The Body Acceptance by Others Scale-2 (BAOS-2): Psychometric Properties of a Bahasa Malaysia (Malay) Translation and an Assessment of Invariance Across Malaysia, the United Kingdom, and the United States

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Abstract

The Body Acceptance by Others Scale-2 (BAOS-2) is a 13-item instrument measuring generalised perceptions of body acceptance by others. Here, we first demonstrate that a Bahasa Malaysia (Malay) translation of the BAOS-2 is psychometrically valid in a sample of 1,049 Malaysian adults (Study 1). Using exploratory and confirmatory factor analysis, we extracted a unidimensional model of BAOS-2 scores that retained all 13 items. BAOS-2 scores had adequate internal consistency and indices of validity (convergent, construct, concurrent, and incremental), and were scalar invariant across gender and ethnicity (Malaysian Malays *vs*. Chinese). Next, we assessed invariance of BAOS-2 scores across samples from Malaysia, the United Kingdom, and the United States (total $N = 2{,}575$; Study 2). Multi-group confirmatory factor analysis showed that partial scalar invariance was achieved. Participants in the interdependent cultural context of Malaysia had significantly higher scores – with small effect sizes – than their counterparts in the independent contexts of the United Kingdom and United States. In addition, women had significantly higher scores than men, but the effect size was negligible. The present study indicates that the Malay BAOS-2 is a psychometrically valid instrument and presents the first comparison of BAOS-2 scores across interdependent and independent contexts.

Keywords: Body acceptance by others; Malaysia; Psychometrics; Positive body image; Measurement invariance; Self-construal

1. Introduction

Research on positive body image has grown substantially over the past decade (Tylka, 2018), particularly as scholars document robust associations with greater emotional, psychological, and social well-being (e.g., Davis et al., 2020; Swami et al., 2018), self-care health behaviours (Gillen, 2015), and adaptive eating styles that promote lower body mass indices and weight stability (e.g., Tylka et al., 2015, 2020). Alongside these developments, scholars have also focused on the way in which positive body image is interdependently connected with environmental factors (e.g., Cook-Cottone, 2015; Tiggemann, 2019; Waring & Kelly, 2020), such as familial, peer, and intimate partner relationships, as well broader communities and sociocultural influences. From this perspective, positive body image is thought to be more likely to develop and flourish when individuals are able to nurture internal embodying experiences while being supported by external environmental factors (Cook-Cottone, 2015).

One specific environmental factor that contributes to positive body image is *body acceptance by others*, which can be defined as "a sense that one's body and its physical characteristics are valued, respected, and unconditionally accepted by important others… irrespective of what others or social domains actually offer at any particular time" (Swami et al., 2021a, p. 239). In this view, body acceptance by others is thought to foster the development of positive body image because it facilitates resistance to self-objectification and promotes appreciation of the how body feels and functions, rather than what it looks like (Avalos & Tylka, 2006). Indeed, quantitative studies have consistently reported that body acceptance by others is significantly and positively associated with multiple facets of positive body image (e.g., Avalos & Tylka, 2006; Augustus-Horvath & Tylka, 2011; Swami et al., 2018; Waring & Kelly, 2020), and qualitative research has shown that the construct is integral to the development of positive body image (e.g., Frisén & Holmqvist, 2010).

To measure the construct, Avalos and Tylka (2006) developed the Body Acceptance by Others Scale (BAOS). This is a 10-item instrument in which respondents are asked to rate the perceived acceptance of their body shape and weight, and the degree to which they receive messages that their body shape and weight are "fine", from friends, family, dating partners, mass media, and society. Although early work indicated that BAOS scores had adequate internal consistency, test-retest reliability up to three weeks, and construct validity (Avalos & Tylka, 2006), more recent studies have reported difficulties confirming the fit of the unidimensional model of BAOS scores (Swami, Furnham et al., 2020; Swami, Todd et al., 2020). Swami et al. (2021a) also raised other concerns with the BAOS, including: the specific focus on body weight and shape rather than the body more holistically, limitations in defining body acceptance by others as the receipt of relevant messages as opposed to perceptions of body acceptance, and the focus on body acceptance from specific others rather generalised perceptions of body acceptance by others.

To deal with these concerns, Swami et al. (2021a) developed a new version of the BAOS (i.e., the BAOS-2), consisting of 13 novel items measuring generalised perceptions of body acceptance by others. In two studies with adults from the United Kingdom, these authors demonstrated through exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) that BAOS-2 scores were 1-dimensional. Swami et al. (2021a) also reported that BAOS-2 scores had adequate internal consistency, good test-retest reliability up to four weeks, and good convergent, construct, criterion, discriminant, and incremental validity. In a third study, Swami et al. (2021a) cross-validated the 1-dimensional factor structure of BAOS-2 scores in a sample of adults from the United States, and supported the invariance of scores across gender (with no significant differences in mean scores) and national group (there was a significant difference in mean scores across the United Kingdom and United States samples, but the effect size was negligible).

Although the work of Swami et al. (2021a) indicates that the BAOS-2 is psychometrically valid and reliable, it is possible that national, linguistic, or cultural factors impact scores on the measure in different ways. Of particular note in this regard is cultural differences in self-construal: in a seminal article, Markus and Kitayama (1991) proposed self-construal theory to understand the way in which the self interacts with culture. In this view, the self can be conceptualised as independent (i.e., autonomous, egocentric, self-contained) or interdependent (i.e., collective, allocentric, relational). Although research suggests that all individuals have elements of both self-construals (Gardner et al., 1999), historically independent self-construal was tied to Western cultures whereas interdependent self-construal was tied to Eastern/non-Western cultures (Markus & Kitayama, 1991; Triandias & Gelfand, 2012). Because self-construal shapes how individuals from different cultural contexts relate to others (Cross et al., 2011), it may have important implications for the meaning, experience, and perception of body acceptance by others.

For instance, an interdependent self-construal in Eastern cultures may heighten sensitivity to social cues and the extent to which individuals attend to others (Hong & Chang, 2015; Markus & Kitayama, 1991). In this case, individuals may be highly sensitive to the emotional responses of others, especially to negative evaluations, because such sensitivity is the basis of maintaining social harmony (Fung, 1999). Indeed, individuals in Eastern cultures may sometimes experience social sanctions for failing to acquire and display such sensitivity and social awareness in social relationships (Lieber et al., 2006). Thus, in terms of body acceptance by others, interdependent self-construal may impact on the way in which the construct is understood and experienced. Practically, this may mean possible discrepancies in the dimensionality of BAOS-2 scores, although this remains conjecture that needs to be assessed formally, especially if the BAOS-2 is to be used in cross-national research.

1.1. The Present Studies

The present studies had two inter-related objectives. First, in order to extend the research on the BAOS-2 to a new cultural context, we examined the psychometric properties of the instrument in Malaysia (Study 1). This is an important first step given that the psychometric properties of the BAOS-2 have not been examined outside the United Kingdom and the United States. Indeed, examining the psychometric properties of the BAOS-2 in Malaysia would allow us to examine item behaviour in a cultural context marked by interdependent self-construal (Bochner, 1994). Second, using data from Swami et al. (2021a), we assessed the invariance of BAOS-2 scores across samples from Malaysia, the United Kingdom, and the United States. Establishing invariance is a precondition of computing between-group differences (Chen, 2007); to the extent that we are able to establish scalar invariance across national groups, this would allow us to conduct an initial examination of the impact of cultural self-construal on BAOS-2 scores.

2. Study 1: Psychometric Properties of the Malay BAOS-2

In Study 1, we examined the psychometric properties of a novel Bahasa Malaysia (Malay) translation of the BAOS-2 in a multi-ethnic sample of Malaysian adults. As an Eastern, interdependent cultural context (Bochner, 1994), Malaysia is a useful site in which to examine the psychometrics of the BAOS-2. Indeed, previous work has suggested that interdependent self-construal in the context of Malaysia may have an impact on the way in which individuals relate to and experience their bodies (Swami & Chamorro-Premuzic, 2008). Beyond this, Malaysia also offers a useful context to understand body acceptance by others given its unique historic and contemporary trajectory (i.e., a multi-ethnic nation undergoing a nutritional and lifestyle transition in tandem with rapid industrialisation, political and economic fluctuations, and an increasing rate of obesity; for a fuller discussion, see Swami, 2020). More broadly, the present research also contributes to the development of

research in a linguistic and national context where work on positive body image has experienced rapid growth, but remains under-represented in the literature (Swami & Barron, 2017).

Here, we first examined the factor structure of scores on a Bahasa Malaysia translation of the BAOS-2. To ensure that we fully considered the possibility of a model of BAOS-2 scores that diverged from the 1-dimensional model supported by Swami et al. (2021a), we used an EFA-to-CFA strategy. This approach has been recommended for instruments that are hypothesised as being 1-dimensional (Swami et al., 2021b), and allowed us to estimate the best-fitting model of BAOS-2 scores based on our data (i.e., a data-driven approach using EFA) and to examine the fit of both the parent model of BAOS-2 scores alongside the EFA-derived model if discrepant (i.e., a theory-driven approach using CFA). Using multi-group CFA, we also examined the invariance of BAOS-2 scores across gender and ethnicity (i.e., across Malaysian Malays and Chinese, who represent the two largest ethnic groups in Malaysia at about 55% and 23% of the national population, respectively; Department of Statistics Malaysia, 2018). As a preliminary hypothesis and based on the findings of Swami et al. (2021a), we expected that BAOS-2 scores would achieve scalar invariance across both gender and ethnicity, which would allow us to examine group differences in mean scores (Chen, 2007).

In addition to examining dimensionality, we also conducted an assessment of the validity of BAOS-2 scores. First, in terms of construct validity, we hypothesised that BAOS-2 scores would be positively and moderately correlated with scores on measures of positive body image (i.e., body appreciation and functionality appreciation) and negatively and weakly correlated with self-reported body mass index (BMI). Second, in terms of concurrent validity, we expected that BAOS-2 scores would be negatively and moderately associated with pressure to look like sociocultural appearance ideals, and positively and moderately

associated with psychological well-being (i.e., subjective happiness and life satisfaction) and secure non-striving (i.e., the degree to which individuals feel secure with their social position and feel acceptance from others, rather than feeling under pressure to compete). These factors were selected based on previously hypothesised relationships (Swami et al., 2021a) and the availability of suitable instruments in Bahasa Malaysia. Finally, in terms of incremental validity, we expected that BAOS-2 scores would predict unique variance in body appreciation and functionality appreciation, respectively, above-and-beyond associations with pressure to look like appearance ideals.

2.1. Method

2.1.1. Participants. The initial sample consisted of 1,182 participants. However, we excluded participants who consented but did not respond to any item (n = 10), participants who were missing substantial portions of data (n = 92), and who did not meet inclusion criteria (i.e., being of adult age, a citizen and resident of Malaysia, of Malay or Chinese ancestry, and fluent in Bahasa Malaysia; n = 31). This left a total sample of 1,049 Malaysian citizens, of whom 525 were women and 524 were men. The sample ranged in age from 18 to 65 years (M = 32.55, SD = 9.93) and in self-reported BMI from 13.25 to 48.88 kg/m^2 (M = 23.68, SD = 5.04). Of the total sample, 729 self-reported their ethnicity as Malay and 320 as Chinese. In terms of marital status 46.3% were single, 49.7% were married, 2.6% were divorced, and 1.4% had another status. In terms of education, 1.1% had completed primary education, 28.7% had completed secondary education, 43.0% had an undergraduate degree, 17.2% had a postgraduate degree, and 10.0% had another higher qualification. By Malaysian constitutional law, all Malays are considered Muslims; among Chinese participants, the majority (71.6%) were Buddhists, while 20.9% were Christians, 1.9% were Muslims, and 5.6% of another religion.

2.1.2. Measures.

2.1.2.1. *Body acceptance by others*. Participants were asked to complete a Bahasa Malaysia (Malay) translation of the 13-item BAOS-2 (Swami et al., 2021a). All items were rated on a 5-point scale ranging from 1 (*never*; Malay translation: *tidak pernah*) to 5 (*always*; Malay translation: *sentiasa*). The translation method is reported in Section 2.1.3 below and the items of the BAOS-2 in English and Malay are reported in Table 1.

2.1.2.2. *Body appreciation*. To measure a central facet of positive body image, participants were asked to complete the Body Appreciation Scale-2 (BAS-2; Tylka & Wood-Barcalow, 2015; Malay translation: Swami, Mohd. Khatib et al., 2019). The 10-item BAS-2 measures acceptance for one's body, respect and care for one's body, and protection of one's body from unrealistic beauty standards. All items were rated on a 5-point scale, ranging from 1 (*never*) to 5 (*always*), and an overall score was computed as the mean of all items. Scores on the Malay version of the BAS-2 have been shown to have a 1-dimensional factor structure, adequate internal consistency, and good construct and incremental validity (Swami, Mohd. Khatib et al., 2019). In the present study, McDonald's ω for BAS-2 scores was .93 (95% CI = .92, .94).

2.1.2.3. *Functionality appreciation*. To measure a second facet of positive body image, we asked participants to complete the Functionality Appreciation Scale (FAS; Alleva et al., 2017; Malay translation: Swami, Todd et al., 2019). The FAS is a 7-item measure of participants' appreciation of what the body does and is capable of doing. All items were rated on a 5-point scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) and an overall score was computed as the mean of all items. Malay FAS scores have been found to have a 1-dimensional factor structure, adequate internal consistency, and adequate construct and incremental validity Swami, Todd et al., 2019). McDonald's ω for FAS scores in the present study was .93 (95% CI = .92, .94).

2.1.2.4. *Sociocultural influences*. We measured perceived pressure to conform to sociocultural appearance ideals using a novel Bahasa Malaysia translation of the Pressures subscale of the Sociocultural Attitudes Towards Appearance Questionnaire–4 (SATAQ–4; Schaefer et al., 2015). Participants were asked to report pressure to look like appearance ideals from family members, peers, and media. All items were rated on a 5-point scale ranging from 1 (*definitely disagree*) to 5 (*definitely agree*). Because the SATAQ–4 has not been validated in Bahasa Malaysia and given concerns about the factorial validity of an earlier iteration of the instrument in Bahasa Malaysia (Swami, 2009), we examined the factor structure of the Pressures subscale in the present study using EFA. The results indicated that a 7-item unidimensional model should be extracted for women, whereas a non-equivalent 9-item unidimensional model should be extracted for men (see Supplementary Materials for full details). Given these results, we computed subscale scores based on the 7-item model for women (ω = .92, 95% CI = .91, .93) and based on the 9-item model for men (ω = .94, 95% CI = .93, .95). All analyses involving the Pressures subscale was computed separately for women and men in the present study.

2.1.2.5. *Life satisfaction.* Life satisfaction was measured using the Satisfaction with Life Scale (SLS; Diener et al., 1985; Malay translation: Swami & Chamorro-Premuzic, 2009). This is a 5-item scale that taps individuals' assessments of the quality of their lives on the basis of their own unique criteria. All items were rated on a 5-point scale (1 = *strongly disagree*, 5 = *strongly agree*), and an overall score was computed as the mean of all items. Scores on the Malay version of the SLS have been shown to have adequate internal consistency and good construct validity (Swami & Chamorro-Premuzic, 2009). In the present work, McDonald's ω for scores on this scale was .89 (95% CI = .88, .90).

2.1.2.6. *Subjective happiness*. Participants were asked to complete the Subjective Happiness Scale (SHS; Lyubomirsky & Lepper, 1999; Malay translation: Swami, 2008). This

is a molar measure of the extent to which individuals believe they are happy or unhappy people. The SHS consists of 4 items, two of which ask respondents to characterise themselves based on absolute ratings and ratings relative to peers and two of which ask respondents to rate the extent to which descriptions of happy and unhappy individuals are accurate of themselves. All items were rated on 7-point scales and an overall score was computed as the mean of all items. Scores on the Malay version of the scale have adequate internal consistency, good patterns of construct validity, and good test-retest reliability over a 4-week period (Swami, 2008). In the present study, McDonald's ω for SHS scores was .80 (95% CI = .76, .84).

2.1.2.7. *Striving to avoid inferiority.* Finally, we asked participants to complete a novel Bahasa Malaysia translation of the Secure Non-Striving subscale of the Striving to Avoid Inferiority Scale (SAIS-SNS; Gilbert et al., 2007). This is a 12-item instrument that assesses the degree to which individuals feel secure with their social position and feel acceptance from others, rather than feeling under pressure to compete. All items were rated on a 5-point scale ranging from 1 (*never*) to 5 (*always*). Because the factor structure of scores on a Bahasa Malaysia version of the SAIS-SNS has not been previously examined, we conducted an EFA of scores in the present study. The results suggested a unidimensional 12-item model that had an equivalent factor structure across women and men. Given these results, we computed subscale scores as the mean of the 12 items for both women and men. McDonald's ω for SAIS-SNS scores in the total sample was .94 (95% CI = .92, .96).

2.1.2.8. *Body mass index.* Participants self-reported their height and weight, which we used to compute BMI as kg/m^2. Improbable BMI values (i.e., < 12 or > 50 kg/m^2; $n = 12$) were treated as missing values and replaced using the mean replacement method. Self-reported height and weight data have been demonstrated to be highly correlated with actual measurements (rs ≥ .94) in Malaysian samples (Kee et al., 2017).

2.1.2.9. *Demographics.* Participants were asked to report their gender (*jantina*, used in Bahasa Malaysia to refer to both sex and gender), age, marital status, highest educational qualification, and religion.

2.1.3. Instrument translation. We prepared novel Bahasa Malaysia translations of the BAOS-2, the Pressures subscale of the SATAQ-4, and the SAIS-SNS using the 5-stage test adaptation methodology developed by Beaton et al. (2000). This method has been recommended for the translation of body image instruments (Swami & Barron, 2019) and our procedures were in compliance with checklist recommendations of the International Test Commission (Hernandez et al., 2020). In a first step, two translators – one informed about the study and the other uninformed – independently forward-translated items from all three instruments from English to Bahasa Malaysia. Second, the two translations were examined by a third translator, uninformed about the study objectives; minor discrepancies between the two translations were resolved, producing a synthesised translation. Third, two new independent translators who were naïve to study back-translated the synthesised translation into English. In a fourth step, the forward- and back-translations were submitted to a committee consisting of all aforementioned translators, a psychometrician, a linguist, and two bilingual and Malaysian authors of the present study. The committee discussed semantic, idiomatic, experiential, and conceptual equivalence of the instruments and considered discrepancies between the translations, which were resolved these through a consensual approach. In a final step, pre-final versions of the three instruments were pilot tested in a sample of 41 individuals (women = 68.3%) who broadly matched the target sample. Participants in the pilot study were asked to rate each of the items in the three instruments for comprehension on a 5-point scale (1 = *do not understand at all*, 5 = *understanding completely*) and to provide, based on open-ended questions, feedback on improvements that could be made to each item to enhance comprehension. The mean responses per item on each

instrument were then assessed (BAOS-2 $M = 4.07$, $SD = 0.78$; SATAQ-4 Pressures $M = 4.00$, $SD = 0.63$; SAIS-SNS $M = 4.01$, $SD = 0.67$). The mean item ratings along with qualitative feedback were then returned to the committee, who consensually made minor adjustments to problematic items. The final items of the BAOS-2 in Bahasa Malaysia are presented in Table 1, and the items of the Pressures subscale of the SATAQ-4 and the SAIS-SNS are presented in Supplementary Materials.

2.1.4. Procedures. Once ethics approval was obtained from the Institutional Review Board at Perdana University, we invited potential participants to complete an online survey via a Qualtrics™ research panel (i.e., a market research panel consisting of respondents who have agreed to be contacted in order to respond to surveys). All data were collected in March 2021, with the study being advertised as a survey on "attitudes toward the body". After providing digital informed consent, participants were asked to complete the instruments described above, which were presented in a counterbalanced order for each participant. The survey package also included a Bahasa Malaysia translation of the Body and Appearance Self-Conscious Emotions Scale, which is not assessed here. IP addresses were checked to ensure that no participant completed the survey more than once. In exchange for completing the anonymous survey, participants received one of a range of incentives (e.g., vouchers, gift cards) based on the length of the survey, their specific panellist profile, and other factors determined by Qualtrics™.

2.1.4. Analytic strategy.

2.1.4.1. ***Data treatment.*** There were no missing data in the retained dataset. To examine the factor structure of BAOS-2 scores in our sample, we used the EFA-to-CFA approach, as recommended by Swami et al. (2021b) for the test adaptation of instruments where scores are nominally hypothesised as being unidimensional. We first split the total sample by ethnicity (i.e., Malay and Chinese); next, we split the larger Malay subsample

using a computer-generated random seed, resulting in a split-half that we retained for EFA (total n = 364; women = 189, men = 175). The remainder of the dataset (total n = 685; Malay women n = 195, Malay men = 170, Chinese women = 141, Chinese men = 179) was retained for CFA. There were no significant differences between the EFA and CFA subsamples in terms of all basic demographics, nor were there significant differences between the Malay and Chinese subsamples (details available from the corresponding author).

2.1.4.2. Exploratory factor analysis. Using data from the first split-half subsample, we conducted principal-axis EFA using the *psych* package (Revelle, 2019) in *R* (*R* Development Core Team, 2014). In keeping with Swami et al. (2021a), separate EFAs were conducted with women and men, respectively. Subsample sizes in both cases satisfied Worthington and Whittaker's (2006) item-communality requirements, as well as assumptions for EFA based on item distributions, average item correlations, and item-total correlations (Clark & Watson, 1995). Data factorability was assessed using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (which should ideally be ≥ .80) and Bartlett's test of sphericity (which should be significant; Hair et al., 2009). Principal-axis factoring with a quartimax rotation (due to the expectation of a single orthogonal structure) was used for the EFAs as it yields results similar to commonly used maximum likelihood estimation without assuming multivariate normality (Fabrigar et al., 1999; Goretzko et al., 2020).

To estimate the number of factors to extract, we followed the recommendation of Swami et al. (2021b) in using both parallel analysis and an examination of the following fit indices (Hu & Bentler, 1999; Steiger, 2007): the normed model chi-square (χ^2/df; values < 3.0 considered indicative of good fit), the Steiger-Lind root mean square error of approximation (RMSEA) and its 90% CI (values close to .06 considered to be indicative of good fit and up to .08 indicative of adequate fit), the standardised root mean square residual (SRMR; values < .09 indicative of good fit), the Tucker-Lewis index (TLI; values close to or

> .95 indicative of good fit), and the comparative fit index (CFI; values close to or > .95 indicative of adequate fit). Corrections to fit indices were not required as EFA is robust to violations of univariate and multivariate normality (Curran et al., 1996). Item retention was based on the recommendation that items with "fair" loadings and above (i.e., ≥ .33) and with low inter-item correlations (suggestive of low item redundancy) as indicated by the anti-image correlation matrix should be retained (Comrey & Lee, 1992; Tabachnick & Fidell, 2013). We also assessed the degree of factor similarity across women and men using Tucker's (1951) congruence coefficient of agreement, with values between .85 and .94 corresponding to fair similarity across groups and values ≥ .95 suggesting that factor structures can be considered equal across groups (Lorenzo-Seva & ten Berge, 2006).

2.1.4.3. Confirmatory factor analysis. Following the EFA, we used data from the second split-half subsample to conduct a CFA using the *lavaan* (Rosseel, 2012), *semTools* (Jorgensen et al., 2018), and *MVN* packages (Korkmaz et al., 2014) with *R* (*R* Development Core Team, 2014). Proactive Monte Carlo simulations (Marcoulides & Chin, 2013) with different seed values and based on factor loadings reported by Swami et al. (2021a) indicated that a sample size of about 160 would be sufficient for this analysis, which was surpassed in this subsample and also within each ethnic group in this subsample with the exception of Chinese women (which was slightly below the threshold of 160). Our intention was to test the parent model of BAOS-2 scores (i.e., a 1-dimensional model; Swami et al., 2021b) and, if divergent, any models extracted from our EFAs. Assessment of the data for normality indicated that they were neither univariate (Shapiro-Wilks $p < .001$) nor multivariate normal (Mardia's skewness = 2770.98, $p < .001$, Mardia's kurtosis = 88.59, $p < .001$), so parameter estimates were obtained using the robust maximum likelihood method and fit indices (see Section 2.1.4.2.) were interpreted with the Satorra-Bentler correction applied (Satorra & Bentler, 2001).

2.1.4.4. Gender and ethnic invariance. To examine gender and ethnic invariance of BAOS-2 scores, we conducted multi-group CFA (Chen, 2007) using the second split-half subsample. Measurement invariance was assessed at the configural, metric, and scalar levels (Vandenburg & Lance, 2000). Following the recommendations of Cheung and Rensvold (2002) and Chen (2007), we used a cut-off of $\Delta SRMR \leq .030$ as evidence of invariance at configural and metric levels (a more stringent threshold of $\leq .010$ is recommended for scalar invariance), *or* a combination of $\Delta CFI \leq .010$ and $\Delta RMSEA \leq .015$ to assess invariance at the configural, metric and scalar levels. We aimed to test for gender and/or ethnic differences on mean FAS scores only if scalar or partial scalar invariance were established.

2.1.4.5. Further analyses. To assess internal consistency, we computed McDonald's (hierarchical) ω and its associated 95% CI (Dunn et al., 2014), with values greater than .70 reflecting adequate internal reliability (Nunnally, 1978). Evidence of convergent validity was assessed using the Fornell-Larcker criterion (Fornell & Larcker, 1981), with average variance extracted (AVE) values of $\geq .50$ considered adequate (Malhotra & Dash, 2011) and meaning that a latent variable is able to explain more than half of the variance of its indicators on average (i.e., items converge into a uniform construct). To assess additional indices of validity, we computed bivariate correlations between BAOS-2 scores and indices of positive body image and BMI (construct validity), as well as pressure to look like sociocultural appearance ideals, secure non-striving, and indices of psychological well-being (concurrent validity). Based on Cohen (1992), values $\leq .10$ were considered weak, $\sim .30$ were considered moderate, and $\sim .50$ were considered strong correlations. Incremental validity was assessed by examining whether BAOS-2 scores predicted body appreciation and functionality appreciation, respectively, over-and-above the variance accounted for by pressure to look like appearance ideals. Incremental validity would be supported through a statistically significant increment in Adj. R^2 in these regressions.

2.2. Results

2.2.1. Exploratory factor analyses.

2.2.1.1. *Women.* For the female subsample from the first split-half (n = 189), Bartlett's test of sphericity, $\chi^2(78) = 1940.00$, $p < .001$, and the KMO measure of sampling adequacy, KMO = .94, indicated that the BAOS-2 items had adequate common variance for factor analysis. Principal-axis EFA indicated that only a single factor should be extracted, and parallel analysis confirmed this ($\lambda_1 = 8.07 > 1.46$; $\lambda_2 = 0.98 < 1.02$). The factor explained 59.1% of common variance. The fit indices for this model were: $\chi^2(65) = 208.27$, $p < .001$, CFI = .923, TLI = .907, RMSEA = .108 (90% CI = .092, .125), SRMR = .05. Factor loadings, reported in Table 1, indicated that only the first 12 items should be extracted; Item #13 had an item-factor loading (.25) below the threshold for extraction. McDonald's ω for the 12-item model was adequate in this subsample (.95, 95% CI = .94, .96).

2.2.1.2. *Men.* For the male subsample from the first split-half (n = 179), Bartlett's test of sphericity, $\chi^2(78) = 1882.90$, $p < .001$, and the KMO measure of sampling adequacy, KMO = .95, indicated that the BAOS-2 items had adequate common variance for factor analysis. Principal-axis EFA indicated that only a single factor should be extracted, which was confirmed using parallel analysis ($\lambda_1 = 8.36 > 1.49$; $\lambda_2 = 0.86 < 1.10$). The factor explained 62.3% of common variance. The fit indices for this model were: $\chi^2(65) = 228.06$, $p < .001$, CFI = .910, TLI = .891, RMSEA = .120 (90% CI = .103, .137), SRMR = .05. Factor loadings indicated that all 13 items should be extracted (see Table 1). McDonald's ω for the 13-item model was adequate in this subsample (.95, 95% CI = .94, .96).

2.2.1.3. *Factor structure congruence.* The factor loadings reported in Table 1 for women and men separately suggest strong similarity across factor structures, with the exception of Item #13, which had a higher loading for the male subsample than the female subsample. Nevertheless, Tucker's congruence coefficient (.98) indicated that there was

factor structure equivalence across the models for women and men. McDonald's ω for the full 13-item model was adequate in the total subsample (.95, 95% CI = .94, .96). Given that the EFA analyses indicated two slightly different models (i.e., a 12-item model for women, and the full 13-item model for men), we elected to examine both models using CFA.

2.2.2. Confirmatory factor analysis. In the second split-half subsample (n = 685), we first examined the fit of the 13-factor model. Indices were suggestive of adequate fit to the data: $SB\chi^2(65) = 211.79$, $SB\chi^2_{normed} = 3.26$, robust RMSEA = .057 (90% CI = .051 -.064), SRMR = .034, robust CFI = .964, robust TLI = .957. McDonald's ω for this model was adequate in the total subsample (.95, 95% CI = .94, .96), as well as for women (.95, 95% CI = .94, .96) and men (.94, 95% CI = .93, .95) separately. Convergent validity for this model was adequate, as AVE = .58. Next, we examined the fit of the 12-item model. Indices were also suggestive of adequate fit to the data: $SB\chi^2(54) = 181.57$, $SB\chi^2_{normed} = 3.36$, robust RMSEA = .059 (90% CI = .052 -.065), SRMR = .032, robust CFI = .967, robust TLI = .960. McDonald's ω for this model was adequate in the total subsample (.95, 95% CI = .94, .96), as well as for women (.96, 95% CI = .95, .96) and men (.95, 95% CI = .94, .96) separately. Convergent validity for this model was adequate, as AVE = .52. The standardised estimates of factor loadings were all adequate (see Figure 1), ranging from .70 to .82 for Items #1 to 12, with an estimate of .43 for Item 13.

Overall, both models adequately fitted the data, and had good convergent validity and internal consistency reliability estimates. While a purely data-driven approach might slightly favour the 12-item model fit (i.e., preferable SRMR, CFI, and TLI, indices), from a theoretical perspective it is preferable to retain the full 13-item model to retain full conceptual meaning. Furthermore, the 13-item model had a higher convergent validity estimate. Therefore, we elected to examine the full 13-item model in all further analyses.

2.2.3. Gender and ethnic invariance. Next, we tested the full 13-item model for measurement invariance across gender and ethnicity for the second split-half subsample (see Table 2 for full metrics). The results indicated that the model is invariant at the scalar level across both gender and ethnicity. Following this, we computed a 2 x 2 analysis of variance (ANOVA) with ethnicity (Malay *vs*. Chinese) and gender (women *vs*. men) as the independent variables and BAOS-2 scores as the dependent variable. The results indicated no significant interaction, $F(1, 681) = 0.52$, $p = .472$, $\eta_p^2 < .01$. On the other hand, women ($M = 3.78$, $SD = 0.81$) had significantly higher BAOS-2 scores compared to men ($M = 3.62$, $SD = 0.80$), $F(1, 681) = 5.04$, $p = .025$, $\eta_p^2 < .01$, although the effect size was negligible. Finally, Malay participants ($M = 3.81$, $SD = 0.83$) had significantly higher BAOS-2 scores compared to Chinese participants ($M = 3.57$, $SD = 0.76$), $F(1, 681) = 13.85$, $p < .001$, $\eta_p^2 = .02$, but the effect size was small.

2.2.4. Construct validity. We hypothesised that BAOS-2 scores would be positively and moderately correlated with body appreciation and functionality appreciation, respectively, and negatively and weakly correlated with self-reported BMI. These hypotheses were consistently supported in both women and men (see Table 3).

2.2.5. Concurrent validity. In terms of concurrent validity, we hypothesised that BAOS-2 scores would be negatively and moderately associated with pressure to look like sociocultural appearance ideals, and positively and moderately associated with subjective happiness, life satisfaction, and secure non-striving. These hypotheses were supported in both women and men, with one exception (see Table 3). In women, the association between BAOS-2 scores and scores on the SATAQ–4 Pressures subscale was, although significant, weaker than expected ($r = -.18$), whereas in men the association did not reach significance ($r = -.01$).

2.2.6. Incremental validity. We predicted that BAOS-2 scores would predict unique variance in body appreciation and functionality appreciation, respectively, above-and-beyond associations with pressure to look like appearance ideals. As can be seen in Tables 4 and 5, BAOS-2 scores accounted for significant added variance in the prediction of body appreciation and functionality appreciation in both women and men. Indeed, the effect sizes of the second step of the prediction following the addition of BAOS-2 scores were generally large (Cohen, 1992). Multicollinearity was not a limiting factor in any of the regressions (all variance inflation factors < 1.03, with values < 10 indicative of collinearity; O'Brien, 2007).

2.3. Discussion

Taken together, the results of Study 1 provide support for retaining a 13-item, 1-dimensional model of BAOS-2 scores in Malay-speaking adults. In terms of factorial validity, the results of our EFAs indicated that BAOS-2 scores reduced to a single dimension in both women and men. In women, however, the EFA indicated that one item (Item #13) should be discarded based on its low item-factor loading. Examining both this 12-item and the parent 13-item model using CFA, we found that both models had adequate fit. Based on these results, and the possibility that the low item-factor loading for Item #13 may be spurious, we elected to retain the 1-dimensional model of BAOS-2 scores with all 13 items for women and men. This model of scores had adequate internal consistency and good indices of construct validity and incremental validity. Indices of concurrent validity were adequate overall, although associations with the SATAQ-4 Pressures subscale were weaker than expected. This likely reflect problems with the SATAQ–4 Pressures subscale itself as an index of concurrent validity vis-à-vis BAOS-2 scores. That is, our EFA suggested that scores on this subscale were unidimensional, but we excluded several items to achieve adequate fit, which may have compromised the validity of this instrument. Finally, the results of multi-group CFA showed that BAOS-2 scores were invariant across gender and ethnicity. Between-

group comparisons indicated that women had significantly higher BAOS-2 scores than men, and that Malay participants had significantly higher scores than Chinese participants, although the effect sizes of both comparisons suggested that these were not meaningful in real-world terms. In sum, these results suggest that the BAOS-2 is a psychometrically valid instrument for use in Malay-speaking populations.

3. Study 2: Invariance Across National Groups

The results of Study 1 provide a basis for comparing BAOS-2 scores across nations. That is, to the extent that BAOS-2 scores are 1-dimensional in Malay-speaking populations with all 13 items retained, it allows us to compare scores from our sample against scores in other samples where identical models of BAOS-2 scores have been derived. However, a precondition of such comparisons is that scores should achieve scalar invariance (Chen, 2007) or partial scalar invariance (Vandenburg & Lance, 2000) across groups. In developing the BAOS-2, Swami et al. (2021a) reported that scores were invariant across samples from the United Kingdom and United States. To extend that work, we conducted an assessment invariance across all three nations (i.e., Malaysia, the United Kingdom, and the United States) using data from Study 1 in the present work and from Swami et al. (2021a). Here, we expected that BAOS-2 scores would achieve invariance across national groups, which would in turn allow us to compare scores across nations.

Although the dearth of available research makes it difficult to develop clear hypotheses in terms of between-group comparisons of BAOS-2 scores, it is possible that self-construal affects the way individuals express agreement with items on the BAOS-2, leading to cross-national differences in mean scores. For instance, one possibility is that, to the extent that individuals understand and define themselves as independent of others in independent cultures (Markus & Kitayama, 1991), they may be less sensitive to, or concerned with, body

acceptance by others. Indeed, some research has shown that independent self-construal is negatively associated with sensitivity to others (Maas et al., 2019). In these situations, messages of body acceptance by others may be treated with a degree of caution, either because the messages themselves are ambiguous or because maintaining social disengagement is more desirable. In contrast, in interdependent cultures where individuals define themselves more in terms of relationships with others (Markus & Kitayama, 1991), individuals may be highly attuned and value body acceptance by others precisely because such connections are socially engaging (cf. Hong & Chang, 2015) or because body acceptance by others is integral to shaping one's self-concept (Prieler et al., 2021) and understanding one's social position (Wollast et al., 2021).

In this view, body acceptance by others may viewed as an implicit means of building and maintaining social harmony in interdependent cultures. That is, body acceptance by others may be a means of negotiating and building cultural capital in interdependent cultures, allowing individuals to avoid losing face (i.e., an individual's set of socially sanctioned claims concerning their character; Zane & Yeh, 2002) and ensuring that one continues to be socially connected to close others. Moreover, to the extent that interdependent relationships come with a greater sense of obligation (Adams & Plaut, 2003), ensuring that all members feel accepted in terms of their physical selves may also help to ensure that social harmony is maintained. Indeed, there is some evidence that appearance commentary is both common and socially acceptable in interdependent cultures, although much of the available research has focused on negative elements (e.g., criticism of appearance, mixed messages about weight and eating; Smart & Tsong, 2014; Yu & Perez, 2020). In addition, interdependent self-construal is associated with greater perceived familial and global support (Goodwin & Plaza, 2000). Based on this evidence, we preliminarily predicted that individuals from Malaysia

(i.e., an interdependent culture) will have significantly higher BAOS-2 scores compared to individuals from the United Kingdom and United States (i.e., independent cultures).

3.1. Method

3.1.1. Participants. For this study, we used the total dataset of Malaysian respondents from Study 1 in the present work (N = 1,049), which we supplemented with respondents from the United Kingdom taken from Swami et al. (2021a, Studies 1 and 2; N = 1,023, women n = 512, men = 511; age M = 35.53, SD = 13.39; BMI M = 26.97, SD = 6.42; 87.4% White) and respondents from the United States taken from Swami et al. (2021a, Study 3; N = 503, women n = 251, men n = 252; age M = 35.95, SD = 11.80; BMI M = 27.40, SD = 5.96; 77.7% White).

3.1.2. Measures. From all datasets, we extracted BAOS-2 scores along with demographic information (gender, age, self-reported BMI, ethnicity). Swami et al. (2021a) reported that BAOS-2 scores had adequate internal consistency in their samples of respondents from the United Kingdom (ω = .94, 95% CI = .93, .95) and the United States (ω = .95, 95% CI = .94, .96).

3.1.3. Procedures and analytic strategy. Data from Swami et al. (2021a) were collected using online samples and are, therefore, comparable to our dataset in Study 1. Full procedural details are reported in Swami et al. (2021a), as well as in Study 1 above. We first compared the three samples on basic demographics (i.e., participant age and BMI) using a 2 x 3 ANOVA with gender (women *vs*. men) and nation (Malaysia *vs*. United Kingdom *vs*. United States) as independent variables. Were significant differences identified, we would include these as covariates in any subsequent analysis. Next, we tested for invariance across nations using the strategy outlined in Section 2.1.4.4 above. Because gender invariance was established in Study 1 and previously for sample from the United Kingdom and United States (Swami et al., 2021a), we did not re-assess this here. Were scalar or partial scalar invariance

across nations established, our aim was to conduct a 2 x 3 ANOVA (or analysis of covariance; ANCOVA) with gender (women *vs*. men) and nation (Malaysia *vs*. United Kingdom *vs*. United States) as independent variables, and BAOS-2 scores as dependent variables.

3.2. Results

3.2.1. Preliminary analyses. A univariate ANOVA with participant age as the dependent variable indicated a significant interaction between nation and gender, $F(2, 2570) = 7.41$, $p = .006$, $\eta_p^2 < .01$, and significant main effect of nation, $F(2, 2570) = 22.07$, $p < .001$, $\eta_p^2 = .02$, but not of gender, $F(1, 2570) = 0.01$, $p = .904$, $\eta_p^2 < .01$. In addition, an ANOVA with BMI as the dependent variable indicated a significant main effect of nation, $F(2, 2570) = 110.07$, $p < .001$, $\eta_p^2 = .08$, though no significant interaction, $F(2, 2570) = 1.21$, $p = .298$, $\eta_p^2 < .01$, and no significant main effect of gender, $F(1, 2570) = 2.00$, $p = .157$, $\eta_p^2 < .01$. For this reason, we included age and BMI as covariates in further analyses.

3.2.2. National invariance. Assessment of the data for normality indicated that they were neither univariate (Shapiro-Wilks $p < .001$) nor multivariate normal (Mardia's skewness = 4438.03, $p < .001$, Mardia's kurtosis = 130.96, $p < .001$), so parameter estimates were obtained using the robust maximum likelihood method and fit indices (see Section 2.1.4.2.) were interpreted with the Satorra-Bentler correction applied (Satorra & Bentler, 2001). We first assessed the fit of the baseline model in the total (three-nation) sample. Indices were suggestive of an adequate fit to the data: $SB\chi^2(65) = 775.58$, $SB\chi^2_{normed} = 11.93$, robust RMSEA = .065 (90% CI = .062 -.068), SRMR = .033, robust CFI = .957, robust TLI = .949. McDonald's ω for this model was adequate in the total subsample (.95, 95% CI = .94, .96). Next, we tested for invariance across national groups at the configural, metric, and scalar levels (see Table 6 for full metrics). Full scalar invariance was not achieved, but partial scalar invariance was obtained by fixing the intercept for Item #13.

3.2.3. Between-group comparisons. Because we obtained partial scalar invariance across nations, we proceeded to compute a 3 x 2 ANCOVA (see Table 7 for descriptive statistics). Both covariate age and BMI had significant main effects (Fs = 9.63-98.03, ps < .001, η_p^2 = .01-.04). The results indicated no significant interaction between nation and gender, $F(2, 2570) = 0.12$, $p = .891$, $\eta_p^2 < .01$. There was a significant main effect of gender, $F(1, 2570) = 9.44$, $p = .002$, $\eta_p^2 < .01$, with women having significantly higher BAOS-2 scores than men. There was also a significant main effect of nation, $F(2, 2570) = 12.40$, $p < .001$, $\eta_p^2 = .01$. Tests of simple effects indicated that the United Kingdom and United States samples did not differ significantly in BAOS-2 scores, $t(1525) = 1.92$, $p = .055$, $d = 0.10$. On the other hand, the Malaysian sample had significantly higher BAOS-2 scores than both the United Kingdom and United States samples (ts = 3.88-7.22, ps < .001, d = 0.20-0.32).

3.3. Discussion

The results of Study 2 indicated that BAOS-2 scores were partially invariant across the three nations examined here. It was necessary to fix the intercept for Item #13 to achieve partial scalar invariance, which suggests that there may be issues with this particular item (see Section 4 for a fuller discussion). Nevertheless, these results are promising, as they indicate that the BAOS-2 may prove to be a useful tool for the study of body image-related issues across cultural, national, or linguistic contexts. In addition, comparison of BAOS-2 scores across national contexts also supported our hypothesis, insofar as Malaysian participants had significantly higher scores than their counterparts in the United Kingdom and United States. Although these findings should be treated cautiously given that the samples differed significantly in terms of both age and BMI, our results suggest that individuals in the more interdependent cultural context of Malaysia have significantly higher body acceptance by others than individuals in more independent contexts. It should be noted, however, that the difference was small in terms of effect size. In a similar vein, we also found

that women had significantly higher BAOS-2 scores than men, although in this case the effect size was negligible.

4. General Discussion

In Study 1, we examined the psychometric properties of a Bahasa Malaysia translation of the BAOS-2 in a multi-ethnic sample of Malaysian adults. Our results broadly supported the extraction of a unidimensional model of BAOS-2 scores, with all 13 items retained. However, it should be noted that Item #13 ("Important others refrain from criticising or critiquing my body") had low item-factor loadings in our Malay female subsample, and a unidimensional model of scores retaining 12 of the adequately loading items also had good fit. Our decision to retain the 13-item model was based on conceptual clarity (that is, we suggest that this item adds something meaningful to understanding the construct of body acceptance by others) and expediency (i.e., it makes it possible to compare scores with other samples where a 13-item model of BAOS-2 scores is retained). Nevertheless, it may be useful to consider reasons for the low item-factor loading in the female subsample, especially as loadings were also low (albeit not below thresholds for retention) in our Malay male subsample as well as in the parent studies reported by Swami et al. (2021a).

One possibility is that the experience of important others criticising or critiquing one's body is highly gendered in the Malaysian Malay context. For instance, as discussed by Collins and Bahar (2000), the experience of body critiques may be normalised for Malay women. Shame at exposure of the body, in particular, may begin at an early age for religious-cultural reasons and be promulgated within familial systems as a means of body control and ensuring that women adhere to cultural norms of humility and shame (Collins & Bahar, 2000). In this context, then, the experience of body critiques may be normative, which in turn

has an impact on the suitability of the BAOS-2 Item #13 in terms of measuring the construct of body acceptance by others. An alternative possibility is that the experience of others directly critiquing one's body is unusual, precisely because it would result in negative emotions that threaten relationship quality. This would imply that this item may be problematic irrespective of the cultural context (i.e., it may be a weaker contributor to the construct of body acceptance by others compared to other BAOS-2 items). This is an aspect of the BAOS-2 that could be looked at in further detail in future studies.

Beyond this issue, however, our results indicated that a unidimensional model of BAOS-2 scores with all 13 items had adequate factorial validity and internal consistency, and good indices of validity (including convergent validity, construct validity, concurrent validity, and incremental validity). We also found that scores achieved scalar invariance across ethnicity (Malay and Chinese participants) and gender, with between-group comparisons indicating negligible differences (i.e., differences with very little real-world impact; Cohen, 1992). In broad outline, these results are consistent with the findings of Swami et al. (2021a) in their parent study and suggest that the BAOS-2 has adequate psychometric properties for use in Bahasa Malaysia-speaking populations. Of course, we were limited in our ability to assess other indices of validity (e.g., discriminant validity) by the lack of validated measures for use in this linguistic group, and we also did not examine test-retest reliability in the present study. Both of these issues may be usefully examined in future work.

In Study 2, we demonstrated that BAOS-2 scores achieved partial scalar invariance across three national groups. Comparison of mean scores indicated that Malaysian participants had significantly higher BAOS-2 scores than their counterparts in the United Kingdom and the United States. Although these findings should be considered preliminary – especially as recruitment methods across national contexts were not identical (i.e., different

online survey platforms were used) and the samples differed in mean age and BMI – they are important for both theory and practice. In terms of the former, we speculated that interdependent cultures may facilitate the experience of body acceptance by others as a means of maintaining social harmony. Although self-construal theory has sometimes been used to examine body image issues across national groups (e.g., Jung & Lee, 2006), we repeat calls by other scholars (e.g., Bij de Vaate et al., 2020) to more fully integrate theory and empirical findings. In turn, this may point at practical implications: understanding why individuals from interdependent cultures report higher body acceptance by others than those in independent cultures may allow practitioners to develop interventions that promote the experience across populations.

We have highlighted a number of limitations of the present work in passing above, including the lack of comparability across samples in Study 2. Other related limitations include the recruitment strategy in Study 1, which means that our sample is unlikely to be representative of the wider Malaysian population. Of particular note, while we recruited from members of the two largest ethnic groups in Malaysia, the nation is highly heterogeneous in terms of ethnicity and it would be useful to examine the psychometric properties of the BAOS-2 in other Malaysian minority ethnic groups. Conversely, to extend our understanding of the impact of self-construal on body acceptance by others, it will be important to generalise our findings to other national sites. Other ways this work could be extended would be through an examination of the impact of sociodemographic variables that were omitted here, such as socioeconomic status, urbanicity, religion, and sexual orientation (Swami, 2015), as well as the intersectionality of these constructs self-construal. For instance, it may be important to understand the impact of intersections between membership of various sociodemographic identities on body acceptance by others.

These limitations notwithstanding, the present work extends the use of the BAOS-2 to a new cultural and linguistic group, and suggests that the instrument may be useful for future cross-national examinations of an important construct that is known to lead to more positive body image. In terms of Malaysian research specifically, the availability of the Malay BAOS-2 should facilitate more in-depth research into the antecedents of positive body image. Moreover, as relevant instruments become available in this national context, it becomes possible to examine theoretical models of body image and eating styles, such as the acceptance model of intuitive eating (Augustus-Horvath & Tylka, 2011), which should be an important next step for body image researchers in Malaysia. More broadly, our results highlight self-construal theory as a potentially important yet under-research theoretical framework for understanding body image-related issues across cultures.

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Table 1

Items of the Body Acceptance by Others Scale-2 (BAOS-2) in English and Bahasa Malaysia (in Italics) and Factor Loadings Derived from the Exploratory Factor Analyses with Women and Men in the First Split-Half Subsample in Study 1.

BAOS-2 Items	Women	Men
1. I feel acceptance from important others regarding my body / *Saya rasa diterima oleh 'orang penting' tentang badan saya.*	.71	.76
2. I believe that important others value my body as it is, without trying to change it / *Saya percaya 'orang penting' menghargai badan saya seadanya, tanpa mencuba untuk mengubahnya.*	.81	.86
3. I believe that important others trust me to do what is best for myself regarding my body / *Saya yakin 'orang penting' menpercayai saya untuk melakukan apa yang terbaik untuk diri saya tentang badan saya.*	.81	.84
4. I believe that important others are accepting of my body without comparing me to other people / *Saya percaya 'orang penting' menerima badan saya tanpa membandingkan saya dengan orang lain.*	.81	.78
5. I don't have to change my body to feel accepted by important others / *Saya tidak perlu ubah badan saya untuk rasa diterima oleh 'orang penting'.*	.62	.65
6. I believe that important others embrace and cherish my body / *Saya yakin bahawa 'orang penting' akan menerima dan menghargai tubuh badan saya.*	.85	.80

7. Important others help me feel calm and contented toward my body, rather than worried about it / '*Orang penting' membantu saya untuk rasa tenang dan puas hati terhadap badan saya, daripada rasa risau tentangnya.*	.88	.82
8. I believe that important others respect my body / *Saya percaya 'orang penting' hormat badan saya.*	.84	.80
9. I get the feeling that important others like my body as it is, even if they don't say anything / *Saya rasa 'orang penting' suka badan saya seadanya walaupun mereka tidak berkata apa-apa tentangnya.*	.83	.79
10. I believe that important others appreciate my unique body / *Saya percaya 'orang penting' menghargai badan saya yang unik.*	.81	.84
11. Important others help me feel comfortable regarding my body / '*Orang penting' bantu saya untuk rasa selesa dengan badan saya.*	.83	.85
12. I can count on important others to accept my body / *Saya boleh mengharapkan pada 'orang penting' untuk menerima badan saya.*	.77	.81
13. Important others refrain from criticising or critiquing my body / '*Orang penting' menahan diri dari mengkritik badan saya.*	.25	.51

Table 2

Measurement across Gender and Ethnicity in the Second Split-Half Sample in Study 1.

	Model	SBχ^2	*df*	Robust CFI	Robust RMSEA	SRMR	Model Comparison	Δ SBχ^2	Δ*df*	*p*	ΔRobust CFI	ΔRobust RMSEA	ΔSRMR
Gender	Configural	285.44	130	.956	.059	.036							
	Metric	306.44	142	.955	.058	.047	Configural vs metric	21	12	.167	.001	.001	.011
	Scalar	325.24	154	.955	.057	.048	Metric vs scalar	18.8	12	.403	.001	.001	.001
Ethnicity	Configural	305.47	130	.949	.063	.038							
	Metric	327.40	142	.948	.062	.048	Configural vs metric	21.93	12	.147	.001	.001	.010
	Scalar	352.95	154	.947	.061	.049	Metric vs scalar	25.55	12	.023	.001	.001	.001

Note. CFI = comparative fit index, RMSEA = Steiger-Lind root mean square error of approximation, SRMR = standardised root mean square residual, SB = Satorra-Bentler.

Table 3

Correlations between Body Acceptance by Others-2 Scores and Scores on All Other Variables Included in Study 1, with Women in the Top Diagonal and Men in the Bottom Diagonal.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Body acceptance by others		.62**	.60**	-.18**	.51**	.50**	.59**	-.09*
(2) Body appreciation	.67**		.54**	-.11*	.54**	.56**	.53**	-.11*
(3) Functionality appreciation	.60**	.63**		-.17**	.39**	.41**	.51**	-.08
(4) SATAQ–4 Pressure[a]	-.01	-.08	-.05		-.03	-.17**	-.07	.22**
(5) Life satisfaction	.51**	.52**	.45**	-.09*		.69**	.63**	.04
(6) Subjective happiness	.47**	.53**	.46**	-.11*	.62**		.62**	.04
(7) Secure non-striving	.63**	.57**	.59**	.06	.55**	.52**		.01
(8) Body mass index	-.09*	-.10*	-.03	.06	-.07	.03	.01	

Note. Women $n = 525$, men $n = 524$. *$p < .05$, **$p < .001$. SATAQ–4 = Sociocultural Attitudes Toward Appearance Questionnaire–4; note this score was computed as the mean of 7 items in women and the mean of 9 items in women (see Supplementary Materials).

Table 4

Results of Multiple Hierarchical Regression Analyses for the Prediction of Body Appreciation.

		Women (n = 525)					Men (n = 524)				
Step	Variable	B	SE	β	t	p	B	SE	β	t	p
1		$F(1, 523) = 6.79$, $p = .009$, Adj. $R^2 = .01$					$F(1, 522) = 2.56$, $p = .110$, Adj. $R^2 < .01$				
	Pressure	-.08	.03	-.11	-2.61	.009	-.05	.03	-.07	-1.60	.110
2		$F(2, 522) = 163.40$, $p < .001$, Adj. $R^2 = .39$ (ΔF $p < .001$)					$F(2, 521) = 212.37$, $p < .001$, Adj. $R^2 = .45$ (ΔF $p < .001$)				
	Pressure	-.01	.03	-.01	-0.60	.952	-.06	.02	-.09	-2.66	.008
	Body acceptance by others	.60	.03	.62	17.77	< .001	.61	.03	.67	20.50	< .001

Note. Pressures = Sociocultural Attitudes Toward Appearance Questionnaire–4 Pressures subscale; note this score was computed as the mean of 7 items in women and the mean of 9 items in women (see Supplementary Materials).

Table 5

Results of Multiple Hierarchical Regression Analyses for the Prediction of Functionality Appreciation.

		Women (n = 525)					Men (n = 524)				
Step	Variable	B	SE	β	t	p	B	SE	β	t	p
1		$F(1, 523) = 14.81$, $p < .001$, Adj. $R^2 = .03$					$F(1, 523) = 0.94$, $p = .332$, Adj. $R^2 < .01$				
	Pressure	-.11	.03	-.17	-3.85	< .001	-.03	.04	-.04	-0.97	.332
2		$F(2, 522) = 148.26$, $p < .001$, Adj. $R^2 = .36$ (ΔF $p < .001$)					$F(2, 522) = 148.40$, $p < .001$, Adj. $R^2 = .60$ (ΔF $p < .001$)				
	Pressure	-.04	.02	-.06	-1.71	.089	-.05	.03	-.06	-1.64	.101
	Body acceptance by others	.54	.03	.59	16.55	< .001	.60	.04	.60	17.19	< .001

Note. Pressures = Sociocultural Attitudes Toward Appearance Questionnaire–4 Pressures subscale; note this score was computed as the mean of 7 items in women and the mean of 9 items in women (see Supplementary Materials).

Table 6

Measurement across National Group in the Study 2 Sample.

Model	SBχ^2	*df*	Robust CFI	Robust RMSEA	SRMR	Model Comparison	Δ SBχ^2	Δ*df*	*p*	ΔRobust CFI	ΔRobust RMSEA	ΔSRMR
Configural	877.45	195	.951	.064	.034							
Metric	997.69	219	.947	.064	.053	Configural vs metric	120.24	24	< .001	.004	< .001	.019
Scalar	1492.70	243	.921	.095	.065	Metric vs scalar	495.01	24	< .001	.026	.031	.012
Partial scalar: Item 13	1369.46	241	.933	.074	.061	Metric vs partial scalar	371.77	22	< .001	.014	.010	.008

Note. CFI = Comparative fit index, RMSEA = Steiger-Lind root mean square error of approximation, SRMR = standardised root mean square residual, SB = Satorra-Bentler.

Table 7

Descriptive Statistics for Body Acceptance by Others Scale-2 Scores by Nation and Gender in Study 2.

		M	*SD*
Malaysia	Total (*N* = 1,049)	3.75	0.81
	Women (*n* = 525)	3.81	0.79
	Men (*n* = 524)	3.69	0.83
United Kingdom	Total (*N* = 1,023)	3.49	0.84
	Women (*n* = 512)	3.55	0.83
	Men (*n* = 511)	3.42	0.84
United States	Total (*N* = 503)	3.53	0.78
	Women (*n* = 251)	3.62	0.93
	Men (*n* = 252)	3.53	0.78

Figure 1

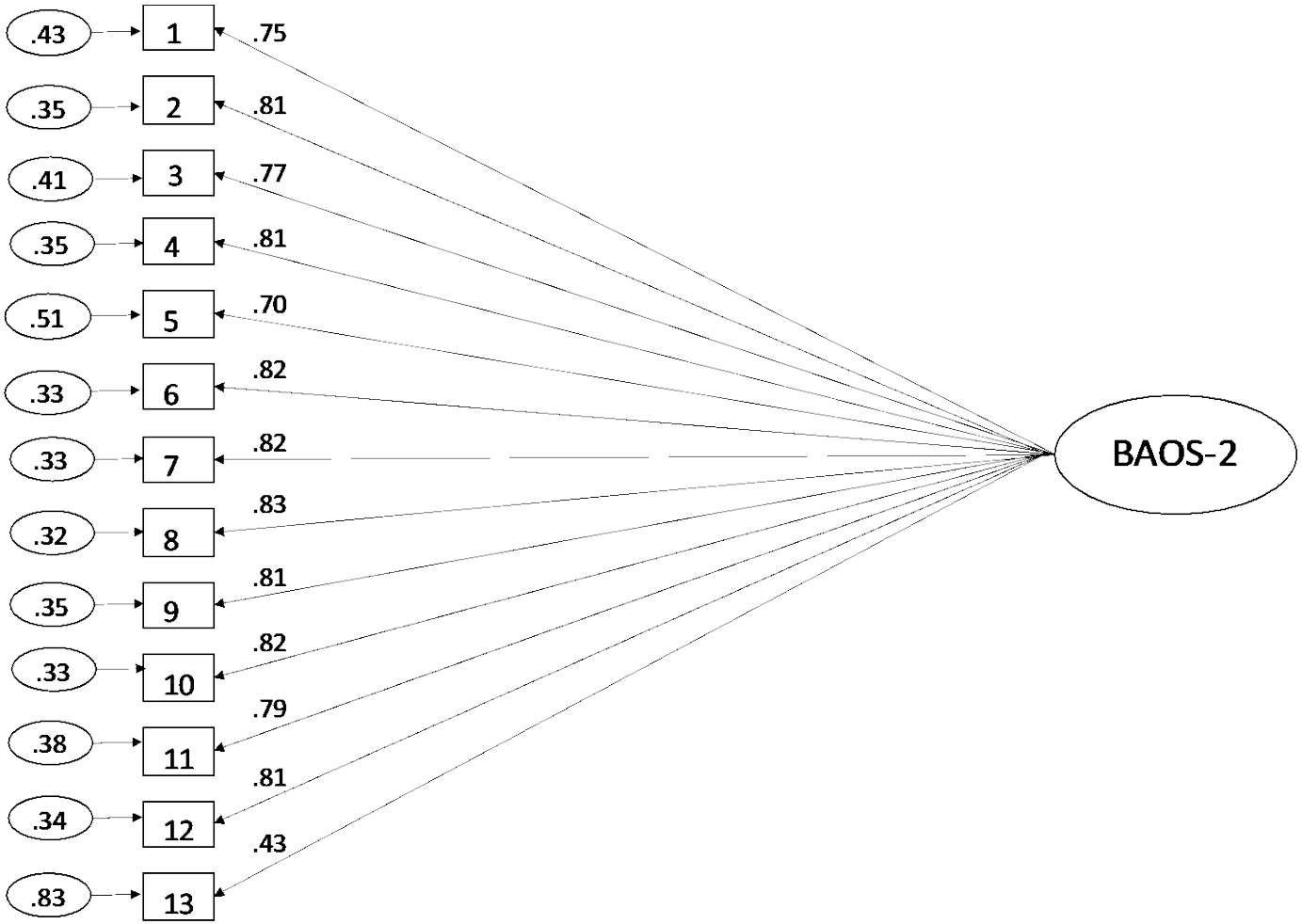

Figure 1. Path diagram and estimates for the full 13-item model. The large oval is the latent construct, with the rectangles representing measured variables. The path factor loadings are standardised, with significance levels determined by critical ratios (all $p < .001$).