas Satisfaction and Appearance Evaluation (see blue values in tables)
(3) the BIQLI would be correlated positively with Appearance Evaluation, Fitness Evaluation, and Body Areas Satisfaction but negatively with Self-Evaluative Salience (see green values in tables).

As seen in Tables 2 (males) and 3 (females), all hypothesized correlations were significant and in the expected direction.

Conclusion

        The results of this study support the validity and reliability of inferences from the ASI-R and BIQLI with a community sample of men and women ages 18 to 65 years. Similar to research with college students, the results of the factor analyses showed that, for both men and women, the ASI-R is composed of two subscales that can also be summed to a composite score, and that the BIQLI is a unidimensional scale that can be summed to total score.

        The reliabilities for both scales were satisfactory and were similar to the values reported in the initial validation studies, with the exception that the Motivational Salience subscale of the ASI-R was slightly lower in the present study.

        The positive association of the ASI-R scores with the MBSRQ Appearance Orientation subscale supports the claim that the ASI-R assesses importance of appearance. In addition, the negative association of the ASI-R Self-Evaluative Salience subscale and the MBSRQ Body Areas Satisfaction subscale, the MBSRQ Appearance Evaluation subscale and, to a lesser extent, the BIQLI supports the claim that this scale assesses "dysfunctional" investment in appearance.

        The positive associations of the BIQLI with MBSRQ Appearance Evaluation, Fitness Evaluation and the Body Areas Satisfaction subscales suggest that values placed on appearance and fitness, and satisfaction with one's body are related to a positive impact of one's appearance on various life domains.

        Overall, the results of the present study extend the reliability and validity of inferences made using these two scales from college samples to a wider age range of adults from the community.

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Table 1

Tests of Model Fit for the ASI-R and BIQLI by Gender

Model	χ^2	df	RMSEA	NNFI	CFI	SRMR
ASI-R Males	547.68***	169	.10	.93	.93	.08
ASI-R Females	666.99***	169	.09	.93	.93	.08
BIOLI Males	903.26***	152	.14	.92	.92	.08
BIOLI Females	1695.65***	152	.15	.93	.93	.07

Note. RMSEA = Root Mean Square Error of Approximation; NNFI = Non-Normed Fit Index; CFI = Comparative Fit Index; SRMR = Standardized Root Mean Square Residual

*** $p < .001$

Table 2

Correlations Among the ASI-R, BIQLI, and Subscales of the MBSRQ for Males

		1.	2.	3.	4.
1.	ASI-R Composite				
2.	ASI-R Self-Evaluative Salience	.95 [c]			
3.	ASI-R Motivational Salience	.86 [c]	.65 [c]		
4.	BIOLI	-.06	**-.19** [b]	.16 [a]	
5.	Appearance Evaluation	-.23 [c]	**-.36** [c]	.04	**.62** [c]
6.	Appearance Orientation	**.79** [c]	**.64** [c]	**.86** [c]	.08
7.	Fitness Evaluation	-.07	-.17 [b]	.10	**.42** [c]
8.	Fitness Orientation	.19 [b]	.10	.31 [c]	.38 [c]
9.	Health Evaluation	-.21 [b]	-.31 [c]	-.01	.38 [c]
10.	Health Orientation	-.01	-.10	.13 [a]	.33 [c]
11.	Illness Orientation	.17 [b]	.13 [a]	.21 [b]	.10
12.	Body Areas Satisfaction Scale	-.33 [c]	**-.43** [c]	-.09	**.46** [c]
13.	Overweight Preoccupation	.33 [c]	.37 [c]	.19 [b]	-.28 [c]
14.	Self-Classified Weight	-.03	.05	-.15	-.31 [c]

[a] $p < .05$ [b] $p < .01$ [c] $p < .001$

Table 3

Correlations Among the ASI-R, BIQLI, and Subscales of the MBSRQ for Females

		1.	2.	3.	4.
1.	ASI-R Composite				
2.	ASI-R Self-Evaluative Salience	.93 [b]			
3.	ASI-R Motivational Salience	.80 [c]	.53 [a]		
4.	BIQLI	-.12 [a]	**-.26** [c]	.15 [b]	
5.	Appearance Evaluation	-.14 [b]	**-.28** [c]	.14 [b]	**.67** [c]
6.	Appearance Orientation	**.73** [c]	**.53** [c]	**.83** [c]	.07
7.	Fitness Evaluation	-.03	-.06 [b]	.05	**.41** [c]
8.	Fitness Orientation	.03	-.04	.14 [b]	.34 [c]
9.	Health Evaluation	-.16 [b]	-.25 [c]	.04	.37 [c]
10.	Health Orientation	-.05	-.16 [b]	.16 [b]	.38 [c]
11.	Illness Orientation	.17 [b]	.10 [a]	.24 [c]	.17 [b]
12.	Body Areas Satisfaction Scale	-.17 [c]	**-.29** [c]	.07	**.61** [c]
13.	Overweight Preoccupation	.49 [c]	.50 [c]	.32 [c]	-.31 [c]
14.	Self-Classified Weight	-.05	.14 [b]	-.12 [a]	-.46 [c]

[a] $p < .05$ [b] $p < .01$ [c] $p < .001$