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Psychometric properties of the Body Shape Questionnaire in postpartum women from Northeast Brazil

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Abstract

Background

Body image dissatisfaction in the postpartum period is a clinically relevant phenomenon, given its association with psychological distress and adverse maternal mental health outcomes. Despite the widespread use of the Body Shape Questionnaire (BSQ), psychometric evidence for this instrument in this context remains limited.

Aims

To evaluate the psychometric properties of the Brazilian version of the BSQ in a sample of postpartum women.

Methods

A psychometric study was conducted with 268 postpartum women. The internal structure was examined using exploratory (EFA) and confirmatory factor analyses (CFA). Factorability of the correlation matrix was assessed using the Kaiser–Meyer–Olkin (KMO) index, Bartlett's test of sphericity, and Measures of Sampling Adequacy (MSA). Factor retention was determined through parallel analysis, with extraction performed using Principal Axis Factoring and Oblimin rotation. In the CFA, one-, two-, and three-factor models were tested and estimated using the Diagonally Weighted Least Squares method with robust correction. Internal consistency was assessed using McDonald's omega coefficient.

Results

The correlation matrix demonstrated adequacy for factor analysis (KMO = 0.94; Bartlett's test: χ^2 = 7,606.97; df = 561; $p < 0.001$), with MSA values ranging from 0.64 to 0.98. Parallel analysis suggested a six-factor solution; however, the discrepancy between the first eigenvalue (15.82) and the subsequent ones (1.93; 1.33) indicated that most common variance was concentrated in a general dimension. The one-factor model showed adequate fit (CFI = 0.99; TLI = 0.99; RMSEA = 0.03; SRMR = 0.09), whereas the two- and three-factor models demonstrated excellent global fit but high inter-factor correlations (0.76–0.85). Overall, the findings supported a unidimensional structure. Internal consistency was high (ω = 0.97).

Linking Evidence to Action:

The BSQ demonstrated adequate psychometric properties for screening body image dissatisfaction in postpartum women and may support the assessment of subjective aspects relevant to maternal mental

health in the postpartum period.

BACKGROUND

The postpartum period, or puerperium, as defined by the World Health Organization (WHO), refers to the interval beginning immediately after placental delivery and extending up to six weeks (42 days) following childbirth. This period is characterized by the progressive reversal of the anatomical and physiological changes of pregnancy, as well as significant emotional, social, and clinical adaptations occurring within a short timeframe (WHO, 2022).

A positive postnatal experience extends beyond the absence of biological complications and includes well-being, emotional health, support for maternal adaptation, and attention to needs that are often neglected upon returning home. In this context, how women perceive, interpret, and evaluate their own bodies represents a relevant dimension of maternal health. Nevertheless, women's bodily experience after childbirth remains insufficiently integrated into postnatal assessment and care (WHO, 2022).

Available evidence challenges simplistic interpretations of this phenomenon. Recent studies indicate that postpartum body image is influenced by sociocultural pressures, support relationships, breastfeeding, weight trajectory, and emotional symptoms, underscoring its clinical complexity (Di Gesto et al., 2025; Siqueira et al., 2025). A systematic review identified associations between postpartum body image and variables such as maternal weight, depression, mode of delivery, sexual function, breastfeeding, and social support, suggesting that body dissatisfaction is embedded within a network of determinants and outcomes that extend beyond purely aesthetic concerns (Siqueira et al., 2025). A recent meta-analysis reported a moderate positive correlation between body dissatisfaction and depressive symptoms in the postpartum period, indicating that women with poorer body perception also tend to experience greater psychological distress (He et al., 2025). Furthermore, a review on body image and infant feeding showed that greater body-related concerns are associated with lower intention to breastfeed, reduced initiation, and shorter duration of breastfeeding (Morley-Hewitt & Owen, 2020).

Qualitative studies further illuminate the subjective depth of this process. A meta-synthesis by Hodgkinson et al. (2014) demonstrated that body dissatisfaction often occupies a central role in the postpartum experience, with many women reporting a conflict between their real body—transformed by pregnancy, childbirth, and motherhood—and the socially valued ideal body, often accompanied by expectations of rapid return to pre-pregnancy shape. Thus, this phenomenon extends beyond dissatisfaction with weight or body shape, involving tensions related to identity, femininity, motherhood, and social recognition. This aspect gains additional clinical relevance, as intervention reviews suggest that body image during the perinatal period can be modified, with more favorable outcomes observed in psychological interventions compared to strategies focused solely on behavior or lifestyle. This reinforces the need for early recognition and systematic monitoring of this phenomenon (Hodgkinson et al., 2014; Shen et al., 2024).

However, advancing knowledge and clinical practice in this field depends fundamentally on the quality of measurement of body image concerns, which remains a significant limitation. A review of interventions highlighted the heterogeneity of instruments used in studies involving pregnant and postpartum women, with a predominance of general measures and a lack of tools specifically developed for the postpartum context (Shen et al., 2024).

The Body Shape Questionnaire (BSQ), developed in the United Kingdom, is a widely used self-report instrument designed to assess concerns about body shape and the feelings associated with negative body perception. It is one of the most internationally disseminated measures in this domain, emphasizing the subjective experience of "feeling fat," considered a central component in the psychopathology of eating disorders (Cooper et al., 1987).

The scale comprises 34 items assessing cognitive, affective, and behavioral aspects of body dissatisfaction. Psychometric studies conducted in different cultural contexts indicate that the BSQ typically presents a factor structure centered on a general factor of body concern, although multifactorial models have also been reported (Evans & Dolan, 1993; Ghaderi & Scott, 2004; Pook; Tuschen-Caffier & Brähler, 2008; Silva et al., 2016). Evidence supporting the instrument has been reported across different linguistic and cultural contexts, including Brazilian, Portuguese, and Chinese samples (Gao et al., 2025; Silva et al., 2016). However, such evidence does not support assuming equivalent performance in postpartum women, whose bodily experience is shaped by morphological, functional, and symbolic changes specific to this period. In Brazil, the BSQ was adapted by Di Pietro and Silveira (2009), with internal validity tested in medical students, resulting in a four-factor structure explaining 66.4% of data variability—self-perception of body shape, comparative body perception, attitudes toward body image change, and severe alterations in body perception.

In the field of evidence-based nursing, the use of instruments with adequate psychometric properties is essential for identifying, monitoring, and incorporating clinically relevant subjective needs into care processes. Valid and interpretable self-reported measures enhance both clinical practice and research by supporting the identification of care needs, the planning of goals and interventions, and the evaluation of outcomes centered on the patient experience (Barrientos-Trigo et al., 2019; Desmet et al., 2025). Conversely, the use of instruments lacking sufficient validity evidence for the target population compromises the clinical utility of scores, limits comparability across studies, and reduces the consistency of inferences in both practice and research (Prinsen et al., 2018; Mokkink; Elsman & Terwee, 2024; Gagnier et al., 2025). This issue is particularly relevant in maternal nursing, where subjective phenomena—such as emotional distress, postpartum adaptation, and body perception—require structured screening and individualized assessment to inform care.

Therefore, this study aimed to evaluate the psychometric properties of the Brazilian version of the BSQ in postpartum women, a context in which the instrument's measurement adequacy remains unestablished despite the plausible clinical relevance of the construct in this population. By examining measurement quality in this group, this study contributes to the identification of body image dissatisfaction and its

more consistent integration into maternal mental health care, postpartum adaptation, and evidence-based practice.

METHODS

Design and seting

This psychometric study was conducted to evaluate the internal structure validity (construct validity) and reliability of the Brazilian version of the BSQ in a sample of postpartum women.

The study was carried out in Brazilian hospital-based services and primary healthcare services linked to maternal and child care, located in the Sub-middle São Francisco Valley region, in the municipalities of Petrolina, Pernambuco, and Juazeiro, Bahia, Brazil.

Participants and procedures

The sample comprised 268 postpartum women (eight participants per item of the instrument), recruited through convenience sampling. There is no consensus regarding the ideal sample size in psychometric studies, with different participant-to-item ratios being adopted, such as 5:1, 10:1, or even 20:1 (Costello & Osborne, 2005; Gaskin & Happell, 2014; Howard, 2016).

In hospital settings, participants were approached during their stay in maternity wards or other postpartum care units. In primary care, participants were identified during postpartum consultations and other maternal–child follow-up activities.

Eligible women were individually invited to participate after being informed about the study objectives and procedures. Upon agreement, instruments were administered in a private setting to ensure confidentiality, privacy, and appropriate conditions for data collection.

Women aged 16 years or older, receiving care during the immediate or late postpartum period, were considered eligible. For the present analysis, participants with sufficient comprehension of the instruments and adequate item completion for psychometric evaluation of the BSQ were included. Cases with insufficient responses for factor model estimation were excluded.

Study measures

Sociodemographic and obstetric characteristics were collected using a structured questionnaire developed for this study to characterize participants in the postpartum period.

Sociodemographic variables included age, age group, marital status, education, employment status, monthly household income, and place of residence. Age was recorded in completed years and

categorized for descriptive purposes as < 20, 20–29, 30–39, and ≥ 40 years. Place of residence was classified as urban or rural.

Clinical–obstetric variables included number of children, mode of delivery, postpartum days, type of postpartum period, and history of adolescent pregnancy. Postpartum time was measured in days at the time of data collection. The postpartum period was categorized as immediate (0–10 days) and late (> 10 days). This categorization represents an adaptation of the traditional clinical classification, which subdivides the postpartum period into immediate, intermediate, and late phases. The adoption of a 10-day cutoff is based on the definition of the intermediate postpartum period, during which important processes of uterine involution and maternal physiological adjustments occur, allowing its aggregation with the immediate postpartum period for analytical purposes (Brasil, 2012; Zugaib & Francisco, 2020; WHO, 2022). Furthermore, this strategy aims to reduce category fragmentation and increase the stability of statistical analyses, being consistent with approaches used in clinical and epidemiological studies (Altman & Royston, 2006).

Body image dissatisfaction was assessed using the Brazilian version of the Body Shape Questionnaire (BSQ) (Di Pietro & Silveira, 2009). The instrument comprises 34 items answered on a six-point Likert scale ranging from 1 (never) to 6 (always), referring to the past four weeks. For this study, items were linguistically adapted to the female gender, as the sample consisted exclusively of women, following the version proposed by Di Pietro and Silveira (2009). This adaptation involved only semantic adjustments without modifying the conceptual content of the items. Total scores range from 34 to 204, with higher scores indicating greater concern and dissatisfaction with body shape (Cooper et al., 1987).

Ethical considerations

The study was conducted in accordance with ethical principles for research involving human subjects, in line with the Declaration of Helsinki and Brazilian National Health Council Resolutions No. 466/2012 and No. 510/2016 (Brasil, 2012; 2016). The study was approved by the Research Ethics Committee of the *XXXXX*, *YYYYY*, under approval number ZZZZ.

Participation was voluntary, following prior clarification regarding study objectives, procedures, risks, and benefits. Participants aged 18 years or older provided written informed consent. For participants aged 16 and 17 years, appropriate ethical procedures were followed, including assent and consent from a legal guardian.

Participants were assured of their right to refuse or withdraw at any time without any impact on their care. Confidentiality and anonymity were ensured through data coding, restricted-access storage, and procedures consistent with the Brazilian General Data Protection Law (Law No. 13,709/2018) (Brasil, 2018).

Statistical analysis

Sociodemographic and obstetric characteristics were described using descriptive statistics. Continuous variables were presented as mean (M) and standard deviation (SD), whereas categorical variables were described using absolute (n) and relative (%) frequencies.

Exploratory Factor Analyses (EFA) were conducted to examine the factor structure of the Brazilian version of the BSQ (Di Pietro & Silveira, 2009) in postpartum women. Factorability of the correlation matrix was assessed using the Kaiser–Meyer–Olkin (KMO) index and Bartlett's test of sphericity, as well as inspection of the anti-image correlation matrix, to verify data adequacy for factor analysis and the presence of shared variance among items (Field, 2018; Hair et al., 2019).

Factor extraction was performed using Principal Axis Factoring (PAF), which estimates latent factors based on shared variance among observed indicators (Fabrigar et al., 1999). An oblique Oblimin rotation was applied, allowing for correlations among latent factors and facilitating interpretation of the construct structure (Costello & Osborne, 2005).

The number of factors to be retained was determined using factor-based parallel analysis, which compares observed eigenvalues with those derived from randomly generated matrices to identify dimensionality (Horn, 1965; Hayton, Allen, & Scarpello, 2004). Factor solution interpretation considered standardized factor loadings, adopting $\lambda \geq 0.30$ as the minimum criterion for item retention (Tabachnick & Fidell, 2007).

Based on EFA results, three competing models were specified in the confirmatory phase: one-factor, two-factor, and three-factor models. Comparing models with different dimensional structures is recommended in psychometric studies when exploratory findings suggest both a dominant general factor and potential subdimensions (Brown, 2015).

Confirmatory Factor Analyses (CFA) were estimated using the Diagonally Weighted Least Squares method with robust correction (DWLS/WLSMV), appropriate for categorical or ordinal data (DiStefano & Morgan, 2014; Li, 2016). Model fit was assessed using the Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), and Standardized Root Mean Square Residual (SRMR). RMSEA values < 0.08 indicate acceptable fit, while CFI and TLI values ≥ 0.90, preferably ≥ 0.95, indicate good model fit (Brown, 2006, 2015).

Based on inspection of factor loadings in the initial one-factor model, items with loadings < 0.30 or non-significant loadings were removed, resulting in a re-specified one-factor model. This model was re-estimated and evaluated in terms of fit indices and standardized factor loadings.

Internal consistency was assessed using McDonald's omega (ω), which is based on the factor structure and provides a less restrictive estimate of reliability than alpha when tau-equivalence is not assumed (McDonald, 1999; Dunn, Baguley, & Brunsden, 2014).

All analyses were performed using JASP software (version 0.95.2.0), employing the aspFactor module for EFA and routines based on the lavaan package for confirmatory model estimation.

RESULTS

Sample characteristics

The sample comprised 268 postpartum women, with a mean age of 24.85 years (SD = 6.47). Most participants were aged 20–29 years (46.27%), in a stable union (45.52%), had completed secondary education (43.66%), were not engaged in paid employment (70.52%), and reported a monthly household income between one and two minimum wages (68.70%).

The mean number of children was 2.01 (SD = 1.29), and the mean postpartum time was 11.29 days (SD = 11.60). Vaginal delivery (56.34%), immediate postpartum period (58.96%), and urban residence (62.31%) predominated. The prevalence of adolescent pregnancy was 29.10% (Table 1).

[Insert Table 1]

Exploratory factor analysis

Bartlett's test indicated that the correlation matrix significantly differed from an identity matrix (χ^2 = 7,606.97; df = 561; $p < 0.01$), supporting the presence of sufficient inter-item correlations. Consistently, the Kaiser–Meyer–Olkin (KMO) index was 0.94, indicating sampling adequacy for factor analysis.

Individual Measures of Sampling Adequacy (MSA) ranged from 0.64 to 0.98, suggesting that all items demonstrated acceptable levels of shared variance with the remaining items in the correlation matrix, with no need for item exclusion based on this criterion.

Parallel analysis suggested the retention of six factors. However, a marked discrepancy was observed between the first empirical eigenvalue (λ_1 = 15.82) and the subsequent eigenvalues (λ_2 = 1.93; λ_3 = 1.33), indicating that a substantial proportion of common variance was concentrated in the first latent factor. This pattern is typically interpreted as evidence of a dominant general factor underlying the set of items.

Empirical eigenvalues and the mean eigenvalues derived from parallel analysis are presented in Table 2.

[Insert Table 2]

Given the empirical pattern indicating the presence of a dominant general factor along with potential secondary item groupings, an exploratory factor analysis was conducted specifying the extraction of six factors. Inspection of the rotated factor loading matrix showed that the first factor concentrated the largest number of items with high loadings, including Q28 (λ = 0.88), Q30 (λ = 0.84), Q29 (λ = 0.82), Q33 (λ = 0.79), and Q34 (λ = 0.77). Additional items also demonstrated substantial loadings on this factor, such as Q20 (λ = 0.75), Q17 (λ = 0.74), and Q12 (λ = 0.73), indicating strong associations with the predominant latent dimension of the scale.

The second factor showed high loadings for items such as Q24 (λ = 0.81), Q9 (λ = 0.80), Q8 (λ = 0.76), Q10 (λ = 0.74), and Q25 (λ = 0.74), suggesting a relatively well-defined latent dimension. The third factor

was primarily characterized by high loadings on items Q2 (λ = 0.77), Q4 (λ = 0.75), and Q7 (λ = 0.75), along with moderate loadings on other indicators.

Factors four, five, and six were defined by a smaller number of items. The fourth factor showed higher loadings for items Q16 (λ = 0.77) and Q13 (λ = 0.65). The fifth factor was mainly defined by items Q26 (λ = 0.82) and Q32 (λ = 0.83), whereas the sixth factor showed moderate loadings for items such as Q23 (λ = 0.64), Q18 (λ = 0.58), and Q21 (λ = 0.55).

The complete rotated factor loading matrix is presented in Table 3.

[Insert Table 3]

Cross-loadings were observed in some items, particularly across the first three factors, indicating shared variance among certain latent dimensions. Factor correlations ranged from 0.11 to 0.56, suggesting low to moderate associations among the extracted factors.

Given that some factors were defined by a limited number of items and that cross-loadings were present across certain dimensions, more parsimonious factor models were subsequently evaluated using CFA.

Confirmatory factor analysis

The latent structure of the scale was examined using confirmatory factor analysis (CFA), in which three competing models were specified: one-factor, two-factor, and three-factor models (Table 4).

[Insert Table 4]

The results indicate that the one-factor model demonstrated good overall fit to the data ($\chi^2(527) = 661.77$; $p < 0.001$; $\chi^2/df = 1.26$; CFI = 0.99; TLI = 0.99; SRMR = 0.09; RMSEA = 0.03; 90% CI = 0.02–0.04).

The two-factor model showed excellent global fit ($\chi^2(208) = 191.97$; $p = 0.78$; $\chi^2/df = 0.92$; CFI = 1.00; TLI = 1.00; SRMR = 0.07; RMSEA ≈ 0.03; 90% CI = 0.00–0.02). However, the estimated correlation between factors was high ($r = 0.85$; $p < 0.001$), indicating a substantial proportion of shared variance between latent dimensions.

Similarly, the three-factor model also demonstrated excellent fit ($\chi^2(347) = 307.68$; $p = 0.94$; $\chi^2/df = 0.89$; CFI = 1.00; TLI = 1.00; SRMR = 0.08; RMSEA ≈ 0.03; 90% CI = 0.00–0.01). However, factor correlations remained high (0.84–0.85), indicating limited empirical distinction among factors.

Comparison across models suggests that, although multifactor structures achieved strong fit indices, the high inter-factor correlations indicate poor differentiation among latent dimensions, supporting the interpretation of a predominant general factor.

This pattern was also observed in the EFA, in which the first factor showed a substantially higher eigenvalue than subsequent factors ($\lambda_1 = 15.82$; $\lambda_2 = 1.93$; $\lambda_3 = 1.33$). In addition, internal consistency

indicated high item homogeneity (ω = 0.97), further supporting the predominance of an underlying general factor.

Standardized factor loadings in the initial one-factor model ranged predominantly from 0.44 to 0.86, indicating moderate to strong associations between the items and the latent factor **Figure 1**. Original unidimensional factor model of the Brazilian version of the Body Shape Questionnaire (BSQ) applied to postpartum women.

Note: Standardized factor loadings are presented for each item. The model was estimated using the Diagonally Weighted Least Squares method with robust correction (DWLS/WLSMV).

The highest standardized loadings were observed for items Q29 (λ = 0.86), Q20 (λ = 0.81), Q12 (λ = 0.81), Q34 (λ = 0.80), Q14 (λ = 0.80), Q28 (λ = 0.80), and Q15 (λ = 0.80). However, some items showed low factor loadings, particularly Q26 (λ = 0.26), Q32 (λ = 0.23), and Q16 (λ = 0.06; p = 0.30).

Based on these findings, a new CFA was conducted to assess whether the exclusion of low-loading items would result in a more parsimonious and psychometrically robust structure. Accordingly, items Q16, Q26, and Q32 were removed from the model due to factor loadings below the commonly recommended threshold (λ ≥ 0.30).

Following item removal, a re-specified one-factor model comprising 31 items was estimated (Figure 2). Fit indices indicated excellent model fit ($\chi^2(434) = 557.50$; $p < 0.01$; $\chi^2/df = 1.28$; CFI = 0.99; TLI = 0.99; SRMR = 0.08; RMSEA = 0.03; 90% CI = 0.02–0.04).

Figure 2. Re-specified unidimensional factor model of the Brazilian version of the Body Shape Questionnaire (BSQ) applied to postpartum women.

Note: The re-specified model excluded items Q16, Q26, and Q32 due to factor loadings below the recommended threshold (λ < 0.30). Standardized factor loadings are presented for the remaining items. The model was estimated using the Diagonally Weighted Least Squares method with robust correction (DWLS/WLSMV).

In the re-specified model, all factor loadings remained statistically significant, ranging from 0.44 to 0.86, indicating moderate to strong associations between items and the latent factor. The exclusion of items with loadings below the recommended threshold (λ < 0.30) resulted in improved model specification and greater parsimony by removing indicators with limited contribution to shared variance.

Moreover, model fit indices remained adequate, indicating that item removal did not compromise overall model fit. These findings further support the unidimensionality and structural validity of the scale in the analyzed sample.

DISCUSSION

This study evaluated the internal structure of the Brazilian version of the BSQ in a sample of postpartum women. The findings indicated that the instrument's items are organized around a general latent dimension related to concern and dissatisfaction with body shape. Although parallel analysis suggested the retention of multiple factors, the discrepancy between the first and subsequent eigenvalues, combined with high inter-factor correlations in confirmatory models, indicates that most shared variance among items is explained by a common factor. This pattern is consistent with the concept of essential unidimensionality, in which a general factor accounts for most common variance, while secondary groupings reflect semantic similarity or content redundancy among items (Reise, 2012; Reise, Bonifay, & Haviland, 2013; Bonifay, Lane, & Reise, 2017).

Comparison of the tested CFA models reinforces this interpretation. Although the two- and three-factor models demonstrated excellent global fit, the high factor correlations ($r > 0.80$) indicate low discriminant validity. This finding suggests that the multifactor structure represents a statistical decomposition of a general trait rather than empirically distinct latent domains. Thus, adoption of the unidimensional model is supported by parsimony, theoretical coherence, and interpretability (Kline, 2016; Brown, 2015). These findings highlight the importance of evaluating the psychometric properties of the Brazilian version of the instrument, as testing in a specific population of postpartum women resulted in a structure different from that originally proposed by Di Pietro and Silveira (2009) in medical students, even within the same cultural context.

Psychometric studies of the BSQ consistently show that the first factor accounts for most shared variance among items, whereas additional factors contribute minimally and demonstrate lower stability across samples, supporting the centrality of a general body dissatisfaction construct (Pook, Tuschen-Caffier, & Brähler, 2008; Silva et al., 2016; Fernandes et al., 2023; Gao et al., 2025). Evidence from diverse cultural contexts also indicates preservation of this latent structure, characterized by the predominance of a general factor, although secondary components may emerge due to sample-specific or contextual variations (Yurtsever et al., 2022; Kang & Kim, 2022). From a psychometric modeling perspective, multifactor solutions in psychological instruments may reflect statistical decompositions associated with item content overlap rather than independent latent dimensions, particularly in scenarios with high shared variance among indicators (Marsh et al., 2014; Rodríguez, Reise, & Haviland, 2016).

The distribution of factor loadings provides convergent evidence for this structure. Items with the highest loadings were concentrated in content related to negative body evaluation, social comparison, and appearance monitoring—central constructs in the body image literature. These domains tend to show substantial variability in nonclinical populations, thereby contributing strongly to shared variance. In contrast, items assessing compensatory behaviors, such as self-induced vomiting (Q26), laxative use (Q32), and body modification ideation (Q16), showed low or non-significant loadings. This pattern indicates lower communality and limited discriminative capacity across the construct continuum, possibly due to their low prevalence and restricted variability in the analyzed sample. This interpretation is consistent with prior BSQ findings (Pook, Tuschen-Caffier, & Brähler, 2008), psychometric principles linking factor loadings to item variance (Clark & Watson, 1995; DeVellis, 2017; Hair et al., 2019), and

epidemiological evidence showing low frequency of compensatory behaviors in nonclinical populations (Stice, 2002; Mond et al., 2006).

These findings should be interpreted in light of the specific context of the postpartum period. During this time, body image is shaped by morphological changes associated with pregnancy, weight retention, alterations in body shape, and discrepancies between perceived and socially valued body ideals. Reviews and studies in perinatal populations indicate that postpartum body dissatisfaction is more strongly associated with negative self-evaluation, appearance-related discomfort, social comparison, and internalization of body ideals than with extreme compensatory behaviors (Fuller-Tyszkiewicz et al., 2012; Hodgkinson, Smith, & Wittkowski, 2014; Nagl et al., 2021; Crossland et al., 2023; Shen et al., 2024; Siqueira et al., 2025).

This body of evidence may explain the higher factor loadings observed for cognitive–affective items, whereas items related to more severe compensatory behaviors contributed less to shared variance. In postpartum women, concerns about body shape appear to be expressed more strongly as subjective discomfort, body-related self-criticism, and appearance monitoring rather than as behavioral manifestations associated with more severe eating pathology. In this context, the BSQ appears to capture the experiential core of body dissatisfaction with greater precision, although some items may have limited discriminative utility in this period.

Re-specification of the model, with exclusion of items showing low factor loadings, resulted in a more parsimonious structure while maintaining adequate fit indices. The removal of low-loading indicators can be justified when such items contribute minimally to shared variance and introduce measurement error (Brown, 2015; Hair et al., 2019). In addition, shorter versions may enhance the clinical and epidemiological applicability of the instrument, particularly in care settings such as the postpartum period, where time available for assessment is often limited.

Reduced versions of instruments may improve feasibility in clinical and epidemiological contexts without necessarily compromising validity when item reduction is conducted systematically (Clark & Watson, 1995). However, item removal should be approached cautiously, as decisions based solely on statistical criteria may compromise theoretical representativeness of the construct, requiring a balance between parsimony and content validity (Smith, McCarthy, & Anderson, 2000; Bandalos & Finney, 2019).

The high internal consistency coefficients observed in this study are consistent with strong inter-item covariance and the presence of a well-defined general factor. However, very high coefficients may also indicate item redundancy, particularly in long scales with semantically similar items (Streiner, 2003; Tavakol & Dennick, 2011). In the case of the BSQ, this issue has been previously noted and has supported the development of abbreviated versions that retain adequate psychometric properties (Evans & Dolan, 1993; Ghaderi & Scott, 2004; Pook, Tuschen-Caffier, & Brähler, 2008).

Overall, the findings support the adequacy of the Brazilian version of the BSQ for assessing concerns about body shape in postpartum women, providing empirical support for a unidimensional interpretation

of scores. These results contribute to the use of the instrument in studies involving perinatal populations and expand the empirical basis for measuring body dissatisfaction in the postpartum period.

Limitations

The findings of this study should be interpreted in light of several limitations. The sample comprised 268 postpartum women, which was sufficient for the analyses performed but remains limited for more extensive psychometric investigations involving a 34-item instrument. This may have affected the stability of some factor estimates, particularly for items with low response variability.

The sample also included women at different stages of the postpartum period, without analytical stratification by type or phase of postpartum. Given the body and emotional changes that characterize this period, it cannot be assumed that the observed internal structure remains invariant across different postpartum stages.

The cross-sectional design precluded the assessment of temporal stability of the scores, and the use of self-report measures may have influenced responses to socially sensitive or low-frequency items, such as those related to extreme compensatory behaviors. This pattern may have contributed to the weaker psychometric performance of some items in the present sample.

The analyses were also limited to parameters derived from Classical Test Theory, without incorporating Item Response Theory models. As such, aspects related to individual item functioning, measurement precision across different levels of the construct, invariance across subgroups, and the relationship between scores and clinically relevant external variables remain to be investigated.

LINKING EVIDENCE TO ACTION

- The Brazilian version of the BSQ demonstrated an internal structure consistent with a unidimensional interpretation in postpartum women, supporting its use for screening body shape concerns during this period.
- The use of the BSQ in clinical practice and care settings may facilitate early identification of body dissatisfaction in postpartum women, a factor associated with emotional distress and maternal mental health outcomes.
- The incorporation of standardized body image measures into nursing care may enhance comprehensive postpartum assessment and support interventions that are more responsive to the psychosocial demands of this period.
- Future studies should expand the psychometric evidence for the instrument across different perinatal contexts, including temporal stability, measurement invariance, and associations with clinically relevant maternal outcomes.

CONCLUSION

The Brazilian version of the BSQ demonstrated adequate psychometric properties in a sample of postpartum women, with empirical evidence supporting structural validity and internal consistency. Although exploratory factor analysis suggested the retention of multiple factors, findings from both exploratory and confirmatory factor analyses supported the interpretation of an essentially unidimensional structure, indicating that the instrument's items are organized around a general latent factor associated with concern and dissatisfaction with body shape.

This study contributes to the literature by providing evidence on the factorial structure of the BSQ in the postpartum context, a period still underexplored in psychometric studies of body image. The predominance of a general latent factor suggests that, in this population, shared variance among items is not structured into independent dimensions but rather reflects a single underlying trait.

The findings indicate that the BSQ is an appropriate measurement instrument for screening body dissatisfaction in the postpartum period, facilitating the identification of subjective aspects relevant to maternal mental health. The availability of an instrument with adequate psychometric properties in this context expands research possibilities and contributes to improving the quality of maternal health assessment.

Declarations

Author Contribution

M. R. do Amaral: Conceptualization, Investigation, Data curation, Project administration, Writing – original draft, Writing – review & editing. B. S. Souto: Investigation, Data curation, Writing – review & editing. L. R. C. da Silva: Investigation, Data curation, Writing – review & editing. P. E. de S. Campos: Investigation, Data curation, Writing – review & editing. C. A. N. de Oliveira: Investigation, Data curation, Writing – review & editing. V. D. S. Silva: Investigation, Data curation, Writing – review & editing. A. G. D. Saraiva: Investigation, Data curation, Writing – review & editing. L. F. R. Macedo: Conceptualization, Methodology, Formal analysis, Validation, Visualization, Writing – original draft, Writing – review & editing. C. T. Lopes: Methodology, Validation, Supervision, Writing – review & editing. G. de A. Delmondes: Conceptualization, Methodology, Software, Formal analysis, Validation, Visualization, Supervision, Writing – review & editing.

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Tables

Tables 1 to 4 are available in the supplementary files section

Figures

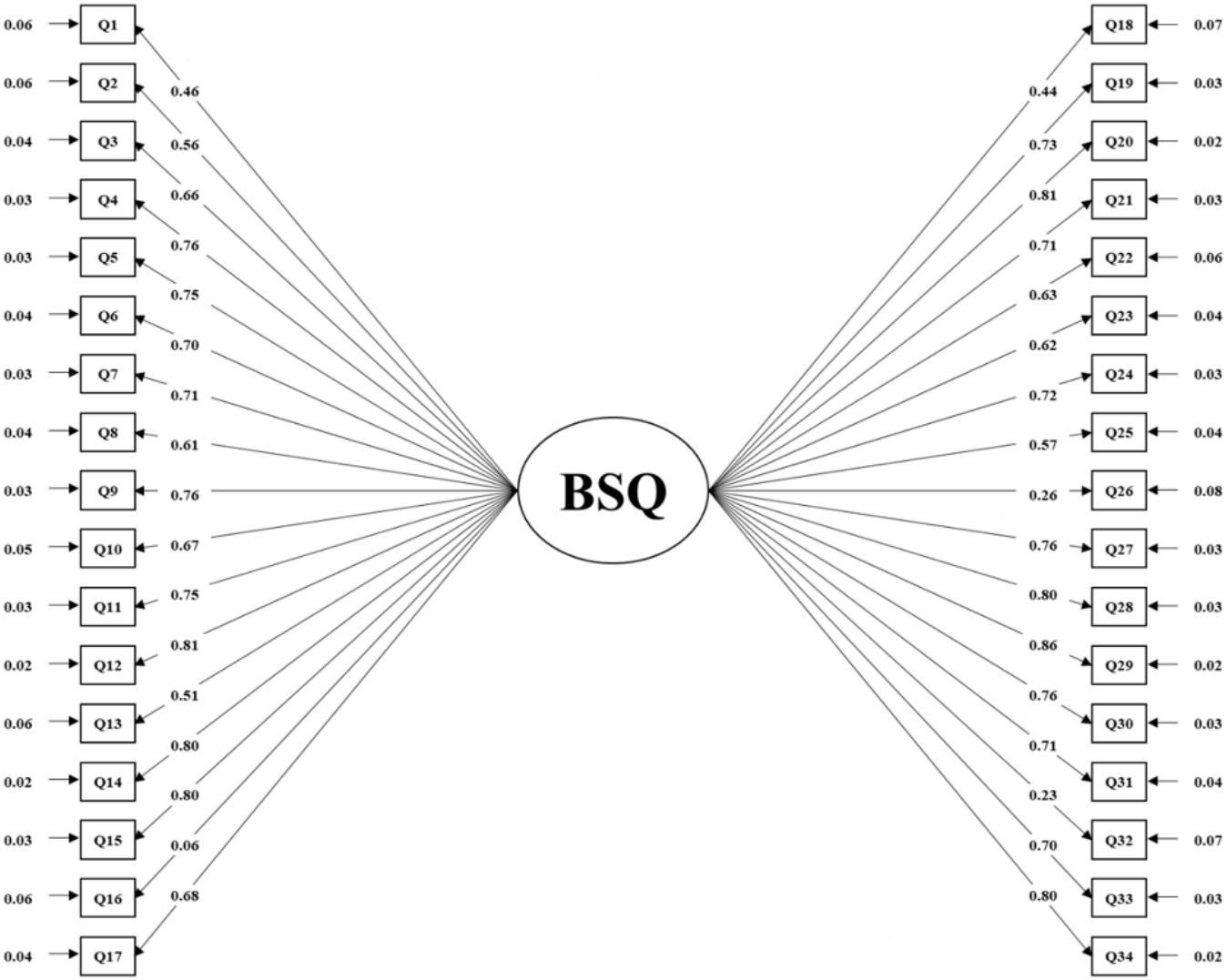


Figure 1

Original unidimensional factor model of the Brazilian version of the Body Shape Questionnaire (BSQ) applie d to postpartum women.

Note: Standardized factor loadings are presented for each item. The model was estimated using the Diagonally Weighted Least Squares method with robust correction (DWLS/WLSMV).

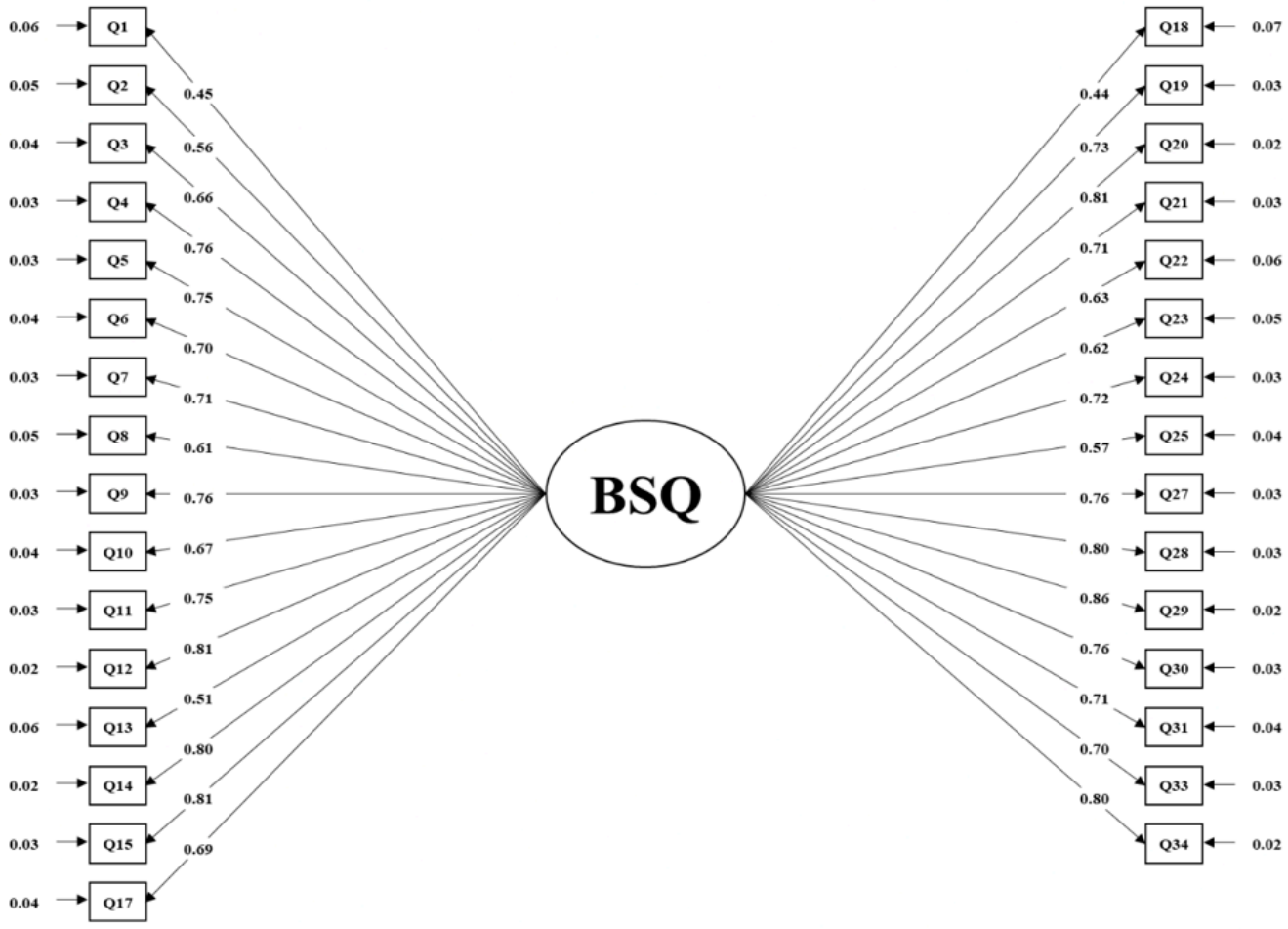


Figure 2

Re-specified unidimensional factor model of the Brazilian version of the Body Shape Questionnaire (BSQ) applied to postpartum women.

Note: The re-specified model excluded items Q16, Q26, and Q32 due to factor loadings below the recommended threshold (λ < 0.30). Standardized factor loadings are presented for the remaining items. The model was estimated using the Diagonally Weighted Least Squares method with robust correction (DWLS/WLSMV).

Supplementary Files

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- Tables.docx