

Analysis of the silhouettes validated for the female brazilian population

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According to Schilder (1999), body image may be understood as the image of our body in our mind. However, the same author says that body image is not tied only to mental, aspects for it is a multifaceted construct formed by physiological, libidinal and social aspects.

For many years, research on body image was tied to the phenomenon of eating disorders such as anorexia and bulimia, which for the most part moves the focus of the studies to females (McCabe & Ricciardelli, 2004; Pickett, Lewis, & Cash, 2005), especially focused on the relationship existing between body image and image disorders.

Body dissatisfaction may be defined as a discomfort that the individual feels regarding some aspect of his or her appearance (Garner & Garfinkel, 1981). However, in women, dissatisfaction has been described as a present phenomenon in which the search for the ideal shape is related to weight loss, that is, the search for a body considered thin (McCabe & Ricciardelli, 2004).

According to Gardner & Boice (2004) the silhouette scale is one of the most widely used tools in the assessment of body satisfaction. Nevertheless, in Brazil, we count on a scarce number of questionnaires and tools to assess the dimensions of body image, which increases the importance of the adaptation and creation of new tools (Campana & Tavares, 2009). Kakeshita, Silva, Zanatta and Almeida (2009), and Scagliusi et al. (2006) have cooperated in the field of study on body image when they built and validated silhouette scales for the Brazilian female population.

According to Beaton, Bombardier, Guillemin and Ferraz (2002), the process of questionnaire adaptation for a new country, culture and/or language is an extremely relevant process to maintain the equivalence to the original tool. The authors stress that the importance of verifying the validity and the reliability of

the tool, taking into account the fact that the tool accurately measures what it proposes to.

In order to do so, this study aimed to verify the correlation between body satisfaction assessment tools for females through two different silhouette scales in a population of physically active women.

This paper is in accordance with Resolution 196/96 of the National Health Council, and is approved by the Ethics Committee of Research with Human Beings of the Federal University of Juiz de Fora - MG, Brazil, under number 1928.272.2009.

The Silhouette Scale for Adults (SSA) (feminine version) was created and validated for use in the Brazilian population by Kakeshita et al. (2009) and by the Stunkard Silhouette Scale (SSS), adapted and validated by Scagliusi et al. (2006) for use in adult Brazilian women. The Silhouette Scale for Adults is composed of 15 figures which range from a very thin to a very fat body. The scale is presented to the subject who must first choose the figure which best represents his/her current size. Soon after, the scale is shown to the subject again and he/she must choose the figure which best represents what he/she would like to look like. Body satisfaction is calculated according to the discrepancy between the ideal scale and the real scale. The tool analysis had a positive correlation for the actual BMI and the BMI of the figure chosen as current for adults ($r=0.84$; $p<0.01$) through the concurrent validity and the validity of the tool.

Stunkard's Silhouette Scale possesses characteristics which are very close to the SSA when it comes to the dissatisfaction score application and analysis technique. It is composed of 9 figures of silhouettes. During the process of validation Spearman's rank correlation coefficients of 0.76 ($p<0.0001$) were found between the BMI of the figure chosen as current and the actual BMI, besides demonstrating a statistically significant difference in body satisfaction when a clinical population was compared to a non-clinical population, which attests to the validity of the tool.

The sample of this study was composed of adult women who practice regular physical exercise in a gym in the city of Juiz de Fora, MG, Brazil.

Women over 18 years old who went to gyms in downtown Juiz de Fora – MG, Brazil, at least three times a week for a minimum of six months in a row,

regularly practicing the same kind of workout sessions, as well as those who volunteered to participate in the study, were included in it. Women who did not meet all inclusion criteria were excluded from the sample.

The women who do physical exercise were approached when entering the gym and invited to participate in the study. The women who agreed to participate in the study were invited to come back at a scheduled time for data collection. On the day of the data collection those interviewed were given the Free and Clarified Consent Term and, after signing it, their heights and BMI were measured and the silhouette scales were filled in.

The characterization of the sample was described in terms of averages and standard deviation. For the correlation between the actual BMI and the one corresponding to the silhouette marked as current, as well as for the correlation between the satisfaction levels of the tools, the Pearson correlation was used, with significance level of $p < 0.05$. The actual BMI data were correlated with the level of body dissatisfaction obtained on both scales. All data were analyzed through the Statistica software, version 8.0.

Twenty-nine women between 18 and 81 years of age, with an average age of 36.03 ($\pm 15,426$) and average BMI of 23,17 ($\pm 3,626$) participated in the study. The correlation between the actual BMI and the body dissatisfaction measured through the SSA and the SSS was statistically significant ($p < 0.05$), with values of $r = -0.61$ e $r = -0.62$, respectively. These data suggest that women with a lower BMI present higher scores in body satisfaction.

The analysis of the correlation of the scores of body dissatisfaction performed through the Pearson correlation and obtained by means of the two silhouette scales also proved statistically significant, with $r = 0.84$, showing that both silhouette scales assess body dissatisfaction in a very similar way.

According to Gardner and Jappe (2009), in order to validate the silhouette scale, one expects the existence of a correlation between the individual's actual BMI and the BMI corresponding to the figure chosen as the current one, which would attest to the concurrent validity of the tool. In our study, we were able to find a high correlation between these variables, which demonstrated the concurrent validity of both instruments.

Our data point to the fact of the convergence of the two silhouette scales validated for the Brazilian feminine population. In other words, both instruments

converge to the assessment of the same construct, which is the assessment of body dissatisfaction. That is an important fact due to the scarcity of body image assessment tools for the Brazilian population.

Campana and Tavares (2009) stress the importance of the adaptation and validation of internationally recognized tools for use in Brazil. Also, they project a growth in the number of new validated tools for that end, expecting the need for further studies on body image.

This study points to the existence of a strong relationship between the tools tested, confirms the concurrent validity of the tools, besides confirming the fact that people with a higher BMI present greater body dissatisfaction. We suggest that further studies point to the correlations existing between the different body image assessment tools for the Brazilian population.

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