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Development and Validation of a Multidimensional Measure of Positive Body Image

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Abstract

Current studies validate the Body Positive Scale (BP Scale) as a self-assessment instrument that captures four dimensions of the positive body image construct. We developed and evaluated a 17-item BP Scale using two focus group interviews and four independent samples (n = 1,379) of Korean women who completed online survey questionnaires. We generated an initial pool of items via literature review, content validation with experts, and focus group interviews, subsequently refining the items through exploratory analysis (Study 1). We confirmed the BP Scale's underlying dimensions with young Korean female samples (Study 2, Study 4) and with a community sample (Study 3). We also examined the construct validity, internal consistency, and test-retest reliability over a six-week interval. Overall, the results supported that the four-factor BP Scale demonstrates adequate validity and reliability in measuring positive body image among Korean women. The BP Scale provides a method for researchers and practitioners to understand and assess individuals' positive body image in a multifaceted manner.

Key words: Body positive, Positive body image, Scale development, Korean women

I. Introduction

With the newly emerging perspective that low levels or absence of body dissatisfaction do not necessarily entail a positive body image (Wood-Barcalow et al., 2010), body image researchers have emphasized the importance of exploring ways to promote positive body image and identify its impacts on body-related attitudes and behaviors (Alleva et al., 2021; Grogan, 2010). Positive body image is closely related to body (dis)satisfaction, but they are distinct constructs because individuals may simultaneously possess some levels of both positive and negative body image (Tylka, 2018). Previous studies have shown that positive body image explains unique variance in psychological well-being (i.e., self-esteem, life satisfaction, optimism, and proactive coping) after controlling for body image-related variables (i.e., body satisfaction, body dissatisfaction, weight discrepancy, internalization, and body surveillance) (Alleva et al., 2016; Avalos et al., 2005; Meneses et al., 2019; Swami et al., 2019). Moreover, positive body image can function as a protection against the negative sociocultural impacts of non-realistic beauty ideals (Evens et al., 2021). Studies have shown that the activities and treatments for promoting positive body image can lead to body satisfaction (Alleva et al., 2015), body appreciation (Alleva et al., 2018; West, 2021), appearance esteem (Rodgers et al., 2018), high self-esteem (Sundgot-Borgen et al., 2020), and low body surveillance (Cox et al., 2017).

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As the importance placed on positive body image has risen, the assessment of positive body image has attracted more scholarly attention. Positive body image is often assessed using various scales, such as the Body Appreciation Scale (BAS) (Avalos et al., 2005), the Body Appreciation Scale-2 (BAS-2) (Tylka & Wood-Barcalow, 2015), the Functionality Appreciation Scale (FAS) (Alleva et al., 2017), the Body Image Acceptance and Action Questionnaire (BI-AAQ) (Sandoz et al., 2013), and the Broad Conceptualization of Beauty Scale (BCBS) (Tylka & Iannantuono, 2016). Since these are unidimensional scales assessing a specific aspect of positive body image, they cannot concurrently capture the multiple interrelated domains of positive body image at global and specific levels. That is, despite the burgeoning research on positive body image suggesting that it is a multidimensional construct (Poulter & Treharne, 2021; Tylka & Wood-Barcalow, 2015), most existing measures assessing one facet of positive body image do not concurrently capture several facets of positive body image.

The purpose of this research is to develop the Body Positive Scale (BP Scale) as a new measure to assess global positive body image with considerations of its multiple dimensions. In addition, the BP Scale is developed in Korean and validated with the samples of Korean women. Most existing scales were originally developed in English with populations whose first language is English. Given that body image is shaped within the sociocultural context in which an individual lives, and body image concerns are prevalent and important to members in many other non-native English-speaking countries such as South Korea, a measure developed originally in a language other than English (Korean in the current study) and validated with its native speakers expands our understanding of positive body image across different cultures. Drawing on the existing conceptual literature and empirical studies, this study addresses the current research needs by developing a valid, empirically supported measure of positive body image. A multidimensional measure would capture a broader range of the concept of positive body image, which allows researchers and practitioners to evaluate individuals' positive body image in detail. The BP Scale would advance both theory and research by providing a specific measure to assess how each dimension of one's positive body image is associated with various body image-related variables. In addition, this study focused on positive body image due to a lack of measures for this concept while there have been several measures for negative body image (i.e., body dissatisfaction, dissatisfaction with muscularity).

1. A Multidimensional Concept of Positive Body Image

Researchers have described positive body image as a broad, multifaceted concept that refers to positive feelings, perceptions, attitudes, and behaviors regarding one's own body (Tylka, 2018; Wood-Barcalow et al., 2010). According to Wood-Barcalow et al. (2010), positive body image is "an overarching love and respect for the body" (p. 112). Tylka (2018) also demonstrated various components of positive body image, including "body appreciation, body acceptance and love, broadly conceptualizing beauty, adaptive body investment, inner positivity influencing outer demeanor, and protective filtering" (pp. 10-12).

The BAS-2 (refined version of BAS), as the most widely used measure of positive body image, assesses the overarching concept of positive body image (Siegel et al., 2020). It comprises the comprehensive constructs how individual feels and accepts his/her own body even its imperfections, respects the bodily needs to be healthy and enhance well-being, responses to society's beauty ideals in self-oriented and protective manners, and manifests positive body feelings into the relevant behaviors (Avalos et al., 2005). Other measures, such as the FAS, the BI-AAQ, and the BCBS, capture a core component of positive body image among its several dimensions. For example, the FAS assesses the extent to which an individual appreciates, respects, and honors his/her own body in terms of its functional capability, whereas BI-AAQ measures how an individual flexibly responds to aversive thoughts

and feelings of their body (Alleva et al., 2017; Sandoz et al., 2013).

Previous studies have adopted two or more of these measures to assess individuals' positive body image (Alleva et al., 2018; Alleva et al., 2015; Rodgers et al., 2018; Webb et al., 2014). Overall, individuals who have a positive body image tend to possess positive feelings, perceptions, and attitudes toward their own bodies. They are confident, happy, and satisfied with their current bodies. Even though they acknowledged their bodies' imperfections, they accept those aspects and still believe that they have their own unique beauty (Wood-Barcalow et al., 2010). Positive body image can encourage self-confidence because those with a positive body image are likely to show less maladaptive perfectionism regarding their appearance (Iannantuono & Tylka, 2012) and accept broad definitions of beauty, feeling comfortable with being different from the societal standards of beauty. In addition, individuals with a positive body image tend to respond to the sociocultural influences of beauty ideals in a positive and protective manner. They are less likely to compare themselves to a set standard of beauty, less likely to focus on dieting and appearance management, and have less interested in societal beauty ideals (Daniels et al., 2018). That is, those with a positive body image interpret body-related information in a protective manner that makes them less vulnerable to beauty ideals (Poulter & Treharne, 2021). The concept of positive body image has been utilized in a few recent studies with Korean samples (e.g., Kang & Seo, 2021; Lee & Lee, 2020). Kang and Seo (2021) investigated the differences in positive body image, measured by the BAS-2, between women who have engaged in regular yoga class and women who have not participated in yoga. Other studies (Kim & Kwon, 2021; Lee & Lee, 2020) have explored how body positivity has been presented in social media environments. A lack of research in Korean samples may also result from the absence of the measure for positive body image, indicating a need for the research of scale development for this particular concept.

The various components of positive body image are interrelated and contribute to the holistic meaning of its overall concept (Cook-Cottone, 2018). Broad conceptualizations of beauty may be associated with increased levels of acceptance of current bodily features despite imperfections, which is also related to one's overall love for their body. Also, those with a positive body image tend to be critical of media's presentation of the female body and are more likely to focus on their bodies' needs and self-care, such as nutritious eating and physical activity for health (Poulter & Treharne, 2021). These attitudes and behaviors are concurrently associated with an increased positive body image.

2. The Current Study

Followed established procedures for construct measurement and validation, we carried out four studies to generate the scale items and provide an in-depth examination of the BP Scale's psychometric properties (DeVellis, 2012; MacKenzie et al., 2011). Study 1 generated a potential pool of items for the BP Scale and examined its dimensions. Then, Study 2 factor-analyzed the new 17-item scale and examined its reliability, construct validity, and incremental validity. Study 3 confirmed the measure's four-factor structure with a community sample. Validating the scale in multiple samples including individuals from the wider community is a recommended procedure for the scale development (Boateng et al., 2018; Tylka & Wood-Barcalow, 2015). Lastly, Study 4 examined the BP Scale's test-retest reliability and discriminant validity.

For Study 1 through Study 4, the author's University Ethics Committee approved the study protocols. We recruited all participants for the online surveys through a survey company, and we provided membership points as an incentive for participation. All studies included one attention-check item ("Please select 'agree' to show you are paying attention") presented at a random point in the survey. For all online surveys, we collected basic background information from participants, including age, gender, education level, occu-

pation, height (cm), and weight (kg). We only retained data from participants who responded correctly to this attention check. We conducted all data analyses using SPSS 25 and AMOS.

II. Study 1: Item Generation and Exploratory Factor Analysis

As the first step of the scale development process, the aim of Study 1 was to create a potential pool of items for the BP Scale and to test its factor structure through exploratory factor analysis. We used both deductive and inductive approaches to provide theoretical support for the initial item pool (Hinkin, 1998; Kapuscinski & Masters, 2010).

1. Method

1) Item Generation

Item generation process was aimed to identify appropriate items that fit the concept of positive body image (Boateng et al., 2018). A potential pool of items for the BP Scale was generated through the reviews of previous research and literature, content validation with experts, and focus group interviews with young Korean women. First, the first author generated 47 items, in English version, that corresponded with the conceptual definition of positive body image. Most items were derived from reviewing the literature in positive body image (e.g., Tylka, 2018; Tylka & Piran, 2019). The existing scales for positive body image such as BAS-2, FAS, and BCBS were also used as inspiration. Then, the second author and one another individual with expertise in the body image literature reviewed each item with consideration of several issues including wording clarity, redundancy, and its correspondence to the conceptual definitions of positive body image. These two experts had experienced in scale development prior to participating in the scale review for this study. Through this step, three items were eliminated and several items altered, resulting in 44 items. Experts also suggested the redundancy of some items. However, we decided to check the redundancy issues with the exploratory factor analysis results.

2) Translation of the BP Scale

As most positive body image research has been published in English, we originally developed all BP Scale items in English, as well. We expect that the BP Scale's presentation in English may broaden its availability for diverse samples. To create the Korean version of the BP Scale, we used a conceptual translation method based on the "Guidelines for Translating and Adapting Tests" recommended by the International Test Commission [ITC] (2017). First, two translators independently performed forward translations. Both translators were native Korean speakers and fluent in English. The translators discussed items for which there were translation discrepancies and then generated reconciled versions. Then, another professional translator, whose native language was English but who was fluent in Korean, independently performed backward translation of the Korean version of the scale. All translators met to discuss any discrepancies between the forward- and backward-translated versions and made modifications to achieve agreement on the Korean version.

3) Focus Group Interviews

To confirm the core components of positive body image, we conducted two focus group interviews with female college students. After obtaining permission from the university's ethics committee, we recruited participants from the second author's university using campus advertisements. All interviewees provided written informed consent to participate. Seven students participated in the interviews. Each interview lasted approximately 45 minutes. After completion the interview, each participant received a gift card valued at 20,000 KRW (approximately 17.73 USD) as an incentive.

We guided participants in a discussion about the concept of positive body image and encouraged them to share their experiences of sociocultural attitudes toward beauty ideals, such as internalization and media pressure, and behavioral efforts to achieve those ide-

als. Most concepts emerging in the interviews aligned with the conceptual definition of positive body image presented in the literature review. However, one concept did not emerge in the previous steps manifested during the focus group interviews. Participants shared their perceptions of contemporary beautiful or attractive women, and many of them mentioned Lizzo (American singer) and Ye-seul Han (Korean actress). This was noteworthy because these two celebrities do not conform to current Korean beauty standards in terms of body size (Lizzo) and age (Ye-seul Han), especially for women in their 20s. Most participants agreed that women of all body sizes and shapes are beautiful and attractive, and they were not likely to evaluate other women based on their outer appearance. Interestingly, however, they stated that they would not be satisfied or be able to perceive themselves as attractive if they were to gain substantial weight (like Lizzo). Participants spontaneously discussed the true meaning of body positivity among themselves. They believed that they see other women's beauty and attractiveness regardless of society's beauty standards. Simultaneously, participants in both focus groups mentioned that they wished not to have an appearance diverging significantly from beauty ideals. Based on this, we generated four additional items (i.e., "I would be satisfied with myself even if I gain much weight."), which resulted in a final set of 48 items for the BP Scale. At the end of each focus group interview, we asked participants to review all items in the initial pool regarding their clarity.

4) Participants

Of the 392 total participants, 327 responded correctly to the attention check, data from whom we retained for further analysis. On average, participants were 25.48 years old (S.D. = 2.68, range = 20-29). Approximately 72.17% of participants were attending college or had completed a four-year college degree. Over half (54.74%) were employed. The average BMI of the sample was 21.88 (S.D. = 3.95), which falls within the "normal weight" range. The sample size was sufficient to conduct exploratory factor analysis for scale refinement (Henson & Roberts, 2006). <Table 1> shows the characteristics of research samples for Study 1 through Study 4.

5) Measures

(1) Preliminary BP Scale

The 48 items resulting from the item generation process and focus group interviews were included in the questionnaire. Participants rated each item on a 5-point scale ranging from 1 ("strongly disagree") to 5 ("strongly agree").

(2) Demographics

We collected basic background information from participants, including age, gender, education level, occupation, height (cm), and weight (kg). We calculated body mass index [BMI = weight (kg)/height (m^2)] for each participant using their self-reported height and weight.

2. Results

1) Exploratory Factor Analysis (EFA)

We conducted an EFA using principal axis factoring and promax rotation to determine the factor structure of the BP Scale. To determine the number of factors to extract, we used parallel analysis with O'connor's (2000) SPSS syntax. The initial EFA and parallel analysis on 48 items resulted in a four-factor solution. We also examined all items and deleted them if they had (1) had a low factor loading (<.50) on a primary factor, (2) had a low communality loading (<.40), or (3) had high inter-item correlations. During several iterations of factor analysis, we eliminated three items with low communalities, 10 items with low factor loadings, and 13 items with high inter-item correlations. We deleted another five items because they were not conceptually consistent with the primary factor. As a result, we retained 17 items.

The final EFA on the 17-item BP Scale resulted in a four-factor solution explaining 67.93% of the variance. The Kaiser-Meyer-Olkin measure was .88, and Bartlett's test of Sphericity was significant, $\chi^2(136) = 3408.26$, $p<.001$. These indicated appropriate sam-

Table 1. The characteristics of research samples for Study 1 through Study 4

Variable	Categories	*n* (%)			
		Study 1 (*n* = 327)	Study 2 (*n* = 398)	Study 3 (*n* = 327)	Study 4 (*n* = 327)
Education	High school graduate	23 (7.0)	36 (9.0)	69 (21.1)	27 (8.3)
	Currently attending college or graduated	41 (12.5)	57 (14.3)	55 (16.8)	54 (16.5)
	Currently attending university or graduated	236 (72.2)	279 (70.1)	162 (49.5)	227 (69.4)
	Graduate degree	27 (8.3)	26 (6.5)	41 (12.5)	19 (5.8)
Occupation	Office worker	132 (40.4)	145 (36.4)	105 (32.1)	121 (37.0)
	Professional	33 (10.1)	52 (13.1)	39 (11.9)	43 (13.1)
	Production worker	5 (1.5)	5 (1.2)	7 (2.1)	2 (0.6)
	Student	87 (26.6)	129 (32.4)	16 (4.9)	83 (15.4)
	Public officer	4 (1.2)	9 (2.3)	11 (3.4)	9 (2.8)
	Homemaker	5 (1.5)	7 (2.8)	90 (27.5)	2 (0.6)
	Other	61 (18.6)	51 (12.8)	59 (18.1)	67 (20.5)
Height	Unit: cm	Mean = 161.75, S.D. = 5.26, Range = 148-179	Mean = 161.83, S.D. = 5.16, Range = 148-177	Mean = 160.56, S.D. = 4.82, Range = 148-175	Mean = 161.05, S.D. = 4.97, Range = 148-176
Weight	Unit: kg	Mean = 57.24, S.D. = 10.78, Range = 42-113	Mean = 56.35, S.D. = 9.41, Range = 38-95	Mean = 57.15, S.D. = 8.93, Range = 42-104	Mean = 56.44, S.D. = 10.56, Range = 35-125
BMI	Unit: kg/m^2	Mean = 21.88, S.D. = 3.95, Range = 14.86-42.53	Mean = 21.50, S.D. = 3.33, Range = 15.79-36.72	Mean = 22.16, S.D. = 3.23, Range = 16.14-38.45	Mean = 21.75, S.D. = 3.88, Range = 14.02-42.25

pling adequacy and sufficiently large inter-item correlations to conduct EFA. The eigenvalues of the four factors (Factor 1: eigenvalue = 6.75, 39.70% variance explained; Factor 2: eigenvalue = 2.19, 12.86% variance explained; Factor 3: eigenvalue = 1.59, 9.37% variance explained; and Factor 4: eigenvalue = 1.55, 9.14% variance explained) exceeded the corresponding eigenvalues obtained from the parallel analysis (Criterion 1: 1.42; Criterion 2: 1.33; Criterion 3: 1.26, and Criterion 4: 1.21). <Table 2> presents the item-factor loadings.

The results of Study 1 indicated that the BP Scale comprises four factors. The first factor includes five items reflecting how women feel about their own bodies (F1: Feeling). The second factor includes four items reflecting how women accept their bodies if they do not meet beauty ideals (F2: Acceptance-even if). The third factor includes four items reflecting how women respond to societal beauty standards (F3: Response). The fourth factor includes three items reflecting how women conceptualize the definition of beauty (F4: Conceptualization).

2) Internal Consistency Reliability

Cronbach's alphas for F1 through F4 were .89, .91, .82, and .85, respectively. These all exceed the minimum cutoff of .70 (Cortina, 1993). Item-total correlations ranged from .62 to .80 for F1, from .76 to .83 for F2, from .57 to .70 for F3, and from .58 to .81 for F4.

III. Study 2: Confirmatory Factor Analysis (CFA), Validity, and Reliability

Study 2 aimed to confirm the four-factor structure of the BP Scale identified in Study 1 and to assess its

Table 2. Descriptive statistics and factor loadings from EFA: Study 1

		Pattern coefficients			
	Mean (S.D.)	F1	F2	F3	F4
1. 나는 내 몸과 외모에 자신이 있다 / I feel confident with my body and appearance.	2.97 (.95)	.87			
2. 나는 내 몸과 외모에 만족한다 / I am satisfied with my body and appearance.	3.13 (.91)	.83			
3. 나는 내 몸과 외모가 가지고 있는 나만의 특별한 아름다움이 있다고 생각한다 / I think that my body and appearance have its unique beauty.	3.34 (.93)	.79			
4. 나는 내 몸과 외모에 대해 부족함 보다는 좋은 점이 더 많다고 생각한다 / I feel that the good qualities of my body and appearance outweigh its imperfections.	3.33 (.99)	.75			
5. 나는 내 신체 기능에 문제가 없는 한, 있는 그대로의 내 몸과 외모를 받아들인다 / I appreciate my body and appearance as long as its functions perform well.	3.58 (.90)	.61			
6. 나는 내가 뚱뚱한 몸을 가지게 된다고 해도 만족할 것이다 / I would be satisfied with myself even if I gain much weight.	2.24 (1.02)		.98		
7. 나는 내가 뚱뚱한 몸을 가지게 된다고 해도 스스로를 매력적이라고 생각할 것이다 / I would feel myself attractive even if I will get more body fat.	2.36 (1.08)		.92		
8. 나는 내가 사회의 이상적 미의 기준과는 거리가 먼 외모를 갖게 된다고 해도 만족할 것이다 / I would be satisfied with myself even if my body will be far from the beauty ideals.	2.67 (.96)		.72		
9. 나는 내가 사회에서 인정하는 미의 기준과 맞지 않은 몸과 외모를 갖게 된다고 해도 내 자신이 매력적이라고 생각할 것이다 / I would feel myself attractive even if my body does not meet the standard of beauty.	2.92 (.97)		.65		
10. 나는 미디어에서 보이는 이상적 외모의 연예인이나 인플루언서와 나의 외모를 비교하곤 한다 / I compare my body to celebrities and influencers who have the beauty ideals. (r)	3.20 (1.19)			.79	
11. 나는 살을 빼거나 외모 관리를 하는 것에 관심이 많다 / I focus on dieting and appearance management. (r)	2.76 (1.09)			.72	
12. 나는 이상적 외모에 가까운 연예인이나 인플루언서의 소셜미디어를 자주 찾아보는 편이다 / I often look for social media posts of celebrities and influencers who have the ideal body. (r)	3.52 (1.19)			.68	
13. 나는 내 몸과 외모의 부족한 부분에 관한 얘기를 많이 하는 편이다 / I frequently talk about the imperfections of my body and appearance. (r)	3.28 (1.05)			.66	
14. 나는 사회의 이상적 외모 기준에 맞추려고 노력한다 / I attempt to conform to societal appearance ideals. (r)	2.92 (.98)			.64	
15. 나는 사회의 이상적 미의 기준과 일치하지 않는 외모도 아름답다고 생각한다 / I think that every appearance is beautiful even though it does not fit in the society's beauty standards.	3.77 (.79)				.92
16. 나는 사회에서 인정하는 미의 기준과 맞지 않은 여성의 몸과 외모도 아름답다고 생각한다 / Female body and appearance which do not meet the beauty standards set by society are also beautiful.	3.72 (.84)				.90
17. 아름다움이란 매우 다양한 외모와 내면의 질을 포함하는 개념이다 / The concept of beauty encompasses many different appearances and inner qualities.	4.13 (.71)				.63

The reported EFA loadings are from the pattern matrices. Extraction method: principal axis factoring. Rotation method: promax with Kaiser normalization.
F1 = Feeling; F2 = Acceptance-even if; F3 = Response; F4 = Conceptualization
(r): reverse coded.

validity and reliability with a sample of young Korean women. We first conducted CFA with maximum likelihood estimation to test the fit of the 17-item, four-factor model. Second, we compared the four-factor model to three alternative models, including two 3-factor models and one 1-factor model. Third, we examined the construct validity, incremental validity, and internal consistency of the BP Scale. Specifically, to establish construct validity, we compared each of the four factors of the BP Scale with other body image-related measures. We also performed hierarchical multiple regression to test whether the BP Scale contributes unique variance to the prediction of self-esteem and attitudes toward fat people over and above a measure of body appreciation. As before, we used Cronbach's alpha coefficients to assess internal consistency.

We employed several indices to assess model fit (Schreiber et al., 2006). These were the chi-square/*df* ratio (χ^2/df), relative fit indices such as the comparative fit index (CFI), and parsimony-adjusted measures such as the root mean square error of approximation (RMSEA). We considered χ^2/df ratios of 3 or less, CFI values greater than .90, and RMSEA values less than .08 as indicating acceptable fit (Bentler, 1990; McDonald & Ho, 2002). We conducted model fit comparison based on the chi-square difference test for nested models and ΔCFI values (≥.002) (Meade et al., 2008).

1. Method

1) Participants

Among the 610 responses to the survey, we eliminated 212 incomplete responses, resulting in a total of 398 valid responses for data analysis. This sample size exceeded the minimum requirements for structural equation modeling: (1) a minimum sample size of 100 or 200 (Boomsma, 1985) and (2) 5:1 or 10:1 cases-to-parameters ratio (Bentler & Chou, 1987). On average, participants were 25.33 years old (S.D. = 2.76, range = 20-29). Most participants (70.10%) were attending college or had completed a four-year college degree. Over half (55.28%) were employed. The average height and weight were 161.83 cm (S.D. = 5.16, range = 148-177) and 56.35 kg (S.D. = 9.41, range = 38-95), respectively. The average BMI was 21.50 kg/m^2(S.D. = 3.33), which falls within the "normal weight" range.

2) Measures

(1) BP Scale

We used the final 17-item, four-factor BP Scale to assess positive body image. Participants reported the degree to which each item describes them using a 5-point scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). We averaged all items for each factor, with higher scores indicating greater positive body image. Cronbach's alphas were .89 for F1, .86 for F2, .79 for F3, and .83 for F4.

(2) Body Appreciation

We used the 10-item BAS-2 (Tylka & Wood-Barcalow, 2015) to assess participants' body appreciation. Participants rated each item on a 5-point scale ranging from 1 ("never") to 5 ("always"). We averaged the items, with higher scores representing greater body appreciation. The Cronbach's alpha in Study 2 was .95.

(3) Body Surveillance

The eight-item Body Surveillance subscale of the Objectified Body Consciousness scale (OBCS) (McKinley & Hyde, 1996) measured behavioral manifestations of self-objectification. Participants rated all items on a 5-point scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). After reverse-coding six items, we averaged all items, with higher scores representing higher levels of body surveillance. Prior research with a sample of Korean female university students (Forbes & Jung, 2008) has demonstrated evidence of the scale's internal consistency, which was also the case in Study 2 (α = .90).

(4) Body Shame

The eight-item Body Shame subscale of the OBCS (McKinley & Hyde, 1996) assessed experiences of body shame due to the perception that one could not meet societal beauty standards. Participants rated all items on a 5-point scale ranging from 1 ("strongly dis-

agree") to 5 ("strongly agree"). We averaged all items, with higher scores indicating higher body shame. The scale's Cronbach's alpha in Study 2 was .86.

(5) Sociocultural Attitudes toward Appearance

We adopted two subscales of the SATAQ-4 (Schaefer et al., 2015)—Internalization-Thin/Low Body Fat and Pressures-Media—to assess internalization of the thin body standard and media pressure to meet societal ideals. Participants rated all items on a 5-point scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). We averaged the relevant items from each subscale, with higher scores reflecting greater internalization of body ideals and pressure from the media to meet body ideals, respectively. In Study 2, Cronbach's alphas for both subscales were satisfactory (.86 for Internalization and .86 for Pressure-Media).

(6) Self-esteem

We used the 10-item Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1965) to assess general feelings of self-worth. Participants rated all items on a 5-point scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). We averaged all items, with higher scores indicating higher self-esteem. We found comparable internal consistency for this scale in Study 2 ($\alpha = .96$).

(7) Positivity

We adopted the eight-item Positivity Scale (P Scale) (Caprara et al., 2012) to assess the extent to which participants view and experience life in a positive way. Participants rated all items on a 5-point scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). We averaged all items, with higher scores representing greater positivity. The scale's Cronbach's alpha in Study 2 was .93.

(8) Attitudes toward Fat People

Three subscales of the Antifat Attitude (AFA) questionnaire (Crandall, 1994) measured participants' overall perceptions of fat people. This scale contains 13 items and the three subscales of Dislike, Fear of Fat, and Willpower. Participants rated all items on a 5-point scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). We averaged the relevant items for each subscale, with higher scores reflecting more negative attitudes toward fat people. In Study 2, Cronbach's alphas were .85 for Dislike, .81 for Fear of Fat, and .69 for Willpower.

(9) Demographics

We collected the same demographic information from participants in Study 2 as we did in Study 1.

2. Results

1) CFA

The expected four-factor solution of the CFA fit the data well, $\chi^2(112) = 324.06$, $p<.001$; CFI = .94; RMSEA = .07. The standardized factor loadings were statistically significant (all ps$<.001$) and ranged between .58 and .92 (Table 3). Next, we tested four additional models to identify the model with the best fit. We determined three different three-factor models based on inter-factor correlations. <Table 4> reports the correlations among the four factors of the BP Scale with means and standard deviations for each factor. The correlations between Factors 1 and 4 ($r = .50$, $p<.001$), Factors 1 and 2 ($r = .45$, $p<.001$), and Factors 2 and 4 ($r = .40$, $p<.001$) were moderately strong. Thus, the three-factor models included (1) a model combining Factors 1 and 4, (2) a model combining Factors 1 and 2, and (3) a model combining Factors 2 and 4. Additionally, we tested a model allowing all items to load onto one latent factor. The results of the chi-square difference test and the ΔCFI values revealed that the four-factor model fit the data optimally relative to the other models (Table 5).

2) Construct Validity

We explored the relationship between each factor of the BP Scale and several other body image-related measures, such as body appreciation, body surveillance, body shame, internalization, media pressure, and positivity. All correlations among these variables provided strong support for the BP Scale's construct validity (Table 4). We expected that each of the BP Scale's four factors would be positively associated with body appreciation and positivity and negatively associated with body surveillance, body shame, internalization, and media pressure. The results showed that

Table 3. Factor loadings for CFA: Studies 2, 3, and 4

Item	Standardized factor loadings			
	Study 2: female sample	Study 3: community sample	Study 4: female sample, Time 1	Study 4: female sample, Time 2
Feeling				
1	.84	.82	.84	.89
2	.83	.83	.90	.93
3	.74	.70	.62	.73
4	.84	.80	.80	.85
5	.67	.55	.56	.66
Acceptance-even if				
6	.88	.86	.86	.84
7	.91	.94	.92	.94
8	.59	.50	.51	.60
9	.63	.53	.66	.65
Response				
10	.82	.75	.77	.89
11	.57	.58	.60	.61
12	.58	.73	.67	.63
13	.70	.63	.65	.71
14	.63	.47	.56	.56
Conceptualization				
15	.90	.82	.90	.90
16	.92	.88	.94	.87
17	.58	.65	.54	.44

Study 2: age range = 20-29 years, N = 398; Study 3: age range = 20-64 years, N = 327; Study 4: age range = 20-29 years, N = 327

higher scores on all four factors were significantly positively associated with body appreciation and positivity and negatively associated with body surveillance, body shame, internalization, and media pressure.

3) Incremental Validity

Based on previous research, we expected that body positivity would be associated with increased levels of self-esteem and less negative attitudes toward fat people (FA-Dislike, FA-Fear of Fat, and FA-Willpower). We performed four separate hierarchical multiple regressions to test the BP Scale's incremental validity. Specifically, we entered body appreciation at Step 1 and the four factors of the BP Scale at Step 2 to predict self-esteem and three anti-fat attitudes (Table 6). The BP Scale accounted for additional variance in self-esteem over and above that accounted for by body appreciation (ΔR^2 = .04, p<.001) in predicting self-esteem. Of the BP Scale's four factors, the Feeling and Acceptance-even if factors made unique contributions to self-esteem over and above body appreciation. The BP Scale predicted unique variance in FA-Dislike (ΔR^2 = .09, p<.001), FA-Fear of Fat (ΔR^2 = .27, p<.001), and FA-Willpower (ΔR^2 = .13, p<.001). For FA-Dislike, the Response (β = –.19, p<.001) and Conceptualization (β = –.21, p<.001) factors made unique contributions over and above body appreciation. For FA-Fear of Fat, the Acceptance-even if (β = –.17, p<.01) and Response (β = –.48, p<.001) factors made unique contributions. Similarly, the Acceptance-even if (β = –.12, p<.05) and

Table 4. Means, standard deviation, and correlations for BP Scale and body image-related variables: Study 2 $N = 398$

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. BP - Feeling	1.00													
2. BP - Acceptance-even if	.45***	1.00												
3. BP - Response	.26***	.37***	1.00											
4. BP - Conceptualization	.50***	.40***	.27***	1.00										
5. Body appreciation	.80***	.43***	.29***	.51***	1.00									
6. Body surveillance	–.30***	–.48***	–.69***	–.33***	–.32***	1.00								
7. Body shame	–.41***	–.35***	–.63***	–.32***	–.43***	.58***	1.00							
8. Internalization	–.32***	–.36***	–.59***	–.25***	–.35***	.56***	.55***	1.00						
9. Pressures-Media	–.28***	–.33***	–.58***	–.16**	–.29***	.49***	.45***	.50***	1.00					
10. Self-esteem	.72***	.43***	.25***	.47***	.76***	–.28***	–.38***	–.26***	–.22***	1.00				
11. Positivity	.67***	.41***	.15**	.37***	.70***	–.22***	–.28***	–.21***	–.16**	.84***	1.00			
12. AFA - Dislike	–.07	–.18***	–.25***	–.24***	–.10*	.21***	.35	.11*	.17**	–.10	–.01	1.00		
13. AFA - Fear of Fat	–.27***	–.37***	–.56***	–.21***	–.28***	.53***	.62***	.56***	.47***	–.21***	–.16**	.30***	1.00	
14. AFA - Willpower	.04	–.16**	–.32***	–.08	.03*	.32***	.32***	.22***	.17**	.06	.01	.40***	.35***	1.00
Mean (S.D.)	3.27 (.79)	2.45 (.82)	3.10 (.79)	3.89 (.74)	3.36 (.81)	3.12 (.80)	2.60 (.81)	3.36 (.89)	3.42 (.92)	3.61 (.77)	3.19 (.80)	1.91 (.72)	3.27 (1.01)	3.12 (.82)
Skewness	–.11	.37	–.04	–.39	–.31	–.21	.17	–.36	–.67	–.37	–.11	.63	–.36	.05
Kurtosis	–.40	–.12	–.35	–.07	.02	–.22	–.43	.02	.27	.31	–.02	–.01	–.56	–.41

*p<.05, **p<.01, ***p<.001
Skewness standard error = .12; Kurtosis standard error = .24
BP = Body Positive, AFA = Anti-Fat Attitudes.

Table 5. CFA model fit comparisons: Study 2 $N = 398$

Model	χ^2	df	RMSEA	CFI	$\Delta\chi^2$	ΔCFI
Four-factor	324.06***	112	.07	.94		
Three-factor (Factors 1 and 2 combined)	794.98***	115	.12	.81	470.92***	.13
Three-factor (Factors 1 and 4 combined)	748.29***	115	.12	.82	424.23***	.12
Three-factor (Factors 2 and 4 combined)	837.09***	115	.13	.80	513.03***	.14
One-factor (all combined)	1613.26***	118	.18	.58	1289.80***	.36

***p<.001

Table 6. Hierarchical regression analyses for self-esteem and attitudes toward fat people (Study 2) $N = 398$

	Total R^2	ΔR^2	ΔF	β	t
Criterion: Self-esteem Overall $F(5, 392) = 127.01$***					
Step 1	.58	.58	545.52***		
BAS-2				.76	23.36***
Step 2	.62	.04	9.99***		
BAS-2				.49	9.14***
Feeling				.26	4.85***
Acceptance-even if				.08	2.06*
Response				–.01	–.13
Conceptualization				.05	1.38
Criterion: AFA-Dislike Overall $F(5, 392) = 9.02$***					
Step 1	.01	.01	4.12*		
BAS-2				–.10	–2.03*
Step 2	.10	.09	10.16***		
BAS-2				–.01	–.15
Feeling				.14	1.65
Acceptance-even if				–.08	–1.47
Response				–.19	–3.59***
Conceptualization				–.21	–3.66***
Criterion: AFA-Fear of Fat Overall $F(5, 392) = 41.78$***					
Step 1	.08	.08	33.65***		
BAS-2				–.28	–5.80***
Step 2	.35	.27	40.46***		
BAS-2				–.05	–.75
Feeling				–.05	–.65
Acceptance-even if				–.17	–3.48**
Response				–.48	–10.69***
Conceptualization				.04	.77
Criterion: AFA-Willpower Overall $F(5, 392) = 12.18$***					
Step 1	.00	.00	.43		
BAS-2				.03	.66
Step 2	.13	.13	15.10***		
BAS-2				.12	1.42
Feeling				.11	1.40
Acceptance-even if				–.12	–2.13*
Response				–.32	–6.25***
Conceptualization				–.06	–1.02

*p<.05, **p<.01, ***p<.001
BAS-2 = Body Appreciation Scale-2; AFA = Anti-Fat Attitudes.

Response ($\beta = -.32$, $p<.001$) factors made unique contributions to FA-Willpower. These results supported the BP Scale's incremental validity.

4) Internal Consistency Reliability

Cronbach's alphas for the scale's four factors ranged between .79 and .89. Further, item-total correlations ranged between .62 and .79 for Feeling, between .68 and .73 for Acceptance-even if, between .52 and .68 for Response, and between .54 and .79 for Conceptualization (We also calculated Cronbach's alphas in Study 3 and Study 4, all of which exceeded .77). Thus, Study 2 demonstrated evidence of strong internal consistency for the BP Scale.

IV. Study 3: Community Sample

As Study 1 and Study 2 surveyed a relatively homogeneous group of Korean women in terms of age (20-29 years), we sought to confirm the four-factor structure of the BP Scale in a community sample in Study 3. To do so, we conducted CFA.

1. Method

1) Participants

A heterogeneous sample of 330 Korean women voluntarily participated in the online survey; however, we removed responses from three participants because their data included outliers. The final sample consisted of 327 individuals. On average, participants were 43.68 years of age (S.D. = 13.20).

2) Measures

We employed the 17-item BP Scale. Cronbach's alphas in Study 3 were .86 for F1, .84 for F2, .77 for F3, and .82 for F4. We also collected the same demographic data from participants.

2. Results

The CFA results indicated that the model fits the data well, $\chi^2(112) = 274.11$, $p<.001$, CFI = .93; RMSEA = .07. The standardized factor loadings were statistically significant (all ps<.001) and ranged between .47 and .94 (Table 3).

V. Study 4: Test-Retest Reliability and Discriminant Validity

Study 4 examined the BP Scale's test-retest reliability and discriminant validity. We administered the online survey twice (six weeks apart) in a sample of Korean women in their 20s.

1. Method

1) Participants

We collected data from 327 women ages 20-29 at the Time 1, with the online survey consisting of the BP Scale and demographic items. Participants generated an individual code number that we used to match with their Time 2 data. After six weeks, we contacted participants requesting that they complete the survey once more. Among the 327 participants who completed the Time 1 survey, 150 also completed the Time 2 survey. After eliminating cases with careless responding, we used 129 responses in the analysis.

2) Measures

(1) BP Scale

As before, we used the 17-item BP Scale in Study 4. At Time 1, αs were .86 for F1, .85 for F2, .78 for F3, and .83 for F4; at Time 2, the corresponding αs were .91, .86, .81, and .77.

(2) Social Media Addiction

We modified the 18-item Korean version (Shin et al., 2016) of the Bergen Facebook Addiction Scale (BFAS) (Andreassen et al., 2012) to reflect general social media addiction and used it to assess addictive symptoms that participants experienced during the past month. Participants rated all items on a 5-point Likert scale ranging from 1 ("very rarely") to 5 ("very often"). We averaged the items, with higher scores representing greater social media addiction symptoms. In Study 4 sample at Time 2, the scale's Cronbach's al-

pha was .83.

(3) Demographics

We collected the same demographic information from participants as we did in the preceding studies.

2. Results

1) Test-Retest Reliability

We used intraclass correlation coefficients to test the stability of the BP Scale's scores. The correlations between the BP Scale scores at the first and second timepoints were significant for all four factors: F1 (r = .80., p<.001), F2 (r = .65, p<.001), F3 (r = .80, p<.001), and F4 (r = .67, p<.001), supporting the test-retest reliability of the BP Scale.

2) Discriminant Validity

Three factors of the BP Scale—Feeling (r = .07, p = .94), Acceptance-even if (r = –.15, p = .08), and Conceptualization (r = –.10, p = .28)—were not significantly correlated with social media addiction. In contrast, the Response dimension was significantly and negatively correlated with social media addiction (r = –.31, p<.001).

VI. General Discussion

The goal of this study was to develop a multidimensional scale measuring positive body image and to establish its reliability and validity. We conducted four studies with independent samples of Korean women. Study 1 focused on (1) generating an item pool through the review, revision, and translation processes by experts and focus group interviews and (2) reducing the number of items and testing the scale's underlying dimensions through EFA. This resulted in a four-factor BP Scale including Feeling, Acceptance-even if, Response, and Conceptualization dimensions. Specifically, the Feeling dimension included five items assessing the extent to which women feel positively about and are satisfied with their own bodies. The second dimension of Acceptance-even if, which emerged from the focus group interviews, contained four items assessing women's likelihood of accepting their bodies even if they do not meet societal beauty standards. The third dimension of Response contained five items assessing how women respond to societal beauty standards in terms of their daily and habitual behaviors. The fourth dimension of Conceptualization consisted of three items measuring women's likelihood to accept broad definitions of positive body image.

The results of Study 1 provide novel insights about the importance of considering the Acceptance-even if dimension when assessing one's positive body image. During the focus group interviews, participants highlighted that women with a highly positive body image should not hold double standards in body evaluation. Participants were likely to accept the bodies of other women that do not conform to beauty ideals, whereas they were not as tolerant of their own bodies straying from societal beauty standards. Based on this information, four items related to the Acceptance-even if dimension were included in the BP Scale. Further analysis also revealed that the Acceptance-even if dimension had significant and positive correlations with the other three dimensions of the BP Scale. Moreover, this dimension was significantly positively correlated with body appreciation and self-esteem, and negatively correlated with body surveillance, body shame, internalization of beauty standards, media pressure to look a certain way, and anti-fat attitudes. These correlational patterns coincided with the associations between the other three dimensions of the BP Scale and body image-related variables. Therefore, this particular dimension would enhance the comprehensiveness of the conceptual definition of positive body image. The Acceptance-even if dimension may be explained by "double standards" in body evaluation, which refers to women's tendencies to evaluate their own bodies more strictly than other women's bodies (Foschi, 2000; Voges et al., 2019). Voges et al. (2019) examined how women rate identical bodies with either their own faces or other women's faces in terms of attractiveness, body fat, and muscle mass. They found that women were likely to rate bodies featuring their own faces more negatively than identical bodies featuring

other women's faces.

Study 2 focused on confirming the underlying dimensions of the BP Scale and testing the scale's reliability and validity with a young Korean female sample. In Study 3, we replicated the results of Study 2 in a community sample with more diversity in terms of age and body size. Study 4 evaluated the BP Scale's stability and discriminant validity. In all three of these samples, the standardized factor loadings for the four-factor model were statistically significant, supporting the BP Scale's four-factor structure. Moreover, the four-factor model demonstrated a superior fit compared to the alternative one- or three-factor models.

The BP Scale demonstrated evidence of construct validity. Consistent with previous research, levels of positive body image across all four dimensions of the BP Scale were negatively associated with body surveillance, body shame, internalization, and media pressure, and they were positively associated with body appreciation and positivity (Avalos et al., 2005; Halliwell, 2013; Razmus & Razmus, 2017). The regression analysis results supported the BP Scale's incremental validity. The BP Scale predicted self-esteem and attitudes toward fat people, controlling for body appreciation. Overall, the BP Scale was associated with increased self-esteem and decreased negative attitudes toward fat people. Moreover, the different dimensions of the BP Scale each had unique associations with self-esteem and attitudes toward fat people.

The correlations between each of the BP Scale's four dimensions and social media addiction provide evidence supporting the scale's discriminant validity. Except for the Response dimension, no other dimension was significantly correlated with social media addiction. The Response dimension included items asking about individuals' daily viewing of social media posts of celebrities with ideal bodies and comparing these to their own bodies, which is a behavior strongly associated with social media addiction (Lee, 2019). All four studies demonstrated evidence of the BP Scale's internal consistency, with all Cronbach's alpha values exceeding the recommended .70 (Streiner, 2003). The corrected item-total correlation values in Study 2 exceeded the recommended minimum of .20 (Streiner et al., 2015). We confirmed test-retest reliability by examining correlations between Time 1 and Time 2 scores on each dimension of the BP Scale over a six-week period in Study 4.

Overall, our results supported the argument that the four-factor BP Scale can reliably measure individuals' positive body image. The BP Scale can capture a broad range of domains in which one's positive body image may manifest and are thus worthy of contributing to future research. The results also support the validity of an existing measure of body appreciation, the BAS-2. All four dimensions of the BP Scale (especially the Feeling dimension) showed strong associations with the BAS-2. This is because the Feeling dimension measures how individuals feel about and the extent to which they accept and appreciate their own bodies, which is consistent with body appreciation as a construct. Further, the four BP Scale dimensions together accounted for additional variance beyond that which was accounted for by the BAS-2 in predicting body image-related outcomes. The hierarchical regression results also highlighted the utility of a multidimensional measure of the BP Scale. Its four-factor structure may prove very effective in capturing the roles of specific dimensions of individuals' positive body images.

1. Limitations and Future Directions

First, the BP Scale may capture Korean women's positive body images, but the scale may not be generalizable to other cultures. Although we developed the original BP Scale in both English and Korean, we only tested the Korean version in this study. Future research should examine the factor structure and validity of the English version in other samples including different ethnicities and cultural backgrounds.

Second, we developed the BP Scale items focusing primarily on women's body images. Further studies examining whether the BP Scale can be applied to assess positive body image for individuals of other genders (i.e., men and sexual minorities) and age groups

(e.g., adolescents and older adults) might benefit researchers in extending our understanding of positive body image as a construct.

Third, we must acknowledge the limitations of self-reported data, including common method, social desirability, and recall biases (Althubaiti, 2016). Although we counterbalanced the order of the questionnaire items, common method bias cannot be fully controlled. Additionally, participants' tendency to report their attitude, perceptions, and behaviors in a way that conforms to socially acceptable values should be considered because it can confound the study's results (Brenner & DeLamater, 2014). For example, participants acknowledged that judging a person by outer appearance should be criticized (yet it is still pervasive), and this belief might have guided their responses to the Conceptualization items on the BP Scale. Further studies should examine the BP Scale's construct validity while controlling for social desirability (Jo et al., 1997).

Finally, we recommend that future research continue to test the associations between each BP Scale dimension and body image outcomes. We did so in this study with respect to the outcomes of self-esteem and attitudes toward fat people to confirm the scale's incremental validity. The differences in associations imply that the BP Scale's four-factor structure will allow researchers to identify the relationships of positive body image components and body image-related outcomes more precisely.

2. Research and Practical Implications

The development of the BP Scale has several research and practical implications. Primarily, this newly developed scale can advance the literature on body image. As the few existing scales assessing positive body image are unidimensional, the multidimensional BP Scale provides a broader conceptual approach to positive body image. The BP Scale allows researchers to test more precise hypotheses regarding the relationships between aspects of positive body image and other relevant variables. Additionally, the BP Scale has important implications for women's psychological well-being in that body image is one of the most important determinants of overall life satisfaction throughout women's lives (Lee & Damhorst, 2021). Another important implication is that the BP Scale can be adopted in diverse samples because it was originally developed in both Korean and English. As discussed earlier, this was because most of the literature on positive body image has been published in English. Once the English version of the BP Scale is validated and confirmed with relevant samples, it can be used for both research and clinical purposes. Additionally, we adopted a conceptual translation method rather than performing a literal translation of the scale items, which ensures the scale's cultural appropriateness and accuracy. This study may be useful to help practitioners understand the range and complexity of positive body image and ultimately to improve treatments for women experiencing behavioral and mental health problems due to negative body image. The BP Scale will also allow practitioners to tailor body image interventions to individual needs.

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