Parenting and Family Adjusment Scales: Brazilian cultural adaptation

Escalas de Ajustamento Parental e Familiar: Adaptação cultural para o Brasil

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Abstract

Objective
The present study aimed to perform the Brazilian cultural adaptation of the Parenting and Family Adjustment Scales and to examine its construct validity.

Method
The sample comprised 315 mothers of 2- to- 5-year-old children. The process of cultural adaptation followed the following steps: translation of the instrument into Portuguese language; synthesis and completion of the first consensus draft of the Portuguese version; back-translation; evaluation by the committee of expert specialist judges; semantic evaluation of the items; calculation of content validity coefficient, and qualitative interview. Finally, a confirmatory factor analysis was conducted.

Results
The results of confirmatory factor analysis revealed four latent parenting practices in the Brazilian contex, such ast: coercive parenting, encouragement, parental inconsistency, and parent-child relationship. Additionally, the analysis for the family adjustment revealed a two-factor model parental adjustment and family adjustment.

Conclusion
Parenting and Family Adjustment Scales presents a valid measurement for the Brazilian context, and can be used in future parenting studies.

Keywords: Cross-cultural comparison; Emotional adjustment; Family relations; Parent-child relations; Psychometrics.

Resumo

Objetivo

O presente estudo teve por objetivo desenvolver a adaptação cultural para o Brasil das Escalas de Parentalidade e Ajustamento Familiar e verificar a validade de construto.

Método

A amostra foi composta de 315 mães de crianças de 2 a 5 anos de idade. O processo de adaptação cultural seguiu as seguintes etapas: tradução do instrumento para a língua portuguesa (Brasil); síntese e finalização da primeira versão em português; retrotradução; avaliação pelo comitê de juízes especialistas; avaliação semântica dos itens; cálculo do coeficiente de validade de conteúdo e entrevista qualitativa. Por fim, a análise fatorial confirmatória foi realizada.

Resultados

Os resultados da análise fatorial confirmatória para práticas parentais revelaram um modelo com quatro fatores: parentalidade coercitiva, encorajamento, inconsistência parental e relação pais-filhos. A análise para o ajustamento familiar revelou um modelo de dois fatores: ajustamento parental e familiar.

Conclusão

As Escalas de Parentalidade e Ajustamento Familiar consistem em medida válida para o contexto brasileiro, podendo ser utilizado em estudos futuros sobre parentalidade.

Palavras-chave: Comparação transcultural; Ajustamento emocional; Relações familiares; Relações pais-filho; Psicometria.

Positive parenting is defined as parental behaviors undertaken in the children's best interests, which ensure the fulfillment of the children's main needs and foster their aptitudes; it involves caring for, protecting and guiding the child on the path to maturity, with investment and commitment (Brooks, 2013). Parents use these strategies and practices for specific educational purposes in order to develop their children's academic, social, and emotional skills (El Nokali et al., 2010).

Considering the relevance of effective parenting for development of healthy behaviors in children, the necessity of obtaining measurement instruments for parenting research is evident. Cross-cultural adaptation of an instrument to evaluate parenting practices is important, since most research on instrument construction is conducted in English-speaking countries, instruments need to be adapted for use in other countries or cultures (Cassepp-Borges et al., 2010; Zanetti et al., 2012).

The Parenting and Family Adjustment Scales (PAFAS) is a relevant user-friendly questionnaire for parenting practices assessment used in different countries, such as United States of North America, Australia, China, Panama, Indonesia (Sanders et al., 2014), and, more recently in Spain (Fariña et al., 2021). The PAFAS measure parental attempts or styles expressed through strategies that promote positive and child pro-social behaviors by logical consequences and description of praise. Additionally, the PAFAS had the advantage of evaluating not only parenting practices – PAFAS Parenting scale –, but also parenting risk and protective factors, such as parental emotional adjustment, quality of family relationships, and parental teamwork – PAFAS Family adjustment subscale (Sumargi et al., 2018).

The PAFAS in the original version assesses five domains of parent and family functioning that are known risk factors for child emotional and behavioral problems. These domains are the following: (i) parenting practices defined as the parenting approach or style expressed by the strategies parents use for promoting child's positive and prosocial behavior; (ii) quality of parent-child relationship defined as the level of reciprocal warmth and parental satisfaction with the relationship with a child; (iii) parental emotional adjustment to the parenting role defined as the level of stress, depression and anxiety experienced by a parent; (iv) positive family relationships defined as the level of the

supportive and conflict-free family environment; and (v) parental teamwork defined as the level of social support a parent receives from the partner in the parenting role. These factors are known to be related to child outcomes and they are common targets of evidence-based parenting programs and are expected to change as a result of a parenting intervention (Sanders et al, 2014).

The PAFAS was previously validated with parents of children with typical development (Fariña et al., 2021; Guo et al., 2016; Mejia et al., 2015; Sanders et al., 2014; Sumargi et al., 2018) and with atypical development (Mazzucchelli et al., 2018). Previous studies presented adequate construct validity, with the confirmatory factor analysis showing good fit indices for the data with a four-factor structure of PAFAS Parenting in both versions, Spanish (Mejia et al., 2015; Comparative Fit Index (CFI) = 0.946; Standardized Root Mean Square Residual (SRMR) = 0.06; Root Mean Square Error of Approximation (RMSEA) = 0.05) and English (Sanders et al., 2014; CFI = 0.91; SRMR = 0.06; RMSEA = 0.054).

Confirmatory Factor Analysis (CFA) about PAFAS, resulted in a four-factor 18-item PAFAS Parenting scale and a three-factor 12-item PAFAS Family Adjustment Scale (Sanders et al. 2014). Furthermore, this measure was validated in collectivistic cultures, such as Panama (Mejia et al. 2015), China (Guo et al., 2016) and Indonesia (Sumargi, 2018). All studies, the factor structures in the original PAFAS measure demonstrate adequate internal consistencies (ranging from 0.50 to 0.82; from 0.65 to 0.95, and from 0.44 to 0.83 for Chinese, Panamanian, and Indonesian parents, respectively), when using the short version of the scale with 30 items for evaluation. Only Farina's study obtained a version composed of 20 items, two subscales and five factors that proved to be reliable in measuring family and parenting functioning in Spain (Fariña et al., 2021).

In spite of advances in psychometric studies of PAFAS, there are still gaps in the literature. Methodologically rigorous research on parenting risk and protective factors in latin cultures, particularly in Brazil, is scarce. Brazil has national measures about parenting including the Beliefs and Caring Practices Scale (Martins et al., 2010), the Parenting Style Inventory (Gomide, 2006) and the Parenting Practices Inventory for Mothers of Babies (Rodrigues et al., 2022). However, the Parenting Practices Inventory for Mothers of Babies is specific for the children up to 3 years old and the Parental Practices Scales for adolescents (Teixeira et al., 2006). The Beliefs and Caring Practices Scale is focus on children in early childhood and include questions regarding care and positive practices not including negative practices such as coerticitive (Martins et al., 2010). Thus, there is a need for an instrument that addresses positive and negative parenting practices and that can be used in different age groups of childhood. Additionally, the use of international instruments with the necessary cultural adaptations has the benefit of intercultural comparisons (Arafat et al., 2016). In addition, the use of validated measures of parenting practices is essential to allow accurate assessment of adaptation and positive parenting programs for the prevention of behavioral and conduct problems in children and adolescents (Arias et al., 2020).

Then, the present study aimed to translate the PAFAS into Portuguese language and perform the Brazilian cultural adaptation. Also, the construct validity of PAFAS by a confirmatory factor analysis was examined. To date, as far as we know, this is the first study of cultural adaptation of PAFAS to the Brazilian context.

Method

A descriptive, cross-sectional, and psychometric study in which the process of translation and cross-cultural adaptation of the PAFAS was carried out the five-steps procedure described by

Beaton et al. (2000). Additionally for the construct validity, a confirmatory factor analysis CFA was conducted, similar to previous studies with the PAFAS (Sanders et al. 2014).

The current project was approved by the Research Ethics Committee of Universidade Federal da Grande Dourados (CAAE: 61411716.0.0000.5160, under opinion number 1.956.318). After being informed regarding the objectives of the study, the mothers who agreed to participate in the study signed the Free and Informed Consent Form.

Participants

The final sample for the construct validity analysis comprised 315 mothers of children enrolled in preschools. The sample size was calculated based on the literature that established the standard minimum sample size of 200 suggested for structural equation modeling (Kline, 2011). In order to reach the minimum number of participants required, a total of 846 mothers were contacted through the delivery of an envelope to preschools, and 315 returned with complete full fillment.

A small sample of 33 mothers of children aged 2 to 5 years (this sample was different from the initial sample of 315 mothers) was recruited in a Social Services Center in a municipality in Southern Brazil to take part in brief qualitative interviews designed to assess understanding and appropriateness of the PAFAS items within the Brazilian cultural context. According to Beaton et al. (2000), 30 to 40 individuals should participate in this stage.

Instruments

Parenting and Family Adjustment Scales (PAFAS) (Sanders et al., 2014). This tool assesses parenting practices, and parent and family adjustment. The authors originally suggested that the PAFAS was a 28-item Parenting Scale encompassing two domains including parenting practices (17 items) and parent-child relationship (11 items) and a 12- item family adjustment scale of three domains including parental emotional maladjustment (5 items), family relationships (4 items), and parental teamwork (3 items). A subsequent confirmatory factor analysis supported an 18- item, a four-factor, model of PAFAS Parenting, and a 12- item, a three factor, model of PAFAS Family Adjustment (Sanders et al., 2014). The PAFAS Parenting factors incorporated parental consistency (5 items), coercive parenting (5 items), positive encouragement (3 items), and parent-child relationship (5 items). The PAFAS Family Adjustment factors encompassed parental emotional adjustment (5 items), family relationships (4 items), and parental teamwork (3 items). Each item is rated on a 4-point scale from 0 (not true of me at all) to 3 (true of me very much). Some items are reverse-scored. For each subscale of the PAFAS Parenting and PAFAS Family Adjustment, the items are summed to provide scale scores, with higher scores indicating higher levels of dysfunction. Psychometric evaluation of the PAFAS in families with typically developing children revealed that these scales had good internal consistency, as well as satisfactory construct and predictive validity (Sanders et al., 2014). According to Sanders et al. (2014), the internal consistency of the English version of PAFAS was satisfactory, such as: 0.70 (Parental consistency), 0.78 (Coercive parenting), 0.75 (Positive encouragement), 0.85 (Parent-child relationship), 0.87 (Parental adjustment), 0.84 (Family relationships), and 0.85 (Parental teamwork).

Classification Criteria of the Brazilian Association of Research Enterprises (Associação Brasileira de Empresas de Pesquisa, 2016) this classification is based on items such as the possession of goods (television, radio, automobile, vacuum cleaner, videocassette player and/or DVD, refrigerator, freezer and washing machine), the access to services (housemaids), characteristics of the home (number of bathrooms) and years of schooling of the head of the household. The total score with respect to

each item results in the classification of the respondents in seven strata identified as "social classes" and average family income.

Procedures

Translation of the PAFAS into Portuguese Language

In the first step, three authors of the present study (the first, fourth, and sixth authors) independently translated the instrument attempting to preserve the semantic equivalence of all items of the original instrument. They are specialist psychologists, Brazilian natives with a broad knowledge of English language, and technical terminology of parenting issues.

The second step comprises the synthesis and completion of the first consensus draft of the PAFAS – Portuguese version. This consensus draft was obtained through a meeting among the researchers who carried out the translation to clarify the objectives of the instrument. After reading the instrument's filling instructions and evaluation items, discussions were held that led to a synthesis and consensus regarding the translation.

The third step, the backtranslation into English language was performed by an independent fluent bilingual translator, and compared with the original instrument. After this step, the instrument was adapted in this new version and it was submitted for evaluation by a committee of specialists composed by six psychologists. In the fourth step, the specialist committee was instructed to act as judges evaluating the pertinence of each scale item in terms of semantic, idiomatic, cultural and conceptual dimensions. The specialists were selected based on their expertise in the field of parenting and received a table by email showing each item of the original scale in English with its translation. The specialist's task was to evaluate the translation's adequacy according to the following options: (i) adequate, no reformulation; (ii) adequate with minor reformulations and suggesting the specific reformulations; (iii) inadequate, requires reformulation and suggesting the specific reformulations. After the evaluation of the specialists, a new consensual PAFAS – Portuguese version was obtained.

Evaluation by the Expert Judges Committee for Calculate the Content Validity Coefficient

To analyze the Content Validity Coefficient (CVC), the agreement among three of the specialist committee judges was verified, as recommended by Hernández-Nieto (2002). In this model, each item was evaluated separately, and a mean was established for the criteria of language clarity, theoretical relevance and practical pertinence. After the calculation is applied, items with a general CVC above 0.80 are considered acceptable (Cassep-Borges et al., 2010). The judges were selected for their expertise in the field of parenting and received instructions by email.

The specialists were asked to complete a form with the following questions: (i) "Do you believe that the language of each item is sufficiently clear, comprehensible, and adequate with regard to the population? (Language clarity); (ii) "Do you believe that the proposed items are relevant for this population?" (Practical relevance); (iii) "Do you believe that the content of this item is representative of the behavior to be measured, or one of its dimensions, considering the theory in question?" (Theoretical relevance). The questions were evaluated using a Likert scale, in which each criterion was independently evaluated using scores ranging from 1 to 5, in which 1 was "not much"; 2, "little"; 3, "somewhat"; 4, "much"; and 5, "a great deal". After the judges returned the form, the CVC was calculated.

In the evaluation of the theoretical dimension, the judges were asked to answer the following question: "To which dimension (factor) do you believe this item belongs?". The judges' task was then to indicate the theoretical dimension that best represented the evaluated item, considering the following dimensions of the PAFAS: (i) Parenting practices: defined as parenting attempts or styles expressed through parenting strategies used to promote positive and pro-social behaviors; (ii) Quality of the parent-child relationship: defined as the level of reciprocity and satisfaction experienced by the parents in the relationship with the child; (iii) Emotional adjustment of parents to the role of parenting: defined as the level of stress, depression and anxiety experienced by the parents; (iv) Positive family relationship: defined as the level of conflict in the family environment; (v) Parental teamwork: defined as the level of social support that a parent receives from the partner in the parenting role.

The mean Kappa was calculated to verify agreement among the judges (Cassepp-Borges et al., 2010). The study of Landis and Koch (1977) presented the following classification for the Kappa analysis: no agreement (< 0); poor agreement (0.01 to 0.19); weak agreement (0.20 to 0.39); moderate agreement (0.40 to 0.59); strong agreement (0.60 to 0.79); almost perfect agreement (0.80 to 1.00)

Qualitative Interview

To evaluate the degree of comprehension and acceptability of the population of the Brazilian version of the instrument, a PAFAS brief qualitative interview was performed. The researcher interviewed the mothers, asking for each item if they had understood it. If the participants said yes, the researcher continued; otherwise, the researcher would re-read the instructions, ask about which point was difficult to understand, and then clarify the doubt.

Construct Validity

To examine the construct psychometric properties of the PAFAS, a confirmatory factor analysis (CFA) was conducted, based on previous studies with the PAFAS scale that showed an adequate model fit (Sanders et al. 2014).

The analyses of the overall model fit were conducted based on four indices based on recent work in the field (Altafim et al., 2018; McCoy et al., 2015). The following criteria were used to indicate adequate model fit: (i) a relative Chi-square value (the ratio of chi-square to degrees of freedom) of 3 or less, (ii) a RMSEA of < 0.08, (iii) a CFI of 0.95 or greater, and (iv) a SRMR of < 0.09 (Kline, 2011). In keeping with field standards, we reported the p-value of the unstandardized coefficient. The pathways were considered statistically significant at $p < 0.05$. All analyses were conducted using the Stata Statistical software (version 14.0).

Results

Regarding the steps, including translation of the instrument into Portuguese, synthesis and completion of the first consensus draft of the Portuguese version and the back translation, and good equivalence between the items was found.

Evaluation by the Judges' Committee

The Table 1 compares the original items and the changes made after the evaluation of the judges' committee. The specialist judges proposed suggestions to improve item semantic adequancy and facilitate reading. The suggestions were incorporated into the final version.

Table 1
Comparison between the original items of Parenting and Family Adjustment Scales and the changes made after the evaluation of the judges' committee

Items	Original	Final version
1	I make my child apologize for misbehaving	*Eu faço meu filho/minha filha se desculpar pelo seu mau comportamento.*
2	I tell my child to stop as soon as I notice them misbehaving	*Eu digo para meu filho/minha filha parar assim que observo seu mau comportamento*
3	If my child doesn't do what they're told to do, I give in and do it myself	*Se meu filho/minha filha não faz o que peço, eu desisto e eu mesma(o) faço*
4	I deliberately ignore my child's minor misbehaviour	*Eu ignoro intencionalmente pequenos maus comportamentos do meu filho/da minha filha*
5	I give my child a treat, reward or fun activity for behaving well	*Eu dou uma guloseima, uma recompensa ou uma atividade divertida quando meu filho/minha filha se comporta bem*
6	I follow through with a planned consequence (e.g. take away a toy) when my child misbehaves	*Quando meu filho/minha filha se comporta mal, eu reajo com uma consequência planejada (por exemplo, retiro um brinquedo)*
7	I send my child to time out (e.g. sit alone in a quiet place) when they misbehave	*Quando meu filho/minha filha se comporta mal, eu mando-o(a) dar um tempo (coloco de castigo) (por exemplo, sentar-se sozinha(o) em um local tranquilo)*
8	I threaten something (e.g. to turn off TV) when my child misbehaves but I don't follow through	*Quando meu filho/minha filha se comporta mal, eu ameaço (por exemplo, desligar a televisão), mas eu não cumpro*
9	I shout or get angry with my child when they misbehave	*Eu grito ou fico brava(o) com meu filho/minha filha quando ele/ela se comporta mal*
10	I praise my child when they behave well	*Eu elogio meu filho/minha filha quando ele/ela se comporta bem*
11	I nag my child, or have a long talk about why their behaviour is not acceptable	*Eu repreendo meu filho/minha filha ou tenho uma longa conversa com ele/ela para explicar porquê seu comportamento não é aceitável*
12	I try to make my child feel bad (e.g., guilt or shame) for misbehaving to teach them a lesson	*Eu tento fazer meu filho/minha filha se sentir mal (por exemplo, culpado ou envergonhado) por se comportar mal, para lhe ensinar uma lição*
13	I give my child attention such as a hug, wink, smile or kiss when they behave well	*Eu dou atenção ao meu filho/minha filha como um abraço, uma piscada de olho, um sorriso ou um beijo, quando ele/ela se comporta bem*
14	I spank (smack) my child when they misbehave	*Eu dou uma palmada no meu filho/na minha filha quando ele/ela se comporta mal*
15	I argue with my child about their behaviour or attitude	*Eu argumento com meu filho/minha filha sobre seu comportamento ou atitude*
16	I deal with my child's misbehaviour the same way all the time	*Eu lido com o mau comportamento do meu filho/da minha filha da mesma maneira, o tempo todo*
17	I give my child what they want when they get angry or upset	*Eu dou ao meu filho/minha filha o que ele/ela quer quando ele/ela fica com raiva ou chateada(o)*
18	I play or read books with my child	*Eu brinco ou leio livros com o meu filho/a minha filha*
19	I get annoyed with my child	*Eu fico irritada(o) com o meu filho/a minha filha*
20	I chat/talk with my child	*Eu converso com o meu filho/a minha filha*
21	I encourage my child to be physically active	*Eu incentivo meu filho/minha filha a praticar atividades físicas*
22	I enjoy giving my child hugs, kisses and cuddles	*Eu gosto de dar abraços, beijos e carinho no meu filho/na minha filha*
23	I worry about how my child will turn out in the future	*Eu me preocupo sobre como meu filho/minha filha será no futuro*
24	I am proud of my child	*Eu estou orgulhosa(o) do meu filho/da minha filha*
25	I enjoy spending time with my child	*Eu gosto de passar meu tempo com meu filho/minha filha*
26	I teach my child to do things	*Eu ensino meu filho/minha filha a fazer as coisas sozinho(a)*
27	I eat meals with my child	*Eu faço as refeições com meu filho/minha filha*
28	I have a good relationship with my child	*Eu tenho um bom relacionamento com meu filho/minha filha*
29	I feel stressed or worried	*Eu me sinto estressada(o) ou preocupada(o)*
30	I feelhappy	*Eu me sinto feliz*
31	I feel sad or depressed	*Eu me sinto triste ou deprimida(o)*
32	I feel satisfied with my life	*Eu me sinto satisfeita(o) com a minha vida*
33	I cope with the emotional demands of being a parent	*Eu lido com as exigências emocionais de ser mãe/pai*
34	Our family members help and support each other	*Os membros da nossa família ajudam e apoiam uns aos outros*
35	Our family members get on well with each other	*Os membros da nossa família se dão bem uns com os outros*
36	Our family members fight or argue	*Os membros da nossa família brigam ou discutem*
37	Our family members criticize or put each other down	*Os membros da nossa família criticam ou colocam uns aos outros para baixo*
38	I work as a team with my partner in parenting	*Eu e meu companheiro/minha companheira somos como uma equipe na criação dos filhos*
39	I disagree with my partner about parenting	*Eu discordo do meu companheiro/da minha companheira na criação dos filhos*
40	I have a good relationship with my partner	*Eu tenho um bom relacionamento com meu companheiro/minha companheira*

Regarding the calculation of the CVCs obtained for each of the items and for each of the criteria, it was verified that 37 of the 40 items of the PAFAS obtained acceptable rates, according to Hernández-Nieto (2002). Only four items of the 40 presented indices below the level considered acceptable (≥ 0.80) in only one dimension (item 3 = 0.76 in theoretical relevance; item 5 = 0.70 in clarity of language; item 24 = 0.76 in clarity of language and item 33 = 0.70 in clarity of language). The CVC of all items were the following: language clarity = 0.87, practical relevance = 0.95, and theoretical relevance 0.97.

As for the theoretical dimension, the agreement between the judges' evaluation, obtained via the mean Kappa coefficient (k), was 0.68. This coefficient revealed a strong agreement level, according to Landis and Koch (1977).

Qualitative Results

Participants in the qualitative interview were 33 mothers between 21 and 45 years old (mean = 32 years old). In this sample, 45% were married, 42% singleton, and 12% divorced. Regarding the educational level, 54% had not completed high school, 30% had completed high school, 6% had not completed higher education, and only 9% had completed higher education. Also, 82% of mothers had a mean household income ranging from BRL 768,00 to BRL 2.705,00.

The mothers considered that the scale was adequate and comprehensible, regardless of the schooling level and the economic class. It was found that the average time spent for self-application of the instrument was 20 minutes. Therefore, no changes to the scale were proposed at this stage.

Construct Validity

The 315 mothers lived with their children in a municipality located in the Middle-west of Brazil. The mothers were, on average, 31 years old (range from 19 to 44 years). The majority of them (78%) were married or lived in a stable relationship, 32% (10%), had completed higher education and 60% had an income between BRL 2.409,01 to BRL 4.427,36, according to ABEP criteria. The mothers had children with an average age of 3.7 years, similarly distributed into girls (51%) and boys (49%). A confirmatory factor analysis was performed, considering the structure of the original version of PAFAS according to Sanders et al. (2014). The Table 2 presents the models that were examined.

Table 2
Models of the Confirmatory factor analysis of the Parenting and Family Adjustment Scales- Parenting subscales

Models	χ^2	gl	χ^2/gl	CFI	SRMR	RMSEA
Parenting						
Model A – 2-factors	1629.852	737	2.21	0.557	0.088	0.067
Model B – 2-factors	948.823	349	2.71	0.584	0.087	0.074
Model C – 4-factors	290.294	129	2.25	0.797	0.069	0.063
Model D – 4-factors, without 6 and 15 items	194.688	98	1.96	0.841	0.061	0.056
Model E – 4-factor, without 6, 15, and 16 items	154.211	84	1.83	0.898	0.058	0.052
Model F – 4-factors, without 6, 15, and 16 items and the item 22 changed for Positive encouragement	118.258	71	1.66	0.929	0.047	0.046

Note: χ^2: Chi square, gl: degrees of freedom, χ^2/gl: a relative chi-square value. CFI: Comparative Fit Index, RMSEA: Root Means Square Error of Approximation, SRMR: Standardized Root-Mean-Square Residual.

As seen in Table 2, focusing on model A, the two factors of Parenting and Family Adjustment were maintained, each one with 28 and 12 items, respectively, according to the original model described by Sanders et al. (2014). However, this model did not present an adequate adjustment (RMSEA = 0.067; SRMR = 0.088; CFI = 0.557; and χ^2 /df = 2.21). The model B maintained these both factors,

however the 28 items of Parenting were divided into parenting practices (n = 17 items) and parent-child relationships (n = 11 items). This model also did not present an adequate adjustment (RMSEA = 0.074; SRMR = 0.087; CFI = 0.584; and χ^2 /df = 2.71). The model C, in turn, was tested with four factors, grouped into: Parental consistency (1,4,11, and 12 items); Coercive practices (5, 7, 9,1 0, and 13 items); Positive encouragement (2, 6, and 8 items); Parent-child relationships (i14, 16, 17, and 18 items), as tested in previous studies (Mejia et al., 2014; Sanders et al., 2014). In the present study, this model presented an inadequate CFI índex (RMSEA = 0.063; SRMR = 0.069; CFI = 0.797; and χ^2 /df = 2.25). However, this model with four factors proved to be the model with the best representation of the data and with better results than the previous model with 2 factors. In the model D, it was decided to keep the 4 factors and remove the items 6 "When my son / daughter misbehaves, I react with a planned consequence (for example, I remove a toy)" and 15 "I argue with my son / daughter about their behavior or attitude", as they were not significant (RMSEA = 0.056; SRMR = 0.061; CFI = 0.841; and χ^2 /df = 1.96). As the results of this model were not satisfactory, in model E items 6 and 15 were removed, in addition to item 16 "I deal with my son / daughter's bad behavior in the same way, all the time". In this model there was an increase in CFI compared to the other tested models, but it remained below the established parameter (RMSEA = 0.052; SRMR = 0.058; CFI = 0.898; and χ^2 /df = 1.83). Finally, in the model F, the 6, 15, and 16 items were removed and the item 22 "I like to give hugs, kisses and affection to my son / daughter" was moved to the factor Positive encouragement, as performed in the study of Sumargi et al. (2018). Thus, there was an adequate adjustment of the final model in the four parameters adopted (RMSEA = 0.046; SRMR = 0.047; CFI = 0.929; and χ^2 /df = 1.66).

The Figure 1 shows the final 4-factor model including 14 items, showing that the items represented four different but correlated constructs. The four factors were positively significantly correlated with each other (coefficients shown in Figure 1; p < 0.01 for all correlations).

Table 3 shows the values obtained in the adjustment indices of the Family Adjustment subscale. The model A tested the same model proposed by Sanders et al. (2014), with a one-factor model including 12 items of Family Adjustment. This model did not present adequate indexes (RMSEA = 0.137; SRMR = 0.093; CFI= 0.600; and χ^2/df = 6.04). Thus, it was decided to test the model B by Sanders et al. (2014) with the following three factors: Parental adjustment (items: 29, 30, 31, 32, and 33); Family relationships (items: 34, 35, 36, and 37) and Parental team (items: 38, 39, and 40). However, this model did not present an adequate fit either (RMSEA = 0.114; SRMR = 0.088; CFI = 0.739; and χ^2/df = 4.48). In the model C, the three factors were maintained, but the items 33 "I deal with the emotional demands of being a mother / father" and 37 "Our family members criticize or put each other down" were excluded because they were not statistically significant. However, the results did not show adequate indexes (RMSEA = 0.103; SRMR = 0.075; CFI = 0.837; and χ^2/df = 3.84). In the model D, it was decided to test the 2-factors model according to the study by Mejia et al. (2015), in which some items of the family relationships factor were combined with the parental teamwork factor. This model also did not show adequate indexes (RMSEA = 0.127; SRMR = 0.077; CFI = 0.810; and χ^2/df = 5.32). In order to improve the adjustment, in the model E, two factors were tested and items 33 "I deal with the emotional demands of being a mother / father" and 40 "I have a good relationship with my partner" did not load significantly on the designated factors and were removed. This model was very close to the final model obtained in the study by Mejia (2015) and was an adequate adjustment of the final model (RMSEA = 0.079; SRMR = 0.047; CFI = 0.956; and χ^2/df = 2.68).

Figure1
Confirmatory Factor Analysis of PAFAS Parenting Scale (full sample; n = 315)
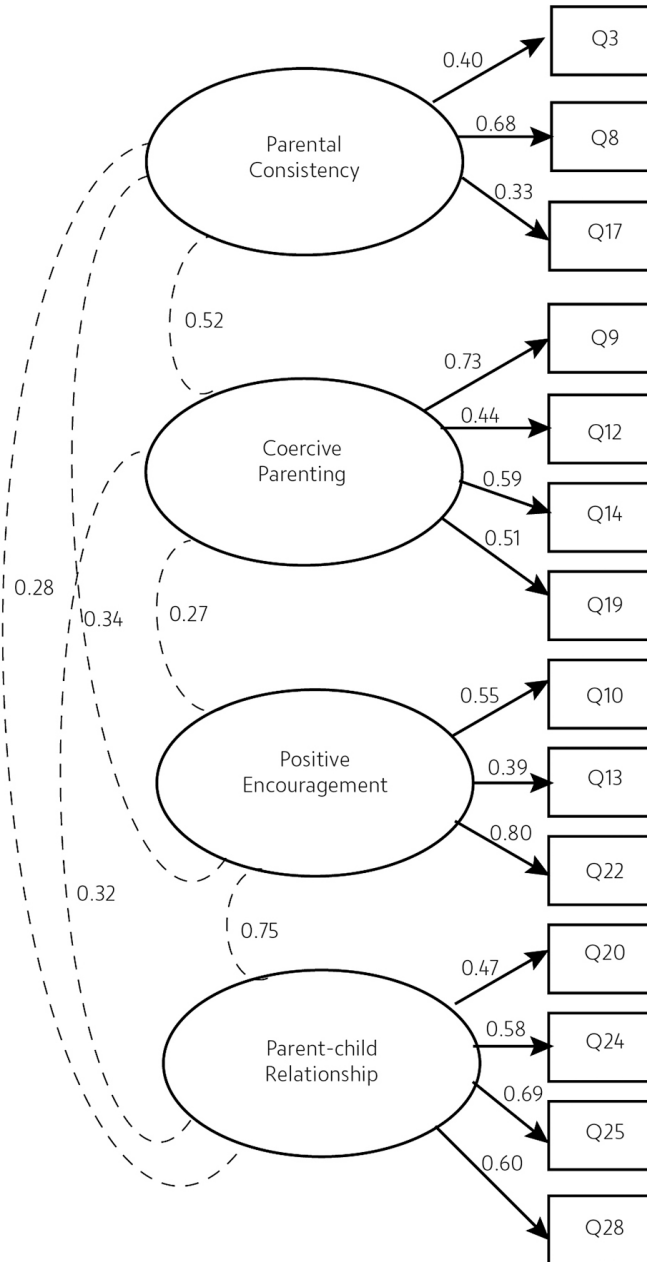
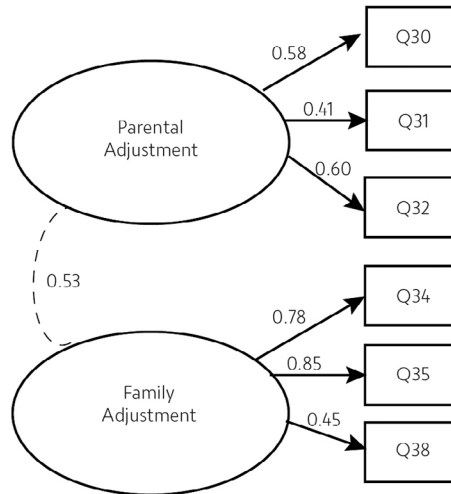Note: Q: Question. Standardized factor loadings presented, all significant at the *p* < 0.01 level.

Table 3
Parenting and Family Adjustment Scales – Parental Adjustment scale models tested in the confirmatory factor analysis

Models	χ^2	gl	X^2/gl	CFI	SRMR	RMSEA
Model A – 1-factor	326.515	54	6.04	0.600	0.093	0.137
Model B – 3-factors	228.578	51	4.48	0.739	0.088	0.114
Model C – 3-factors, without 33 e 37 items	122.986	32	3.84	0.837	0.075	0.103
Model D – 2-factors	101.124	19	5.32	0.810	0.077	0.127
Model E – 2-factors, without 33 e 40 items	21.454	8	2.68	0.956	0.047	0.079

Note: χ^2: Chi square, gl: degrees of freedom, χ^2/gl: a relative chi-square value. CFI: Comparative Fit Index, RMSEA: Root Means Square Error of Approximation, SRMR: Standardized Root-Mean-Square Residual.

The Figure 2 shows the final 2-factors model with six items. The two factors were correlated (coefficients shown in Figure 2; $p < 0.001$).

Figure 2
Confirmatory Factor Analysis of PAFAS Family Adjustment Scale (full sample; n = 315)

Note: Q: Question. Standardized factor loadings presented, all significant at the $p < 0.001$ level.

Discussion

The literature is scarce regarding the validation process of an instrument to evaluate parenting practices in the Brazilian population. Thus, considering the relevance of the PAFAS that is a scale to evaluate parenting practices, the present study aimed to describe the process of adaptation and validation of this scale to the Portuguese language in the Brazilian context.

The present study evaluated the conceptual, item, semantic and operational equivalence of the original and translated scales. This is extremely important for using a tool in another cultural context, because each society has behaviors, beliefs, attitudes, customs, and social habits of their own, which must be taken into account in a process of cross-cultural translation and adaptation (Leite et al., 2014; Mathias et al., 2016; Sampaio et al., 2014). With this process is possible to identify potential failures that, if not resolved, may result in difficulties in the use, response and/or summary of the results of the instrument as well as in the performance of cross-cultural comparative studies (Sampaio et al., 2014).

The semantic validation of a study should consider the relevance, coherence and comprehension of each item with regard to the reference population to whom the questionnaire or instrument is addressed (Pereira et al., 2015). In the present study, it was found that few changes were suggested by the committee of judges, who mostly proposed only semantic adjustments.

The CVC indices obtained for each item and for each of the evaluated criteria were considered acceptable, although three PAFAS items did not reach acceptable levels. In these cases, Cassepp-Borges et al. (2010) suggest that the cut-off point be relativized because judges may not have the same training and therefore may have different opinions. In addition, the mean Kappa coefficient was also considered acceptable, which shows that the judges agreed regarding the evaluated aspects and that the adapted version of the PAFAS presents acceptable psychometric indicators of content validity.

In the process of adapting an instrument, it is necessary to ask participants about their understanding of each item of the questionnaire and their answers to ensure that the instrument

has a good equivalence and the version is successful (Beaton et al., 2000). Through the qualitative interviews, it was found that the adapted PAFAS scale was easy to apply and well accepted by the participants, regardless of their socioeconomic and education levels. As highlighted by the literature, instruments easy-to-use and easy-to-apply are especially relevant for clinical practice (Badaró et al., 2014).

Regarding the PAFAS scale construct validity in our Brazilian sample, the CFA showed an adequate fit for the Parenting scale including four factors, totaling 14 items. According to this analysis, three items from the Parenting subscale (6, 15, and 16 items), related to consistent parenting, coercive practices, and parent-child relationships were removed. Additionally, similar to a previous study (Sumargi et al., 2018), the item 22 ("I enjoy giving my child hugs, kisses and cuddles") presented a higher factor loading in the positive encouragement factor instead of the parent-child relationship factor. Therefore, the present model was similar to the Indonesia context (Sumargi et al., 2018).

Similarly to Mejia et al. (2014), the Family Adjustment subscale final model of the present study comprised two factors with 6 items. In this subscale, the 29, 33, 36, 37, 39, and 40 items were removed. The factors of family and parent adjustment presented a correlation between them.

In the same direction of previous studies (Fariña et al., 2021; Guo et al., 2016; Mazzucchellini et al., 2018 Mejia et al., 2014; Sumargi et al., 2018), the final model of the current study resulted in fewer items than the original version (Sanders et al., 2014). These differences regarding the items and factors can be related to cultural differences in parenting including family relationships, parent's behavior, and emotional states in relation to their children's behavior. Evidence from the present study suggests that the PAFAS scale with 20 items may provide an internally consistent yet quick and easy to administer method for assessing parenting practices in Brazil.

This parenting scale has the advantage of being used internationally (Fariña et al., 2021; Guo et al., 2016; Mazzucchellini et al., 2018; Mejia et al., 2014; Sumargi et al., 2018;). Also, as in the original version, the present version of PAFAS, maintains the assessment of relevant domains of parent and family functioning related to child emotional and behavioral problems, higligted by Sanders (2014). Then, the validation of PAFAS will be useful for parenting studies with Brazilian samples.

The present study presented some limitations. The findings should be considered with caution considering that there is a diversity of characteristics of families, varying structures of families, socio-economic backgrounds, and cultural values, that could impact the results of the PAFAS assessment.

Further investigations are needed to explore psychometric properties different from those examined in this study, for example, reliability and test-retest analysis. Future studies can also include clinical and non-clinical populations, of different age groups of children, as well as considering the fathers as a caregiver respondent.

Conclusion

The PAFAS showed psychometric qualities that support its recommendation to assess parenting and familial adjustment characteristics and to examine effects of therapeutic and preventive interventions parenting-centered, specifically with mothers of preschool children. However, the findings of the current study should be considered with caution recognizing the complexity of measuring parenting practices and parent-child relationships. The present study adds to the literature by offering a promising Brazilian version of PAFAS that can be used in future parenting studies. Otherwise, further studies should be performed incorporating large and diverse samples to ascertain the broad applicability of the PAFAS for the Brazilian population.

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