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Translation and validation of the Czech Partner version of the Birth Satisfaction Scale-Revised (BSS-R)

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ABSTRACT

Background: The Birth Satisfaction Scale-Revised (BSS-R) is a widely used, psychometrically robust and brief self-report measure of birth experience from the mothers perspective. The current study sought to adapt and validate the BSS-R for partners, evaluating key psychometric properties, including the underlying tri-dimensional factor structure of stress experienced, personal attributes and quality of care.

Aim: To translate and validate a Czech speaking partner version of the Birth Satisfaction Scale-Revised (BSS-R) and examine key measurement characteristics and association with fundamental clinical outcome variables.

Method: Following translation of the UK partner BSS-R into Czech, the Czech Partner BSS-R (CZP-BSS-R) was administered to 225 partners of women who had given birth within the past 5-years. Key psychometric characteristics were examined, including factor structure, divergent and known-groups discriminant validity and internal reliability,

Results: Established measurement models of the BSS-R observed in mothers were found to offer an excellent fit to partner data. The CZP-BSS-R also demonstrated excellent validity and reliability characteristics.

Conclusions: The CZP-BSS-R was found to be valid and reliable, with results from Czech partners 'mirroring' factor structure and key validity characteristics previously established in Czech mothers. The BSS-R validated for completion by Czech speaking mothers now has a matched version available for use with Czech speaking partners.

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Introduction

Childbirth is an important event in every family's life (Larkin et al., 2009), and has great psychological significance for women (Hall & Wittkowski, 2006). Evidence has shown that a negative birth experience stems from feelings of disconnection, powerlessness and women perceiving that their bodies have failed them

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(Henriksen et al., 2017). Together these factors can have a long-term impact on women's well-being (Garthus-Niegel et al., 2013) and can lead to development of Post Traumatic Stress Disorder (PTSD) (Skvirsky et al., 2020), problematic relationships with their infant (Williams et al., 2016b), a reduced desire for further children and requests for future Caesarean sections (Henriksen et al., 2017). Other influencers of a birth experience include woman's personal history, health facility setting, past experiences, neonatal health, sense of safety, pain experience and clinical management of the birth event (Simpson & Catling, 2016).

In contrast, a positive birth experience involves the woman experiencing trusting relationships with maternity care professionals, accompanied by feeling in control, empowered, satisfied and confident (Nilsson et al., 2013).

Whether a positive or negative experience, childbirth represents a major psychological transition, which brings significant changes to the family unit (Aune et al., 2015). Birth satisfaction signifies an important sophisticated multidimensional construct, which incorporates women's personality characteristics, individual perception of stressors, and subjective appraisal of care given (Hollins Martin & Martin, 2014).

To date, birth satisfaction and its associated consequences have only been explored in diverse populations of postnatal women. In the modern world and particularly the west, it is the norm for partners to be present during childbirth, which generates relevance for exploring this perspective of birth satisfaction (Vischer et al., 2020). When effective preparation and quality care is delivered to both parents, dual birth satisfaction intensifies bonding and connections within the family unit (Johansson et al., 2015). Quality birth preparation can reduce fear and realign mismatches between expectations and reality, with good support facilitating adaption to parenthood and retrospective processing of complications (Elmir & Schmied, 2022). Fundamentally the point being emphasised here is that evaluation of both parents' birth experience holds relevance (van Vulpen et al., 2021), with this study specifically focusing upon measuring partners levels of birth satisfaction. The Birth Satisfaction Scale-Revised (BSS-R) (Hollins Martin & Martin, 2014), a short multi-dimensional measure of birth experience from the mothers perspective, may be ideal to assess the partners birth experience if it can be suitably adapted and has acceptable measurement properties in this group. The BSS-R has been widely translated and validated (Emmens et al., 2023; Grundstrom et al., 2023) with studies supporting the underpinning theoretical model of three correlated factors and associated sub-scales of stress experienced during childbearing (SE), womens attributes (WA) and quality of care (QC). Bifactor modelling (Martin et al., 2018) has also demonstrated the utility of using the BSS-R total score. The correlation between the SE and WA factors has been observed to be high in some studies (Moreira et al., 2023) and thus a two-factor model of combined SE/WA items correlated with QC items has also been evaluated and found to offer a good fit to data (Moreira et al., 2023). The BSS-R has been observed to have excellent known-groups discriminant validity characteristics, with many studies highlighting BSS-R score differences in relation to delivery/birthing type (Abran et al., 2024; Grundstrom et al., 2023; Nakić Radoš et al., 2022). To this end, the study herein sought to translate and validate a Czech language partner version of the Birth Satisfaction Scale-Revised (BSS-R), which has been named the CZP-BSS-R. To achieve this aim, the study had the following objectives:

- (1) Evaluate the measurement fit of the tri-dimensional measurement model of the BSS-R to the Czech Partner version of the BSS-R (CZP-BSS-R).
- (2) Determine the divergent validity of the CZP-BSS-R.
- (3) Evaluate the internal consistency of the CZP-BSS-R: *Quality of Care* (QC), *Partner's Attributes* (PA) and *Stress Experienced* (SE) sub-scales and total CZP-BSS-R scale scores.
- (4) Determine known-groups discriminant validity of the CZP-BSS-R with respect to birth/delivery type, parity and term.
- (5) Contextualize psychometric findings to determine if the conceptual model of the BSS-R in mothers is transferable to partners.

It is hypothesised that the CZP-BSS-R will have acceptable psychometric measurement properties for use for Czech speaking partners of birthing women.

Method

A cross-sectional design was used to address Objectives 1–4, and an embedded between-subjects design to tackle Objective 5. The statistical observations from Objectives 1–5 were then synthesised to address Objective 6.

Ethical approval

Ethical approval was received from the Ethics Committee for Research of the University of West Bohemia under project number ZCU 000795/2024.

Translation processes

First, a preliminary translation of the original UK partner BSS-R was carried out. This translation involved two Czech native bilingual translators who worked independently. Disparities observed were minimal and through discussion a *Draft 1*: CZP-BSS-R was agreed. Next, two native English speaking professional translators converted the *Draft 1*: CZP-BSS-R back into English to produce a *Draft 2*: CZP-BSS-R. Third, an expert committee evaluated each forward and backward translation. Snags were resolved to produce a *Draft 3*: CZP-BSS-R, which was pilot tested on male birth partners ($n = 35$). Based upon feedback, a final CZP-BSS-R was agreed for use in this validation study.

Validation participants

A purposive sample of Czech speaking postnatal birth partners ($N = 225$) were recruited online using selected discussion forums focused upon parenting. Inclusion criteria involved being > 18 -years of age, a native Czech speaker, having a partner who had given birth within the past 5-years and to be personally present at the birth. All partners who participated in this study were male. Participants provided informed consent, with confidentiality assured.

Instrument

Recruited participants completed a three-part questionnaire. *Part 1* focused upon basic demographic data (e.g. age, marital status, education, socioeconomic status and religion); *Part 2* asked about number of children, date of last birth, multiple children, type of delivery, place of birth and length of labour. Two rating scales were then presented. The first asked how dramatic the last birth partner event was (1 = not traumatic; 10 = extremely traumatic) and the other enquired about global satisfaction with the last birth partner experience (1 = lowest satisfaction; 10 = highest satisfaction); *Part 3* presented the newly translated CZP-BSS-R.

The CZP-BSS-R uses an identical item response format to the mother BSS-R (Hollins Martin & Martin, 2014), with minor adjustments made to ensure fittingness for use by partners. With similarity, the partner version measures domains of *Quality of Care* (QC) (4-items), *Partner's Attributes* (PA) (2-items) and *Stress Experienced During Childbirth* (SE) (4-items). Items are scored on a 0–4 five-point Likert scale, with higher scores representing greater birth satisfaction. Sub-scale scores and total score calculates a range of 0–40.

Participant characteristics

Examination of Mahalanobis distances (Mahalanobis, 1936) revealed three multivariate outliers (from BSS-R data), which were removed. Complete CZP-BSS-R data for analysis thus comprised 222 participants (mean age = 35.22 (SD = 5.50), range = 24–64 years). The majority of mothers delivered near/on the due date ($N = 189$, 85%), while 18 (8%) delivered 3 weeks or more before the due date, and 15 (7%) delivered 2 weeks or more after the due date. Mean duration of labour was 8.77 (SD = 10.25), range = 0.45–90 hours. One-hundred and sixty-seven (75%) women had a spontaneous vaginal delivery; 15 (7%) had an assisted vaginal delivery, 20 (9%) had an emergency Caesarean section, and 20 (9%) had an elective Caesarean section. A small majority of women were having their first baby ($N = 117$, 53%). The time since delivery ranged from within 1 month postpartum to 60 months (mean months = 22.18 (SD = 16.89), range = 0–60 months).

Data-analysis

Confirmatory factor analysis

Consistent with previous translation and validation studies of the BSS-R, confirmatory factor analysis (CFA) (Brown, 2015; R. B. Kline, 2015) was used to evaluate the three-factor measurement model of correlation domains of SE, PA and QC. A bifactor model comprising a primary domain of birth experience and three (uncorrelated) domains of SE, PA and QC was also evaluated. A two-factor model comprising combined SE and PA items as a factor in the model correlated with the QC factor, thus this two-factor model was also evaluated. Finally, a single-factor model evaluating the BSS-R as a unidimensional construct was evaluated. It was hypothesised that the single-factor model would offer a poor fit to the data due to established multidimensionality of the BSS-R. Model fit acceptability was based on comparative fit index (CFI) (Bentler, 1990) >0.90, root mean squared error or approximation (RMSEA) (Steiger & Lind, 1980) <0.08 and the square root mean residual (SRMR) (Hu & Bentler, 1999) <0.06.

Divergent validity

Consistent with previous studies, divergent validity was determined by correlation of CZP-BSS-R sub-scale scores and the total scale score age (Abran et al., 2024). Correlations (Pearson's r) between CZP-BSS-R scores (total and sub-scale) and age were predicted to be low ($r < 0.20$) (Akoglu, 2018).

Internal consistency

The traditional approach of using Cronbach's alpha (Cronbach, 1951) to evaluate all three CZP-BSS-R sub-scales and total scale score was adopted with values of 0.70 or higher considered acceptable (P. Kline, 2000). The PA sub-scale comprises two items, thus internal consistency of this sub-scale was further determined with reference to the inter-item correlation (Pearson's r). Clark and Watson (1995) have suggested an r range of 0.15–0.50 is indicative of acceptability. Using the method of Diedenhofen and Musch (2016), the current study sub-scale and total scale Cronbach's alpha were compared with those reported by Hollins Martin and Martin (2014) and Ratislavova et al. (2022). Finally, we report McDonalds Omega (ω), Omega hierarchical (ω_h) and Omega total (ω_t) as a contemporary approach to internal reliability appraisal (Hayes & Coutts, 2020; Revelle & Condon, 2019) and referenced to contemporary threshold values (Nájera Catalán, 2019).

Known-groups discriminant validity

Known-groups discriminant validity was determined by comparison of CZP-BSS-R scores as a function of birth/delivery type. Comparisons between the CZP-BSS-R sub-scale and total scores was undertaken using between-subjects one-way analysis of variance (ANOVA), with post-hoc comparisons undertaken using the Bonferroni test in the event of a statistically significant overall finding. It has been noted by Hochman et al. (2023) that multiparity is associated with better birth experience compared with first-time mothers, that is a finding also observed in a number of BSS-R translation and validation studies (e.g. Abran et al., 2024). Consequently, parity was evaluated as a known-groups discriminant validity variable, with statistical comparisons between groups undertaken using the between-subject t -test. To facilitate further comparisons with the Czech mothers BSS-R study (Ratislavova et al., 2022), a comparison between groups differentiated by the term status of the mother (pre-term <37 weeks, term 37–42 weeks, post-term >42 weeks) was carried out. The statistical approach used was the same as the birth/delivery type analysis.

Data analysis was undertaken using the R programming language (R Core Team, 2023) and the R software packages Lavaan (Rosseel, 2012), Psych (Revelle, 2024) and Cocron (Diedenhofen and Musch (2016).

Results

Distributional characteristics

The summary and distributional characteristics of the CZP-BSS-R (items, sub-scales and total score) are shown in Table 1. There was no evidence of excessive skew or kurtosis.

Table 1. Mean, standard deviation and distributional characteristics of individual *CZP-BSS-R* items, sub-scale totals and the total *CZP-BSS-R* score.

Item	Item content	Domain	Mean	SD	Min	Max	Skew	Kurtosis	se
BSS-R 1	I came through childbirth experience virtually unscathed	SE	3.28	0.91	0	4	-1.41	1.77	0.06
BSS-R 2	I thought the labour was excessively long	SE	2.27	1.33	0	4	-0.38	-1.09	0.09
BSS-R 3	The delivery room staff encouraged us to make decisions about how we wanted the birth to progress	QC	2.59	1.12	0	4	-0.67	-0.21	0.07
BSS-R 4	I felt very anxious during the labour and birth	PA	2.39	1.20	0	4	-0.52	-0.76	0.08
BSS-R 5	I felt well supported by staff during the labour and birth	QC	2.74	0.95	0	4	-0.74	0.38	0.06
BSS-R 6	The staff communicated well with me during labour	QC	2.88	0.94	0	4	-1.14	1.38	0.06
BSS-R 7	I found the birth a distressing experience	SE	2.54	1.26	0	4	-0.55	-0.85	0.08
BSS-R 8	I felt out of control during the birth experience	PA	2.47	1.21	0	4	-0.65	-0.49	0.08
BSS-R 9	I was not distressed at all during labour	SE	1.64	1.12	0	4	0.40	-0.78	0.07
BSS-R 10	The delivery room was clean and hygienic	QC	3.71	0.50	1	4	-1.67	3.20	0.03
Stress	Sub-scale total		9.73	3.41	0	16	-0.37	-0.32	0.23
Attributes	Sub-scale total		4.86	2.19	0	8	-0.59	-0.56	0.15
Quality	Sub-scale total		11.92	2.81	3	16	-0.91	0.83	0.19
Total	Total score		26.51	6.72	4	40	-0.61	0.45	0.45

* Domain of the *CZP-BSS-R*. SE, stress experienced during childbearing; PA, partner's attributes; QC, quality of care; se, standard error of the mean.

Table 2. Confirmatory factor analysis and model fit of the *CZP-BSS-R*.

Model	χ^2	df	p	RMSEA	SRMR	CFI
1. Single factor	332.00	35	<0.001	0.196	0.140	0.688
2. Three-factor	48.753	32	0.029	0.049	0.049	0.982
3. Two-factor	50.903	34	0.031	0.047	0.049	0.982
4. Bifactor*	34.497	26	0.123	0.038	0.042	0.991

No significant difference was observed between the three-factor and two-factor models using the Chi-square differences test, $\text{diff} = 2.15$ ($\text{df} = 2$), $p = 0.34$. * Model comprising one global factor and three uncorrelated factors.

Confirmatory factor analysis

Table 2 summarises CFA findings. As predicted, the single-factor model offered a poor fit to data. The tri-dimensional measurement model of the BSS-R (Hollins Martin & Martin, 2014) offered an excellent fit to CZP-BSS-R data. The two-factor model also offered an excellent fit to data. The chi-square differences test ($\Delta\chi^2 = 2.15$, $\text{df} = 2$, $p = 0.34$) revealed no statistically significant difference between the three-factor and two-factor models. The bifactor model also offered an excellent fit to data.

Divergent validity

Correlations between participant age and SE, PA, QC sub-scales and total CZP-BSS-R score were $r = 0.14$, $p = 0.04$, $r = 0.03$, $p = 0.63$, $r = 0.03$, $p = 0.63$ and $r = 0.07$, $p = 0.33$, respectively. All r values were below the criterion of 0.20, though the correlation between participant age and the SE sub-scale score was statistically significant ($p < 0.05$).

Internal consistency

Cronbach's alpha for all CZP-BSS-R sub-scales and total scale were > 0.70 (Table 3). Alpha for the PA sub-scale was observed to be significantly higher than that reported in the

Table 3. Cronbach's alpha of *CZP-BSS-R* sub-scales and total score and comparison with the original UK BSS-R validation study (Hollins Martin & Martin, 2014) and the Czech translation for use in Czech-speaking mothers (Ratislavova et al., 2022). Degrees of freedom = 1.

Sub-scale	Current study	UK study	Czech study	χ^2	p
Stress	0.709*	0.71		<0.01	0.98
Attributes	0.80	0.64		6.27	0.01
Quality	0.78	0.74		0.93	0.33
Total score	0.83	0.79		2.04	0.15
Stress	0.71		0.77	2.46	0.12
Attributes	0.80		0.76	0.80	0.37
Quality	0.78		0.83	3.05	0.08
Total score	0.83		0.87	4.52	0.03

Calculated to three decimal points to allow comparison with the UK study.

Table 4. Comparison of *CZP-BSS-R* total and sub-scale scores differentiated by mode of birth. Standard deviations are in parentheses, degrees of freedom = 3,218.

BSS-R Scale	Assisted Vaginal Birth (n = 15) M (SD)	Unassisted Vaginal Birth (n = 167) M (SD)	Emergency Section (n = 20) M (SD)	Elective Section (n = 20) M (SD)	F	p	ω^2	95% CI	Effect size
Stress	7.13 (3.44) ^{a,b}	10.13 (3.32) ^{b,d}	7.60 (3.02) ^{c,d}	10.45 (3.02) ^{a,c}	7.09	<0.001	0.08	0.02–0.14	Small
Attributes	3.67 (2.44)	5.06 (2.13)	3.95 (2.33)	5.05 (2.01)	3.24	0.02	0.03	0.00–0.08	Small
Quality	10.27 (4.01)	12.15 (2.57)	11.75 (3.21)	11.40 (3.05)	2.40	0.07	0.02	0.00–0.06	Small
Total score	21.07 (8.16) ^a	27.34 (6.30) ^a	23.30 (6.57)	26.90 (6.84)	6.04	<0.001	0.06	0.01–0.13	Small

^{a,b,c,d}Statistically significant ($p < 0.05$) Bonferroni-adjusted differences between group pairs.

Table 5. Comparison of *CZP-BSS-R* total and sub-scale scores differentiated by parity. Standard deviations are in parentheses, degrees of freedom = 220.

BSS-R Scale	Primiparous (N = 117)	Multiparous (N = 105)	95% CI	t	p	Hedges g	Hedges g 95% CI	Effect size
Stress	9.20 (3.54)	10.31 (3.18)	0.22–2.01	2.47	0.01	0.33	0.06–0.60	Small
Attributes	4.65 (2.36)	5.10 (1.97)	–0.12–1.03	1.55	0.12	0.21	–0.06–0.47	Small
Quality	11.89 (2.86)	11.95 (2.77)	–0.68–0.81	0.17	0.87	0.02	–0.24–0.29	Negligible
Total score	25.74 (7.14)	27.37 (6.15)	–0.14–3.41	1.82	0.07	0.24	–0.02–0.51	Small

original UK study and the total score alpha was significantly lower, though excellent compared to the Czech mothers BSS-R validation study. Inter-item correlation of the two PA items exceeded the threshold of Clark and Watson (1995), with $r = 0.66$, $p < 0.05$. Total scale McDonalds Omega (ω), Omega hierarchical (ω_h) and Omega total (ω_t), were 0.84 (95% confidence interval = 0.80–0.87), 0.69 and 0.89, respectively, indicating acceptability.

Known-group discriminant validity

A highly statistically significant difference was observed as a function of delivery/birth type for the SE sub-scale and total *CZP-BSS-R* score, with a statistically significant difference for the PA sub-scale (Table 4). Bonferroni post-hoc testing revealed that, while there were no significant differences between unassisted vaginal delivery and elective

Table 6. Comparison of CZP-BSS-R total and sub-scale scores differentiated by term status. Standard deviations are in parentheses, degrees of freedom = 2,219.

BSS-R Scale	Pre-term (<i>n</i> = 18) M (SD)	Term (<i>n</i> = 189) M (SD)	Post-term (<i>n</i> = 15) M (SD)	<i>F</i>	<i>p</i>	ω^2	95% CI	Effect size
Stress	9.00 (2.91)	9.84 (3.42)	9.13 (3.85)	0.74	0.48	0.00	0.00–0.01	Very small
Attributes	4.33 (2.45)	4.96 (2.16)	4.27 (2.25)	1.28	0.28	0.00	0.00–0.02	Very small
Quality	10.22 (3.04) ^a	12.18 (2.73) ^a	10.67 (2.72)	5.82	<0.005	0.04	0.00–0.10	Small
Total score	23.56 (5.75)	26.98 (6.73)	24.07 (6.75)	3.26	0.04	0.02	0.00–0.07	Small

^aStatistically significant ($p < 0.05$) Bonferroni-adjusted differences between group pairs.

Caesarean groups, both had significantly higher SE scores compared to assisted vaginal delivery and emergency Caesarean. The total CZP-BSS-R score was significantly higher in the unassisted vaginal delivery group compared to the assisted vaginal delivery group.

SE sub-scale scores were observed to be significantly higher in the multiparous group compared to the primiparous group. No other statistically significant differences were observed (Table 5).

Comparisons between groups as a function of gestational term status (Table 6) revealed statistically significant overall ANOVAs for the QC sub-scale and the CZP-BSS-R total score.

Discussion

Findings have significant implications beyond translation and validation of a CZP-BSS-R for use with Czech speaking partners of birthing women. Consistent with most other translation and validation BSS-R studies (e.g. Jefford et al., 2018; Nakić Radoš et al., 2022; Skvirsky et al., 2020), the CZP-BSS-R demonstrates normal distributional characteristics. Model fit characteristics from the CFA were found to be excellent as regards the three-factor measurement model and the bifactor model.

These findings are incredibly interesting for three reasons. Firstly, findings are remarkably consistent with recent BSS-R studies in which data was gathered from mothers (e.g. Abran et al., 2024). Secondly, findings support future use of the CZP-BSS-R as both a sub-scaled (three-factor measurement model) and total score (bifactor model) instrument. Thirdly and perhaps more remarkably, partner birth experience was found to mirror that of mothers in prior BSS-R studies (e.g. Abran et al., 2024; Hollins Martin & Martin, 2014).

The third observation has considerable implications beyond validation aspects of this study, because mirroring effects in factor structure for partners match that of mothers (e.g. Jefford et al., 2018; Nakić Radoš et al., 2022; Skvirsky et al., 2020). For example, in the SE sub-scale, partners experienced similar types of stress as mothers, which is reflected in responses to items 1, 2, 7 and 9 (Table 1). Baranowska et al. (2020) found that the delivery environment is the foremost factor contributing to mothers' birth satisfaction. Also, Martins et al. (2021) reported that a non-abusive and respectful environment is also important, with interpersonal relationships influencing mothers birth satisfaction. What can be taken from our identified mirroring effect is that these observations may also be relevant for partners. In response, the results of this study raise further research questions about whether equivalent dynamics (e.g. birth environment, respectful care, interpersonal relationships) likewise contribute to partner birth satisfaction.

Approaches towards improving the birth environment could be considered. For example, Kazemi et al. (2023) promote that having *Labour – Delivery – Recovery – Postpartum* (LDRP) units could be one approach, because they are designed to create security, privacy, peace, comfort, reduce noise pollution and create an ambient environment, which all effect the couple together. Also, mirroring of the factor structure for partners (equivalent to mothers) promotes the idea that researchers collect dual data using both the mother and partner BSS-R's, and use results to evidence-base promotion of respectful and positive birth environments (Jolivet et al., 2021; J. P. Vogel et al., 2016).

Creating a respectful birth environment is important and is the current agenda of the World Health Organization:

Every woman should receive care organized for and provided to them in a manner that maintains their dignity, privacy, and confidentiality, ensures freedom from harm and mistreatment, and enables informed choice and continuous support during labour and childbirth. (WHO 2018, p. 3)

In response to this World Health Organization (2018) stipulation, the International Federation of Gynecology and Obstetrics (2021), White Ribbon Alliance (2023), International Pediatrics Association (2023) and World Health Organization (2023) developed the twelve-steps to safe and respectful mother, baby and family maternity care (Lalonde et al., 2019), with this publication the blueprint for advancing high-quality maternity care (Avery et al., 2018) and creating a positive childbirth experience (World Health Organization, 2018). Results of the study herein promote the idea that these World Health Organization (2018) recommendations additionally apply to partners.

Likewise, and in relation to the QC sub-scale, factors that influence perceptions of quality of care for both mothers and partners include quality of support provided (Item 5), how staff communicated (Item 6) and standards of hygiene and cleanliness within the delivery room (Item 10). Also, in relation to the PA sub-scale, levels of anxiety experienced by both mothers and partners present in a similar way (Item 4), along with levels of feeling in control (Item 8). In response to this 'mirroring effect' of factor structuring between mothers and partners, it is recommended that birth preparation classes be designed to address this duality.

It was further noted that the pattern of correlations between sub-scale to sub-scale, and sub-scale-total scores was similar to the original UK-BSS-R validation study (Hollins Martin & Martin, 2014), and the mother Czech-BSS-R (Ratislavova et al., 2022). Indeed, where differences were observed, these were between correlational combinations within studies and, when considered in the context of both studies (UK & Czech mothers), every combination was represented by a non-statistically significant comparison. The internal consistency observations were again all satisfactory, both relative to Cronbach's alpha and Omega. It was noted that the correlation between the two PA items was higher than that of Clark and Watson (1995), though the implications of this are likely to be trivial, given that the r value of 0.66 represents approximately 44% of common shared variance. As such, this indicates no substantive issues in relation to multicollinearity.

The known-groups discriminant validity findings are also remarkably consistent with those observed in BSS-R studies of mothers (e.g. Abran et al., 2024; Nakić Radoš et al., 2022; Ratislavova et al., 2022), with a pattern of unassisted vaginal deliveries and elective Caesarean sections showing comparatively greater BSS-R scores compared to emergency

Caesarean section and assisted vaginal deliveries. These findings could have been predicted, given that prior studies have shown mothers satisfaction and dissatisfaction with childbirth to be associated with experiencing unplanned interferences, such as emergency Caesarean section, interventions during vaginal birth, intrapartum complications and/or neonatal problems (Falk et al., 2019; Nahae et al., 2020; Nystedt et al., 2005; Olde et al., 2006; Waldenstrom et al., 2004).

Multiparous birth has been found to be associated with greater birth satisfaction, for example, the observations of Hochman et al. (2023). In terms of partners, we found those where the mother was multiparous, the partner had significantly higher SE sub-scale scores. Research on the influence of parity in relation to partners is sparse in the literature, but our findings would indicate this is clearly an area warranting further investigation. Finally, in terms of known-groups discriminant validity, the observation of significant differences in BSS-R scores was also observed in the Czech study of Ratislavova et al. (2022), though we note in that study that the statistically significant differences were observed in SE and WA sub-scale scores and total BSS-R score. In contrast, in the current study, statistical differences were specific to the QC sub-scale and, again, like Ratislavova et al. (2022), the total score, with term delivery associated with a greater perceived birth satisfaction.

Psychometrically, and taking the range of statistical tests undertaken in the round, the CZP-BSS-R is a valid and reliable measure of birth satisfaction for partners and, moreover, consistent with a conceptual model of birth experience that has been established in women through numerous BSS-R validation and translation studies (e.g. Jefford et al., 2018; Nakić Radoš et al., 2022; Romero-Gonzalez et al., 2019; Skodova et al., 2019; Skvirsky et al., 2020).

Evidence from this study has shown mirroring effects in factor structure of partners BSS-R data, which parallels reports from psychometric analysis of mothers data in other BSS-R studies (e.g. Jefford et al., 2018; Nakić Radoš et al., 2022; Skvirsky et al., 2020). In response, it is important for health care professionals to understand that partners experiences of stress, quality of care, and personal attributes are similar to mothers. Hence, partners dissatisfaction, along with mothers', could create similar problems postnatally, e.g. contributing to the development of postpartum depression (PND) (Urbanova et al., 2021), negative emotions for baby or unwanted future pregnancies (Goodman et al., 2004; Harvey et al., 2002). Propositions from this are that midwives, health visitors, and general practitioners worldwide see couples and not just mothers. In an ideal world, this would involve routinely issuing the mother-BSS-R and the partner-BSS-R as a pair and, in the case of PND (Urbanova et al., 2021) and PTSD (Horsch et al., 2024), explore both parties equally.

It is important to re-emphasise that this is the first validation study of a partner version of the BSS-R. In this context, it is important to recognise that partners play a crucial role in providing continuous support not only during childbirth but also postpartum when the family is back at home. If this support does not work, other alternatives need to be available. For this reason, it is imperative that health care staff identify partners who have had specifically negative experiences, as in this case it can be assumed that they do not have the resources to support the birthing person in need of support, which may subsequently lead to a deterioration in the wellbeing of the birth mother. Again, for this reason, it is important to provide health professionals with tools to identify how the

support around the birth partners is experienced by the birth partners and how their experience may affect their mental health, giving health professionals the opportunity to use adequate interventions when they are needed.

Limitations

All data was obtained from men, and by doing so ignored the growing alternative gender agenda. Hence, there is an opening for further studies to examine the robustness of the measurement properties of the CZP-BSS-R in partners who do not identify as being male. The time since delivery was up to 5 years and further research opportunities therefore exist to determine any potential differences in both BSS-R subscale/total scores and factor structure at distinct timepoints postpartum. A further limitation of the study is that convergent validity was not formally evaluated by comparison with an alternative measure of birth experience. This study is also the first validation of a Partner-BSS-R, with subsequent research potentially revealing alternative factor models. Hence, it is encouraged that more country specific versions of the Partner-BSS-R be validated.

Conclusion

This study set out to translate and validate a partner version of the Czech Republic BSS-R (CZP-BSS-R), with this endeavour successful. Statistical validation clustered measurement fit equivalent to the tri-dimensional measurement model validated in prior mother-based BSS-R studies (e.g. Abran et al., 2024). To conclude, the BSS-R validated for completion by Czech speaking mothers (Ratislavova et al., 2022) now has a matched version available for use with Czech speaking partners. These matched BSS-R versions can now be issued as a pair to measure both mother and partner experiences of labour and childbirth, with this study the first to translate and validate a Partner-BSS-R. To obtain either versions, please access the BSS-R website at: <https://www.bss-r.co.uk/>.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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