OBJECTIVE: To analyze Brazilian literature on body image and the theoretical and methodological advances that have been made.

METHODS: A detailed review was undertaken of the Brazilian literature on body image, selecting published articles, dissertations and theses from the SciELO, SCOPUS, LILACS and PubMed databases and the CAPES thesis database. Google Scholar was also used. There was no start date for the search, which used the following search terms: “body image” AND “Brazil” AND “scale(s)”; “body image” AND “Brazil” AND “questionnaire(s)”; “body image” AND “Brazil” AND “instrument(s)”; “body image” limited to Brazil and “body image”.

RESULTS: The majority of measures available were intended to be used in college students, with half of them evaluating satisfaction/dissatisfaction with the body. Females and adolescents of both sexes were the most studied population. There has been a significant increase in the number of available instruments. Nevertheless, numerous published studies have used non-validated instruments, with much confusion in the use of the appropriate terms (e.g., perception, dissatisfaction, distortion).

CONCLUSIONS: Much more is needed to understand body image within the Brazilian population, especially in terms of evaluating different age groups and diversifying the components/dimensions assessed. However, interest in this theme is increasing, and important steps have been taken in a short space of time.

DESCRIPTORS: Body Image. Scales. Questionnaires. Evaluation, methods. Review.
INTRODUCTION

Internationally, research on body image dates back to the 1900s, with studies of “ghost limbs” by neurologists who described the subject as “body scheme.” In 1935, Schilder used a biopsychosocial approach to investigate body image, with emphasis on the need to consider the neurological, psychological, and sociocultural aspects of the construct. Recently, studies in several areas of this field have advanced, mainly in psychology.

In Brazil, the issue of body image has received attention in the past three decades, with changes in the sociopolitical, cultural, and epidemiological contexts.

Goldenberg (2010) stated that the Brazilian population glorifies the body, which must be in conformity with certain aesthetic standards. In Brazil, the body plays a fundamental role in people’s lives to achieve social ascension and develop successful relationships. Brownell (2012), in the foreword to the Encyclopedia of Body Image and Human Appearance, reported that billions of dollars are invested and spent on physical appearance worldwide. This book includes articles that discuss such costs by mentioning the pharmaceutical and cosmetic industries, gyms, food products, and nutritional supplements. The relationship between these investments and health improvements is also discussed.

These facts are especially true in Brazil, and global research conducted with 3,200 women from 10 different countries attests to this affirmation. In this study, Brazilians had the highest prevalence of stating that beauty increases opportunities in life (66.0%). Additionally, more than a half of all women in Brazil have already considered having cosmetic surgery, and

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Etcoff N, Orbach S, Scott J, D’Agostino H. The real truth about beauty: a global report. Findings of the global study on women, beauty and well-being. Toronto: Unilever Canada; 2004 [cited 2013 May 5]. Available from: http://www.campaignforrealbeauty.ca/uploadedFiles/dove_white_paper_final.pdf
7.0% reported having undergone some kind of cosmetic procedure – the highest of all countries surveyed. Brazil was also the world’s largest consumer of weight-loss medications per capita.

In the present sociocultural context, in which physical appearance is highly valued and investments have increased at all levels, studying and understanding body image issues, such as what body image represents, what its perception means, and the magnitude of its effects on people’s behavior is essential.

The aim of this study was to analyze the Brazilian literature on body image and the theoretical and methodological advances achieved.

METHODS

A detailed review was undertaken of the literature on body image in Brazil, guided by two key questions: what is the current situation of body image research in Brazil in theoretical and methodological terms? And what form do advances in knowledge of the area take?

Conceptualization of the body image construct

Body image today is recognized as “how people experience their own embodiment, especially, but not exclusively, their physical appearance characteristics, including their physical functional competencies and biological integrity.” It integrates components related to physical appearance, such as the mental representation of one’s own size, shape, and facial features, and attitudes about appearance, such as cognition, feelings, and behaviors. The attitudinal component has been approached in two dimensions: one dimension that assesses body image relative to body satisfaction or dissatisfaction and beliefs about the body and another dimension regarding the cognitive, behavioral, and emotional importance that one places on their own body.

Considering the cognitive-behavioral model that is assumed to be the body image concept presented above, determining which body image component, perceptual or attitudinal, will be assessed is essential to the choice and use of suitable instruments.

Methodological considerations about body image research

Experts have drawn attention to the importance of a strict research methodology for reliable advances of knowledge and published several recommendations. Thompson (2004) highlighted not only the determination of the specific body image component to be investigated and its suitable instrument but also several other recommendations, such as (1) the use of several measurements (especially in exploratory studies), (2) the use of tools that have had their reliability and validation tested for the studied sample, (3) evaluation of the reliability and validation for the studied sample, (4) adapting measurement tools to the objectives of the study with authorization from the authors of the original work, (5) determination of whether the use of such tools is recommended to measure an aspect or feature of body image, such as body image exposition in the media or immediate body image state (experience), and (6) indications for clinical contexts with prior and post use and a particular intervention. Another recommendation refers to carefully determining the application protocol because it may have affective or cognitive (i.e., rational or intellectual) features or characteristics that should comply with the aim of the study. Finally, Thompson recommended considering the participants’ peculiarities for the analysis and interpretation of the results by evaluating the data using normal and clinical statistical tests.

The translation and adaptation of psychometric instruments and their use have well-established guidelines in Brazil and abroad. According to the Standards for Educational and Psychological Tests, the adaptation process for an existing instrument must follow the same steps as for the development of new instruments. Adaptation implies accuracy, validation, and standardization or rules, including translation, equivalence to other sociocultural realities, and appropriate conventions.

Considering the present scenario of globalization and the growing importance of transcultural research, providing suitable adaptations or developing psychometric instruments for body image evaluation is essential in the Brazilian context so that the obtained results are consistent and ensure higher international visibility of body image research in Brazil.

Although a plethora of tools exist worldwide for the assessment of body image, researchers who are interested in this field of study in Brazil have faced difficulties because of the limited number of instruments available in the country. We performed extensive research to identify the tools that are being developed or adapted to our population using the following databases: SCOPUS,
LILACS, SciELO, PubMed, Medline, and the CAPES thesis database. We also evaluated the publications that were available using Google Scholar. We used the keywords “body image” AND “Brazil” AND “scale(s)”; “body image” AND “Brazil” AND “questionnaire(s)”; and “body image” AND “Brazil” AND “instrument(s)”. The survey was conducted in January/February 2013, and we did not stipulate date limits in any of the databases consulted. The first tool was published in 2002, and the latest tool was published in 2013.

We selected only published/accepted studies (articles and theses/dissertations) and included three types of instruments: (1) those that were developed in Brazil, (2) those for which only translation was performed, and (3) those that were translated and had at least some psychometric characteristics tested.

The decision to describe not only the scales/questionnaires that presented good psychometric data was made based on the purpose of discussing recent advances in this field in Brazil. Although not all of the instruments cited herein were appropriate because of the poor results obtained in the validation process, in the past five years, researchers have been engaged in supplying measures that could be used in the Brazilian population. Additionally, this survey may serve as a reference for those interested in this topic because it described instruments that still needed to be tested or required reformulation.

The availability of instruments in the country is directly reflected by the number of studies conducted here and also by the type of investigation. To evaluate the current scenario of such research in Brazil, we performed a detailed survey of the following databases: SciELO (keyword: “body image” limited to Brazil), SCOPUS (keyword: “body image” limited to Brazil), and the CAPES thesis databases (keyword: “imagem corporal”). Again, we did not stipulate date limits in any of the databases consulted, so we used the full search range that the databases offered until 2012. The first publication found was in 1987.

RESULTS AND DISCUSSION

At the end of our search, we found 44 measures: 10 were developed in the country (Table 1), four were only translated to Brazilian Portuguese (Table 2), and 30 were both translated and tested (Table 3). The tables present the names of the instruments, the authors responsible for them, the components assessed, a brief description of their composition, the steps that were performed in the validation process, and the sample in which the instrument was applied. The psychometric results obtained from the tested measures are not presented herein because it was not our intention to characterize each of them but rather to indicate the attempts to provide assessment tools.

Three important considerations must be made with regard to the results. The first consideration is related to the availability of the measures for each sex. We found nine instruments that were to be used exclusively with men, 15 that were to be used only with women, and 20 that could be applied for both sexes. Notably, the instruments that were able to assess body image in men were published in the past five years. According to Thompson et al (2012), when an instrument was not developed exclusively for males, its reliability and validity may be doubtful when used with men. Several measures that can theoretically be applied for both men and women include items that are more relevant to females (e.g., the Body Shape Questionnaire). Today, tools that were designed for men are available and take into account issues related to masculinity. Therefore, even when a measure is suitable for both sexes, using different instruments for males and females is necessary.

The second consideration refers to the number of instruments proposed or adapted to different age groups. Although the majority of assessment tools were intended to be used in college students, only two instruments were found for the evaluation of children, and three could be applied in middle-aged women. Notably, the adaptation of scales and questionnaires to be used in adolescents has grown fast in the last five years. Importantly, assessments must be sex- and age-appropriate for the intended sample. Therefore, measures that were developed for certain groups may not be appropriate for use in other samples. With regard to that reservation, studies with older men, for example, still cannot be conducted in Brazil. This is important because many researchers have been testing specific samples using measures that were adapted or validated for different groups. This strategy assuredly produces doubtful results that should be analyzed with caution. Body image is largely known to change over the years, so instruments designed to assess it in different age groups must consider important aspects of the construct within several stages of life. Moreover, the cognitive skills and ability to understand what is being asked vary with age and should be considered in studies of body image.

The third consideration is related to the great discrepancy in the number of measures available to assess different components of body image. Half of them (n = 22) were able to evaluate satisfaction/dissatisfaction with the whole body or parts of it. Seven could be used to examine body image perception (of these, only two were exclusively perceptive measures). Eight assessed the cognitive component. Six evaluated the behavioral component, and four assessed affective aspects of the construct. Notably, the great majority of instruments that assess these last dimension/components have appeared in the Brazilian context during the last five years, a fact that could have caused difficulty in studying them.
Table 1. Measures of body image developed in Brazil.

| Instrument | Author/Year | Component | Evaluation | Description | Psychometric measure | Sample |
|------------|-------------|-----------|------------|-------------|----------------------|--------|
| **Children** |             |           |            |             |                      |        |
| Escala de Silhuetas | Kakeshita IS. (2008) | Perceptive satisfaction | Perception of actual silhouette and whole body satisfaction in individuals from 7 to 12 years old | 11 figures of each sex, ranging from 12 to 29 kg/m², with a constant difference of 1.7 kg/m² | Content and criterion validities and test-retest reliability | 160 children (94 ♀ and 66 ♂) |
| Escala de Silhuetas de adultos de Kakeshita | Laus et al (2013) | Perceptive satisfaction | Perception of actual silhouette, whole body satisfaction, and ideal silhouette for the same sex and opposite sex in individuals older than 18 years old | 15 figures of each sex, ranging from 12.5 to 47.5 kg/m², with a constant difference of 2.5 kg/m² | Construct validity and test-retest reliability | 112 adolescents from 14 to 17 years old (55 ♀ and 57 ♂) |
| **Adolescents** |             |           |            |             |                      |        |
| Instrumento de Avaliação da Satisfação com a Imagem Corporal | Ferreira & Leite (2002) | Satisfaction | Degree of overall body satisfaction | 25 items in two factors: satisfaction with appearance and weight concern | Factorial analysis, internal consistency, and concurrent validity | 277 undergraduates (♀) |
| Escala de Medida da Imagem Corporal | Souto & Garcia (2002) | Perceptive | Body image disturbances in nursing practice | 23 items in three factors: body reality, body ideal, and body presentation | Analysis of construct, content and discriminant validities, and reliability | 375 undergraduates (♀) |
| Escala de Silhuetas | Kakeshita IS. (2008) | Perceptive satisfaction | Perception of actual silhouette, whole body satisfaction, and ideal silhouette for the same sex and opposite sex in individuals older than 18 years old | 15 figures of each sex, ranging from 12.5 to 47.5 kg/m², with a constant difference of 2.5 kg/m² | Content and criterion validities and test-retest reliability | 280 adults (138 ♀ and 142 ♂) from 18 to 59 years old |
| Escala de Silhuetas para Avaliação da Imagem Corporal de Fisiculturistas | Castro et al (2011) | Perceptive | Perception of actual silhouette | 7 figures, ranging from 24.1 to 35.6 kg/m² | Inter-evaluator reliability | 20 bodybuilders (♀) |
| Escala Situacional de Satisfação Corporal (ESSC) | Hirata & Pilati (2010) | Satisfaction | Body satisfaction, ranging from parts to overall body at the exact moment of its application | 28 items in four factors: lower parts, muscle and satisfaction, external parts, and fat and dissatisfaction | Factorial analysis and construct validity | 451 undergraduates (200 ♀ and 251 ♂) |
| Escalas de Silhuetas Tridimensionais (EST) para o deficiente visual | Morgado (2009) | Satisfaction | Body satisfaction in congenitally blind subjects | 9 male silhouettes and 9 female silhouettes made with plaster | Content and construct validities, internal reliability, reliability | 8 ♂ and 8 ♀ blind individuals from 24 to 50 years old (content validity) |
| Escalas Brasileiras de Normatização e Internalização de Normas Corporais | Hirata et al (2012) | Cognitive | Internalization of social norms about appearance and behavioral intentions to achieve the current standard of beauty | Female scale: 22 items in two factors: general internalization and behavioral intention Male scale: 28 items in two factors: general internalization and behavioral intention | Factorial analysis | 960 adults (691 ♀ and 269 ♂) - studies 1 and 3 451 undergraduates (251 ♀ and 200 ♂) - study 2 |
| Escala de Avaliação do Transtorno Dismórfico Corporal (EA-TDC) | Ramos & Yoshida (2012) | Affective | Intensity of concern and suffering with a defect in appearance and impairment in social, occupational, and other important areas of functioning | 28 items in one factor | Factorial analysis, internal consistency, and criteria validity | 30 patients with Body Dysmorphic Disorder (21 ♀ and 9 ♂) 400 undergraduates (298 ♀ and 102 ♂) |

*a* Kakeshita IS. Adaptação e validação de escalas de silhuetas para crianças e adultos brasileiros [tese de doutorado]. Ribeirão Preto: Universidade de São Paulo; 2008.

*b* Morgado FFR. Validação e confiabilidade de uma escala de silhuetas tridimensionais para o cego congênito [dissertação de mestrado]. Juiz de Fora: Universidade Federal de Juiz de Fora; 2009.
Nevertheless, despite the disparities mentioned above, progress is undeniably being made in providing tools to assess body image in the Brazilian population. Since 2002, the number of instruments proposed in the country increased from two to 41, showing the advances that are occurring in this area of study.

**Current scenario of research on body image in Brazil**

Figure A describes the results of this survey and the course of the research in the past decades in the country. The number of academic investigations was five-times higher between 2001 and 2011 (387 dissertations/theses) compared with 1987-2000 (71). Similarly, the number of papers published in peer-reviewed journals indexed in SciELO (Figure B) increased from three (1990-2000) to 152 (2001-2012), and the number of papers in SCOPUS (Figure C) increased from 13 to 308 during the same time.

Although the amount of research has increased rapidly, disparities still exist with regard to sex, age, and the component or dimension assessed. Although some of these discrepancies may be explained by the availability of measures for specific groups in Brazil, others contradict this reality. First, the majority of investigators target the female population, irrespective of age. Although some of these measures were created specifically for men, others were adapted for use with men. In all of the databases consulted, the number of studies that explored the female sex was almost twice as large than those that included men. As mentioned above, only during the last five years have researchers concentrated their efforts on creating or adapting measures that can be used with men; however, even recent publications continued to have women as the object of study.

Second, disproportions were also observed concerning the age of the participants. In all of the databases consulted, adolescents were the target population most often evaluated, followed by undergraduates. Studies with children and older people have also been conducted, but they were notably less frequent. This is important when we consider that measures that have this age group as the target population started to be adapted only in 2009. Thus, several studies published before this date had used non-validated instruments. Moreover, studies with children and older people were mostly conducted using non-validated instruments.

Third, Brazilian researchers have been concentrating their efforts on the evaluation of aspects related to global satisfaction. Indeed, the results from our survey showed that (dis)satisfaction is undeniably the most assessed component in all of the databases consulted, whereas the perceptual dimension and cognitive, behavioral, and emotional components of body image have been neglected. In this sense, data from studies within the Brazilian population are only able to provide evidence that dissatisfaction with the whole body or parts of it have become a common

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* Fernandes AER. Avaliação da imagem corporal, hábitos de vida e alimentares em crianças e adolescentes de escolas públicas e particulares de Belo Horizonte [dissertação de mestrado]. Belo Horizonte: Universidade Federal de Minas Gerais; 2007.
Table 3. Measures of body image translated and tested in the Brazilian population.

| Instrument                                      | Author/Year          | Component | Evaluation                                      | Description                                                                 | Psychometric measure                                                                 | Sample                           |
|------------------------------------------------|----------------------|-----------|------------------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------|
| Eating Behaviours and Body Image Test (EBBIT)  | Galindo & Carvalho   | Satisfaction | Symptoms that indicate possible eating behavior disorders | 42 items in two factors: body image dissatisfaction and food restriction, and binge eating | Translation, factorial analysis, and internal consistency                           | 261 ♀ from 9 to 12 years old     |
| Adolescents                                     |                      |           |                                                |                                                                            |                                                                                      |                                  |
| Body Area Scale (BAS)                           | Conti et al          | Satisfaction | Degree of personal satisfaction or dissatisfaction with one's weight and with different body areas | 24 body parts                                                               | Translation, internal consistency, construct validity, and reproducibility           | 386 adolescents (208 ♀ and 178 ♂ from 10 to 17 years old) |
| Escala de Evaluación de Insatisfacción Corporal | Conti et al          | Satisfaction | Body dissatisfaction in adolescents            | 32 items regarding frequency of behaviors related to body care, body awareness, and social and family influence | Translation, internal consistency, factor analysis, construct, discriminant, and concurrent validities, and reproducibility | 386 adolescents (208 ♀ and 178 ♂ from 10 to 17 years old) |
| Body Shape Questionnaire (BSQ)                  | Conti et al          | Satisfaction | Concern regarding body shape and weight, particularly the frequency with which individuals with or without eating disorders experience a sensation of "feeling fat" | 34 items related to situations over the preceding 4 weeks                     | Internal consistency, discriminate and concurrent validities, and reliability         | 386 adolescents (208 ♀ and 178 ♂ from 10 to 17 years old) |
| Escala de Silhueta para Adolescentes            | Conti & Latorre      | Perceptible satisfaction | Perception and body shape dissatisfaction | 18 figures (9 of each sex)                                               | Validity construct and reproducibility                                               | 386 adolescents (208 ♀ and 178 ♂ from 10 to 17 years old) |
| Questionário de Imagem Corporal após o câncer de mama | Souza               | –          | Assess the body image of women affected by breast cancer who underwent surgery for resection, with total or partial loss of the breast in the process | 47 items in two factors for the scale of agreement (defectiveness and positive body image) and two for the frequency range (concern with illness and physical capacity, and perception of defect by others) | Factor analysis and reliability                                                     | 268 patients ♀ from 28 to 80 years old              |
| Body Image Scale - Offer Self-Image Questionnaire (OSIQ) | Conti et al          | Cognitive   | Awareness of self-image                       | 7 items                                                                  | Internal consistency, discriminate and concurrent validities, and reliability         | 386 adolescents (208 ♀ and 178 ♂ from 10 to 18 years old) |
| Figure Rating Scale for adolescents adapted by Childress, Brewer, Hodges, & Jarrel (1993) | Adami et al          | Satisfaction | Body shape dissatisfaction                    | 8 figures representing a range of body shapes, ranging from very slim (contour 1) to obese (contour 8) | Construct validity                                                               | 232 adolescents (106 ♀ and 126 ♂ from 10 to 19 years old) |
### Adults

| Measure                                      | Authors                                          | Domain                      | Description                                                                 | Sample Size | Notes |
|----------------------------------------------|--------------------------------------------------|-----------------------------|-----------------------------------------------------------------------------|-------------|-------|
| Body Attitudes Questionnaire (BAQ)           | Scagliusi et al.                                 | Affective                   | Body image attitudes (feelings and emotions women have about their bodies)  | 44 items    |       |
| Stunkard's Figure Rating Scale               | Scagliusi et al.                                 | Perceptive satisfaction     | Perception of the actual size and satisfaction with the whole body          | 9           |       |
| Body Checking Questionnaire (BCQ)            | Campana                                         | Behavioral                  | Frequency of body checking behaviors                                       | 12          |       |
| Body Image Avoidance Questionnaire (BIAQ)    | Campana                                         | Behavioral                  | Frequency of body image avoidance behaviors                                | 13          |       |
| Body Investment Scale (BIS)                  | Gouveia et al.                                   | Affective                   | Emotional investment in the body                                           | 20          |       |
| Body Dysmorphic Disorder Examination (BDDE)  | Jorge et al.                                     | Satisfaction                | Degree of dissatisfaction relating to a given physical feature in patients who underwent plastic surgery | 34          |       |
| Muscle Appearance Satisfaction Scale (MASS)  | Silva Junior et al.                              | Satisfaction                | Satisfaction with muscular appearance                                       | 19          |       |
| Body Shape Questionnaire (BSQ)               | Di Pietro & Silveira                            | Satisfaction                | Concern regarding body shape and weight, particularly the frequency with which individuals with or without eating disorders experience the sensation of “feeling fat” | 34          |       |

*Notes:*
- ’♀’ denotes female participants.
- ’♂’ denotes male participants.
- ’and’ denotes both male and female participants.
- ’and Test-retest reliability’ denotes test-retest reliability.
- ’Concurrent and discriminate validities’ denotes concurrent and discriminate validities.
- ’Translation, factorial analysis, construct validity, and reliability’ denotes translation, factorial analysis, construct validity, and reliability.
- ’Translation, internal consistency, intra- and inter-observer reliability, and construct validity’ denotes translation, internal consistency, intra- and inter-observer reliability, and construct validity.
- ’Translation, factorial analysis, internal consisteny’ denotes translation, factorial analysis, internal consisteny.
- ’Translation, semantic evaluation, factorial analysis, internal consisteny’ denotes translation, semantic evaluation, factorial analysis, internal consisteny.
- ’Translation, factorial analysis, construct validity, and reliability’ denotes translation, factorial analysis, construct validity, and reliability.
- ’Translation, discriminant and convergent validities, and test-retest reliability’ denotes translation, discriminant and convergent validities, and test-retest reliability.
- ’39 ♀ with eating disorders and 62 undergraduates (♀)’ denotes 39 female with eating disorders and 62 female undergraduates.
- ’98 undergraduates (♀) and 16 bulimic (♀)’ denotes 98 female undergraduates and 16 female bulimics.
- ’561 undergraduates (♀)’ denotes 561 female undergraduates.
- ’317 ♀ from 15 to 58 years old’ denotes 317 female participants from 15 to 58 years old.
- ’60 patients (52 ♀ and 8 ♂) - cultural equivalence’ denotes 60 patients (52 female and 8 male) with cultural equivalence.
- ’30 preoperative patients (♀) from a plastic surgery clinic - validity and reliability’ denotes 30 preoperative female patients from a plastic surgery clinic with validity and reliability.
- ’200 ♂ who practice bodybuilding’ denotes 200 male participants who practice bodybuilding.
- ’164 undergraduates (93 ♂ and 71 ♀)’ denotes 164 undergraduate students (93 male and 71 female)
| Sociocultural Attitudes Towards Appearance Questionnaire-3 (SATAQ-3) | Socio-Cultural Attitudes Towards Appearance Questionnaire-3 (SATAQ-3) | Cognitive | Media influence on body image. Evaluates the acceptance and knowledge of models imposed by social norms about attractiveness | 30 items in five subscales: internalization-general, internalization-athletic, pressures, information, and reverse score items | Translation, internal consistency, factorial analysis, reliability, and convergent validity | 60 undergraduates (30 ♂ and 30 ♀) - verbal comprehension, 86 undergraduates (40 ♂ and 46 ♀) - internal consistency, 587 undergraduates (211 ♂ and 295 ♀) - psychometric data |
|---|---|---|---|---|---|---|
| Body Image Quality of Life Inventory (BIQLI) for burn patients | Body Image Quality of Life Inventory (BIQLI) for burn patients | – | Positive or negative impact of body image on individuals’ quality of life. It quantifies how a person’s body image experiences affect a broad range of life domains, including sense of self, social functioning, sexuality, emotional well-being, eating, exercise, grooming, etc. | 19 items in one factor | Translation, factorial analysis, construct validity | Patients from 18 to 62 years old from a burn treatment unit at a public hospital, 4 patients - semantic analysis, 4 patients - pretest, 77 patients (43 ♀ and 34 ♂) - construct validity |
| Body Appreciation Scale (BAS) | Body Appreciation Scale (BAS) | Satisfaction | Positive body image exclusively in men | 9 items in one factor | Translation, factorial analysis, reliability, and discriminant and convergent validities | 878 ♂ from 18 to 39 years old with different schooling degrees |
| Body Esteem Scale (BES) | Body Esteem Scale (BES) | Satisfaction | Satisfaction of individuals in relation to their body and appearance | 35 items in five factors: satisfaction with musculature, satisfaction with adiposity, satisfaction with body functions, satisfaction with face appearance, and satisfaction with body appearance | Translation, factorial analysis, reliability, and discriminant and convergent validities | 878 ♂ from 18 to 39 years old with different schooling degrees |
| Social Physique Anxiety Scale (SPAS) | Social Physique Anxiety Scale (SPAS) | Affective | Degree of anxiety that a person experiences when others are watching and evaluating his/her body and anxiety caused by the expectation that this external evaluation happens | 10 items in one factor | Translation, factorial analysis, reliability, and discriminant and convergent validities | 878 ♂ from 18 to 39 years old with different schooling degrees |
| Drive for Muscularity Scale (DMS) | Drive for Muscularity Scale (DMS) | Behavioral | Extent to which men desire to have a more muscular body and act upon that desire | 12 items in two factors: orientation to muscularity and behaviors to become strong | Translation, factorial analysis, reliability, and discriminant and convergent validities | 878 ♂ from 18 to 39 years old with different schooling degrees |
| Swansea Muscularity Attitudes Questionnaire (SMAQ) | Swansea Muscularity Attitudes Questionnaire (SMAQ) | Cognitive | Men’s concerns about their muscles, desire to be muscular, and bodybuilding behavior | 15 items in three factors: investment, value given to muscularity, and masculinity and muscularity | Translation, factorial analysis, reliability, and discriminant and convergent validities | 878 ♂ from 18 to 39 years old with different schooling degrees |
| Instrument                                      | Gender | Age Range | Description                                                                                                                                                                                                 | Validation Studies |
|------------------------------------------------|--------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Masculine Body Ideal Distress Scale (MBIDS)    |        |           | Degree of anxiety of a man for not having a body that meets the standards of beauty.                                                                                                                       | Campana et al. (2011) |
| Body Checking and Avoidance Questionnaire (BCAQ) |        |           | Evaluation of body checking behaviors in subjects with and without eating disorders.                                                                                                                        | Kachani et al. (2011) |
| Body Appreciation Scale (BAS)                  |        |           | Positive body image.                                                                                                                                                                                        | Swami et al. (2011)  |
| Sociocultural Attitudes Towards Appearance Questionnaire-3 (SATAQ-3) |        |           | Media influence on body image. Evaluates the acceptance and knowledge of models imposed by social norms about attractiveness.                                                                              | Swami et al. (2011)  |
| Body Esteem Scale (BES)                        |        |           | Satisfaction of individuals in relation to their body and appearance.                                                                                                                                     | Caetano (2011)      |
| Body Shape Questionnaire (BSQ)                 |        |           | Concern regarding body shape and weight, particularly the frequency with which individuals with or without eating disorders experience a sensation of "feeling fat".                                         | Caetano (2011)      |
| Body Appreciation Scale (BAS)                  |        |           | Positive body image.                                                                                                                                                                                        | Caetano (2011)      |

*Souza VC. Validade e fidedignidade da versão brasileira do questionário imagem corporal após o câncer de mama [dissertação de mestrado]. Uberlândia: Universidade Federal de Uberlândia; 2010.
*Campana ANNB. Tradução, adaptação transcultural e validação do "Body Image Avoidance Questionnaire (BIAQ)" e do "Body Checking Questionnaire (BCQ)" para a língua portuguesa no Brasil [dissertação de mestrado]. Campinas: Universidade Estadual de Campinas; 2007.
*Assunção FFO. Body Image Quality of Life Inventory - BIQLI: adaptação para o português e validação para pacientes brasileiros, vítimas de queimaduras [dissertação de mestrado]. Ribeirão Preto: Universidade de São Paulo; 2011.
*Campana ANNB. Relações entre as dimensões da imagem corporal: um estudo em homens brasileiros [tese de doutorado]. Campinas: Universidade Estadual de Campinas; 2011.
*Caetano AS. Tradução, adaptação cultural e estrutura fatorial do Body Shape Questionnaire, Body Esteem Scale e Body Appreciation Scale para mulheres brasileiras na meia-idade [tese de doutorado]. Campinas: Universidade Estadual de Campinas; 2011.
feature in the country, regardless of sex and age. These studies showed that dissatisfaction affected approximately 60.0%-83.0% of children, 60.0%-80.0% of adolescents, 60.0%-87.0% of adults and 55.0%-73.0% of the older adults. Notably, the results have been consistent with regard to showing that body image disturbances are more frequent in females. Nevertheless, although this research was conducted with men, these studies utilized instruments that were not the most appropriate because they focused on thinness and body fat instead of muscularity, as recommended by Cash & Smolak (2011). In Brazil, few scales or questionnaires have been developed with such characteristics.

In the last decade, some specific groups have gained attention in the Brazilian context. One example is athletes. Several research groups have substantially increased their number of publications concerning this particular population. Moreover, individuals with various clinical conditions have also been investigated. Since the beginning of the 2000s, body image began to be explored in patients with rheumatoid arthritis, cancer, visual disability, physical disability, human immunodeficiency virus/autoimmune deficiency syndrome, Parkinson’s disease, obesity and bariatric surgery, burns and pregnancy.

After much reflection about the data obtained from this survey and in an attempt to understand the reasons for the lack of important information concerning certain groups, the most plausible explanation we found relies on the availability of instruments. As already exemplified in the case concerning studies conducted with men and women, researchers have faced difficulties assessing several aspects of body image in vast age ranges and physical and mental conditions because of the limited number of instruments available in the country. Moreover, a considerable number of the studies analyzed used tools that may not be entirely suitable for the target population.

Another necessary consideration is the common mistake made by Brazilian researchers with regard to the dimension/component assessed. When studying body image, researchers must acknowledge that this is a multidimensional construct. We noticed that much confusion still exists in the use of appropriate terms (e.g., studies that assessed body dissatisfaction but referred to it as body image perception). Knowledge of its definition and dimensions is essential when selecting appropriate measures. Thus, the results from several published studies should be analyzed with caution.

Future directions

Despite the progress that has been made in the past several years, the actual state of knowledge about...
body image in Brazil is still far from what is known in more developed countries, especially the United States, Australia, and some European countries. Researchers in these advanced centers of study are seeking to understand this theme in fairly diverse populations, develop several new assessment instruments, identify risk and protective factors in body image disturbances, and improve prevention and treatment strategies. Furthermore, in addition to the sociocultural elements that are already well known to influence the development of body image, several new perspectives are being proposed to understand this multidimensional construct. Behavioral and molecular genetic studies have been conducted to identify factors other than psychological ones related to increased susceptibility to poor body image. Similarly, neuroimaging techniques are being applied to explore specific areas of the brain that may be implicated in such disorders.

In Brazil, the study of body image is still in its infancy, and the initiative that is most prominent is providing assessment tools that are essential to advancing research in this area. Importantly, we noted that some specific groups are being studied extensively, whereas others are being relatively overlooked. One might think that this may be attributable to the lack of instruments available, but the tools that have been developed or adapted do not focus on these ignored groups. Therefore, efforts must be made especially in this direction.

Appearance-related issues have pronounced importance in the Brazilian population. Body image has been taken into account in several surveys conducted by the Brazilian government (e.g., National Survey of Scholars Health), and the results have supported the Ministry of Health in planning and implementing health promotion because these evaluations have generated evidence to guide and estimate the impact of interventions to reduce the prevalence of risk factors.

CONCLUSIONS

By analyzing the current situation of body image research in Brazil, we may conclude that the majority of measures available are intended to be used in college students. Half of these instruments evaluate satisfaction/dissatisfaction with the whole body or parts of it. Females and adolescents of both sexes are the most studied population, and researchers have concentrated their efforts only on the assessment of body satisfaction. The advances that have been made in the field are mainly represented by the large increase in the number of available instruments. Nevertheless, many published studies have used non-validated instruments, with much confusion in the use of appropriate terms. In summary, much more is needed to understand body image in the Brazilian population, but interest in this theme is increasing, and important steps have been taken by scientists in the country.

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