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Research Article

Cross-Cultural Validity and Reliability of the Birth Satisfaction Scale-Revised (BSS-R): A Systematic Review

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Abstract

The Birth Satisfaction Scale-Revised (BSS-R) is used to assess women's satisfaction with childbirth experiences. With an increase in its popularity, many studies have translated and validated the BSS-R in different languages and cultures. This review examined the validity and reliability of the translated versions of the BSS-R. A search was done across three research databases (PubMed, ScienceDirect, and EBSCO essentials) to identify related studies. In addition, manual searches were conducted on the reference lists of the identified studies. Only studies published within the past twenty-year period (2004-2024), in English language, in peer reviewed journals, and assessed the psychometric properties of translated BSS-R versions were considered. Relevant data were extracted using a form, and analysed descriptively. Eight studies involving 2,730 women from diverse countries (Turkey, Japan, Iran, Saudi Arabia, Nigeria, and Hungary) met the inclusion criteria. confirmatory factor analysis consistently supported the three-factor structure of the BSS-R. Cross-cultural validity was generally high, with values ranging from 0.88-0.99 (Acceptable level > 0.85). A greater proportion of the studies (5 out of 8) reported internal consistency above 0.70 for the total scale, but there were mixed results in the internal consistency of the subscale domains. Stress Experienced (0.41-0.80) and Women's Attributes (0.41-0.71) inadequate internal consistency than Quality of Care (0.72-0.86).The BSS-R demonstrated satisfactory validity across cultural contexts, supporting its widespread use for measuring birth satisfaction. The less optimal subscale internal consistency indicates a need for further research on BSS-R adaptation and validation.

Keywords: birth; cross-cultural comparison; postpartum period; satisfaction

Introduction

Birth satisfaction is an indicator of maternity care quality (Lazzerini et al., 2020). On one hand, positive satisfaction with birth experience can limit fear of childbirth and promote favourable reproductive health decisions (Eitenmüller et al., 2022). On the other hand, poor satisfaction with birth experience may promote postpartum depression and long term birth-related phobia (Demirel et al., 2022). Assessing birth satisfaction is therefore essential for evaluating the quality of maternity care and identifying areas for improvement (Liu et al., 2021). The Birth Satisfaction Scale-Revised (BSS-R) is a widely used tool for assessing and quantifying women's satisfaction with childbirth experience (Doherty et al., 2023). The tool was originally developed in the United Kingdom by Martin and Martin (2014) to provide a comprehensive assessment of three domains: Quality of Care, Women's Attributes, and Stress Experienced during labour and delivery. The 10-item scale has gained popularity for its brevity and ease of use (Emmens et al., 2023). Researchers and clinicians consider the BSS-R valuable as it allows for a quick and thorough assessment of birth satisfaction (Nespoli, et al., 2021). More so, clinicians anticipate that the tool can facilitate comparisons across healthcare systems, populations, and cultures. In light of the cultural diversity in childbirth practices and healthcare systems globally, the BSS-R has undergone translation and validation across multiple languages to ascertain its applicability across various cultures (Ratislavová et al., 2024). The cross-cultural adaptation of tools such as the BSS-R is crucial for preserving both linguistic and conceptual equivalence which ensures that the tool effectively mirrors the experiences and anticipations of women across diverse cultural backgrounds (D'Sa et al., 2024). The process of cross-cultural adaptation generally entails a rigorous sequence of translation, back-translation, psychometric validation, and reliability testing for validity, reliability and internal consistency within different cultural contexts (Fellmeth et al., 2021). Despite the widespread use of BSS-R, there exists a notable lack of systematic reviews concerning its psychometric properties across cultural settings. While numerous studies like Abrán et al. (2024), Anikwe et al.

(2022), and Ratislavová et al. (2022) have reported on reliability and validity of BSS-R following translation into various languages; the findings have not been organized and synthesised in previous literature to reflect the true picture of its cross cultural validity and reliability. A review is necessary to determine how well BSS-R performs across different cultures and to identify potential gaps or areas where further validation is required. This systematic review aimed to collate and synthesize findings from previous studies that have translated and validated BSS-R in different languages and cultural contexts. This review seeks to inform and contribute to improving measurement of birth satisfaction in diverse cultures and healthcare settings.

Methods

Study Design and Search Strategy

This review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Sarkis-Onofre et al., 2021). Three databases (PubMed, ScienceDirect, EBSCO essentials) were systematically searched for studies on the validation of the BSS-R. The search terms included: (Validity OR Reliability) AND (Birth Satisfaction Scale-Revised OR BSS-R). The search was limited to peer-reviewed articles published between 2004 and 2024. A manual search on the list of references in the identified studies were also conducted using the ancestor and descendant approach.

Eligibility Criteria

Studies were included if they translated and validated the BSS-R, reported psychometric properties (validity and reliability), had available full-text, and published in English language. Reviews, commentaries, and conference abstracts were excluded.

Data Extraction

The titles and abstracts of retrieved studies were independently assessed by members of the research team. The full text versions of the studies were then examined for eligibility, and data extraction was done using a form. Collected data included: author and year of publication, country, sample size, translation language; content, construct and cross-cultural validity, internal consistency and reliability (Intraclass Correlation Coefficient [ICC], Spearman rho). All discrepancies in the data independently obtained by the research team members were resolved by discussion and consensus.

Quality Assessment

The quality of the studies was appraised using the COSMIN Risk of Bias checklist for methodological quality (Mokkink et al., 2020). Each study was independently rated by the members of the research team as excellent, good, fair, or poor. Dissimilarities in ratings were resolved through discussion until consensus was reached, and only studies rated fair to excellent were included.

Data Synthesis

A descriptive synthesis approach was used to summarize the psychometric properties reported across studies. Ranges of psychometric indices were reported. No meta-analysis performed.

Results

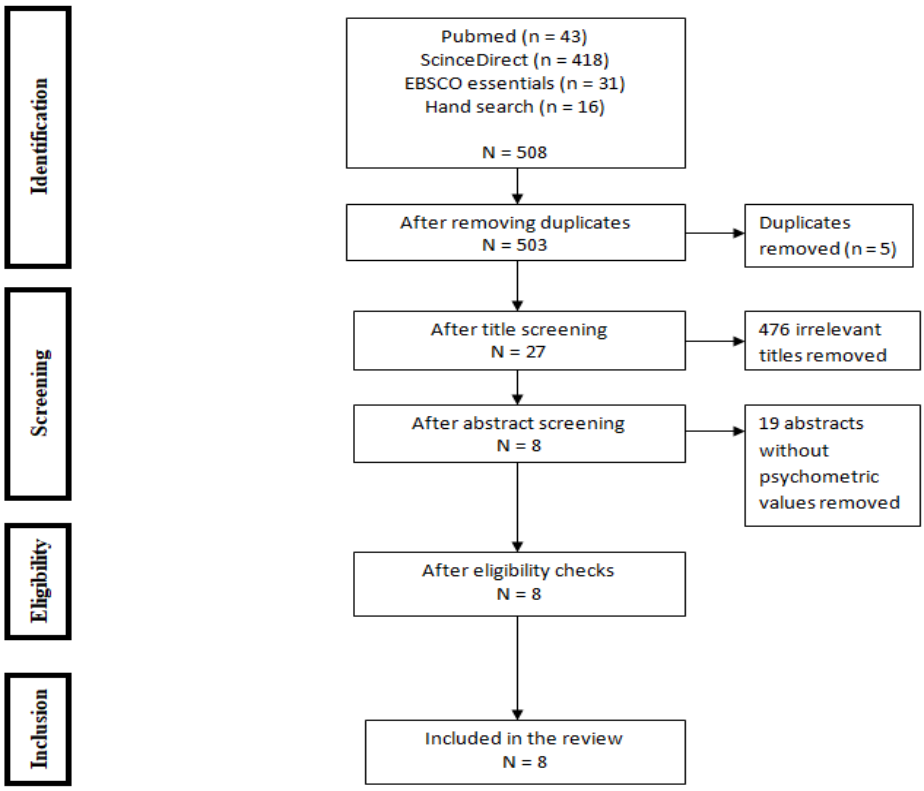

Figure 1: Prisma flow diagram.

The Preferred reporting items for systematic reviews and meta-analyses PRISMA flow diagram in Figure 1 presents the study selection process. The initial search yielded a total of 508 studies. After removing 5 duplicate records, 503 studies remained for title and abstract screening. During this phase, 476 non-related titles and 19 abstracts were excluded due to failure to meet inclusion criteria. A total of 8 full-text articles were assessed for eligibility and included in the review.

Author (Year)	Country of Study	Study Design	Sample Size	Sample Description	Language of Translation	Content Validity	Construct validity	Cross Cultural Validity	Total Scale Internal Consistency	Subscale Internal Consistency			Reliability ICC or Spearmanrho)
										Stress Experienced	women 'Attributes	Quality of Care	
Göncü Serhatlıoğlu et al. (2018)	Turkey	Survey with Confirmatory Factor Analysis (CFA)	120	Healthy childbearing women who experienced spontaneous delivery at term	Turkish	Not specified	Confirmed using CFA for a three-factor structure	0.94	0.71	0.55	0.44	0.74	Not specified
Tezuka et al. (2024)	Japan	Internet-based cross-sectional study with CFA	445	Japanese- women within 2 months of childbirth	Japanese	Not specified	Confirmed using CFA for a three-factor structure	Not specified	0.71	Not specified	Not specified	Not specified	Not specified
Mortazavi et al. (2021)	Iran	Survey with CFA	784	Women hospitalized in postpartum wards	Persian	Not specified	Confirmed using CFA for a three-factor structure	Not specified	0.76	0.53	0.63	0.72	Not specified
Nasiri et al. (2020)	Iran	Methodological cross-sectional study with CFA	212	Postpartum women who gave birth in the last year	Persian	Expert feedback Content validity index not specified	Confirmed using CFA for a three-factor structure	0.98	0.74	0.80	0.70	0.76	0.77
D'Sa et al. (2024)	Saudi Arabia	Cross-sectional study with CFA	218	Saudi women	Arabic	Not specified	Confirmed using CFA for a three-factor structure	0.88	0.40	0.41	0.41	0.86	Not specified
Anikwe et al. (2022)	Nigeria	Crossse ctional study with reliability and validation analyses	500	Postpartum women at a University Teaching Hospital	Igbo	Not specified	Not specified	Not specified	0.62	Not specified	Not specified	Not specified	0.65
Gökmen et al.	Turkey	Methodological study with	219	Women in the maternity ward	Turkish	Assessed through specialist feedback	Confirmed using CFA for a three-	0.90	0.72	0.70	0.71	0.78	Not specified

(2022)		EFA and CFA		of a State Hospital			factor structure						
Abrán et al. (2024)	Hungary	Validation study	232	Postpartum women in a hospital maternity unit	Hungarian	Not specified	Confirmed using CFA for a three-factor structure	0.99	Not specified	Not specified	Not specified	Not specified	Not specified

CFA = Confirmatory Factor Analysis; EFA = explanatory factor analysis; cross cultural validity > 0.85 = acceptable; internal consistency > 0.70 = acceptable, reliability > 0.70 acceptable

Table 1: Description of the included studies

Table 1 shows the characteristics of all eight studies included in this review, which was conducted in six countries: Turkey, Japan, Iran, Saudi Arabia, Nigeria, and Hungary. These studies involved a total of 2,730 postpartum women, recruited in hospitals or health centres. The BSS-R was translated into Arabic, Hungarian, Igbo, Japanese, Persian (in two studies), and Turkish (in two studies). Content validity was assessed in two studies (Nasiri et al., 2020; Gökmen et al., 2022) but the content validity index was not specifically reported. Cross-cultural validity was extensively evaluated, with most studies confirming acceptable results with Confirmatory Factor Analysis (CFA) index ranging from 0.88 to 0.98. The internal consistency was acceptable across the studies with Cronbach's alpha for the entire scale ranging from 0.62 to 0.76 with most reporting above the 0.70 criterion. Nonetheless, the subscale internal consistency was suboptimal for "Stress Experienced" (range: 0.40-0.80), "Women's Attributes" (0.41-0.71), and "Quality of Care" (0.41 and 0.86). Reliability, as measured using the intraclass correlation coefficient (ICC) or Spearman's rho, was reported in two studies and showed mixed results. Nasiri et al. (2020) found an ICC reliability value of 0.77, which is considered acceptable, whereas Anikwe et al. (2022) reported a Spearman's rho value of 0.65, which is slightly below the acceptable threshold of 0.70.

Discussion

This review found that the BSS-R has good cross-cultural validity. This indicates that the scale measures the intended constructs consistently across different cultural settings. This finding corroborates Radoš et al. (2022) and Ratislavová et al. (2022) who reported that the scale has adequate and acceptable psychometric results and can be used in multicultural settings. This review noted that the BSS-R had suboptimal scale and subscale internal consistency. This finding highlights potential differences in how aspects of birth satisfaction are perceived or experienced across cultures, suggesting the need for further refinement. This finding supports D'Sa et al.'s (2024) call for further adaptation and fine tuning efforts on the BSS-R. The call for further adaptation studies also aligned with Mortazavi et al. (2021). This review revealed mixed results concerning the reliability of the BSS-R assessed through intraclass correlation coefficient (ICC) or Spearman's rho. This finding indicates variability in how reliably the BSS-R measures birth satisfaction over time in different cultural settings. This finding contrasted Nasiri et al. (2020) who wrote that the scale has adequate stability. This finding indicates that future studies need to focus on testing the short and long term test-retest reliability of the BSS-R.

Limitations

The review only included studies published in English, potentially excluding valuable research conducted in non-English-speaking regions.

This may have affected the assessment of cross-cultural validity from studies in non-English speaking countries. Additionally, this systematic review started as an academic exercise, therefore was not registered in PROSPERO.

Conclusion

BSS-R demonstrated a strong cross-cultural validity and less optimal scale and subscale internal consistency. The results of this study indicate a need for further validation studies. Careful consideration of subscale reliability and ongoing validation efforts are recommended to ensure applicability across cultures and clinical settings.

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