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Evidence of validity for the Child and Adolescent Responsiveness and Demandingness Scale (EREP-inf)

Evidências de validade da Escala de Responsividade e Exigência Infantojuvenil (EREP-inf)

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Abstract

Objective
Psychometric adaptation of the Parental Responsiveness and Demandingness Scale for self-report by children aged 8 to 13 years.

Method
In stage 1, the original instrument (validated in Brazil for adolescents over 14) was tested with 60 participants (aged 8 to 13) for content adaptation. Eight focus groups and eight expert judges then reviewed the adapted version. Subsequently, to gather validity evidence based on internal structure and reliability, the scale was administered to 287 participants.

Results
The theoretical structure of the scale was maintained in two dimensions (demandingness and responsiveness), with McDonald's omega values showing satisfactory reliability (responsiveness: 0.91 maternal and 0.92 paternal; demandingness: 0.78 and 0.87 respectively).

Conclusion
The final version of the scale retained 20 items, with 13 assessing responsiveness and seven assessing demandingness. No differences were found between the dimensions perceived by boys and girls. The relevance of the behavioral representations that define demandingness and responsiveness is discussed.

Keywords: Adolescents; Children; Parenting; Psychometry.

Resumo

Objetivo

Adaptação psicométrica do instrumento Escala de Responsividade e Exigência Parental para o autorrelato da faixa etária entre 8 e 13 anos.

Método

Na etapa 1, o instrumento original (destinado para adolescentes acima de 14 anos) foi testado com 60 participantes (entre 8 e 13 anos) para adaptação de conteúdo. Após, a versão adaptada foi avaliada por oito grupos focais e oito juízes experts. Na sequência, para busca de evidência de validade baseada em estrutura interna e estimativa de precisão, a escala foi aplicada em 287 participantes.

Resultados

A estrutura teórica da escala se manteve em duas dimensões (exigência e responsividade), apresentando ômega de McDonald com valores satisfatórios (responsividade: 0,91 materna e 0,92 paterna; exigência: 0,78 e 0,87, respectivamente).

Conclusão

A versão final da escala manteve 20 itens, sendo 13 de responsividade e sete de exigência. Não houve diferenças entre as dimensões percebidas por meninos e meninas. Discute-se a atualidade das representações comportamentais que definem exigência e responsividade.

Palavras-chave: *Adolescentes; Crianças; Parentalidade; Psicometria.*

Among the primary sources of support for the psychosocial development of human beings are parents (or other caregivers who assume the role of the primary caretaker). Consequently, the field of study involving parent-child relationships has a strong investment in research to advance evidence-based knowledge that supports healthy child and adolescent development. Within this context are the theories and constructs aimed at understanding the parent-child relationship, such as parenting styles (Baumrind, 1966; Lawrenz et al., 2020).

Parenting Styles (PS) are comprised of parents' attitudes, beliefs, and values, which create the emotional climate that characterizes the nature of their interactions with their children (Lamborn et al., 1991; Lawrenz et al., 2020; MacCoby & Martin, 1983). Baumrind (1966) pioneered studies on this topic, initially presenting types of parental control, which evolved into PS. Subsequently, MacCoby and Martin (1983) advanced this work by introducing the dimensions that constitute these styles: responsiveness (related to parents' ability to be understanding, provide emotional support, and engage in bidirectional communication, thereby fostering children's autonomy and self-assertion) and demandingness (concerning the control of children's behaviors, establishment of limits and rules, definition of moral values adopted by society and the family, and presentation of contingent consequences for children's behavior). By combining these two independent dimensions, four PS are obtained, as described by MacCoby and Martin (1983): authoritative (high levels of demandingness and responsiveness), authoritarian (high demandingness and low responsiveness), indulgent (high responsiveness and low demandingness), and neglectful (low levels in both dimensions).

Currently, the assessment of PS can be conducted through various instruments, which differ in theoretical foundation, assessment format, and target respondents (parents or children). Although Baumrind (1966) based her theory on the childhood period, empirical investigation with Brazilian child samples is less frequent compared to studies with adolescents (Macarini et al., 2010). This discrepancy may be related to the challenges of developing a psychometrically valid instrument that is feasible for younger age groups, due to concerns with language, administration methods, and children's cognitive capacity (Gong & Carano, 2021; Oliveira et al., 2019). Relevant Brazilian publications with child samples are outdated, used scales that poorly consider the specifics

of this life stage or of actual context, or relied on parental reports (Chora et al., 2019; Garcia et al., 2019; Sebastião et al., 2020; Silva & Roazzi, 2021). For example, the validation of the adapted version of the Parent Perception Inventory (PPI) for Brazilian children aged 7 to 12 did not conduct content validity processes and/or pilot studies with the target audience and judges (Galindo & Carvalho, 2018). Similarly, it is important to consider the relevance of the instrument based on the respondent, as evidence suggests that children respond with less social desirability bias and show more significant correlations with psychosocial indicators than the parents' assessments of PS (Pinquart & Gerke, 2019).

Given this scenario, the present study aimed to adapt the *Escala de Responsividade e Exigência Parental* (EREP, Parental Responsiveness and Demandingness) by Teixeira et al. (2004) for self-reporting by children aged 8 to 13, considering the importance of having a scale that can measure parental dimensions from the perspective of children in this transitional period between childhood and adolescence. Considering that the version of the EREP proposed by Teixeira et al. (2004) presents validity evidence for the population aged 14 and older, and that the articles indicating its reliability and validity evidence are over 15 years old (Conselho Federal de Psicologia, 2022), it is necessary to adapt its language and assess its content validity, internal structure validity, and reliability estimates for the age group of this study. Secondary objectives included analyzing the prevalence of parental dimensions in the sample.

Method

This study utilized a cross-sectional method to psychometrically adapt an instrument that assesses parental dimensions from the perspective of the child. Initially, a pilot study was conducted with the target population, followed by an expert assessment of the original version to identify necessary adaptations (stage 1). Subsequently, the scale was adapted and content validity evidence for the new version was sought (stage 2). Finally, evidence for internal structure validity and reliability estimates of the scale were investigated (stage 3). The procedures followed recommended guidelines for the adaptation of psychometric instruments in psychological assessment (Borsa et al., 2022; Veronez et al., 2021). The following sections detail each of the three stages.

Participants

The participants representing the target population in stages 1, 2, and 3 were students from the 3rd to the 7th grade of elementary school. Inclusion criteria required participants to be between 8 and 13 years old. Exclusion criteria included having repeated a grade more than twice (to avoid cognitive or performance deficits), being illiterate, or not completing at least 90% of the administered instruments. A convenience sampling strategy was used, with the consent of six public schools and one private school in the metropolitan area of Porto Alegre, in the state of Rio Grande do Sul (Brazil).

Stage 1 included 10 participants per age group, totaling 60 students from both public and private schools. Stage 2 was conducted with eight focus groups, comprising 21 students from two public schools in the city of Porto Alegre. The groups were composed to include different age ranges (based on the availability of participants) to observe discussions across a diversity of ages present in each group. For stage 3, 287 students participated, with 165 girls (57.5%) and 122 boys (42.5%). The mean age was 10.2 years (SD = 1.5). Among the sample, 34 (11.8%) were 8 years old, 80 (27.9%)

were 9 years old, 61 (21.3%) were 10 years old, 43 (15%) were 11 years old, 39 (13.6%) were 12 years old, and 30 (10.5%) were 13 years old. Only 26 (9.1%) attended a private school.

Regarding responses to the parental styles instrument, 11 participants (3.8%) responded only the instrument regarding the paternal caregiver, 70 (24.4%) responded only the one about the maternal caregiver, and 206 (71.8%) responded both instruments.

It is important to note that the project was developed following all ethical guidelines related to research with human subjects. As a benefit, at the end of the project, the schools received the overall results of the participating students (not individualized). The Research Ethics Committee of the Universidade Federal de Ciências da Saúde de Porto Alegre (UFCSPA, Federal University of Health Sciences of Porto Alegre) approved the project, under CAAE No. 90802718.0.0000.5345.

Instruments

The Parental Responsiveness and Demandingness Scale, developed by Teixeira et al. (2004), is designed for adolescents and adults aged 14 and older. This scale is a refinement of the first Brazilian version by Costa et al. (2000), translated and revised from the instrument by Lamborn et al. (1991), based on the principles of Baumrind (1966) and MacCoby and Martin (1983). It has a bidimensional structure addressing the constructs of parental demandingness and responsiveness through 24 Likert-scale items (12 assessing demandingness and 12 assessing parental responsiveness). Children indicate the intensity or frequency that best represents their caregivers' attitudes and behaviors separately, yielding a score for each dimension for each assessed adult. Internal consistency results (Cronbach's alpha) were 0.78 for demandingness and 0.92 for responsiveness (Teixeira et al., 2004). The EREP scale was utilized in stages 1 and 2 of this study.

The *Escala de Responsividade e Exigência Parental Infanto-Juvenil* (EREP-inf, Child and Adolescent Parental Responsiveness and Demandingness Scale) was developed in stages 1 and 2 and administered in stage 3.

A Sociodemographic Questionnaire (developed by the authors for this study), in which the responsible caregiver who authorized participation filled out questions related to the child/adolescent (e.g., age range) and themselves (e.g., parental relationship with the participant). This instrument was used in all three stages.

Data Collection and Analysis Procedures

The seven schools participating in the project signed the Research Site Consent Form, and invitations were extended to the families of enrolled students. Interested caregivers were sent the Informed Consent Form (ICF) and the sociodemographic questionnaire. All data collection used printed instruments. For stage 1, individual meetings with students were scheduled during school hours. One researcher was responsible for reading, questioning the comprehension and relevance of each item, and collecting suggestions for vocabulary or content adjustments. A second researcher recorded the respondent's feedback.

Concurrently, judges were invited via email to fill out an individual document to assess content validity through: (a) theoretical dimension analysis using the Kappa Mean analysis method, suitable for categorical variables and investigating inter-judge agreement, allowing more than two participants. Subsequently, the judges assessed items for (b) content relevance and (c) language coherence, dividing the age range into two groups: 8-11 years and 12-13 years, considering different

developmental stages for a more accurate assessment (Macarini et al., 2010). For stage 2, to enhance analysis precision, the following themes were added: (d) theoretical relevance of items and (e) overall scale assessment. The judges were also invited to suggest modifications. Items (b) through (e) were analyzed using the Content Validity Coefficient (CVC) method, known for mitigating deficiencies in other methods by using a Likert scale for individual and group assessments. The analysis criterion uses the mean score for each item, ranging from 0 to 1, with items with a CVC > 0.8 being considered acceptable (Cassepp-Borges et al., 2010).

In terms of the judges' profiles, six researchers participated in stage 1, all with PhDs and postdoctoral experience in Psychology and Health Sciences, with a mean of 21 years of professional experience. They were from the Southern and Northeastern regions of Brazil. Stage 2 involved eight judges, two of whom also participated in stage 1. These professionals, holding master's and doctoral degrees in Psychology and Health Sciences, had expertise in psychological assessment, positive psychology, clinical psychology, parenting, and/or child development, with a mean of 19 years of professional experience and residing in the Southern, Southeastern, and Northeastern regions of Brazil.

Stages 1 and 2 took place from June to October 2019 and were completed following the assessment and authorization of the EREP-inf by the original scale's authors. Stage 3 was conducted from November 2019 to March 2020 in participating schools during school hours, with collective application for up to 20 students per room. The scale completion, supervised by up to three project researchers who read the instrument with the students and remained available for questions, took approximately 20 minutes and was finalized with a review by a researcher to ensure no items were left unanswered. Due to the school year transition between 2019 and 2020, the participants' age groups were categorized based on the date of their first project participation.

In stage 3, the psychometric properties were assessed using Classical Test Theory analyses. The statistical assumption of normality was verified through Kolmogorov-Smirnov and Shapiro-Wilk normality tests, resulting in a non-homogeneous distribution. Sociodemographic data were analyzed using descriptive statistics and group comparisons with Mann-Whitney and Wilcoxon tests to verify differences between independent and paired groups, respectively. Statistical significance was set at 5%, and analyses were conducted using IBM®SPSS® (version 25).

Internal structure was assessed at two points using the MPlus software, version 7.11. Firstly, through Exploratory Factor Analysis (EFA) to investigate the factor structure, as this was the first application of the scale in this age range. Secondly, a model with fewer items was assessed through Confirmatory Factor Analysis (CFA). Both analyses were conducted independently for paternal and maternal responses. EFA was performed using the Principal Axis Factoring extraction method, which does not assume normality of indicators, with Promax oblique rotation allowing factor correlation (Costello & Osborne, 2005). Factor retention was analyzed using the Kaiser-Guttman method (eigenvalue > 1), suggesting the extraction of factors with eigenvalues greater than 1, through scree plot analysis and theoretical coherence of the found solution. For scale refinement in EFA, items were eliminated if they had: (a) factor loadings below 0.30, (b) cross-loadings, or (c) did not load on their theoretically expected structure in one of the samples, maternal or paternal. CFA was used to assess the bidimensionality of the solution using the WLSMV (Weighted Least Squares Mean-and-Variance adjusted) estimation method, robust for ordinal data (Wang & Wang, 2019). Fit indices analyzed included chi-square (χ^2), Comparative Fit Index (CFI > 0.90 for satisfactory fit; > 0.95 for excellent fit), Tucker Lewis Index (TLI, same criteria as CFI), and Root Mean Square Error of

Approximation (RMSEA < 0.08 for acceptable fit; < 0.05 for good fit; 90% confidence interval not exceeding 0.10) (Brown, 2015). Besides scale dimensionality, item factor loadings were assessed to investigate item content relevance for factor estimation. Items without significant factor loadings ($p > 0.05$) were excluded after CFA.

Following the EREP structure definition, internal consistency indices were investigated using Cronbach's alpha (α), the most widely used reliability index in Classical Test Theory, and McDonald's Omega (ω), more precise than the former, as it considers factor loadings and item error. Coefficients were interpreted as follows: < 0.60 = inadequate; 0.60 to 0.69 = marginal reliability; 0.70 to 0.79 = acceptable; 0.80 to 0.89 = good; and 0.90 or higher = excellent (Borsa et al., 2022).

Results

Stages 1 and 2

In Table 1, the results of the judges' assessments in stage 1 (regarding the opinions on the scale by Teixeira et al. (2004) for application in the sample between 8 and 13 years old) and stage 2 (regarding the opinions on the preliminary adaptation of the scale for the target audience) are compared using the Mean Kappa index (used to assess the theoretical dimension) and CVC (used in other assessments). Each analyzed object presents the total value of the scale assessment (ranging between 0 and 1) and the items that showed unsatisfactory results.

As shown in Table 1, the theoretical dimension showed satisfactory results in both stages, although in stage 2 the judges disagreed on items 6 and 8. The relevance of the items for the age group between 8 and 11 years showed inadequate results in stage 1 (items 8, 22, and 24) and satisfactory results in stage 2. The relevance for the age group between 12 and 13 years obtained adequate results in both stages, although the value decreased in stage 2 compared to the first stage. Unsatisfactory results were found regarding the coherence of the language for the age group between 8 and 11 years in stage 1 for the scale and items 4, 6, 8, 9, 11, 13, 14, 17, 18, 19, 21, 22, 23, and 24, which were revised for stage 2, with only the results of items 4 and 6 remaining below the acceptable criterion. The language coherence for ages 12 and 13 showed similar results to the younger age group: items 8, 17, 22, and 24 were below expectations in stage 1, and only item 6 remained with an unsatisfactory result in stage 2. The theoretical relevance and overall assessment of the scale for both age groups showed satisfactory results in stage 2.

Table 1
Comparison between the judges' assessment results in stages 1 and 2 (Porto Alegre, Brazil, 2019-2020)

Analyzed Object	Stage 1 Results (Total of six judges)	Stage 2 Results (Total of eight judges)
Theoretical Dimension[1]	0.88	0.90 Item 8: six judges disag. Item 6: two judges disag.
Relevance of items (8 and 11 years)[2]	0.90 (items with CVC < 0.8: 8, 22, 24)	0.96
Relevance of items (12 and 13 years)[2]	0.99	0.97
Language coherence of items (8 and 11 years)[2]	0.68 (items with CVC < 0.8: 4, 6, 8, 9, 11, 13, 14, 17, 18, 19, 21, 22, 23, 24)	0.93 (items with CVC < 0.8: 4 and 6)
Language coherence of items (12 and 13 years)[2]	0.87 (items with CVC < 0.8: 8, 17, 22, 24)	0.95 (item with CVC < 0.8: 6)
Theoretical relevance of items (8 and 11 years)[2]	Not assessed	0.95
Theoretical relevance of items (12 and 13 years)[2]	Not assessed	0.95
Overall assessment of the scale[2]	Not assessed	0.95

Note: [1]Results of Mean Kappa (values > 0.6 indicate substantial agreement and > 0.80 indicate almost perfect agreement among judges). [2]Results of CVC (items with CVC > 0.8 are accepted) (Cassepp-Borges et al., 2010). CVC: Content Validity Coefficient; "disag.": disagreed.

In the qualitative assessment by the judges, some comments complemented the quantitative analyses described above and were considered for the revision of the scale. In stage 1, a general assessment of the instrument stood out: "it is difficult to know about the vocabulary of eight-year-old children, as it depends on variables such as socioeconomic educational level of the parents." In stage 2, comments regarding item 2 (demandingness): "it reflects parental care for school activities"; items 3, 4, 5, 7, 8 (demandingness): "it establishes a subjective standard of demandingness"; item 7: "the question is too focused on games when, in fact, the focus is on monitoring the child's leisure activities. It risks being biased".

Among the main changes to the scale at the end of stage 2 are the fact that it was divided into two sheets (in which a different pronoun is used for each gender of the responsible caregiver, "he" and "she") and a blank space was included to insert the name of the responsible person being assessed, to facilitate the understanding of the child-adolescent audience. If there are two caregivers of the same gender, the same pronoun version can be used twice. The header includes a visual explanation with blocks corresponding to the progressive increase of the Likert scale. Additionally, some items were reordered to mix the assessment of demandingness with responsiveness, thereby avoiding response bias. Furthermore, the scale's graphic representation was enhanced (the font and table size within the sheet were enlarged), and the lines were alternately painted gray and white to facilitate reading. The language of the instrument and all 24 items were adapted according to the target audience and judges' assessments, ensuring appropriate vocabulary for the age group.

Stage 3

The following are the results of the internal structure and scale accuracy analysis. In the EFA, Bartlett's tests of sphericity (maternal 1774.6; $df = 276$; $p < 0.001$ and paternal 1927.3; $df = 276$; $p < 0.001$) and KMO (maternal 0.87 and paternal 0.90) suggested the correlation matrix's adequacy for factor analysis. Five factors showed eigenvalues > 1, while the scree plots indicated the presence of two factors, which explained 41.4% (paternal) and 35% (maternal) of the total variance, with the first factor representing 31.6% and 25.8%, respectively.

Regarding the factor loadings in the EFA (Table 2), some items did not meet the established criteria and were excluded. These were items 8 and 19, which showed reversed loadings in the maternal sample, justifying their exclusion from both samples; item 14 showed similar values in both dimensions in both samples and had loadings < 0.3 in the paternal sample. Item 2 ("He/She wants to know about the activities I did at school [e.g., looks at my notebook, my diary, wants to know about my exams, etc.]") had reversed loadings in both samples relative to the theoretically proposed dimension in the adaptation process. Given the similarity of the result in both samples and the relevance of its content (as it represents care and attention in the responsiveness dimension), it was decided to keep it in this dimension, which had the highest loading.

In the CFA, all loadings were significantly different from zero, as were the factor variances, except for item 11, which was not significant in the maternal sample. Consistently, the content analysis also influenced the exclusion of item 11 ("When he/she wants me to do something, he/she tells me to do it regardless of what I think"), as its construct of decision power remained represented by item 6 ("When something needs to be decided about me, what he/she says is more important than what I say"). In this model, the responsiveness dimension remained with 13 items and the demandingness dimension with seven items (Table 3).

Table 2

Exploratory factor analysis of maternal and paternal samples (Porto Alegre, Brazil, 2019-2020)

Items	Factor Loadings - Maternal Sample		Factor Loadings - Paternal Sample	
	Responsiveness	Demandingness	Responsiveness	Demandingness
i1	0.07	**0.47**	0.18	**0.38**
i2	**0.44**	0.16	**0.50**	0.17
i3	**0.52**	0.13	**0.70**	-0.03
i4	-0.04	**0.52**	-0.03	**0.61**
i5	**0.60**	-0.03	0.55	0.13
i6	-0.02	**0.46**	0.11	**0.38**
i7	**0.64**	-0.01	**0.73**	0.01
i8	**0.40**	0.10	0.26	**0.48**
i9	**0.62**	-0.06	**0.56**	-0.11
i10	0.11	**0.31**	0.09	**0.60**
i11	-0.27	**0.40**	-0.13	**0.38**
i12	**0.70**	0.01	**0.76**	-0.02
i13	**0.63**	0.01	**0.68**	0.03
i14	0.23	0.39	0.15	0.26
i15	**0.75**	-0.10	0.58	0.00
i16	**0.49**	0.05	**0.54**	0.13
i17	0.18	**0.38**	0.04	**0.58**
i18	**0.67**	0.04	**0.71**	-0.10
i19	**0.30**	0.13	0.15	**0.42**
i20	**0.43**	-0.05	**0.52**	-0.13
i21	-0.08	**0.37**	-0.26	**0.72**
i22	**0.75**	-0.15	**0.73**	-0.03
i23	0.01	**0.45**	-0.11	**0.69**
i24	**0.54**	-0.03	**0.69**	-0.02

Note: The order of items is presented according to the EREP-inf version. The highest factor loadings for each sample are in bold.

Table 3

Factor loadings of the revised model without item 11 (Porto Alegre, Brazil, 2019-2020)

Items	Factor Loadings			
	Maternal Responsiveness	Paternal Responsiveness	Maternal Demandingness	Paternal Demandingness
i1			0.60	0.68
i2	0.55	0.67		
i3	0.65	0.74		
i4			0.49	0.62
i5	0.64	0.71		
i6			0.43	0.55
i7	0.73	0.79		
i9	0.70	0.60		
i10			0.59	0.77
i12	0.76	0.79		
i13	0.70	0.78		
i15	0.78	0.68		
i16	0.55	0.68		
i17			0.72	0.72
i18	0.77	0.70		
i20	0.49	0.49		
i21			0.28	0.47
i22	0.78	0.79		
i23			0.49	0.61
i24	0.62	0.73		
Correlation between maternal responsiveness and demandingness			0.43	
Correlation between paternal responsiveness and demandingness			0.57	

Regarding the fit indices, the chi-square results for the maternal sample were $\chi^2 = 248.270$; *df* = 169; $p < 0.001$ and for the paternal sample, $\chi^2 = 322.473$; *df* = 169; $p = 0.001$, indicating that the p-value rejected the model for both samples. Since the chi-square result is sensitive to larger samples, it was important to consider the other results (González-Blanch et al., 2018). The RMSEA, CFI, and TLI indices indicated good fits: maternal sample - RMSEA (90% CI) = 0.041 (0.030 – 0.052); CFI = 0.965, TLI = 0.960; paternal sample - RMSEA (90% CI) = 0.065 (0.054 – 0.075); CFI = 0.940, TLI = 0.933. As for the precision indices, the Cronbach's Alpha value was 0.87 (responsiveness) and 0.61 (demandingness) in the maternal sample and 0.90 (responsiveness) and 0.76 (demandingness) in the paternal sample. It is important to note that the demandingness Alpha results were median, with marginal reliability for the maternal sample (0.61) and acceptable for the paternal sample (0.76). Compared to Omega, the indices were higher: 0.91 (responsiveness) and 0.78 (demandingness) in the maternal sample and 0.92 (responsiveness) and 0.87 (demandingness) in the paternal sample. The paternal sample showed better values for both Alpha and Omega.

Regarding the analysis of the factor loadings of items that showed statistical significance, it was evident that the responsiveness dimension had better internal structure, as all items had factor loadings above 0.49. In the demandingness dimension, only one item in the maternal scale (i21) had a factor loading below 0.30. Of the others, three maternal demandingness items had loadings below 0.5 (i4: λ=0.49, i6: λ=0.43, and i23: λ=0.49) (Table 3). Specifically, despite the loading for item 21 in the maternal sample being below 0.30, it was retained due to meeting the stipulated criteria, demonstrating significance with $p < 0.05$, and being deemed content-relevant in representing the demandingness dimension by expert judges consulted during the content validity stage. This item assesses the child's involvement in household chores ("He/She says I have to help with household chores [e.g., tidy my room, fold my clothes, wash the dishes, etc.]"), a content not covered by other scale items.

In terms of classifying the dimensions as high or low (as a criterion for defining PS), stratification was done based on medians, as per the previous version of the scale. Comparing the values of parental dimensions in the sample that responded about maternal and paternal caregivers (*n* = 206), the results showed statistical differences, with maternal responsiveness: mean = 41.0 (*SD* = 9.2) and median = 43.0; paternal responsiveness: mean = 39.4 (*SD* = 10.5) and median = 41.0; $p = 0.025$. Maternal demandingness: mean = 22.4 (*SD* = 4.2) and median = 23.0; paternal demandingness: mean = 22.7 (*SD* = 5.0) and median = 23.0; $p = 0.039$. Thus, the female sample showed higher mean scores and medians in both dimensions. No significant differences were found in the assessment of maternal and paternal demandingness and responsiveness concerning the child-adolescent gender variable ($p > 0.05$).

Discussion

This study aimed to investigate evidence of validity based on content, internal structure, and reliability estimates of an adapted version of the Parental Responsiveness and Demandingness Scale for children aged 8 to 13 years, building on the version created by Teixeira et al. (2004) for adolescents aged 14 and older. As secondary objectives, this study analyzed descriptive statistics of the parental dimensions. Stages 1 and 2 focused on the content validation process, while in stage 3, the internal structure validity and reliability were assessed.

Regarding the quantitative analysis of the judges in stages 1 and 2, it is noteworthy that all assessed items received better assessments in stage 2, except for relevance to the age range of 12 to

13 years (overall scale result in stage 1 = 0.99 and in stage 2 = 0.97, although both are satisfactory). Additionally, the results of stage 2 showed that some items still presented issues: item 4 in language coherence for the age range of eight to 11 years (CVC < 0.8); item 6 in language coherence for both age ranges (CVC < 0.8) and in the theoretical dimension (disagreement between two judges); item 8 in the theoretical dimension (disagreement among six judges). These items were revised and modified during focus groups after the judges' assessment in stage 2. Finally, they were discussed among the researchers and the authors of the original scale, reaching a consensus on their inclusion in the scale for testing in stage 3.

Moreover, the language and layout modification processes carried out in stages 1 and 2 maintained the theoretical structure of two dimensions, with 12 items each, totaling 24 items, as presented in Teixeira et al.'s (2004) version, which assesses responsiveness and demandingness in the population aged 14 and above. Therefore, the review of all items became necessary, not only from a psychometric perspective but also in terms of their content, since they might not be relevant for the age range of 8 to 13 years due to differences in life stages and the demands of the parental relationship (Silva & Roazzi, 2021). The content of items 8 and 11, for example, represents parental attitudes that are less relevant for the younger age group of the target audience (8 to 10 years).

In line with the content review, the three stages of the study showed the need to exclude item 8 and suggested modifications or exclusions mostly in the demandingness dimension. Specifically, the results of EFA and CFA in stage 3 indicated the need to exclude the following items: 8 (reverse loading in the maternal sample), 11 (non-significance in the maternal sample), 14 (formerly item 3; similar loadings on both factors and < 0.3 in the paternal sample), and 19 (formerly item 7; reverse loading in only one sample). Additionally, item 2 was reassigned to the responsiveness dimension. All these items originally belonged to the demandingness dimension, which remained with seven items in the current version.

It can be inferred that items 8, 11, 14, and 19 might have been interpreted differently by the sample, presenting language issues, or indicating that their constructs have little relevance to the demandingness dimension in this age range. Supporting this analysis, a recurring comment in the judges' qualitative assessment exemplifies this difficulty: "this item establishes a subjective standard of demandingness." Historically, other studies have also discussed the complexity of measuring demandingness. The process of translating, adapting, and refining the EREP (Costa et al., 2000; Teixeira et al., 2004) involved more adjustments, inclusions, and exclusions in the items related to demandingness compared to responsiveness. Additionally, the first Brazilian version of the instrument featured two scales to measure demandingness – separating explicit and implicit control measures (Costa et al., 2000). Teixeira et al. (2004) argued that demandingness is a more diffuse construct than responsiveness and may be understood less homogeneously, as seen in this study.

Another aspect of analyzing the two dimensions is the similarity between responsiveness and demandingness, in theoretical terms and in the behavioral representation of the constructs, which complicates the validation process of the current instrument. The reassignment of item 2 to the responsiveness dimension is a consistent example, as the sentence was perceived by the target audience as responsiveness, even though it was theoretically intended to measure demandingness. Furthermore, a judge's comment in stage 2 about this item supports this fact: "reflects parental care towards school activities." Therefore, it can be inferred that actions involving attention and control by caregivers over children's/adolescents' activities are not necessarily perceived by them as restriction or imposition of rules but as an act of interest and care.

This issue has been previously discussed: Cid et al. (2015) found that the existence of rules and responsibilities shared by parents and children constituted a protective factor for children's mental health. Teixeira et al. (2004) highlighted that the responsiveness and demandingness dimensions might resemble each other, as they are theoretically and positively related – but should differ psychometrically to avoid ambiguous interpretations. Moreover, Martinez et al. (2020) discussed the effectiveness of considering the construct of parental monitoring as demandingness, a topic that continues to be debated (Gong & Carano, 2021). In this context, it is important to note that existing literature does not offer a single, specific definition of the behavioral manifestations that constitute the demandingness and responsiveness dimensions measured by the items. What is presented is the description and characterization of the family environment in which each dimension is present or absent, and the outcomes related to children's mental health and behaviors over time (Baumrind, 1966; Lamborn et al., 1991; Lawrenz et al., 2020; MacCoby & Martin, 1983). Different studies use parenting practices as a basis, although their correlations with parental dimensions have been investigated and their theoretical differences argued, proving that they are constructs of different magnitudes in the parental context (Lawrenz et al., 2020). Finally, although this issue has been extensively studied in adolescent samples, the discussion on the topic involving results in child-adolescent samples is less frequent still incipient (Macarini et al., 2010; Méndez et al., 2020; Silva & Roazzi, 2021).

Regarding the results of internal validity and reliability, some considerations are important for the study: the scree plot values indicated the retention of two factors, a structure already used in the previous version of the scale (Teixeira et al., 2004) and theoretically defended (MacCoby & Martin, 1983). Furthermore, the strength of the solution found in terms of factor loadings of the selected items suggests the relevance of the contents for this age group. Concerning the scale's reliability, the McDonald's Omega values indicate that the reliability estimates of the EREP-inf are adequate and support its use.

Compared to version of Teixeira et al. (2004), the correlations between the dimensions of the maternal and paternal samples showed higher magnitudes in this study (maternal = 0.19, $p < 0.001$ and 0.43, $p < 0.001$; paternal = 0.31, $p < 0.001$ and 0.57, $p < 0.001$, respectively), which may indicate a closer relationship between the two dimensions, although they remain theoretically distinct. The reliability indices show similar results when comparing Teixeira et al.'s (2004) Cronbach's Alpha with McDonald's Omega in this study (except for paternal demandingness: 0.83 in Teixeira et al. (2004) and 0.87 in the current study). These findings demonstrate that the parental dimensions are adequately assessed, despite the different age ranges and life contexts.

Regarding the descriptive data of the parental dimensions, the higher mean and median results for the maternal sample confirm what other studies have found in Brazilian samples (Martinez et al., 2020; Teixeira et al., 2004). Concerning the homogeneity of results related to the child-adolescent gender variable, it is possible to consider a convergence in the education of children, which may reflect the advancements in gender discussions in Brazilian society and current gender equality policies (Bolsoni-Silva & Loureiro, 2019). This analysis warrants further investigation across different regions of the country to strengthen evidence of potential shifts in Brazilian parental education.

Conclusion

The results presented in this study demonstrate that the adaptation of the EREP-inf adequately measures the parental dimensions, despite the age range and life context differing from

those of the original EREP. The instrument maintained the two theoretical demandingness and responsiveness dimensions, which are distinctly separate yet positively correlated and consistently interpretable. Precision indices were measured using McDonald's Omega, which yielded satisfactory values.

PS investigation in child-adolescent samples is still underexplored in the Brazilian and Latin American contexts. With the presentation of this version of the EREP-inf, it is suggested that future research delve deeper into studies, particularly using sociodemographic data (e.g., family income, children's ages, number of children, and their birth order).

There are significant limitations to consider. The sample was selected from the Metropolitan Region of the city of Porto Alegre (the capital of the state of Rio Grande do Sul, Brazil) and was not stratified by any sociodemographic variable. Additionally, the convenience sampling strategy and the number of participants did not allow for the generalization of results. Future studies should use the present findings for comparison purposes with different regions of Brazil, ensuring that the sample size allows for testing invariance between the gender of the caregivers and children, as well as across child-adolescent age ranges.

Comparative analysis between public and private schools was hindered by low participation from the latter. Given the complexity of integrating institutions with varying characteristics into psychological research in Brazil, it is recommended to explore new strategies for their inclusion in research projects. Such comparisons could facilitate more nuanced analyses across socioeconomic strata and influence future educational policies in both public and private sectors.

This study represents advances in understanding parent-child relationships within the Brazilian context, both in terms of offering new sample data and a psychometrically validated instrument for assessing these dynamics in children and adolescents. The findings presented here can serve as a theoretical framework for developing parental interventions aimed at fostering healthier relationships within the family dyad.

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