Instrumentos de medida en la evaluación de la imagen corporal en el contexto de la danza: una revisión sistemática

Measurement tools in the assessment of body image in the dancing context: a systematic review

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Abstract

Introduction: Body image is the mental representation an individual makes about their body. In the dancing context, aesthetic is a significant factor, as body image is.
Objective: The aim of this systematic review was to identify which were the most used measuring tools for assessing body image in the dancing context, analyse them and conclude which ones were most suitable in this field.
Methodology: Following PRISMA guidelines, articles were gathered from Web of Science, Scopus and PubMed databases up to March 7th, 2023. Primary studies of any design and language were eligible if they assessed body image in adult dancers.
Results: Eighty-eight studies were included. In qualitative studies, in-depth interviews were the most common tool. In quantitative studies, more than thirty scales were identified, but only seventeen were found to be used at least twice, including silhouette scales and questionnaires. The Stunkard Scale was the most frequently used.
Discussion: Only two scales were found to be specifically designed for dancers and neither of them was commonly used in literature.
Conclusions: Stunkard Scale, in-depth interviews, Body Appreciation Scale and Body Shape Questionnaire are the most used instruments for assessing body image in dancers. Qualitative methods offer relevant information for the comprehension and exploration of body image. Quantitative methods are also useful, although silhouette scales offer a binary view of bodies and genders and should be reevaluated.

Keywords

Body image, body perception, body satisfaction, dance, instruments.

Resumen

Introducción: La imagen corporal es la representación mental que un individuo hace de su cuerpo. En el contexto de la danza, la estética es un factor relevante, así como la imagen corporal.
Objetivo: El objetivo de esta revisión sistemática fue identificar cuáles eran los instrumentos de medida más utilizados para evaluar la imagen corporal en el contexto de la danza, analizarlos y concluir cuáles eran los más apropiados en este campo.
Metodología: Siguiendo la lista de verificación PRISMA, se recuperaron artículos publicados en las bases de datos Web of Science, Scopus y PubMed hasta el 7 de marzo de 2023. Se incluyeron estudios primarios publicados en cualquier idioma en los que se evaluara la imagen corporal en personas bailarinas adultas.
Resultados: Ochenta y ocho estudios fueron incluidos. En los estudios cualitativos, las entrevistas en profundidad fueron el instrumento más utilizado. En los estudios cuantitativos, se identificaron más de treinta escalas, pero solo diecisiete de ellas se utilizaron en al menos dos estudios, incluyendo escalas de siluetas y cuestionarios. La escala de Stunkard fue la más frecuentemente usada.
Discusión: Se encontró que solo dos escalas habían sido diseñadas específicamente para personas bailarinas y ninguna de ellas se usa frecuentemente en la literatura.
Conclusiones: la escala de Stunkard, las entrevistas en profundidad, la Body Appreciation Scale y el Body Shape Questionnaire son los instrumentos más utilizados para la evaluación de la imagen corporal en personas que bailan. Los métodos cualitativos ofrecen información relevante para la comprensión y exploración de la imagen corporal. Los métodos cuantitativos también son útiles, aunque las escalas de siluetas ofrecen una visión binaria de los cuerpos y géneros, y deberían ser reevaluadas.

Palabras clave

Danza, imagen corporal, instrumentos, percepción corporal, satisfacción corporal.

Introduction

Body image is the mental representation an individual makes about their body, which includes the attitudes and self-perceptions about their appearance (Cash, 2012). Appearance in general, and body image in particular, have become determinant factors in contemporary occidental societies (Tiggemann, 2011). Many researchers have studied the effect of different variables over body image.

On the one hand, sociocultural variables are found like gender (Aimé et al., 2020; Franchina & Coco, 2018; Goonapienuwala et al., 2017; Guss et al., 2016), ethnicity and country (Fallon et al., 2014; Swami et al., 2009), sexuality (Alleva et al., 2018; Alvy, 2013; McClain & Peebles, 2016); economic status or professional, economic or academic success (Aimé et al., 2020; Jiménez Boraita et al., 2021); opinions from the environment and social media (Dogan et al., 2018; Heidelberger & Smith, 2018; Holmqvist & Frisén, 2012; Tiggemann & Zaccardo, 2016; Tylka & Wood-Barcalow, 2015a), eating-related factors (Argyrides & Kkeli, 2015; Estrada-Araoz et al., 2024; Requena-Pérez et al., 2015; Webb & Hardin, 2016) and physical activity practice (Bibiloni et al., 2017; Hartman-Munick et al., 2020; Sabiston et al. 2019).

On the other hand, there are individual-focused variables like age (Bibiloni et al., 2017; Swami et al., 2015; Tiggemann & McCourt, 2013), personality (Cumming & Duda, 2012; Ferreira et al., 2018; Wade & Tiggemann, 2013), mental health (Delfabbro et al., 2011; Irvine et al., 2019), changes and functionality of the body (Halliwell, 2015) and anthropometric variables as BMI (Argyrides & Kkeli, 2015; Bibiloni et al., 2017; Dogan et al., 2018; Jiménez Boraita et al., 2021) or body fat ratio (Çatikkas, 2011).

Parallelly to the beauty standards of societies, which are influenced by diverse cultures, each elite sport practice is typically associate with a specific body type. Likewise, dancing is an artistic and morphocinetic practice whose objectives are the shape and the movement themselves, making aesthetic a significant factor in the dancing context.

In order to assess body image, there are different measurement tools. Some of the most used with dancers are the Body Shape Questionnaire (BSQ, Cooper et al., 1987), the Body Appreciation Scale (Avalos et al., 2005; Tylka & Wood-Barcalow, 2015b) or the comparisons between actual and desired silhouette by using the Stunkard Scale (Stunkard et al., 1983).

The social relevance of this research lies in the issue of body image and its impact on our well-being. Currently, numerous body image-related problems are witnessed across various contexts (adolescents and adults, women and men, racialized and non-racialized individuals, etc.). Considering its impacts over people's self-esteem and its association with eating disorders, we consider that body image is a topic that must be researched. Regarding scientific significance, although there is a wealth of literature on body image and dancing, until the date there is no agreement in the research community on the use of any validated instrument with dancers, making it difficult to compare results across studies.

Therefore, the purpose of this systematic review is to identify the most commonly used measuring tools in the literature for assessing body image in the dancing context, analyse them and conclude which are more appropriate for the evaluation of body image in this field.

Method

This systematic review was completed following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines (PRISMA, Moher et al. 2009). Meta-analysis was not performed, since both qualitative and quantitative data were considered, and many studies are not interventions.

This systematic review was approved by the Ethics Committee for Research and Teaching of the University complying with the University Code of Research Ethics and University Guide to Good Research Practice. The review was registered with PROSPERO, the International Prospective Register of Systematic Reviews (CRD42024521858).

Sources of information and searching

Studies were searched in databases: Web of Science, Scopus, PubMed and SPORTDiscus until 7th March 2023. The search strategy combined the following groups of keywords: ((body image) OR (body appreciation) OR (body satisfaction) OR (body perception)) AND (danc*). The search was not restricted

by language neither date at the beginning. As the number of results was hard to manage, it was decided to limit the studies by date (since 2013, included).

Inclusion and exclusion criteria

Inclusion and exclusion criteria were stablished focusing on PICOS framework: Population, Intervention, Comparison, Outcomes and Study Design.

Population of interest. The target group involved both professional and non-professional adult dancers (more than 18 years old), as well as general population which might participate in any dancing intervention. Children and adolescents were not considered into the target group as different scales are developed, adapted and used for them. In the case of samples that included both over and under 18 years old, we consider the majority for inclusion.

Intervention. Those which carried out any dancing activity intervention (even Dancing Movement Therapy) and those non-interventions studies which assessed the variable of interest (body image) in people who danced were included.

Comparison. It was not applicable as our field of study was the instrument, not the results of each article. Therefore, we did not focus on interventions or studies with comparable groups: all kind of study designs were considered.

Outcomes. The results of the studies might offer information about body image, body perception or body satisfaction among dancers or people who had participated in an intervention that included dancing. The techniques used to gather data might be characteristic of both quantitative and qualitative research (questionnaires, scales, interviews, observation).

Study design. Quantitative and qualitative primary studies were considered, even case studies (n=1), as we were more interested in the measuring tools than in the results. Also, both interventions and observational studies were included. Narrative synthesis and systematic review were dismissed.

Exclusion criteria included: reviews, under 18 years old participants, studies which did not assess body image, studies were participants did not dance, or the intervention did not include dancing, and studies which did not match the topic (neither body image was assessed, nor dancing was not included in the intervention or the sample).

Study selection and data extraction

Once study research was done in databases and all results were gathered, duplicated studies were deleted. Afterwards, the screening was done first based on the title, and later, on the abstract. In this step, reviews and articles which did not match the topic were dismissed. After we had the list of potentially interesting studies, these were fully read in order to be assessed for eligibility. At this point, studies that did meet the exclusion criteria were rejected. Finally, the left articles were considered to be included in the systematic review, for qualitative assessment.

Data extraction was organized in charts, indicating author, publication year and country; main characteristics of the sample (number of participants, age, gender, dancing level/years of practice, dancing style…); study design; measuring tool for body image evaluation, other information about the method; and main results of the studies. Also, quality grades were given to each article included in the review. Afterwards, all the instruments that were found to be used in two or more articles were analysed indicating the author, what they assessed, some description (subscales, number of items, how they scored, what the punctuation means), whether they were validated and what values about reliability and validity were given, and the identification by used tool.

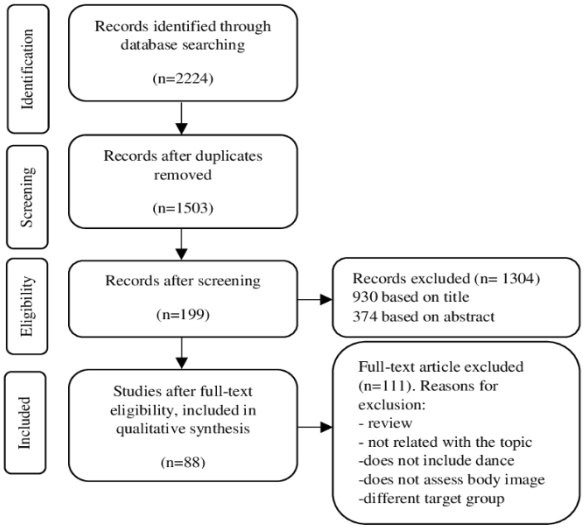
Quality assessment of studies

In order to assess the quality of the chosen studies and the possible bias in them, following the recommendations of Ma et al. (2020), these scales were used depending on the type of study we were evaluating: CASP Qualitative Study Checklist (Critical Appraisal Skills Programme [CASP], 2018), NIH Quality Assessment Tool for Observational Cohort and Cross-sectional Studies (National heart, Lung, and Blood Institute [NHLBI], 2014a) e NIH Quality Assessment Tool For Before-After (Pre-Post) Studies With No Control Group (NHLBI, 2014b) and JBI Critical Appraisal Checklist for Quasi-Experimental Studies (Tufanaru et al., 2017).

Results

Database search resulted in the identification of 2224 potentially relevant articles. After removing duplicated titles, there were 1503 left articles. Next step was screening, where 1304 results were excluded (930 based on the title and 374 based on the abstract), retrieving 199 full-text publications that will be assessed for eligibility. Finally, 88 articles fit the criteria and were included in the systematic review. In Appendix A, excluded articles in each step are listed including the reason of exclusion. In Figure 1, the flowchart schematically describes the inclusion process of articles to the review.

Figure 1. Flowchart.



Characteristics of the included studies and participants

Main characteristics of chosen intervention and observational studies are shown in Appendix B. All selected articles were published between 2013 and 2023, as it was one of the requirements in the inclusion criteria. Twenty-six articles were conducted in South America (twenty-four of them in Brazil), thirteen in North America, thirty-four in Europe, twelve in Asia, two in Australia and one in South Africa. Forty-one of them were cross-sectional studies, thirteen were qualitative studies, eleven were before-after studies without control group, nine were randomized clinical or controlled trials, eight were non-randomized quasiexperimental studies, one was a cohort study and then, five were mixed-methods. Totally, 7887 participants were included in the review, 6237 of them, practitioners of dancing both professionally (n=3330) or non-professionally either as dancers or in dancing interventions (n=2907).

Research tools

Figure 2 and Figure 3 show a classification of the main found instrument.
Qualitative studies. Qualitative studies gathered the results by group and individual interviews (thirteen studies), usually semi-structured in-depth interviews. In four articles, focus groups were also used, and in two cases, observation. Some other tools were own stance, reflective notes, social cartography and journals.

Quantitative studies. A large variety of instruments to assess body image was found: seventeen scales were used at least twice, nineteen other developed scales were found to be used in one study, and eight other non-described surveys or indirect questions about satisfaction or feelings about body were used.

Concerning silhouette and body marking scales, the most repeated one was the Stunkard Scale (Stunkard et al., 1983) which was used in eighteen studies, including its validated version for Brazilian population by Scagliusi et al. (2006).

Other silhouette scale was the Kakeshita Scale (Kakeshita et al., 2009) which was used in four studies, and it is specially designed for Brazilians.

On the other hand, Image Marking Procedure (IMP), developed by Askevold (1975), was used twice for measuring the Body Perception Index (BPI), the distortion between perceived (PS) and actual size (AS) (BPI=PS/AS x 100).

When it comes to questionnaires, we classified them whether they assess positive body image, negative body image or both. We can see that the trend while assessing body image with questionnaires in dancers is using a positive point of view (satisfaction, appreciation…) as it was found in seven out of the twelve main gathered questionnaires and in twenty-seven studies, as it is showed in Figure 3.

Firstly, regarding the positive body image tools, the global second most repeated measurement tool for assessing body image was the Body Appreciation Scale (BAS) both in its first version by Avalos et al. (2005) or its second version (BAS-2) by Tylka & Wood-Barcalow (2015), which were found to be used in a total of ten articles.

After the BAS and Body Shape Questionnaire, the next most used scale was the Multi-dimensional Body-Self Relations Questionnaire (MBSRQ) by Cash (1990), which appeared in six articles of the review, including its validated Spanish version (Botella García del Cid et al., 2009), but each study took different subscales of the questionnaire.

Body Image Assessment (BIA) was developed by Pylvänäinen & Lappalainen (2018) based on the tripartite model of body image by Pylvänäinen (2003) and used in two articles of them. It can be analysed qualitatively and quantitatively.

Another instrument which is used to evaluate the quality of life and the impact that body image might have over it was the Body Image Quality of Life Inventory (BIQLI) by Cash & Fleming (2002), in its Spanish (Jáuregui-Lobera & Bolaños-Ríos, 2011) and Turkish version (Demiralp et al., 2015).

Body Investment Scale (BIS) developed and validated by Orbach & Mikulincer (1998) was used twice, as well as Physical Self-Perception Profile (PSPP), developed and initially validated by Fox and Corbin (1989); and the Physical Self-Inventory (PSI-25) by Ninot et al. (2000) adapted from the Physical Self-Perception Profile by Fox & Corbin (1989).

Concerning the negative body image tools, the third most globally used instrument was the Body Shape Questionnaire (BSQ) by Cooper et al. (1987), which was found in eight articles.

Some subscales of the Eating Disorders Inventory (EDI) were also applied to evaluate body image in five studies either by using the first (Garner et al., 1983), the second (Garner, 1991) in its German version by Thiel et al. (1997), or the third version (Garner, 2004).

Also, two subscales of the Eating Disorder Examination questionnaire (EDE-Q) by Fairburn & Beglin (1994; 2008), was applied in three studies.

Body Image After Breast Cancer (BIBCQ) by Baxter et al. (2006) through its validated version in Brazil (Gonçalves et al., 2014) was applied in three studies.

The Social Physique Anxiety Scale (SPAS) by Hart et al. (1989) was used twice by its Turkish (Mülazýmoglu-Balli & Aşçi, 2006) and Greek adaptations (Psychountaki et al., 2004).

Finally, other tools were found to assess body image in a positive and negative way. European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Breast Cancer Module (EORTC QLQ-BR23) was validated by Sprangers et al. (1996) and, in Brazilian population, by Michels et al. (2013). It was used in three studies with population who had or had been through this disease.

The Multidimensional Body-Image Questionnaire (MBIQD) designed for dancers by Milavić et al. (2012) was found to be used twice, and depending on the factor, a high or low score will have different meanings in the overall body image evaluation.

A large number of studies have assessed the body image by indirect questions or non-reported authorship of questionnaires: rating from one to ten how satisfied they are with their body image (Soares Costa de Mendoça et al., 2015a; Soares Costa de Mendoça et al., 2015b), Body Weight Beliefs (Brown et al., 2020), non-described surveys (Jenkins & Wakeling, 2020), indirect question about ideal and actual weight (Neves Simas et al., 2014), dichotomic question about if they feel either satisfied or

dissatisfied about their body image (Pereira Leal et al., 2020), questionnaire about desires and needs about shape (Soares de Pinho Gonçalves et al., 2017).

Figure 2. *Main found qualitative instruments.*

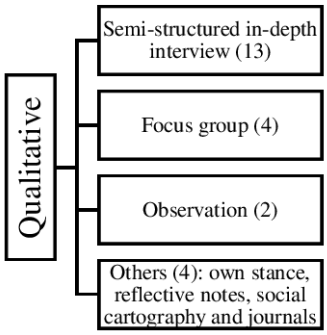
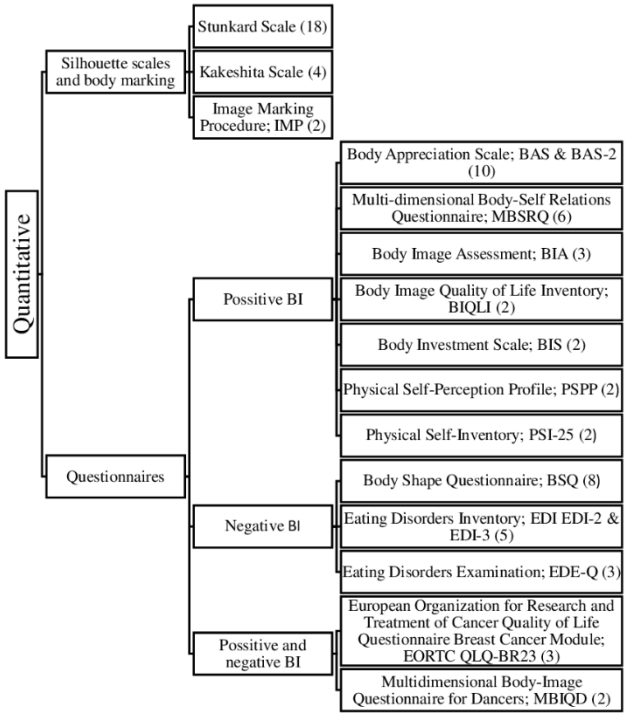


Figure 3. Main found quantitative instruments. In brackets, the number of studies where each of these instruments was found to be used.



Study quality

Risk of bias was found to be variable with a relative average score of quality of 60,7% (SD= 15,2, median= 66).

In qualitative studies, scores ranged from 6 to 10 out of 10 points, representing 60-100% (mean = 84,7, SD= 13,7, median= 89), corresponding low to medium bias risk. Six out of eighteen studies that included a qualitative assessment of body image scored between 50-75%, indicating a medium risk of bias.

In quantitative studies, the relative qualitive of the studies scored between 21-100% (mean = 66,7, SD= 13,4, median= 64), ranging high to low bias risk. Four out of seventy-four studies that included a quantitative assessment of body image scored less than 50%, indicating a high risk of bias. The vast majority, fifty-six studies, scored between 50-75%, pointing a medium risk of bias. The fourteen left ones, reached equal or higher than 75%, meaning a low risk of bias.

Discussion

This systematic review aimed at identifying which are the most used instruments in the assessment of body image in the field of dance in the existing literature, analysing them and concluding about which ones are more suitable for evaluating the body image in this context.

To our knowledge, no previous systematic reviews have focused on the instruments used to assess body image in dancers. Overall, out of the eighty-eight studies that have been included in the present review, thirteen studies used only qualitative methods, seventy-one studies used only quantitative methods and four of them used both types of measurement tools. The results indicate that Stunkard Scale is the most frequently used tool for evaluating body image in dancers, followed by semi-structured interviews, the Body Appreciation Scale (both in their first or second edition) and the Body Shape Questionnaire. A wide range of tools has been identified, as well as difference in methodological quality among the included articles.

Qualitative studies

Qualitative studies used mainly semi-structured in-depth interviews, focus groups and observation for gathering information about the body image of the participants. Although only eighteen out of eighty-eight studies have used qualitative methods, qualitative research is bound to be an useful approach to explore, understand and deeply analyse such a complex construct like body image.

Quantitative studies

Concerning quantitative studies, a large heterogeneity of measuring tools has been found across the seventy-one articles: more than thirty different scales and only seventeen of them have been identified in two or more articles. In Appendix C, main characteristics of each of these seventeen scales are described: validation article if it is different from the original one, sample, what they measure, how and reliability results (α Cronbach, r test-retest, corrected item-total correlation).

Among all the tools, only two of them were found to be created specifically for dancers: the Body-Image Questionnaire Designed for Dancers (Milavić et al., 2012) in Grčić et al. (2015) and Miletić et al. (2017)., and the Body Self-Perception of Dancers (Price & Pettijohn, 2006) in Ji-Young et al. (2015). However, none of these questionnaires were found to be frequently used in literature and only the first one is validated.

Regarding the silhouette scales, Stunkard Scale is widely the most known and popular tool for assessing body image and was validated by Thompson & Altabe (1991) as also in another languages, as in Portuguese for Brazilians (Scagliusi et al., 2006). This scale was developed using a large population of US and Danish men and women and validated also with US college students, so the use of if with Western populations might be appropriate. However, ten out of the eighteen studies that used the Stunkard Scale were conducted in Brazil, and six of them did not use any adapted version for Brazilian population, where the commonly anatomy structure of people might differ from the one proposed by Stunkard. Likewise, another option for Brazilian population was the Kakeshita Scale (Kakeshita et al., 2009) which also considered ethnicity.

Regarding Image Marking Procedure (IMP, Askevold, 1975), this tool was validated by Gleghorn et al. (1987) with US normal-weight females aged 17 to 45, half of whom were bulimic. This instrument was found to be used in studies with Brazilian participants, both dancers and non-dancers. The use of this instrument for assessing body image might be correct as body perception index is calculated. The results of this scale focus on body dysmorphia rather than body satisfaction or dissatisfaction.

Every silhouette scale that has been analysed in this review has different figures for women and men. This division corresponds to the typical different shapes of the female or male sex bodies. However, this binary approach does not consider neither the diversity of body appearances among same gender people nor transgender or non-binary individuals who may not identify as either women or men. Nevertheless, the use of silhouettes to assess body image in people who dance appears to be an accessible tool, easy to use and may provide valuable information about body perception, own ideal body or even body dysmorphia.

When it comes to questionnaires, concerning positive body image assessment tools, the validation of both Body Appreciation Scale (BAS) and BAS-2 were developed with samples of US college students, who were mainly Caucasians and aged between 17 to 55 years. Most studies using BAS had similar sample characteristics: adults from Western countries.

The Multidimensional Body-Self Relations Questionnaire (MBSRQ) was validated with US population aging 15 to 87 years and mainly white. Regarding the target groups, the use of this tool seems appropriate: US population and Australians females.

When it comes to Body Image Assessment (BIA), it was developed and used three times with depressed Finnish adults by the same author. Validation or reliability test were not found. Nonetheless, this scale also includes a qualitative part, and the mix of both methods might be interesting for gathering outcomes about body image.

Body Image Quality of Life Inventory (BIQLI) was used in its Spanish validated version (Jáuregui-Lobera & Bolaños-Ríos, 2011) and in its Turkish validated version (Demiralp et al., 2015). Age gap coincides in both cases with the target group of the sample in the validation studies (early twenties on average), but the Turkish version only considered female students. It is assumed that this factor will not be a problem as the validation with other population does include males (Cash et al., 2004).

Body Investment Scale (BIS) was developed to assess body image feelings and attitudes that might be related to self-destructive tendencies of Israeli teenagers with suicidal tendencies. However, it was used with general population. Also, low internal consistency was found in some subscales. Therefore, it might not be the most adequate tool to assess body image in people who dance.

Physical Self-Perception Profile (PSPP) was developed and validated with a sample of US college students. However, in Zhao et al. (2022), the sample were Chinese silver-haired participants, and no validation or reliability test was performed.

Physical Self-Inventory (PSI-25) was developed and validated with a sample of French youngsters. In both studies, population were Swiss around their forties with gastric bypass or obese patients.

Within the negative body image assessment tools, the Body Shape Questionnaire (BSQ), was validated with young UK female population, including bulimic women, students and family planning clinic attenders. Half of the studies that used Body Shape Questionnaire were conducted in Brazil and three of them used the Portuguese validated versions for Brazilians: Di Pietro & da Silveira (2008) adaptation was validated with college students, while Conti et al. (2009) translation was validated with adolescents but used with ballet students aged 16 to 33. Although the Body Shape Questionnaire was originally validated with women, other studies included male dancers. This was also the case with the Mexican adaptation by Vázquez et al. (2011), which use included males despite being validated with women.

The group of studies using Eating Disorder Inventory (EDI) present correct validation and sample procedures, besides Robbeson et al. (2015), with different sociocultural characteristic sample. EDI validation studies focus on people with eating disorders or on assessing eating disorder symptoms. However, Hosseini & Padhy (2023) suggested that EDI-3 is helpful to assess body image. Therefore, EDI must be used cautiously when evaluating body image and always considering its original purpose. The same happens with the Eating Disorder Examination questionnaire (EDE-Q), which was used in three studies that did not include participants with eating disorders.

The use of Body Image After Breast Cancer (BIBCQ) seems convenient in all three studies: both in the included studies and in the validation by Gonçalves et al. (2014) the participants were middle-aged Brazilian women diagnosed with breast cancer.

Finally, in the group of negative body image assessment tools, the use of Social Physique Anxiety Scale (SPAS) is adequate.

Concerning tools that assess body image both positively and negatively, two tools were found: the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Breast Cancer Module (EORTC QLQ-BR23) and the Multidimensional Body-Image Questionnaire (MBIQD).

The first one was validated with Dutch, Spanish and US women who had been through breast cancer (Sprangers et al., 1996). Internal consistency and corrected item-total correlation scores were low in some subscales. In all cases, its use seems to accomplish the validation and sample procedures.

The second one was used with international competitors in Latin and Standard dancers from 43 different countries who aged between 15 to 40 years. Even though this instrument aimed to be designed for dancers, the sample in the validation study were Balkan university students who went through a 3-month dance course of sport dances, folk dances and modern dance.

Comparison with previous work

Regarding figural scales, similar findings and statements were presented in the review of Gardner & Brown (2010): the advantages of the ease and flexibility in administering them, but also the drawbacks of the unrealistic presentations (Thompson & Gray, 1995), the small range of options, usually under nine (Gardner et al., 1998); and the predominantly Caucasian ethnicity representation in both facial and body features in the silhouettes.

Concerning questionnaires, the systematic review of Kling et al. (2019) addressed body image scoring questionnaires used in the general population, encompassing both adolescents and adults. Even though they identified over 150 different body image measures, only the eight main ones were described and considered. In the present review, more than thirty different questionnaires were found and seventeen of them have been analysed (including all the editions that have been used). As demonstrated, some of them have been also considered as the most relevant by Kling et al. (2019): the Body Appreciation Scale, the Body Shape Questionnaire, two subscales of the Eating Disorders Examination-Questionnaire, body dissatisfaction subscale of the Eating Disorders Inventory-3 and appearance evaluation and Body Areas Satisfaction subscales of the Multi-dimensional Body-Self Relations Questionnaire.

Webb et al. (2015) reviewed different dimensions of positive body image than the present review (body acceptance, body pride, body functionality...), as body image is a complex construct. Nevertheless, some tools were found in both studies such as the Body Appreciation Scale in its first and second version (which were widely used among the included articles), the Body Image-Acceptance and Action Questionnaires 5, the Body Responsive Scale, and qualitative methods.

On the other hand, Muñoz Marín et al. (2024), reviewed instruments for the diagnosis of body dysmorphia in weightlifters. However, although body dysmorphia is a body image issue, no matches were found between their results and the present results. Some reasons may include the different target groups and the specificity of their field of study, focusing on the diagnosis of body dysmorphia rather than the assessment of body image.

Salas-Morillas et al. (2022) reviewed eating disorders and body image in gymnastics athletes (artistic, rhythmic and aerobic gymnastics), a target group who might have some similarities due to their morphocinetic nature. They reported that the most used instruments were Eating Attitude Test, which focuses on eating disorders; the Body Shape Questionnaire; and Sociocultural Attitudes Toward Appearance Questionnaire-3.

Finally, the review of Schwender et al. (2018) addressed the impact of dance interventions on aspects of the participants' selves (not only the body image), rather than focusing on the instrument. Thirteen studies examined the effects of dance on adult populations, but only four of them investigated body-related perceptions by using the Physical Self-Perception Profile (Fox & Corbin, 1989), the Body Dysmorphic Disorder Examination (Jorge et al., 2008), the Image Marking Procedure (Askevold, 1975), and a self-designed question about satisfaction with physical appearance and Stunkard Scale (1983). Some of the tools were found in both reviews in the same articles. So far, this was the only review that specifically targeted dancing and body image.

Strengths and limitations

The review's innovative approach must be highlighted, specifically addressing an existing gap in research on body image in dancing. Some of the strengths of this review lie in its use of control tools to ensure internal quality and validity: the use of PRISMA guidelines (Moher et al., 2009) to ensure transparency in the purpose, the method and the results; the assessment of the internal quality of the included studies, and the use of PICOS framework to establish the inclusion criteria. Furthermore, our

open inclusion criteria and the involvement of multiple databases in the searching strategy have enabled us to identify a diverse range of articles from various sources, as this topic is studied both in the physical activity science, in art sciences and in the psychology field; and, therefore, a wealth of information on the topic of interest.

However, some limitations were encountered in the process. The identification of instruments was hindered by issues in the identification process: some tools were called the same but were different, few others were incorrectly referenced (some articles cited the creators of the tool, others the authors of the validation or analysis of the instrument study or just another article where the same instrument was used), some articles only referenced the validation of the instrument in the own language or country, so different authors were found for the same tool. Also, some discrepancies regarding the year or even same tools but different editions were found. Additionally, several articles did not clarify the meaning of higher or lower scores, which could cause confusion. However, the validation articles for each tool did explain which items might be reversed for analysing the results.

Finally, it is important to note a limitation in the quality assessment of the included articles. While different types of tests were used depending on the study design, some of them may not be entirely suitable for the characteristics in the physical activity research field. For instance, the difficulty of blinding the professionals or the subjects in interventions where one group participates in a dancing program while the other does not.

Conclusions

The present systematic review synthesised and analysed the most commonly used instruments for assessing of body image in the dancing context. The results revealed that both qualitative and quantitative methods are widely employed, providing diverse perspectives on body image evaluation. However, there is no agreement concerning which tools are most suitable for dancers, resulting in a wide range of found tools. Among the most commonly used tools are the Stunkard Scale, in-depth interviews, the Body Appreciation Scale and the Body Shape Questionnaire, each of one with a different way of assessing body image (silhouette scales, qualitative method, satisfaction or dissatisfaction, respectively). Future studies should focus on extending the available evidence on the existing measurement tools rather than developing new ones. However, it is worth noting that silhouette scales were found to not represent the variety of genders or bodies that might exist. Overall, we conclude that the previously named instruments are also the ones which are more suitable for assessing the body image in dancers and have an appropriate extension. Further systematic reviews of body image assessment in the field of dancing are required to establish a comprehensive set of instruments that facilitate comparison of findings across studies and strengthen the development of this area.

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