Icelandic translation, adaptation and validation of the Parental Burnout Assessment (PBA-IS)

Helga Sif Pétursdóttir, Eva Halapi & Björg Thordardottir

Published online: 23 Jan 2025.

Submit your article to this journal ↗

Article views: 960

View related articles ↗

View Crossmark data ↗

Taylor & Francis
Taylor & Francis Group

RESEARCH ARTICLE

∂ OPEN ACCESS

Check for updates

Icelandic translation, adaptation and validation of the Parental Burnout Assessment (PBA-IS)

Helga Sif Pétursdóttir[a], Eva Halapi[a] and Björg Thordardottir[a,b]

[a]School of Health, Business and Natural Sciences, University of Akureyri, Akureyri, Iceland; [b]Oslo Metropolitan University, Oslo, Norway

ABSTRACT

Background: As parental burnout is increasingly recognised for its severe impact on parents and children, identifying factors that exacerbate or alleviate this condition is crucial. Reliable assessment tools in clinical settings are essential to detect those at risk of or experiencing burnout, enabling timely intervention.

Aims/objectives: This study aims to adapt the Parental Burnout Assessment for use in Iceland and evaluate its psychometric properties while exploring how personal and socio-demographic factors influence parental burnout.

Materials and methods: A sample of 1,110 parents participated. Descriptive statistics analysed the main dataset characteristics, and confirmatory factor analysis evaluated the psychometric properties of the adapted version.

Results: Satisfactory structural validity and internal consistency (α 0.96) of the PBA-IS was demonstrated. Factors influencing parental burnout included marital status, number of children, perceived support, and personal causation.

Conclusions: The PBA-IS is a valid and reliable translated tool for assessing parental burnout in Iceland. Personal causation, a key concept in occupational therapy, appears pivotal in parental burnout. Occupational therapists can provide holistic support to help parents effectively manage stress.

Significance: The PBA-IS enables parental burnout to be identified in Icelandic clinical settings, supporting early interventions that reduce stress, promote mental health, and enhance well-being.

Introduction

As adults, our professional and parental roles often dominate our daily lives [1] Despite the multifaceted nature of the parental role in adulthood, it remains underexplored in occupational science literature [2]. In their study, Lim et al. [2] identified over 100 specific parental occupations, categorising them into ten areas focused on fulfilling children's fundamental, developmental, and social needs. The parental role often takes precedence over all other responsibilities, as it lacks the clear 'clock out' boundaries that other roles, such as work, typically provide. This continuous, ever-present nature of parenting means that parents are often attempting to meet the demands of their children even while attending to other obligations, leading to an ongoing struggle to balance roles [3,4]. In occupational science, health and occupation are deeply intertwined, and studies have demonstrated that engagement in multiple integrated occupations, particularly when frequently interrupted, can negatively impact perceived health [5,6]. This is consistent with the concept of parental burnout, which results from chronic stress in the parental role [7,8].

Parental burnout

Parental burnout (PB) is a relatively new concept compared to work-related burnout and has recently gained considerable attention in both research and public discourse [8]. Although PB shares certain symptoms and consequences with work-related burnout, research highlights its distinct manifestations

[8,9]. The implications of PB are profound, contributing to serious issues such as sleep disorders, addictive behaviours, and thoughts of escape or suicide among parents [7,10]. Additionally, PB strains relationships, potentially resulting in adultery and conflict, and heightens the risk of child maltreatment, including neglect and violence [11,12]. Given the detrimental impact of stress within the parental role, access to effective tools for assessing PB is essential for professionals in clinical settings. There are two validated instruments for assessing PB: the Parental Burnout Inventory (PBI) [13] and the Parental Burnout Assessment (PBA) [14]. The PBI is an adaptation of the Maslach Burnout Inventory [15], originally designed to assess work-related burnout [16].

In contrast, the PBA was specifically developed to address PB based on testimonies from parents experiencing burnout. Conceptualised by Roskam et al. [14], the PBA identifies four dimensions of PB: 'exhaustion in one's parental role', 'contrast with previous parental self', 'feelings of being fed up with one's parental role', and 'emotional distancing from one's children'. Brianda et al. [17] established cut-off scores for both the PBI and PBA to enhance clinical assessment. They determined a conservative cut-off score of 86.3 for the PBA, with a less conservative threshold of 52.7, indicating that parents are at risk for PB. The PBA's theoretical four-factor structure has been validated across numerous studies and translated into several languages (i.e. Finnish, Swedish, Polish and Chinese), further reinforcing its validity, reliability and relevance [18,19].

Parental burnout in relation to the ValMO model

The Value and Meaning in Occupation model (ValMO) [6] defines occupations as transactions that occur within the context of an individual's interaction with tasks and the environment, emphasising the value and meaning individuals assign to their occupations. Primarily utilised in Sweden for burnout rehabilitation among women, the model can assess the value of occupations [20]. While the model suggests that all occupations have inherent value, not all are equally meaningful or productive [6]. The ValMO can be used to categorise contributing factors, aiding occupational therapists in developing effective intervention plans for working with burned–out parents.

The ValMO explains occupational value through three interconnected triads: the occupational triad, the value triad, and the perspective triad [6,21]. The occupational triad examines the dynamic interaction between the person, the task and the environment.

Several personal factors, such as gender, number and age of children, relationship status, and income, modestly impact the likelihood of experiencing PB [11,18]. The same factors are likely to affect the tasks or parenting occupations in which the parent engages [2,20].

Environmental factors, such as relationships and support systems, play a crucial role in PB. Parents who shoulder more childcare responsibilities often experience heightened stress and reduced levels of family satisfaction. Marital conflict and lack of co-parenting support can further exacerbate these challenges, leading to an increased likelihood of burnout [22,23]. The value triad [6] examines how occupations gain value through tangible outcomes (concrete value), personal significance (socio-symbolic value), and intrinsic satisfaction (self-reward value). While many parenting occupations have strong concrete value, avoiding them and favouring less important occupations may offer temporary relief with negative long-term consequences if consistently practised. They have been described as false value occupations [6]. An individual's perception of meaningful occupations is shaped by factors such as upbringing, social background, cultural identity, and life experiences, which in turn influence preferences, temperament, coping styles, and personal causation [6,24]. According to the Model of Human Occupations (MOHO), personal causation refers to an individual's sense of self-efficacy and perceived capacity. Positive experiences strengthen personal causation, fostering a greater belief in one's abilities, while negative experiences weaken it, diminishing confidence in one's capacity to act effectively [24]. The perspective triad in the ValMO addresses three interconnected time perspectives: lifespan (*macro*), daily life (*meso*), and specific action within occupations (*micro*) [6,21]. While parenting occupations are not necessarily considered difficult, various macro, meso and micro factors influence how effectively parents can engage in them. Parents often prioritise their child's needs over their own [2]. This may affect the parents' well–being and play a crucial role in determining how they manage their occupations [6].

The primary objective of this study was to adapt the PBA to the Icelandic language and culture and evaluate its psychometric properties by establishing the validity of the translated instrument and analysing whether the four-dimensional structure of the PBA is preserved in the Icelandic context. A secondary objective was to explore the relationship between sociodemographic variables, personal causation and parental burnout, examine potential predictive factors for burnout, and assess the prevalence of burnout in the sample.

Methods

Sample

In total, 1,110 parents participated in the study: 984 mothers (88.9%) and 123 fathers (11.1%). The following inclusion criteria were applied: (1) at least one child living at home, leading to the exclusion of 41 responses, and (2) geographic location of residence, which excluded an additional six respondents. The final sample consisted of 1,063 parents. The study was approved by the National Bioethics Committee of Iceland.

Instruments

Parental burnout

The PBA measures the severity of PB through 23 items rated on a seven-point Likert scale, ranging from 'Never' (0 points) to 'Everyday' (6 points), with a maximum score of 138 points. A score of 53 or higher indicates a risk of PB, while a score of 86 or above suggests a PB diagnosis [14,18]. The original PBA assesses the four dimensions of PB, and has been validated, translated and adapted into various languages through multiple studies [25–28]. This study assessed PB using Roskam et al.'s [14] PBA Icelandic version (PBA-IS).

Personal causation in the parental role

Personal causation is a key concept í occupational science, reflecting an individual's perception of their abilities and experiences. To address this within the context of parenting, eight statements were specifically crafted to capture the essence of personal causation in the parental role. This approach was necessitated by the lack of an Icelandic assessment tool that measures personal causation, particularly in relation to parenting. Given time and resource constraints, developing or translating a comprehensive assessment was not feasible. Efforts were made to ensure these statements effectively measured parent's perceptions of their abilities, capturing whether they hold positive or negative views and whether they exhibit complacency or impose excessive demands on themselves. The statements were balanced by phrasing half positively and the other half negatively. Each statement was rated on a 5-point Likert scale, with higher scores indicating low personal causation. The positively phrased statements included: 'My performance in the parental role is as good as others', 'I'm generally satisfied with my daily interaction with my child/children', 'I show myself self-compassion when I perform poorly as a parent', 'I'm doing my best when it comes to parenting'. These were rated as follows: Strongly agree (1), Agree (2), Neutral (3), Disagree (4) and Strongly disagree (5).

The negatively phrased statements included: 'I tend to compare myself to other parents on social media', 'other parents are doing a better job at parenting than I am', 'I wish I was a better parent', 'I make unrealistic demands on myself in the parental role'. These were rated inversely: Strongly agree (5), Agree (4), Neutral (3), Disagree (2) and Strongly disagree (1). Scores ranged from 0 to 40, with higher scores reflecting lower personal causation. The internal consistency of these statements was assessed using Cronbach's α (0.81) and McDonald's ω (0.82), indicating good reliability. This evaluation was conducted because these statements formed a non-standardised assessment.

Measures

In addition to the two instruments assessing PB and personal causation, information on participants' gender, age, geographic residence within Iceland (Capital region, West, East, North, South), the number of children living at home full-time or part-time, children's ages, marital status, educational level, employment or study status, and if diagnosed with ADHD, ADD, autism or other was collected. Additionally, information on the number of children with special needs (e.g. learning disabilities, ADHD, ADD, autism, physical or mental disabilities), amount of quality time spent with children, spouse, friends, or alone, personal causation and perceived support was gathered.

Translation and linguistic validation

For translation and linguistic validation, we followed a comprehensive process that included forward translation, back-translation, reconciliation, and cognitive interviewing [29,30] (see Figure 1). After obtaining permission from the original authors (P1), two occupational therapists (OT1 and OT2)—with OT2 having translation experience, and an expert with over 20 years in the field (EX1) independently translated the items into Icelandic, adapting them to the local language and culture. OT1 and OT2 then compared their translations (CO1) and reconciled them (D1) into a unified Icelandic version (IS1). This version was back-translated into English by a native English speaker (BT1) and a skilled linguist (BT2). OT1 reviewed the back-translations (CO2), aligning them with the original PBA (CO3), and consulted OT2 to ensure accuracy and make any
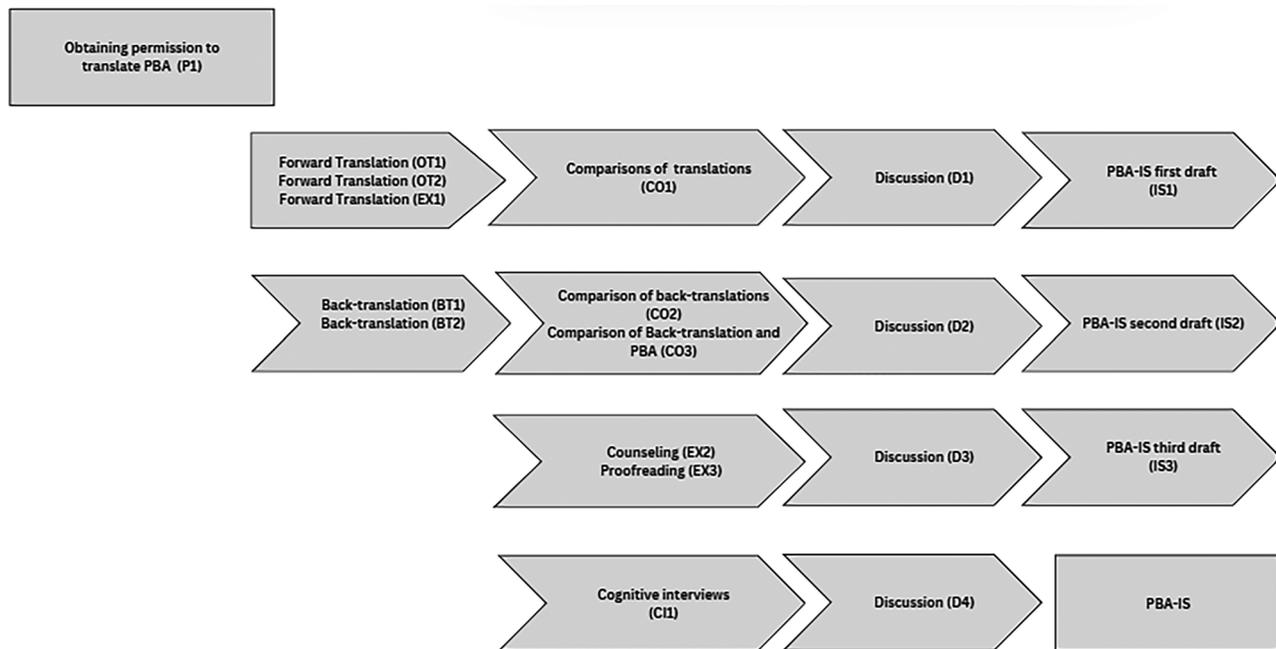
Figure 1. Overview of the translation and adaptation process for the parental burnout Assessment into Icelandic.
P, Permission to translate the PBA; OT, Occupational therapist; EX, Expert; CO, Comparison; D, Discussion; IS–PBA, Drafts for the PBA-IS; BT, Back translation; CI, Cognitive interviews.

necessary adjustments(D2) [29]. After completing the second draft of the IS–PBA, OT1 consulted with the National Queer Organisation of Iceland to ensure the use of culturally sensitive terminology (EX2). The final draft (IS3) was proofread by a specialist in both parental education and Icelandic (EX3). Five cognitive interviews with parents were conducted by OT1 (CI1). Participants were selected to ensure the diversity of family structures, including mothers and fathers, single-parent households, families with 1–4 children of varying age ranges, differing education levels, and both working and non-working parents) [29,30]. Since all parents comprehended the items similarly, no additional interviews were needed (D4). With the authors' permission, we proceeded with validating the PBA-IS. The final version of the PBA-IS contained all 23 items in the same order as in the original PBA.

Procedures

Data were collected using two convenience sampling approaches: (1) paediatric nurses at ten child health centres across Iceland distributed study information and a quick response (QR) code for a web-based questionnaire, and (2) the study was promoted *via* social media, with several Instagram accounts and Icelandic Facebook groups sharing information with study details and the QR code. The web-based questionnaire included an informed consent clause, stating that participants could withdraw at any time while completing the survey. Data was collected during a four-week period in March–April 2023.

Statistical analysis

Descriptive and inferential statistics were conducted using Jamovi (version 2.3.18.0), while the validity and reliability of the model structure were analysed with JASP 0.18.3.0 statistical software. Confirmatory factor analysis (CFA) using the diagonally weighted least square and variance-adjusted estimator (DWLS) [31] was used to evaluate the structural validity of the hypothesised one-factor model, the four-factor model and the second-order model of the scale [14,28]. The robust DWLS estimation was chosen as Mardia's [32] estimate of skewness ($p < 0.001$) and kurtosis ($p < 0.001$) indicated that multivariate normality could not be assumed. Model fit was assessed using the comparative fit index (CFI), the Tucker–Lewis Index (TLI), the root mean square error of approximation (RMSEA), and the standardised root mean square residual (SRMR fit indices). Generally, an acceptable model fit is considered when the CFI and TLI fit indices are 0.90 or above and the RMSEA and SRMR values are 0.08 or below [33,34]. Chi-square fit statistics are traditionally used for evaluating overall model fit; however, as it is affected by large sample

size, the ratio of the chi-square statistic to the respective degrees of freedom ($\chi2/df$) is an alternative fit measure [35,36]. Therefore, we opted to include the chi-square statistics in reporting model fit indices but using the $\chi2/df$ <5 as a benchmark when assessing model fit [36].

Descriptive statistics are presented as numbers and percentages for categorical variables, while continuous variables are presented with mean and standard deviation. The chi-square test for independence was used to analyse the association between categorical variables. The variables 'Child with special needs' and 'Parental diagnosis' were consolidated into dichotomous Yes/No categories. Spearman's Rho was utilised to assess the strength of the correlation between PB and parents' sense of personal causation within the parenting role.

Predictors of variability in the PB scale were assessed using a hierarchical three-step linear regression analysis. Regression Model 1 assessed demographic variables: sex, age, marital status and educational level. Regression Model 2 assessed predictors of interest: number of children living at home and child/children with special needs. Finally, regression Model 3 assessed perceived support, parental causation and parental diagnosis. The models were applied in stepwise blocks. Because the PB scale showed marked positive skewing, thus violating the assumption of normality in the dependent variable, a Log10 transformation of the values was performed.

Results

Descriptive information of participants

Most participants were mothers (89.4%), married or cohabiting (91.2%), and living in the capital area (49.1%). The mean age for women was 35.3 ± 6.9 and 37.3 ± 7.4 for men. Two-thirds or 68.8%, of the participants had a university degree, and almost half of the respondents were working full-time. About 25% of the parents had a diagnosis (ADHD, ADD, autism, other.). Additional demographic characteristics are summarised in Table 1.

Construct validity

CFA was conducted to assess the hypothetical one-factor, four-factor and second-order models in the Icelandic sample. First, we examined whether a single-factor structure (Model 1) or a four-factor structure (Model 2) fit the Icelandic data set (Table 2).

Table 1. Characteristics of the study sample.

Variables	N	Percent	PBA total score Mean ± SD (median)
Age			
29 and younger	211	19.9	28.0 ± 22.7 (21)
30–39	583	55.0	27.0 ± 25.0 (18)
40 and older	266	25.1	23.5 ± 24.0 (14.5)
Gender			
Male	112	10.6	23.2 ± 20.7 (18)
Female	948	89.4	26.5 ± 24.5 (18)
Geographic residence			
Capital region	522	49.1	25.0 ± 23.8 (17)
West	83	7.8	23.5 ± 22.7 (17)
North	234	22.0	27.0 ± 24.8 (19)
East	44	4.1	31.5 ± 27.7 (26.5)
South	180	16.9	29.1 ± 25.3 (20.5)
Marital status			
Married/cohabiting	962	91.2	25.5 ± 23.5 (18)
Single	93	8.8	33.9 ± 31.2 (26)
Education			
Primary	83	8.0	28.7 ± 25.2 (20)
Secondary	241	23.2	30.1 ± 28.2 (21)
Tertiary	716	68.8	24.5 ± 22.4 (17)
Occupational status			
Full-time work	493	47.0	24.1 ± 22.6 (15)
Work and/or study	168	16.0	26.5 ± 24.2 (19)
Part-time work	92	8.8	27.1 ± 22.8 (20)
Parental leave	196	18.7	25.3 ± 23.5 (18)
Disability/ rehabilitation	99	9.4	37.4 ± 32.3 (28)
Parental diagnosis			
Yes	263	25.2	35.0 ± 29.2 (27)
No	779	74.8	23.5 ± 21.9 (16)
Number of total children			
One child	409	38.5	23.7 ± 23.0 (17)
Two children	412	38.8	26.8 ± 23.5 (19)
Three or more children	242	22.8	29.6 ± 27.5 (21)
Child/ children with special needs			
Yes	233	22.3	26.3 ± 27.8 (27)
No	814	77.7	23.5 ± 21.9 (17)

The CFI and TLI were above 0.95 for both Model 1 and Model 2, indicating a good fit. In contrast, the X2/df, RMSEA and SRMR indicated a poor fit for Model 1with X2/df > 5, RMSEA >0.08, and SRMR >0.05. A better fit was seen for Model 2, with acceptable RMSEA and SRMR, while the X2/df indicated a poor fit (Table 2).

Inspection of the modification indices suggested that the model could be improved further by adding residual covariance between the same latent factors (PBA6-PBA16: saturation, PBA5-PBA13 and PBA17-PBA18: contrast). The post-hoc modifications (Model 2[a]) further improved the fit, X2/df = 4.738, RMSEA = 0.059 and SRMR 0.044 (Table 2). The modification indices also indicated high covariance between PBA2 ('I feel as though I've lost my direction as a dad/mum') in the contrast dimension and several items in the exhaustion dimension. However, because these items represent different latent factors, residual

Table 2. Confirmatory factor analysis fit indices for the PBA-IS.

Model	X^2	df	X^2/df	CFI	TLI	RMSEA [90%CI]	SRMR
Model 1: Single-factor structure	2801.336***	230	12.180	0.988	0.987	0.103 [0.099–0.106]	0.067
Model 2: Four-factor structure	1543.074***	224	6.889	0.994	0.993	0.074 [0.071–0.078]	0.050
Model 2[a]: Four-factor structure	1047.014***	221	4.738	0.996	0.996	0.059 [0.056–0.063]	0.044
Model 3[a]: Second-order structure	1073.940***	223	4.816	0.996	0.996	0.060 [0.056–0.064]	0.044

***$p < 0.001$.
Df, Degrees of freedom; CFI, Comparative fit index; TLI, Tucker-Lewis Index; RMSEA, Root Square Means Error of Approximation; SRMR, Standardised Root Mean Square Residual.
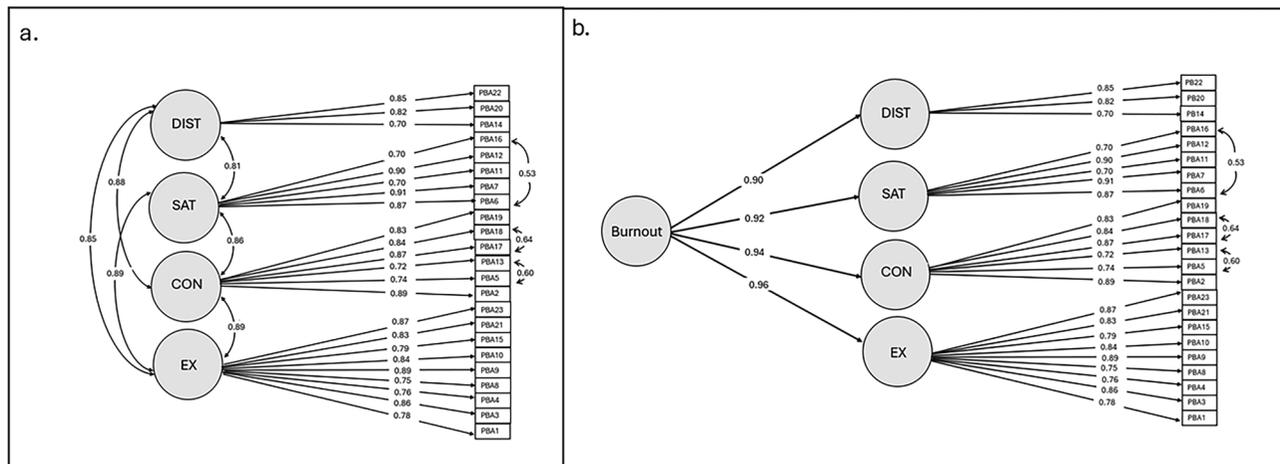[a]Model adjusted for residual covariance PBA6-PBA16 (saturation) PBA5-PBA13 and PBA17-PBA18 (contrast).

Figure 2. Confirmatory factor analysis (CFA) model fit for the Icelandic version of the Parental Burnout Assessment. Standardised factor loadings are displayed in (a) for the first-order four-factor model and in (b) for the second-order model, respectively.

covariance was not added for PBA2. Lastly, we examined how well the hypothesised second-order factor, overall PB, could explain the relationship between the four first-order latent factors (Model 3). Overall, the high factor loadings for the second-order model and fit indices suggested that each of the four PB subscales satisfactorily assessed the overall PB construct. All estimated factor loadings from the CFA analysis were significant at $p < 0.001$. For the first-order four-factor model, standardised factor loadings ranged between 0.7–0.9 (Figure 2(a)). For the second-order model, first-order factor loadings ranged between 0.7–0.9, and second-order factor loadings ranged between 0.90 and 0.96 (Figure 2(b)).

Internal consistency reliability

The internal consistency reliability was tested for the total parental burnout assessment scale based on 23 items as well as the subscales exhaustion (9 items), contrast (6 items), saturation (5 items) and distancing (3 items). The overall PB scale, the exhaustion subscale and the contrast subscale all showed internal reliability with both Cronbach's α and McDonald's Ω values >0.9. The lowest reliability score was observed for the distancing subscale (Table 3).

Table 3. Internal consistency reliability for PBA-IS.

Scale	Mean ± SD	Cronbach's α	McDonald's Ω
23 items			
Overall parental burnout assessment scale	1.139 ± 1.062	0.963	0.965
Emotional exhaustion (9 items)	1.639 ± 1.337	0.940	0.942
Contrast (6 items)	0.949 ± 1.137	0.901	0.908
Saturation (5 items)	0.702 ± 1.020	0.873	0.900
Distancing (3 items)	0.779 ± 0.966	0.747	0.761

Prevalence of parental burnout

The prevalence of PB was estimated using the recommended cut-off values for PBA: 53 points for those at risk of PB and 86 points for those with burnout [17]. In total, 10.1% ($n = 107$) of parents scored between 53 and 85 points, indicating that they are at risk for PB. A smaller proportion (3.8%, $n = 40$) scored 86 points or higher, representing parents with burnout. A chi-square analysis was conducted to assess the difference between groups. The results showed that sex, age and residency were not significantly associated with being at risk for PB or experiencing burnout. In contrast, marital status, education levels, occupational status, parental diagnosis, total number of children, children with special needs, and perceived support were significantly associated with PB (see Table 4).

Table 4. Results of chi-square test of independence between socio-demographic variables and Parental Burnout Assessment categories.

Variable	Not at risk %	Not at risk %	Burnout %	X^2	p Value
		PBA categories			
Sex				1.648	0.439
Mothers	85.8	10.4	3.8		
Fathers	90.2	7.1	2.7		
Age				4.296	0.367
29 and younger	84.8	12.3	2.8		
30–39	85.4	10.1	4.5		
40 and older	89.1	7.9	3.0		
Geographic residency				6.098	0.636
Capital region	86.8	10.2	3.1		
West	91.6	6.0	2.4		
North	85.0	10.3	4.7		
East	86.4	6.8	6.8		
South	83.3	12.2	4.4		
Marital status				11.540	0.003
Married/ cohabiting	87.0	9.9	3.1		
Single	77.4	12.9	9.7		
Education				10.550	0.032
Primary	80.7	13.3	6.0		
Secondary	81.7	12.4	5.8		
Tertiary	88.5	8.7	2.8		
Occupational status				21.525	0.006
Full-time work	87.8	9.9	2.2		
Work and/or study	86.3	9.5	4.2		
Part-time work	88.0	8.7	3.3		
Parental leave	87.8	8.2	4.1		
Disability/ rehabilitation	74.7	14.1	11.1		
Parental diagnosis				33.308	< .001
Yes	75.7	16.3	8.0		
No	89.5	8.1	2.4		
Number of total children				10.687	0.030
One child	90.4	7.1	2.5		
Two children	85.4	11.4	3.2		
Three or more children	82.9	11.3	5.8		
Child/children with special needs				32.208	< .001
Yes	76.0	15.0	9.0		
No	89.1	8.6	2.3		
Perceived support				37.170	< .001
Agree	90.1	7.1	2.8		
Neither	75.2	19.0	5.7		
Disagree	76.2	17.1	6.7		

Spearman's rank correlation was used to measure the correlation between the PB score, personal causation, and age. PB and personal causation had a strong positive correlation [$r(1051) = 0.643$, $p < 0.001$]. A weak negative correlation was observed for age (in years) and PB score [$r(1060) = -0.118$, p $= <0.001$].

Hierarchical stepwise linear regression analysis

The regression analysis indicated that although Model 1, which included sex, age, marital status and education, was statistically significant, it explained only a small portion of the variance in PB (1.6%). In this model, both age and marital status were significantly associated with parental burnout. The model's explanatory power was notably improved by adding the number of children and whether the parent had a child or children with special needs in the second model [$\Delta R^2 = 0.062$, $F(2,971)=33.106$, $p < 0.001$]. These additional variables were significantly associated with PB, increasing the explained variance to 7.7%. The third model was substantially enhanced with the inclusion of perceived support, personal causation and parental diagnosis [$\Delta R^2 = 0.361$, $F(3,968)=209.898$, $p < 0.001$]. In the final model, which included sex, age, number of children, child or children with special needs, perceived support, causation and parental diagnosis, each was significantly associated with PB, and the model explained 43.9% of the variance (see Table 5).

Discussion

In this study, we assessed the psychometric properties of the PBA-IS using a sample of 1,063 parents living in Iceland with at least one child at home. Our objectives were to validate the translated instrument, explore the relationship between parental burnout and sociodemographic variables, and examine potential predictive factors for burnout.

The PBA-IS demonstrated strong support for the original four-factor structure identified by Roskam et al. [14], encompassing emotional exhaustion in one's parental role, contrast with previous parental self, feelings of being fed up with one's parental role, and emotional distancing from one's children. According to indices, both the four-factor and the second-order models fit the data equally well, indicating robust factorial validity. The PBA-IS exhibited robust psychometric properties, demonstrating both reliability and validity. However, the modification indices from the CFA indicated that PBA2 might not align perfectly with its intended dimension as we observed cross-loadings to other latent factors. This may be attributed to nuances in translation.

In the Icelandic sample, approximately one in ten parents are at risk of or currently experiencing parental burnout, with a prevalence rate of 3.8%. This rate is lower compared to research in some European countries, such as Finland [28] and Poland [26].

Our findings indicate that multiple factors contribute to parental burnout, emphasising the complex nature of managing multiple responsibilities, [2,6]. The absence of a 'clock out' option in parenting, coupled with continuous juggling of tasks, can create chronic stress and tension. This constant engagement in overlapping responsibilities often disrupts the

Table 5. Hierarchical stepwise linear regression analysis.

Model	Variables	B^a	SE (B)	β	t	p	Model statistics
1							$F(5,973)=4.220, p=0.001,$ $R^2=0.016^b$
	Sex[c]	−0.020	0.045	−0.048	−0.451	0.652	
	Age	−0.008	0.002	−0.131	−3.949	<.001	
	Marital status[d]	−0.107	0.049	−0.255	−2.165	0.031	
	Education level[e]: secondary	0.021	0.056	0.050	0.374	0.709	
	Education level: tertiary	0.001	0.053	0.002	0.017	0.986	
2							$F(7,971)=12.672, p<0.001,$ $R^2=0.077$
	Sex	−0.040	0.044	−0.096	−0.924	0.356	
	Age	−0.012	0.002	−0.204	−6.964	<.001	
	Marital status	−0.126	0.049	−0.300	−2.582	0.010	
	Education level: secondary	0.033	0.054	0.078	0.604	0.546	
	Education level: tertiary	0.031	0.051	0.074	0.606	0.544	
	Number of children	0.068	0.018	0.128	3.837	<.001	
	Child/children w. special needs[f]	0.195	0.033	0.464	5.949	<.001	
3							$F(10,968)=77.565,$ $p<0.001, R^2=0.439$
	Sex	−0.085	0.034	−0.204	−2.504	0.012	
	Age	−0.007	0.002	−0.111	−4.114	<.001	
	Marital status	−0.069	0.038	−0.164	−1.809	0.071	
	Education level: secondary	0.032	0.042	0.076	0.752	0.452	
	Education level: tertiary	0.089	0.040	0.212	2.202	0.028	
	Number of children	0.045	0.014	0.084	3.214	0.001	
	Child/children w. special needs	0.077	0.026	0.183	2.922	0.004	
	Perceived support	0.037	0.009	0.107	4.234	<.001	
	Parental causation	0.045	0.002	0.582	22.698	<.001	
	Parental diagnosis[fg]	0.055	0.025	0.132	2.254	0.024	

[a]Unstandardised estimate of log10 transformed BPA total score based on 23 items. [b]Adjusted R^2. [c]Reference males. [d]Reference single. [e]Reference primary education level. [f]Reference no child with special need. [g]Reference no parental diagnosis.
Model 1–2: $\Delta R^2 =0.062$, F(2,971)=33.106, $p<0.001$, Model 2–3: $\Delta R^2 =0.361$, F(3,968)=209.898, $p<0.001$.

balance of daily life, a concept central to occupational science and particularly relevant to parental burnout. Our study aligns with results from others on how sociodemographic factors, including the number of children, occupational status, and the level of parental support, significantly influence the degree of parental burnout [8,18,23]. The ValMO model underscores how personal values, environmental context, and life perspectives shape an individual's engagement in occupation, illustrating that parental burnout can result from a disruption in the balance between personal resources, societal expectations, and environmental demands.

While previous research often highlights higher burnout rates among mothers than fathers [37,38] our findings show a smaller gap in burnout rates between mothers (3.6%) and fathers (2.7%). This could be attributed to Iceland's progressive family policies promoting active father involvement in early childcare [39] Additionally, older parents exhibited lower levels of parental burnout, which aligns with the ValMO model's perspective triad, suggesting that accumulated life experiences contribute to a more balanced perspective, aiding in navigating parenting challenges [6].

Parental burnout tends to be higher among single parents, part-time workers [11,18] and non-working parents [18]. Our findings show that single parents

and non-working parents receiving disability benefits and rehabilitation pensions exhibited higher levels of burnout, which supports previous studies. Previous studies have shown that lack of perceived support is strongly associated with parental burnout [22,23]. Our results confirm this, demonstrating that support may act as a protective factor. This finding aligns with the ValMO model's emphasis on the environment's role in shaping occupational experiences.

Our results are consistent with studies indicating that parents with more children are at higher risk of burnout [8,11]. Having a child with special needs significantly increases the risk, with burnout rates higher among parents of children with special needs compared to those without. Parental diagnoses also showed a strong association with burnout, consistent with previous research [40–42]. Further research is needed to gain a more nuanced understanding of how different types of special needs in children and specific parental diagnoses individually impact parental burnout.

The ValMO model's value triad highlights how parents' perception of their activities affects their experience of burnout. Exhausted parents may neglect tasks and choose other occupations for immediate relief, resulting in false value occupations [6]. While this may seem helpful in the short term, it can lead to a cycle of stress and exhaustion, negatively impacting

parenting [43,44]. In turn, this avoidance can worsen fatigue, reduce effective parenting practices, and lead to child maltreatment, with studies linking parental burnout to child violence and neglect [7,10,45].

Regression analysis revealed that multiple variables explained a substantial percentage of the variance in parental burnout, emphasising that it stems from a complex interplay of factors, disrupting a parent's overall life balance. While many contributing factors may be beyond a parent's direct control, their impact can be mitigated through a comprehensive approach. Occupational therapists can play a significant role in addressing these issues by holistically assessing individual, task, and environmental factors. By helping parents reduce stressors, enhance coping skills, and implement tools to manage stress related to their child's special needs or their own conditions, such as ADHD and autism, occupational therapists can assist in restoring balance in a parent's life. This approach may alleviate stress and strengthen personal causation through effective parenting practices. Due to its importance in occupational therapy literature, personal causation was included as a variable in the current study. Although personal causation was measured using a non-standardised assessment, our findings revealed a significant correlation between low personal causation and increased parental burnout, as measured by the PBA-IS.

Research on parental burnout has highlighted the importance of parental capacity and self-efficacy, suggesting that enhancing these aspects can be a protective factor against parental stress and burnout [42,46,47]. This suggests that personal causation, that refers so individual's sense of perceived capacity and self-efficacy, is a pivotal factor in parental burnout, warranting further research to explore this relationship. The ValMO model offers a practical framework for designing interventions that can enhance self-awareness, build self-efficacy, and reframe the value parents derive from their daily occupations, ultimately reducing burnout risk and help parents regain balance in their lives. Understanding the interconnected layers of the ValMO model's perspective triad offers a holistic view of how occupations contribute to personal identity and life meaning. As life events like parenthood occur, they reshape the dynamics of occupational engagement at every level.

The PBA-IS is a significant advancement in addressing parental burnout in Iceland, providing professionals with a reliable tool for practice. While the PBA-IS is valuable for all healthcare professionals working with parents, occupational therapists are uniquely equipped to address parental burnout, as

its root often lies in occupational imbalances caused by the extensive demands of the parental role. Occupational therapy emphasises the dynamic interplay between individuals, their environments, and their occupations. This perspective is particularly relevant in treating parental burnout, as it rarely arises from a single cause but rather from a complex accumulation of factors that compound over time, ultimately overwhelming the individual's capacity to cope.

Limitations

The data was collected through a convenience sample, which has its limitations, as it may introduce bias in sampling process and lead to a lack of diversity among participants. This was evident in the high percentage of participants with tertiary education and a low number of male participants, which does not mirror the composition of the general Icelandic population.

During data analysis, item PBA2 exhibited significant cross-loadings with the 'exhaustion' dimension, suggesting that its translation could be improved. The current phrasing doesn't fully convey the intended shift in the parent's sense of direction in their role. This nuance was clearer in other 'contrast' items, A slight rephrasing of PBA2, followed by a validation study, would help enhance the tool's accuracy.

No psychological tests or assessments were used to evaluate other factors that previous research on the PBA has included, i.e. depression [48], work-related burnout [25], perfectionism, child neglect and abuse [27], and relationship satisfaction [25]. Notably, in the Chinese translation of the PBA, Cheng et al. [25] also examined children's life satisfaction, loneliness, and anti-social behaviour.

Conclusion

When parenting demands become overwhelming, they can lead to occupational imbalance, which may result in parental burnout. Parental burnout is complex concept categorised into four dimensions, which can be assessed using the PBA. This study provides evidence for the validity and reliability of the Icelandic version of the PBA, which can assist occupational therapists and other healthcare professionals in assessing signs of parental stress and burnout. Supporting parents in managing stress and strengthening their sense of personal causation within the parenting role can be an important component of occupational therapy interventions, aiming to improve the overall quality of life for the entire family.

Future research recommendations

Future research should aim to include a more diverse group of participants in order to achieve a better understanding of the variables contributing to parental burnout in the Icelandic population. The Parenting Sense of Competence Scale (PSCS) [49] is widely used for assessing parental sense of competence. Translating and psychometrically validating it for Icelandic parents could be interesting to explore further. Moreover, given the significance of the parental role in adulthood, it may be worthwhile to explore the MOHO concept of personal causation further by developing a new instrument with occupational therapy-specific terminology tailored specifically for parents. One approach to achieving this could be to use the recently validated Icelandic version of the MOHO's Occupational Self-Assessment (OSA–IS), [50]. Relevant items, such as 'Concentrating on my tasks,' 'Taking care of others for whom I am responsible,' and 'Effectively using my abilities,' could be explored further focusing especially on the parental role. This would provide valuable insights into the dynamics of personal causation within parenting and its relationship to parental burnout. Furthermore, adapting and validating the shorter five-item Brief Parental Burnout Scale (BPBs) [51] could enhance screening efficiency of parental burnout in Iceland, making it easier to implement in child health services, social services, and family physician practices.

Acknowledgements

Disclosure statement

References

[1] Thevenon O, Adema W, Clarke C. Walking the tightrope: background brief on parent`s work-life balance across the stages of childhood. Paris: OECD; 2016.

[2] Lim YZG, Honey A, McGrath M. The parenting occupations and purposes conceptual framework: a scoping review of 'doing' parenting. Aust Occup Ther J. 2022; 69(1):98–111. doi: 10.1111/1440-1630.12778.

[3] Wada M, Backman CL, Forwell SJ, et al. Balance in everyday life: dual-income parents' collective and individual conceptions. J Occupat Sci. 2014;21(3):259–276. doi: 10.1080/14427591.2014.913331.

[4] Uthede S, Nilsson I, Wagman P, et al. Occupational balance in parents of pre-school children: potential differences between mothers and fathers. Scand J Occup Ther. 2023;30(8):1199–1208. doi: 10.1080/11038128.2022.2046154.

[5] Karlsson L, Erlandsson L, Cregård A, et al. Taking control of one's everyday life – a qualitative study of experiences described by participants in an occupational intervention. BMC Public Health. 2023;23(1):605. doi: 10.1186/s12889-023-15515-z.

[6] Erlandsson L, Persson D. The ValMO model: occupational therapy for a healthy life by doing. Lund; Studentlitteratur; 2020.

[7] Mikolajczak M, Gross JJ, Roskam I. Parental burnout: what is it, and why does it matter? Clin Psychol Sci. 2019;7(6):1319–1329. doi: 10.1177/2167702619858430.

[8] Mikolajczak M, Aunola K, Sorkkila M, et al. 15 years of parental burnout research: systematic review and agenda. Curr Dir Psychol Sci. 2023;32(4):276–283. doi: 10.1177/09637214221142777.

[9] Wang W, Wang S, Chen S, et al. Parental burnout and job burnout in working couples: an actor–partner interdependence model. J Fam Psychol. 2022;36(5):704–712. doi: 10.1037/fam0000953.

[10] Mikolajczak M, Brianda ME, Avalosse H, et al. Consequences of parental burnout: its specific effect on child neglect and violence. Child Abuse Negl. 2018;80:134–145. doi: 10.1016/j.chiabu.2018.03.025.

[11] Mikolajczak M, Raes M, Avalosse H, et al. Exhausted parents: sociodemographic, child-related, parent-related, parenting and family-functioning correlates of parental burnout. J Child Fam Stud. 2018;27(2):602–614. doi: 10.1007/s10826-017-0892-4.

[12] Roskam I, Philippot P, Gallée L, et al. I am not the parent I should be: cross-sectional and prospective associations between parental self-discrepancies and parental burnout. Self Identity. 2022;21(4):430–455. doi: 10.1080/15298868.2021.1939773.

[13] Roskam I, Raes M, Mikolajczak M. Corrigendum: exhausted parents: development and preliminary validation of the parental burnout inventory. Front Psychol. 2018;9:73. doi: 10.3389/fpsyg.2018.00073.

[14] Roskam I, Brianda M, Mikolajczak M. A step forward in the conceptualization and measurement of parental burnout: the Parental Burnout Assessment (PBA). Front Psychol. 2018;9:758. doi: 10.3389/fpsyg.2018.00758.

[15] Roskam I, Raes M, Mikolajczak M. Exhausted parents: development and preliminary validation of the Parental Burnout Inventory. Front Psychol. 2017;8:163. doi: 10.3389/fpsyg.2017.00163.

[16] Maslach C, Jackson SE, Leiter MP, et al. Maslach Burnout Inventory Manual. In book: Evaluating Stress: A Book of ResourcesPublisher: The Scarecrow Press Editors: C. P. Zalaquett, R. J. Wood 1986;21:191–218.

[17] Brianda ME, Mikolajczak M, Bader M, et al. Optimizing the assessment of parental burnout: a

multi-informant and multimethod approach to determine cutoffs for the Parental Burnout Inventory and the Parental Burnout Assessment. Assessment. 2023; 30(7):2234–2246. doi: 10.1177/10731911221141873.

[18] Roskam I, Aguiar J, Akgun E, et al. Parental burnout around the globe: a 42-country study. Affect Sci. 2021;2(1):58–79. doi: 10.1007/s42761-020-00028-4.

[19] Suárez N, Núñez JC, Cerezo R, et al. Psychometric properties of Parental Burnout Assessment and prevalence of parental burnout: a person-centered approach. Int J Clin Health Psychol. 2022;22(1):100280. doi: 10.1016/j.ijchp.2021.100280.

[20] Karlsson L, Ivarsson A, Erlandsson L. Exploring risk factors for developing occupational ill health – departing from an occupational perspective. Scand J Occup Ther. 2022;29(5):363–372. doi: 10.1080/11038128.2021. 1936160.

[21] Persson D, Erlandsson L. Evaluating OVal-9, an instrument for detecting experiences of value in daily occupations. Occupat Therapy Mental Health. 2010;26(1):32–50. doi: 10.1080/01642120903515284.

[22] Cerin E, Zhang CJP, Mellecker RR, et al. Socioeconomic characteristics and domestic work as correlates of family satisfaction in Hong Kong mothers of young children. BMC Public Health. 2023;23(1):2196. doi: 10.1186/s12889-023-17129-x.

[23] Lebert-Charron A, Wendland J, Vivier-Prioul S, et al. Does perceived partner support have an impact on mothers' mental health and parental burnout? Marriage Family Rev. 2022;58(4):362–382. doi: 10.1080/01494929. 2021.1986766.

[24] Lee SW, Kielhofner G. Volition: pattern of thoughts and feelings about oneself as one anticipates, chooses, experiences, and interprets what one does. In: Taylor RR, Bowyer P, Fisher G, editors. Kielhofner's model of human occupation: theory and application. Philadelphia: Wolters Kluwer; 2023. p. 41–60.

[25] Cheng H, Wang W, Wang S, et al. Validation of a Chinese version of the Parental Burnout Assessment. Front Psychol. 2020;11:321. doi: 10.3389/fpsyg.2020. 00321.

[26] Szczygieł D, Sekulowicz M, Kwiatkowski P, et al. Validation of the Polish version of the Parental Burnout Assessment (PBA). New Dir Child Adolesc Dev. 2020;2020(174):137–158. doi: 10.1002/cad.20385.

[27] Zbrodska I, Roskam I, Dolynska L, et al. Validation of the Ukrainian version of the Parental Burnout Assessment. Front Psychol. 2022;13:e1059937. doi: 10.3389/fpsyg.2022.1059937.

[28] Aunola K, Sorkkila M, Tolvanen A. Validity of the Finnish version of the Parental Burnout Assessment (PBA). Scand J Psychol. 2020;61(5):714–722. doi: 10.1111/sjop.12654.

[29] Sousa VD, Rojjanasrirat W. Translation, adaptation and validation of instruments or scales for use in cross-cultural health care research: a clear and user-friendly guideline. J Eval Clin Pract. 2011;17(2):268–274. doi: 10.1111/j.1365-2753.2010.01434.x.

[30] Beaton DE, Bombardier C, Guillemin F, et al. Guidelines for the process of cross-cultural adaptation of self-report measures. Spine (Phila Pa 1976). 2000;25(24):3186–3191. doi: 10.1097/00007632-200012150-00014.

[31] Kline RB. Principles and practice of structural equation modeling. 4th ed. New York: The Guilford Press; 2016.

[32] Mardia KV. Applications of some measures of multivariate skewness and kurtosis in testing normality and robustness studies. Sankhyā: Indian J Stat Series B (1960-2002). 1974;36:115–128. doi: https://www.jstor. org/stable/25051892.

[33] Marsh HW, Hau K, Grayson D. Goodness of fit in structural equation models. In: Maydeu-Olivares A, McArdle JJ, editors. Contemporary psychometrics: a festschrift for Roderick P. McDonald. Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers; 2005. p. 275–340.

[34] Hu L, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. Struct Eq Modeling: Multidis J. 1999;6(1):1–55. doi: 10.1080/10705519909540118.

[35] Wheaton B, Muthen B, Alwin DF, et al. Assessing reliability and stability in panel models. Sociol Methodol. 1977;8:84–136. doi: 10.2307/270754.

[36] Hooper D, Coughlan J, Mullen MR. Structural equation modelling: guidelines for determining model fit. Electronic J Business Res Meth. 2008;6:53–60.

[37] Gannagé M, Besson E, Harfouche J, et al. Parental burnout in Lebanon: validation psychometric properties of the Lebanese Arabic version of the Parental Burnout Assessment. New Dir Child Adolesc Dev. 2020;2020(174):51–65. doi: 10.1002/cad.20383.

[38] Lin G, Szczygieł D. Basic personal values and parental burnout: a brief report. Affect Sci. 2022;3(2):498–504. doi: 10.1007/s42761-022-00103-y.

[39] Duvander A, Lappegård T, Andersen SN, et al. Parental leave policies and continued childbearing in Iceland, Norway, and Sweden. DemRes. 2019;40:1501–1528. doi: 10.4054/DemRes.2019.40.51.

[40] Carr-Fanning K, McGuckin C. I find it really difficult to control myself too: a qualitative study of the effects on the family dynamic when parent and child have ADHD. Educ Sci. 2022;12(11):e758. doi: 10.3390/educsci12110758.

[41] Dissanayake C, Richdale A, Kolivas N, et al. An exploratory study of autism traits and parenting. J Autism Dev Disord. 2020;50(7):2593–2606. doi: 10.1007/s10803-019-03984-4.

[42] Fang Y, Boelens M, Windhorst DA, et al. Factors associated with parenting self-efficacy: a systematic review. J Adv Nurs. 2021;77(6):2641–2661. doi: 10.1111/jan.14767.

[43] Dubois A, Roberti-Lintermans M, Mallien Z, et al. How do exhausted parents experience their interactions with their children? A qualitative and participative study. Front Public Health. 2024;12:1340748. doi: 10.3389/fpubh.2024.1340748.

[44] Roskam I, Mikolajczak M. View of how much can a parent bear? Cumul Risk Parental Burnout. 2022;1:73–81.-

[45] Roskam I, Mikolajczak M. The slippery slope of parental exhaustion: a process model of parental burnout. J Appl Develop Psychol. 2021;77:e101354. doi: 10.1016/j.appdev.2021.101354.

[46] Mikolajczak M, Roskam I. A theoretical and clinical framework for parental burnout: the Balance Between Risks and Resources (BR2). Front Psychol. 2018;9:e886. doi: 10.3389/fpsyg.2018.00886.

[47] Scigala KD, Fabris MAF, Zdankiewicz-Ścigała E, et al. Pandemic era maternal alexithymia and burnout as mediated by self-efficacy and resilience. J Child Fam Stud. 2024;33(8):2441–2454. doi: 10.1007/s10826-024-02846-7.

[48] Huang Y, Mao F, Zhang X, et al. Exploring the relationship between postnatal depressive symptoms and parental burnout from the perspective of the population and individual level. BMC Psych. 2023;23(1):409. doi: 10.1186/s12888-023-04853-2.

[49] Johnston C, Mash EJ. A measure of parenting satisfaction and efficacy. J Clinical Child Psychol. 1989;18(2):167–175. doi: 10.1207/s15374424jccp1802_8.

[50] Sigurðardóttir M, Fenger K, Schwartz AE. Psychometric testing of the Icelandic Occupational Self-Assessment (OSA-IS). Scand J Occup Ther. 2023;30(6):771–781. doi: 10.1080/11038128.2022.2074537.

[51] Aunola K, Sorkkila M, Tolvanen A, et al. Development and validation of the Brief Parental Burnout Scale (BPBS). Psychol Assess. 2021;33(11):1125–1137. doi: 10.1037/pas0001064.