Psychometric properties of the Drive for Muscularity Scale in Malay men

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**Abstract**

The Drive for Muscularity Scale (DMS) is a widely used measure in studies of men's body image, but few studies have examined its psychometric properties outside English-speaking samples. Here, we assessed the factor structure of a Malay translation of the DMS. A community sample of 159 Malay men from Kuala Lumpur, Malaysia, completed the DMS, along with measures of self-esteem, body appreciation, and muscle discrepancy. Exploratory factor analysis led to the extraction of two factors, differentiating attitudes from behaviours, which mirrors the parent scale. Both factors also loaded on to a higher-order drive for muscularity factor. The subscales of the Malay DMS had adequate internal consistencies and good convergent validity, insofar as significant relationships were reported with self-esteem, body appreciation, muscle discrepancy, and body mass index. These results indicate that the Malay DMS has acceptable psychometric properties and can be used to assess body image concerns in Malay men.

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**Introduction**

Drive for muscularity refers to a desire to enhance one's musculature in order to reduce a perceived discrepancy between actual and ideal levels (McCreary & Sasse, 2000). Higher drive for muscularity has been consistently associated with a range of unhealthy behaviours (e.g., exercise dependence) and psychological outcomes (e.g., anxiety; McCreary, 2012; Morrison, Morrison, Hopkins, & Rowan, 2004). In addition, higher drive for muscularity is consistently observed in men compared with women, suggesting that the construct is differentially salient across sex, possibly because of the sociocultural emphasis placed on masculinity in ideals of men's physical attractiveness (Edwards, Tod, Morrison, & Molnar, 2012; Swami & Tovée, 2005). Although a number of different drive for muscularity measures exist (Tod & Edwards, 2013), the most widely used is McCreary and Sasse's (McCreary & Sasse, 2000) Drive for Muscularity Scale (DMS): Tod and Edwards (2013) estimated that approximately 70% of studies of drive for muscularity have used the DMS.

The DMS is a self-report measure consisting of 15 items that are rated on a 6-point scale ranging from 1 (Always) to 6 (Never). Through factor analysis with data from North American men, the DMS was found to consist of two factors, called Muscularity-Oriented Body Image Attitudes (7 items) and Muscularity-Oriented Behaviours (7 items; McCreary, Sasse, Saucier, & Dorsch, 2004). In this analysis, however, one item (#10, which asks about the extent to which respondents think about using anabolic steroids to increase muscle mass) was found to have very little variability and was omitted from the subscale computations. In some samples, however, this item has sufficient variability and loads onto the Behaviours subscale (McPherson, McCarthy, McCreary, & McMillan, 2010). Both subscales also load onto a single higher-order DMS factor (McCreary et al., 2004) and, for this reason, some scholars have preferred total scores over subscale scores (e.g., Benford & Swami, 2014; Davis, Karvinen, & McCreary, 2005; Swami, Diwell, & McCreary, 2014; Swami, Neoiftou, et al., 2013). Both subscale and total scores have very good internal consistency coefficients, test–retest reliability, and patterns of concurrent, convergent, and discriminant validities (McCreary, 2007).

With few exceptions, however, the psychometric properties of the DMS have not been examined outside English-speaking populations. Using confirmatory factor analysis (CFA) with Spanish-speaking Argentinian university students, Compte, Sepúlveda, de Pellegrin, and Blanco (2015) reported that the original two-factor...
model had good fit, with item #10 loading onto the Behaviours subscale. Total scores and subscale scores both showed good internal consistencies and good patterns of convergent and concurrent validity. Likewise, a German translation of the DMS with data from weight-training men found support for the two-factor model, with item #10 again loading onto the Behaviours subscale (Waldorf, Cordes, Vocks, & McCrery, 2014). Scores on this German translation were also found to have good internal consistency, test–retest reliability, and discriminant validity.

However, not all translation studies have found support for the original two-factor model. Using confirmatory factor analysis (CFA) with a mixed sample of Brazilian men, Campana, Tavares, Swami, and da Silva (2013) found that the two-factor model only achieved adequate fit following the elimination of three items (#7, 9, and 10) that had high residuals. These authors also tested a hypothesised three-factor model, but found that it had poorer fit compared to the modified two-factor model. Using exploratory factor analysis (EFA), support has been found for a three-factor model in Mexican university students (Escoto et al., 2013). While the Attitudes subscale mirrored its parent version (α = .87), the Behaviours subscale was split into lower-order dimensions reflecting substance intake (α = .72) and training adherence (α = .68). A CFA with a second sample of men confirmed that this three-factor model, as well the original two-factor model, had adequate fit. Given that the internal consistency of one factor in the three-factor model was below the accepted cut-off, it is not clear whether there is much support for using the three-factor solution over the original two-factor model.

In addition, French (Rodgers, Ganchou, Franko, & Chabrol, 2012), Icelandic (Guðnadóttir & Garðarsdóttir, 2014), and Swedish (Holmqvist Gattario et al., 2015) translations of the DMS appear to have been completed. While the authors of these studies report that total and/or subscale scores had good internal consistency coefficients, they do not appear to have examined the factor structure of the DMS. This is problematic because it should not be assumed that factor structure identified during the development of a measure will necessarily generalise to other populations and linguistic contexts (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 2014). Rather, an examination of a measure’s factor structure is important when the measure is used with different populations or in new cultural contexts.

Following from this point, we sought to examine the factor structure of the DMS among Malaysian men in Malaysia. As discussed by Swami, Tovée, and Harris (2013), Malaysia is an interesting context in which to examine issues related to body image for a number of reasons. First, rapid liberalisation and industrialisation since the late 1980s have encouraged the deregulation of mass media, allowing for the proliferation of Westernised ideals of beauty (Swami, 2006). Indeed, previous work in urban Malaysia has indicated that masculinity is idealised to a similar extent as in Europe (Swami & Tovée, 2005). In addition, Malaysia typifies a developing country in a nutritional and lifestyle transition, with a high prevalence of obesity along with micronutrient deficiency (e.g., Moy, Gan, & Zaleha, 2006). This has led to a legitimisation of a fear of fatness and may also contribute to high rates of body dissatisfaction among women and men (Swami, 2006; Swami, Neofytou, et al., 2013).

While a number of studies have examined body image issues in Malaysian men (e.g., Phan, Ang, Maznah, & Norimah, 2009), these studies have typically relied on models of body image developed to explain body dissatisfaction in women and have applied these models uncritically to explain men’s body image (Swami, Neofytou, et al., 2013). A further problem with earlier work is the use of measures of uncertain validity and reliability. Some studies have asked respondents to complete questionnaires in English, rather than the national language of Bahasa Malaysia (Malay), or have assumed that scales developed in Western contexts will retain their factorial validity in Malaysian populations. This is a problematic assumption given evidence of that some body image scales developed among English-speaking samples do not retain their parent factor structure when translated into Malay (e.g., Swami, 2009; Swami & Chamorro-Premuzic, 2008).

In the present study, therefore, we examined the psychometric properties of a Malay translation of the DMS. More specifically, we first examined the factor structure of the Malay DMS using EFA, which allowed us to examine the best-fitting model for our dataset. Based on the available cross-cultural evidence, we expected the Malay DMS to have a two-factor structure, with both factors also loading on to a higher-order single drive for masculinity factor. In addition to examining factorial validity, we also assessed the internal consistency of the derived factors and, to establish the scale’s convergent validity, we examined associations between drive for masculinity and self-esteem, body mass index (BMI), body appreciation, and current-ideal muscle discrepancy.

**Method**

**Participants**

Participants of this study were 159 Malay men recruited from the community in Kuala Lumpur, the national capital and largest city in Malaysia. Participants ranged in age from 18 to 69 years (M = 28.78, SD = 9.35) and in self-reported BMI from 16.42 to 36.33 kg/m^2 (M = 22.93, SD = 2.94). By constitutional law, all ethnic Malays in Malaysia are considered Muslim. In terms of marital status, the majority of the sample was married (64.2%), while 26.4% were single and the remainder of some other status. A total of 48.4% of the sample had completed minimum secondary schooling, 29.6% had an undergraduate degree, 13.8% had a postgraduate degree, and the remainder had some other qualification.

**Measures**

**Drive for masculinity.** Participants completed the 15-item DMS (McCreary & Sasse, 2000). All items were rated on a 6-point scale ranging from 1 (Always) to 6 (Never) and were reverse-coded prior to analysis so that higher scores reflect greater drive for masculinity. The factor structure and reliability of the DMS is described below and the items of the DMS are reported in Table 1.

**Self-esteem.** We used the 10-item Rosenberg Self-Esteem Scale (RSSE; Rosenberg, 1965; Malay translation: Swami, 2011) to measure participants’ overall sense of self-worth (sample item: “I feel that I have a number of good qualities”). The RSSE is one of the most widely used measures of self-esteem, with items rated on a 4-point scale ranging from 1 (Strongly disagree) to 4 (Strongly agree). In its English version, five items are reverse-coded prior to analysis. In the Malay form, however, one of these reverse-coded items (#8) loads negatively, possibly due to interpretation issues; Swami (2011) recommends inclusion of this item in its non-reversed format, which is what we did here. A total RSSE score was, therefore computed following reverse-coding of four items, with higher scores reflecting higher self-esteem. The Malay version of the RSSE has adequate internal consistency, good test–retest reliability after 5 weeks, and good patterns of convergent and discriminant validity (Swami, 2011). In the present study, Cronbach’s α for this scale was .83.

**Body appreciation.** Participants completed the Body Appreciation Scale (BAS; Avalos, Tylka, & Wood-Barcalow, 2005; Malay
Table 1

<table>
<thead>
<tr>
<th>Items</th>
<th>Factor 1</th>
<th>Factor 2</th>
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</thead>
<tbody>
<tr>
<td>1. I drank weight gain or protein shakes/Saya minum minuman yang menambah berat badan atau minuman protein.</td>
<td>.87</td>
<td>.34</td>
</tr>
<tr>
<td>3. I use protein or energy supplements/Saya mengambil suplemen protein dan tenaga.</td>
<td>.84</td>
<td>.35</td>
</tr>
<tr>
<td>5. I try to consume as many calories as I can in a day/Saya cuba mengambil sebanyak kalori yang boleh dalam satu hari.</td>
<td>.82</td>
<td>.39</td>
</tr>
<tr>
<td>6. I feel guilty if I miss a weight training session/Saya rasa bersalah jika saya tidak pergi sesi latihan berat badan.</td>
<td>.81</td>
<td>.36</td>
</tr>
<tr>
<td>8. Other people think I work out with weights too often/Orang kata saya terlalu sering angkat berat.</td>
<td>.79</td>
<td>.24</td>
</tr>
<tr>
<td>10. I think about taking anabolic steroids/Saya terfikir untuk mengambil steroid anabolik.</td>
<td>.69</td>
<td>.21</td>
</tr>
<tr>
<td>11. I lift weights to build up muscle/Saya angkat berat untuk bina otot.</td>
<td>.66</td>
<td>.37</td>
</tr>
<tr>
<td>12. I think that my weight training schedule interferes with other aspects of my life/Saya rasa jadual latihan angkat berat saya mengganggu aspek-aspek hidup saya yang lain.</td>
<td>.58</td>
<td>.31</td>
</tr>
<tr>
<td>14. I think that my chest is not muscular enough/Saya rasa dada saya tidak cukup berotot.</td>
<td>.36</td>
<td>.86</td>
</tr>
<tr>
<td>13. I think that my arms are not muscular enough/Saya rasa lengan saya tidak cukup berotot.</td>
<td>.33</td>
<td>.85</td>
</tr>
<tr>
<td>7. I think I would feel more confident if I had more muscle mass/Saya rasa saya akan rasa lebih yakin jika saya lebih berotot.</td>
<td>.39</td>
<td>.84</td>
</tr>
<tr>
<td>11. I think that I would feel stronger if I gained a little more muscle mass/Saya rasa saya akan rasa lebih kuat kalau saya peroleh otot sedikit lagi.</td>
<td>.33</td>
<td>.83</td>
</tr>
<tr>
<td>1. I wish that I were more muscular/Saya ingin saya lebih berotot.</td>
<td>.36</td>
<td>.80</td>
</tr>
<tr>
<td>15. I think that my legs are not muscular enough/Saya rasa kaki saya tidak cukup berotot</td>
<td>.39</td>
<td>.76</td>
</tr>
<tr>
<td>9. I think that I would look better if I gained 10 pounds in bulk/Saya rasa saya akan tampak lebih elok kalau saya naik 5 kg dalam bentuk otot.</td>
<td>.23</td>
<td>.65</td>
</tr>
</tbody>
</table>

translation: Swami & Chamorro-Premuzic, 2008), a 13-item measure of positive body image (sample item: “I respect my body”). Items on the BAS are rated on a 5-point scale, ranging from 1 (Never) to 5 (Always). A CFA of the Malay BAS has shown that it consists of two subscales representing General Body Appreciation (8 items) and Body Image Investment (3 items; Swami & Chamorro-Premuzic, 2008). The latter subscale tends to have poor internal consistency and is typically omitted from analyses for this reason (Swami, Kannan, & Furnham, 2011). In the present work, only the General Body Appreciation items were administered and a subscale score was computed as the mean of all 8 items (higher scores on this subscale represent greater body appreciation). The General Body Appreciation subscale has acceptable internal consistency and is negatively correlated with BMI (Swami & Chamorro-Premuzic, 2008). In the present study, Cronbach’s α for this subscale was .94.

Muscle discrepancy. To measure current-ideal muscle discrepancy, we used the Muscle Silhouette Measure (MSM; Frederick et al., 2007). This figural rating scale presents 8 line-drawn silhouettes of the male form that increase linearly in masculinity. Participants were asked to rate the figure that they felt best represented their current body and the figure that best represented their ideal masculinity. All ratings were made on an 8-point scale ranging from 1 (Least muscular figure) to 8 (Most muscular figure). A measure of muscle discrepancy was computed as the difference between absolute (unsigned) current and ideal ratings, so that higher score reflect greater muscle discrepancy. (In practice, only 2.5% wanted to be less muscular, 10.1% wanted no change, and the remainder wanted to be more muscular.) Frederick et al. (2007) reported that the MSM has adequate construct validity.

Scale Translation

Malay versions of the DMS and MSM were prepared using a modified version of back-translation technique (Brislin, 1970). To achieve this, the scales were initially translated into Bahasa Malaysia (Malay) by the first and fourth authors, both of whom are fluent speakers of the language. Synthesis versions based on the two translations were then drawn up by the translators and a neutral judge. Next, from the synthesis, back-translations were created by a translator unaffiliated with the study and with no prior knowledge of the original instruments. Finally, the first and fourth authors discussed the syntheses and back-translations to ensure clear final versions, equivalent to the originals in terms of semantics and concept. Two translational issues are worth commenting on vis-à-vis the DMS. First, item #1 proved difficult to translate because of the use of the word “wish”; for this item, we eventually settled on a flexible translation so that the item back-translates as “I would like to be more muscular”. Second, item #9 includes an imperial measure (pounds) not commonly used in Malaysia; a direct reversion to a metric scale provided what we judged to be an unwieldy number (4.5 kg), so we rounded to the figure up to 5 kg. The final translated items are reported in Table 1.

Procedures

Ethics approval for this study was obtained from the relevant university ethics committee. Potential participants were recruited opportunistically by four research assistants from several large shopping complexes on weekdays between March and September 2015. Potential participants were invited to take part in a study on men’s health and were given an information sheet about the study. If they agreed to participate, they were asked to provide written informed consent and were provided with a paper-and-pencil questionnaire, which they completed in a dedicated quiet area set up for the purposes of the study. The order of presentation of the scales above was pre-randomised for each participant and the questionnaire itself was anonymous. Completed questionnaires were returned to the research assistants and participants were then provided with a debrief sheet containing further information about the study and contact details of the authors. All participants took part of a voluntary basis and were not remunerated for participation.

Analytic Strategy

Although the extant literature has identified competing factorial models that could be tested using CFA, we opted for EFA for two reasons. First, EFA allowed us to test for the best-fitting model for our dataset, without a priori limitations in terms of modelling. That is, we have not assumed that earlier identified factor structures will necessarily generalise to the present population, as per good practice guidelines (Kline, 2013). Second, our sample size does not meet minimum adequacy estimates for CFA (Kline, 2013), but do meet conservative participant-to-item requirements for EFA (Nunnally, 1978).

We, therefore, computed principal-axis EFA with our data. Following the guidelines of Clark and Watson (1995), items were submitted to EFA based on item distribution (standardised
kurtosis values > 1.0 suggest a problem), average correlation with the other items (items with \( r < .40 \) should be dropped), and item-total correlation (items should be dropped with corrected-item total correlations are < .30). We used a promax rotation because we expected the DMS factors would be correlated and because an oblique rotation represents a more realistic approach in the search for underlying factors in that it allows rotated factors to be correlated (Fabrigar, Wegener, MacCallum, & Strahan, 1999).

The number of factors to be extracted was determined by factor eigenvalues (\( \lambda \)) above 1.0 (the EGV1 criterion), examination of the scree plot, and the results of parallel analysis (Hayton, Allen, & Scarpello, 2004). The latter was used because scree-plot inspection and the EGV1 criterion are known to lead to factor over-retention (Patil, McPherson, & Friesner, 2010). Parallel analysis works by creating a random dataset with the same number of cases and variables as the actual dataset. Factors in the actual data are only retained if their eigenvalues are greater than the eigenvalues from the random data (Hayton et al., 2004). Factor loadings were interpreted were interpreted using Tabachnik and Fidell’s (2007) recommendations (i.e., \( > .71 \) = excellent, \( > .63 \) = very good, \( > .55 \) = good, \( > .45 \) = fair, and \( > .32 \) = poor). As a measure of internal consistency, we computed Cronbach’s \( \alpha \), with values of .70 and greater considered acceptable (Kline, 1999). Finally, to assess convergent validity, we computed bivariate correlations between DMS-derived scores and self-esteem, body appreciation, muscle discrepancy, and BMI. According to Cohen (1992), correlations of .10 are considered small, correlations of .30 are considered medium, and correlations of .50 are considered large.

Results

Exploratory Factor Analysis

Examination of the DMS items for skewness, kurtosis, average correlations with other items, and item-total correlations suggested no underlying problems and that all items could be submitted to EFA. Bartlett’s test of sphericity, \( \chi^2(105) = 1548.82, p < .001 \), and the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy, KMO = .91, showed that the items of the DMS had adequate common variance for factor analysis. The results of the EFA revealed two factors with \( \lambda > 1.0 \) and inspection of the scree plot suggested at least two primary factors, with a steep cut-off to the third factor. Parallel analysis confirmed that two factors should be extracted: the first two factors from the actual data had \( \lambda \) greater than the criterion \( \lambda \) generated from the random data (i.e., \( 7.12 \) [actual data] compared to 2.11 [random data] for the first factor, \( 2.38 \) [actual data] compared to 1.09 [random data] for the second factor). The remaining factors derived from the actual data had \( \lambda \) that were lower than the corresponding criterion \( \lambda \) generated from the random data. As such, we retained two factors, which explained 63.32% of the common variance.

Factor loadings are reported in Table 1. The first factor mirrors the Muscle-Oriented Behaviours factor of the parent scale, but also included the non-loading item (#10) from the parent study. All factor loadings on this factor were good-to-excellent and the factor had acceptable internal consistency (\( \alpha = .90 \)). The second factor mirrors the Muscle-Oriented Body Image Attitudes from the parent study, with all items having very good to excellent loadings. This second factor had acceptable internal consistency (\( \alpha = .91 \)). None of the items cross-loaded, although items #5, 7, and 15 came close to the cut-off for cross-loading exclusion. The two subscales were strongly correlated with each other, \( r = .56, p < .001 \) (component correlation = .49), and a second EFA using quartimax rotation (because of the expectation of a single factor) with the factor scores indicated that both loaded onto a single higher-order structure (\( \lambda = 1.56, 77.83\% \) of variance explained, factor loadings = .88 and .87).

Convergent Validity

To examine convergent validity, we computed bivariate correlations between these DMS subscale scores and self-esteem, body appreciation, muscle discrepancy, and BMI. As can be seen in Table 2, both Attitudes and Behaviours scores were significantly and negatively correlated with self-esteem, body appreciation, and BMI, and positively correlated with muscle discrepancy. The strength of the correlations was small for self-esteem and BMI, small-to-moderate for body appreciation, and moderate for muscle discrepancy.

Discussion

The main aim of the present study was to assess the factor structure of a Malay translation of the DMS using CFA on a community sample of Malay men. Our results indicated that, in the present sample, the Malay DMS had a two-factor structure that mirrored the model proposed by McCreary et al. (2004). This is consistent with previous reports that this two-factor structure had adequate-to-good fit in Argentine (Compte et al., 2015), German (Waldorf et al., 2014), and Mexican samples (Escoto et al., 2013). It is also broadly consistent with the derived factor structure in Brazilian men (Campana et al., 2013), although in that study three items were deleted to reach adequate fit. Unlike in the parent study (McCreary et al., 2004) and in Brazilian men (Campana et al., 2013), but consistent with other samples including Scottish men (McPherson et al., 2010), we found that item #10 loaded onto the Behaviours subscale of the DMS. Overall, the present data indicate that the two-factor structure of DMS is appropriate for Malay men.

Our additional analyses indicated that the two DMS subscales were significantly correlated with each other, which is again consistent with previous work. When we computed a second EFA with the subscale scores, we found – like McCreary et al. (2004) – that both subscales loaded on to a higher-order drive for masculinity factor. Overall, scholars wishing to use the DMS with Malay-speaking men could use either the factor scores as proposed in the parent study or total scores (or both). While we found that item #10 adequately loaded onto the Behaviours subscale in our, we repeat McCreary et al.’s (2004) advice that scholars should check that this item had adequate variability in particular samples before determining whether it should be included in factor computations.

The present data also indicated that the DMS subscales had acceptable internal consistencies, which is consistent with previous translational reports (e.g., Campana et al., 2013; Compte et al., 2015). In addition, we found significant correlations between both DMS subscales and muscle discrepancy, body appreciation, self-esteem, and respondent BMI. Each of these relationships was in the expected direction, thus providing evidence for the convergent validity of the Malay DMS. Although when taken together the present data provide evidence of good psychometric properties for the Malay DMS, it would be useful to further investigate other indices of validity, including divergent validity. For example, it would be informative to examine correlations between DMS subscales and drive for thinness, given previous evidence that these constructs are only weakly correlated (Compte et al., 2015). Establishing indices of divergent validity would be an important task for future research, as would determining the test–retest reliability of the Malay DMS.

Another limitation of the present work includes the possibility of sampling biases introduced by our recruitment method. Although our sample does have the benefit of not being limited to
university students, it is possible that systematic biases were introduced by only sampling men who frequented our recruitment sites. Likewise, although our sample size was adequate even by conservative estimates of good participant-to-item ratios (Nunnally, 1978), it would be useful to replicate our findings with larger, more representative samples. In a similar vein, an important next step for future research will be to investigate the factorial validity of the Malay DMS in Malaysian men of other ethnic groups. This is important given that previous studies have indicated significant, albeit small, differences in body image indices in the Malaysian context, at least in women (Swami, Tovée, et al., 2013).

Other limitations of our design concern the use of scales used to establish convergent validity. In terms of body appreciation, for example, it is important to note that that a new version of the BAS is now available (Tytlka & Wood-Barcalow, 2015). We were unable to use this revised measure because it has not been validated for use among Malay-speaking populations. Likewise, line-drawn figurative scales are known to suffer from poor ecological validity (Swami, Salem, Furnham, & Tovée, 2008) and it would, therefore, be useful for future research to use more realistic scales that depict variation in both masculinity and body fat (e.g., Novella, Gosselin, & Danawski, 2015). Finally, while the focus of the present study was on the DMS, it should be noted that other drive for masculinity scales are available (see Tod, Morrison, & Edwards, 2012) and have been translated into languages other than English (e.g., Campana et al., 2013; Jung, Forbes, & Chan, 2010). Future research could concurrently examine the psychometric properties of alternative drive for masculinity measures, bearing in mind issues of shared conceptual space.

Setting aside these limitations for the moment, the present study adds to the handful of studies that have examined the psychometric properties of the DMS outside English-speaking samples. Our data indicate that, in Malay men from Malaysia, the DMS has a two-factor structure similar to that reported in other cultural settings. This is noteworthy for two reasons. First, it allows for comparisons of DMS scores across cultural populations where the factorial structure of the DMS has been validated and shown to comprise two factors. Second, and more broadly, it adds to the growing list of validated body image scales that are available for use among Malay-speaking populations. As such, we hope that the availability of the DMS will allow for systematic investigations of men’s body image concerns in this population.

References

<table>
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<th>Table 2</th>
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<tr>
<td>Means, standard deviations, and inter-correlations between variables.</td>
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<tr>
<td>(1) DMS Attitudes</td>
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<tr>
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</tr>
<tr>
<td>(1) DMS Attitudes</td>
</tr>
<tr>
<td>(2) DMS Behaviours</td>
</tr>
<tr>
<td>(3) Self-esteem</td>
</tr>
<tr>
<td>(4) Body appreciation</td>
</tr>
<tr>
<td>SD</td>
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<tr>
<td>(5) Muscle discrepancy</td>
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<td>(6) Body mass index</td>
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Note: N = 159; DMS = Drive for Muscularity Scale.  
* p < .05.  
** p < .001.
Waldorf, M., Cordes, M., Voiks, S., & McCreary, D. (2014). “Ich wünschte, ich wäre muskulöser”: Eine teststatistische Überprüfung der deutsfsprachigen Fassung der Drive for Muscularity Scale (DMS) [I wish that I were more muscular]: A psychometric analysis of the German version of the Drive for Muscularity Scale]. Diagnostica, 60, 140–152. http://dx.doi.org/10.1026/0012-1924/a000106