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Confirmatory analysis of the Parenting Styles and Dimensions Questionnaire (PSDQ) short form in a portuguese sample

Cátia Martins[1], Lara Ayala-Nunes[2], Cristina Nunes[3], Pedro Pechorro[4], Emília Costa[1] and Filomena Matos[1]
[1]University of Algarve (Portugal); [2]University of Warwick (United Kingdom); [3]CIEO. University of Algarve (Portugal); [4]University of Minho (Portugal)

An important research field in family studies relates to the role parenting practices can have on several domains of children's development. Regarding to parenting styles, it was Baumrind's conceptualization that was responsible for a relevant research boost in this area. She proposed a model contemplating three different styles: authoritative, authoritarian, and permissive. The aim of our study was to examine the factor structure, internal consistency and others psychometric properties of the Portuguese version of the *Parenting Styles and Dimensions Questionnaire* (PSDQ). The participants were 424 parents (mainly mothers, 81.2%) from Algarve (South of Portugal), that answered to PSDQ and a sociodemographic questionnaire. The instrument comprises 32 items: 12 questions regarding the authoritative style, 15 questions regarding the authoritarian style, and 5 questions regarding the permissive style. Several competing models (i.e., one and three-factorial, and another where latent variables were organized in a 1st and 2nd order factors) were tested in regards to PSDQ factor structure using confirmatory factor analysis. A fourth model, contemplating inter-correlations between item 7 and 8 was also proposed, which showed adequate fit and internal consistency. These findings support the PSDQ original structure. Implications concerning the use and contributes to social and emotional child' adjustment are discussed.

Keywords: Confirmatory factor analysis, parenting, PSDQ, psychometrics.

Análisis confirmatorio de la versión reducida del Cuestionario de Dimensiones y Estilos Parentales (PSDQ) en una muestra portuguesa. En el área de los estudios sobre la familia se ha puesto en evidencia la importancia de las prácticas educativas parentales en varios dominios del desarrollo infantil. La conceptualización de Baumrind sobre los estilos parentales dio un impulso relevante en esta área, proponiendo un modelo que distinguía tres estilos diferentes: autoritativo, autoritario y permisivo. El objetivo del presente estudio fue examinar la estructura factorial, la consistencia interna y otras propiedades psicométricas de la versión portuguesa del Cuestionario de Estilos y Dimensiones Parentales (PSDQ). Participaron 424 padres y madres (81.2% de madres) residentes en el Algarve (Sur de Portugal) que han completado el PSDQ y un cuestionario sociodemográfico. El instrumento original contiene 32 ítems de los cuales 12 se refieren al estilo autoritativo, 15 ítems al estilo autoritario y 5 al estilo permisivo. Se han testado varios modelos con diferentes soluciones usando el análisis confirmatorio factorial (un factor, tres factores y otro en que las variables latentes estaban organizadas en factores de primer y segundo nivel). Se testó un cuarto modelo que incluía inter-correlaciones entre los ítems 7 y 8, que mostró un ajuste y consistencia interna más adecuados que los anteriores. Estos resultados confirman la estructura original del PSDQ. Las implicaciones para su uso y posibles contribuciones para el estudio del ajuste infantil son discutidas.

Palabras clave: Análisis factorial confirmatorio, parentalidad, PSDQ, psicometría.

Correspondence: Cátia Martins. University of Algarve. Campus of Gambelas, building 9. C.P.: 8005-139. Faro (Portugal). E-mail: csmartins@ualg.pt

For several decades, researchers have studied the role of parenting practices on several domains of children's development, but it was Baumrind's (1966) pioneer conceptualization of parenting styles that prompted the scientific research regarding parenting styles. Parental styles refer to the global characteristics of the relationship between parents and children, and parenting practices represent strategies and behaviors defined by particular content and goals, specific to a particular context or situation. Parental styles are relatively constant over time and situations, in which practices gain expression, according to the parents' values and goals (Darling & Steinberg, 1993).

For Diana Baumrind (1966), based on a broad selected parenting function (i.e., control and affect), a set of three qualitative different types of parenting control were defined as a typology useful to assess the attitudes that naturally occur in family cores and reflect a parenting beliefs' system. She conceptualized three parenting styles–authoritative, authoritarian, and permissive to describe patterns of parent control and child socialization.

Authoritative parents try to drive the child's activities considering an issue-manner, inspiring conversation, sharing the what's and whys of the reasons behind choices made (Baumrind, 1966), valuing tenacity and disciplined conformity, in a self-regulated setting. Maccoby and Martin (1983) highlight that this type of parents clearly establish rules and explain their rationale, promote open communication, as well as support their child's independence, and express warm affection and love.

Authoritarian parents are oriented toward shaping, control and assessing child's behavior and attitudes. They try to impose what they believe are right conducts, regardless the child's point of view (Baumrind, 1966). Therefore, they are psychologically controlling and highly demanding but show little affection and do not establish open communication channels with their children.

Permissive parents are oriented towards non-punitive and accepting strategies toward the child's urges, requirements and actions, making almost no demands regarding issues as impulse control, responsibility and orderly behavior. Therefore, the parent shows him/herself to the child more as a satisfaction source and not as a punitive or responsible agent for modeling his/her present or future. By allowing the child to regulate his/her own activities, these parents avoid coercive or confrontational practices, as well as a more rational or controlling proceedings (Baumrind, 1966).

The relationship between parental practices and several dimensions of child well-being has been extensively studied (e.g., Martinón, Fariñas, Corras, Seijo, Souto, & Novo, 2017). Psychological control, severity and parental indifference have been associated with the psychosocial maladjustment of children (Fernández-Zabala, Goñi, Camino, & Zulaika, 2016; Jiménez & Bernal, 2013; Martínez-Loredo et al., 2016; Rodríguez-Fernández, Ramos-Díaz, Madariaga, Arrivillaga, & Galende, 2016). In contrast, caring and supervision, characteristics of positive parenting, tend to promote an

adjusted development in children, adolescents and young adults (de la Torre Cruz, Casanova, Carpio, & Cerezo, 2013; García et al., 2015; Nunes, Bodden, Lemos, Lorence, & Jiménez, 2014).

Measuring Parenting Styles

Several methods have been used in order to measure parenting styles, from parent-child interactions observations, interviews (e.g., Baumrind, 1966) to questionnaires and surveys (e.g., Lamborn, Mounts, Steinberg, & Dornbusch, 1991). Among the instruments used to assess parenting styles is *Parenting Practices Questionnaire* (PPQ; Robinson, Mandleco, Olsen, & Hart, 1995), a 62-item self-report measure developed to evaluate Baumrinds' parenting styles (1968), namely: authoritative, authoritarian, and permissive.

The authors developed a short-form with a 32 self-report items (PSDQ; Robinson, Mandleco, Olsen, & Hart, 2001). This has been one of the most widely used instruments since it was considered one of the few available questionnaires with very good psychometric qualities (Locke & Prinz, 2002). Empirical research analyzed PSDQ properties regarding a second-order dimensions model (e.g., Fu et al., 2013; Kern & Jonyniene, 2012; Morowatisharifabad et al., 2016; Önder & Gülay, 2009), in which the authoritarian and authoritative were composed by three second-order sub-dimensions, and the permissive (or indulgent) style had just no associated sub-dimension. Researches also founded internal consistency reliability and structure-related validity to support the tested model, and in most studies, the third factor (permissive/indulgent style) was the one associated with a lower internal reliability (e.g., α=.58, Kern & Jonyniene, 2012; α=.38, Önder & Gülay, 2009; α=.64, Robinson et al., 2001).

Several investigations making different uses of this scale have shown a "significant impact of parenting style on children's adjustment" (Olivari et al., 2013, p. 467). Another positive characteristic is that due to its low time burden it allows for researchers to evaluate parenting styles in large samples (e.g., Padilla-Walker & Coyne, 2011), whereby several cross-cultural investigations have been developed using this version (e.g., Hart, Nelson, Robinson, Olson, & McNeilley-Choque, 1998; Önder & Gülay, 2009; Porter et al., 2005; Wu et al., 2002).

In the Portuguese context, several versions of this instrument have been developed (e.g., Miguel, Valentim, & Carugati, 2009; Pedro, Carapito, & Ribeiro, 2015; Santos & Cruz, 2008). The first version (Santos & Cruz, 2008), using a sample of 126 subjects (mostly mothers), analyzed the underlying structure with a Principal Component Analysis, and concluded that the instrument presented potential as a measure for parenting styles evaluation, although the permissive style needed further items consistent with it conceptual and empirical background. Miguel et al. (2009) developed a

psychometric study of portuguese version of PSQD properties, in a sample of 344 fathers and mothers. The authors used a Confirmatory Factor Analysis to test if the proposed model (i.e., original structure of Robinson et al., 2001) fit the data, with first and second-order factors, corresponding to authoritative, authoritarian and permissive parenting styles. The results suggested some revisions (e.g., to include covariances between items-errors), but in general support a hierarchical factorial structure, consistent with the original proposal of Robinson et al. (2001).

Pedro et al. (2015), aimed to formally adapt a self-report portuguese version –QDEP– as well as to further investigate portuguese mothers and fathers parenting styles. Using a 2081 participants' sample (1085 mothers and 996 fathers), the authors analyzed a four models' set: (1) a 2nd order tri-factorial model, consistent with the original conceptualized model; (2) a 1st order tri-factorial model (i.e., only with the three main parenting styles); (3) two-factors model (i.e., positive and negative parenting); and (4) a unidimensional model. The results showed that the original 2nd order tri-factorial structure, composed by authoritative, authoritarian and permissive styles, clearly was identified in the portuguese sample, revealing to be more proper than a 1st order, bi-factorial or unidimensional model. However, the modification fit indexes suggested that some items were loading in different dimensions from the original (cross-loadings), as well as the existence of correlations between residuals. Therefore, they proposed a reviewed model, in which items 23 and 30, initially in verbal hostility sub-dimension, were placed in Authoritarian style, and item 24, originally belonging to permissive style, was positioned in Connection of Authoritative style. These changes are theoretically supported, and more congruent to the portuguese culture (Pedro et al., 2015).

The present study aim is to contribute with an analysis of structural validity and internal consistency of the portuguese version of PSDQ, with a sample from the South of Portugal. As described, there are several psychometric studies in the portuguese context using PSDQ, with bigger sample sizes, yet the present research is relevant regarding the sample used and its validity and reliability inputs (Byrne, 2006). Because parenting practices are an important predictor of child adjustment and well-being, to have a solid, time-efficient, validated measure for portuguese parents will be useful for both researchers and practitioners.

METHOD

Participants

A total of 424 parents from the Algarve (South of Portugal) agreed to participate in this study, mostly mothers (82.1%), with children from 2 to 10 years old (M=5.46; SD=1.95), the majority of whom were married or in a de facto union (79.1%)

while 12.5% were separated/divorced and 8.4% single. Most families were composed by two-parents (86.2%) and were intact (94.5%).

In regard to mothers' characteristics, their age ranged from 21 to 51 years old (*M*=36.27; *SD*=5.61). Concerning their educational level, 41.8% had completed high school and 36.1% had superior education studies. The majority were employed (89.6%) all year round (77.1%). Concerning father's features, their age range from 22 to 59 years old (*M*=38.60; *SD*=6.26), 40.3% of them had completed primary schooling and 38.4% had a high school diploma. The vast majority of them were employed (94.7%) and active all year round (87.7%).

Measures

Parenting Styles. A self-report portuguese 32 item-version of Parenting Styles and Dimensions Questionnaire (Robinson, et al., 2001; adaptation of Miguel et al., 2009) was used. This instrument assesses three parenting styles: authoritative, authoritarian, and permissive. Participants rated each item using a 5-point frequency scale from 1 (Never) to 5 (Always). The authoritative style had three sub-dimensions: Warmth and Involvement (5 items: e.g., "Tells child we appreciate what the child tries or accomplishes"), Reasoning/Induction (5 items: e.g., "Gives child reasons why rules should be obeyed"), and Democratic Participation (5 items: e.g., "Encourages child to freely express (himself) even when disagreeing with parents"). The authoritarian style includes dimensions of Corporal Punishment (4 items: e.g., "Slaps child when the child misbehaves"), Verbal Hostility (4 items: e.g., "Yells or shouts when child misbehaves"), and Punitive Strategies (4 items: e.g., "Punishes by taking privileges away from child with little if any explanations"). The permissive style is a one-dimension scale, evaluating Lack of Follow Through (5 items: e.g., "Threatens child with punishment more often than giving it"). The internal consistency reliability statistics (i.e., Cronbach Alpha) founded by portuguese researches range from .82 to .86 for the authoritative style, .75 to .80 regarding authoritarian style, and from .56 to .63 for the permissive style. The present scores will be given later in this work.

Socio-demographic characteristics. A questionnaire was developed to collect data regarding children and parents' age, sex, nationality, marital status, work situation, educational level and family' structure and characteristics.

Procedures

Half of the pre-school and primary schools' centers in an Algarve' county (11 of the 22 existing centers) were randomly selected and all centers agree to participate. After the establishment of a collaboration protocol and obtaining school authorizations and active informed consents of the participants, the questionnaires were delivered to the schools between October and December 2015. The study was conducted

after the protocol was approved by the Ethics Committees of University of Algarve. Participants were informed about the aims of the research study, its non-compensatory nature, the anonymous and confidential nature of their responses as well as the possibility of withdrawing the study at any time without any negative consequences.

Data analysis

The data were analyzed using SPSS V24 (IBM SPSS Corp, 2016) and EQS 6.3 (Bentler & Wu, 2015). The factor structure of the PSDQ portuguese version was assessed with Confirmatory Factor Analysis (CFA) performed in EQS 6.3 (Bentler & Wu, 2015; Byrne, 2006) with the robust estimation methods (maximum likehood method, ML). Goodness of fit indexes were calculated, including Satorra-Bentler chi-square/degrees of freedom (S-Bχ^2/df), comparative fit index (CFI), incremental fit index (IFI), root mean square error of approximation (RMSEA), and Akaike Information Criterion (AIC). A chi-square/degrees of freedom value<5 was considered acceptable, a value 2 was considered good, and 1=very good (West, Taylor, & Wu, 2012). A CFI≥.90 and RMSEA≤.10 indicate adequate fit, whereas a CFI≥.95 and RMSEA≤.06 indicate good model fit (Byrne, 2006). The incremental fit index, also known as Bollen's IFI, is relatively insensitive to sample size; values≥.90 were regarded as acceptable. Regarding the AIC, lower values indicate a better relative quality of the model.

The CFA was performed on the original scale items using a covariance matrix. Modification indexes were considered to check if any suggestion of model modification would significantly improve the measurement model. Items with standardized loading above .30 were retained because factor loadings are generally considered to be meaningful when they exceed that value (Marôco, 2014). Pearson correlations were used to analyze associations between scale variables. Cronbach's alpha values above .70 were considered to be good, mean inter-item correlations were considered good if between .15 and .50, and corrected item-total correlations were considered satisfactory if above .20 (Nunnally & Bernstein, 1994).

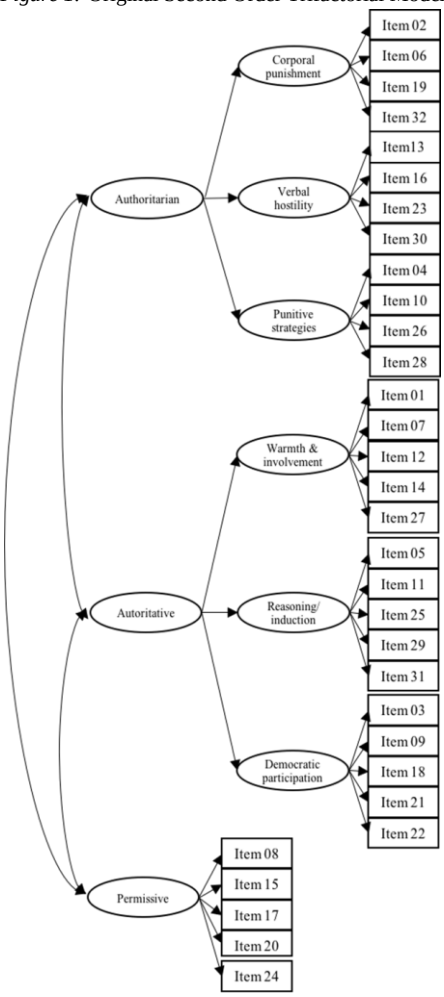
RESULTS

PSDQ confirmatory factor analysis

Our first step in assessing the psychometric properties of the portuguese version of PSDQ analyzing in parents of an Algarve's county was to attempt to replicate, using a CFA operating with the ML method, the different factor structures proposed for this instrument (Figure 1). Table 1 shows the different goodness of fit indexes of the models tested. The first model considered reveals inadequate goodness fit indexes in

almost all its values: S-Bχ^2 above the recommended level of 2, IFI and CFI below .90, and RMSEA above .10, with a confidence interval revealing an estimate discrepancy.

Figure 1. Original Second Order Trifactorial Model



Concerning the second evaluated model, most of fit indexes are near the recommendations except S-Bχ^2 that clearly is still above the recommended level of 2. In regards to model 3, which follows the original structure (Robinson et al., 2001; Miguel et al., 2009; Pedro et al., 2015), all goodness fit indexes are suitable but by a

thinning process we were able to find a best support for the second-order revised model (4) with a intercorrelated modified robust structure that included a correction.

Table 1. Goodness of Fit Indices for Different ML Models of PSDQ

PSDQ	S-B χ^2	df	S-Bχ^2/df	IFI	CFI	RMSEA	Confidence Interval (90%)	AIC
Unifactorial Model (1)	311.25	464	6.71	.68	.71	.12	.122-.130	2187.25
1st Order Trifactorial Model (2)	1255.73	461	2.72	.91	.91	.06	.060-.068	333.73
2nd Order Trifactorial Model (3)	837.94	453	1.85	.89	.88	.05	.040-.049	-68.06
2nd Order Revised Model (4)	817.21	452	1.81	.89	.88	.04	.039-.048	-86.79

Note. ML=Maximum likehood; S-Bχ^2=Satorra-Bentler Chi-Square; df=Degrees of Freedom; IFI=Incremental Fit Index; CFI=Comparative Fit Index; RMSEA=Root Mean Square Error of Approximation; AIC=Akaike Information Criterion; (1)=Positive Parenting; (2)=Three Parenting Styles: Authoritative, Authoritarian, and Permissive; (3)=Original Structure Model; (3)=Revised model.

Regarding item loadings, as table 2 shows, the majority of factors have most items loadings scores above the recommended level, except factor 2 that reveals three items with low values: item 03 and 17 (r=.24) and item 04 (r=.22).

Table 2. Descriptive statistic and Items loadings for Second-Order PSDQ Revised Model

PSDQ	*M*	*SD*	*S*	*K*	F1	F2	F3	F4	F5	F6	F7
Item 2	1.90	0.84	0.75	0.43	.28						
Item 6	2.13	0.90	0.83	0.91	.40						
Item 19	1.76	0.89	0.96	0.33	.24						
Item 32	2.07	0.87	0.89	1.25	.40						
Item 13	2.75	0.92	0.27	-0.01		.26					
Item 16	2.06	0.82	0.56	0.57		.27					
Item 23	2.94	1.09	0.08	-0.55		.25					
Item 30	2.88	1.12	0.12	-0.68		.27					
Item 4	2.58	1.07	0.29	-0.47			.22				
Item 10	1.96	1.07	1.06	0.55			.26				
Item 26	1.45	0.72	1.79	3.58			.26				
Item 28	1.22	0.55	2.97	10.39			.25				
Item 1	4.64	0.60	-1.84	4.51				.34			
Item 7	4.38	0.85	-1.40	1.66				.45			
Item 12	4.63	0.68	-2.23	6.17				.39			
Item 14	4.64	0.71	-2.51	7.50				.38			
Item 27	4.38	0.84	-1.75	3.76				.26			
Item 5	4.26	0.80	-1.01	1.01					.44		
Item 11	4.38	0.80	-1.14	0.70					.50		
Item 25	4.45	0.72	-1.25	1.47					.47		
Item 29	4.21	0.84	-0.83	0.17					.44		
Item 31	4.39	0.79	-1.21	1.08					.47		
Item 3	3.52	0.95	-0.29	-0.03						.24	
Item 9	4.14	0.94	-0.88	0.19						.43	
Item 18	4.29	0.81	-1.00	0.58						.37	
Item 21	4.23	0.84	-1.10	1.29						.44	
Item 22	3.62	1.11	-0.46	-0.53						.30	
Item 8	2.39	0.95	0.51	0.14							.16
Item 15	1.47	0.68	1.63	3.58							.17
Item 17	2.75	1.10	0.19	-0.55							.24
Item 20	2.24	0.96	0.64	0.12							.30
Item 24	2.85	1.08	0.16	-0.38							.12

Note. *M*=Mean; *SD*=Standard Deviation; *S*=Skewness; *K*=Kurtosis; *F*=Factor.

PSDQ internal structure

As table 3 shows, the Pearson correlations between all first and second-order factors shows statistically significant scores between most sub-dimensions and their respective style scale. The authoritative and the authoritarian style scales share significant associations concerning the Punitive Strategies sub-dimensions. The Permissive scale reveal a negative correlation with the Warmth and Involvement sub-dimension (i.e., from authoritative style) and a positive association with all sub-dimensions and total score of the authoritarian style.

Concerning descriptive statistics, the authoritative sub-dimensions and style reveal higher means than the others scales, being the authoritarian style and punitive strategies sub-dimension the ones with lower means. The majority of styles and sub-dimensions skewness and kurtosis scores shows an acceptance range and only the Warmth and Involvement sub-dimension show values above 1 (*M*=4.35; *SD*=0.50; *S*=-1.25; *K*=1.35).

Table 3. PSDQ Pearson correlation matrix and descriptive statistics

PSDQ	1	2	3	4	5	6	7	8	9
1. Warmth Inv	-								
2. Reasoning Ind	.68**	-							
3. Democratic Part	.61**	.64**	-						
4. Authoritative	.88**	.87**	.87**	-					
5. Corporal Punish	-.06ns	-.09 ns	-.13**	-.11*	-				
6. Verbal Hostilit	.06 ns	-.02 ns	-.09 ns	-.02 ns	.48**	-			
7. Punitive Strateg	-.23**	-.28**	-.22**	-.28**	.43**	.43**	-		
8. Authoritarian	-.09 ns	-.15**	-.18**	-.16**	.81**	.82**	.76**	-	
9. Permissive	-.17**	-.06 ns	.01 ns	-.09 ns	.24**	.31**	.26**	.34**	-
M	4.53	4.34	3.96	4.28	1.97	2.66	1.80	2.14	2.34
SD	0.50	0.62	0.63	0.51	0.68	0.69	0.59	0.52	0.58
S	-1.25	-0.99	-0.39	-0.83	0.69	-0.03	0.86	0.40	0.27
K	1.35	0.68	-0.21	0.67	0.46	-0.11	0.62	0.27	0.25

Note. Warmth Inv=Warmth and Involvement; Reasoning Ind=Reasoning/ Induction; Democratic Part=Democratic Participation; Corporal Punish=Corporal Punishment; Punitive Strateg=Punitive Strategies; *M*=Mean; *SD*=Standard deviation; *S*=Skewness; *K*=Kurtosis. ** $p<.01$; * $p<.05$; *ns*=non-significant.

As table 4 shows, in regard to alpha values, most of style scales reveal an internal consistency since the scores are above .70 as recommended. The mean inter-item correlations and Corrected Item-Total Correlation Range show very satisfactory values considering the suggested norm.

Correlations of PSDQ and its sub-dimensions with other variables (e.g., child age, child sex, family structure) were also analyzed (Table 5).

In regard to child and family characteristics', the results reveal statistically significant correlations between age and sub-dimension warmth and involvement of authoritative style (r=.15; $p\leq.01$) and corporal punishment (r=.10; $p\leq.05$), Intact/reconstituted structure (coded intact=0, Reconstituted=1) with sub-dimension Reasoning/Induction of Authoritative style (r=.11; $p\leq.05$).

Table 4. PSDQ Cronbach's Alpha, Mean Inter-Item Correlation, Corrected Item-Total Correlation Range

PSDQ	Cronbach's α	MIIC	CITCR
Warmth and Involvement	.70	.33	.37-.52
Reasoning/ Induction	.85	.53	.60-.70
Democratic Participation	.70	.33	.36-.55
Authoritative	.88	.35	.34-.68
Corporal Punishment	.78	.46	.43-.72
Verbal Hostility	.65	.31	.36-.49
Punitive Strategies	.59	.29	.31-.44
Authoritarian	.81	.26	.35-.57
Permissive	.56	.21	.24-.47

Note. PSDQ=Parenting Styles and Dimensions Questionnaire; MIIC=Mean Inter-Item Correlation; CITCR=Corrected Item-Total Correlation Range.

Concerning Mothers' characteristics, the results pointed to a negative correlation between age and corporal punishment (r=-.10; $p\leq$.05) and punitive strategies (r=.11; $p\leq$.05).

Mothers' academic level was statistically positive associated with all authoritative style scale and sub-dimensions and negative related to punitive strategies (r=-.22; $p\leq$.01), authoritarian scale (r=-.14, $p\leq$.01) and permissive scale (r=-.11; $p\leq$.05).

The results of fathers characteristics showed a negative correlation between age and punitive strategies (r=-.12; $p\leq$.05), and also a positive association concerning academic level and reasoning/induction (r=.12, $p\leq$.05), democratic participation (r=.10; $p\leq$.05) and authoritative scale (r=.11; $p\leq$.05), and negative correlations with verbal hostility (r=-.12; $p\leq$.05), punitive strategies (r=-.12; $p\leq$.05), and authoritarian style (r=-.13; $p\leq$.01).

Table 5. Correlations of PSDQ with other Variables

	PSDQ	1	2	3	4	5	6	7	8	9
Child	Age	-.15**	-.09	-.02	-.09	-.10*	.05	-.01	-.02	.03
	Sex	-.07	-.06	-.04	-.06	.05	.04	.08	.07	.01
Family	Parent/ single	-.06	-.05	-.02	-.05	.01	-.01	.01	-.01	-.05
	Int/recons	.05	.11*	.06	.09	-.03	.06	.10	.05	.10
	Extended Fam	.01	-.01	-.07	-.03	.07	-.02	-.04	.01	.05
	Poverty Situation	-.03	-.04	-.03	-.04	.05	-.01	.04	.03	.01
Mother	Age	-.01	.03	.05	.02	-.10*	.06	-.11*	-.06	-.01
	Academic Level	.15**	.16**	.11*	.16**	-.07	-.06	-.22**	-.14**	-.11*
	Work	.07	.04	.01	.04	.04	.01	-.04	.01	-.02
Father	Age	.01	.04	.03	.03	-.10	.02	-.12*	-.08	.02
	Academic Level	.05	.12*	.10*	.11*	-.08	-.12*	-.12*	-.13**	-.08
	Work	.05	-.01	.08	.05	.04	.07	-.01	.05	.04

Note. 1=Warmth and Involvement; 2=Reasoning/ Induction; 3=Democratic Participation; 4=Authoritative Style; 5=Corporal Punishment; 6=Verbal hostility; 7=Punitive Strategies; 8=Authoritarian; 9=Permissive, Parent/Single=Parental/ Single parent family; Extended Fam=Extended structure family** $p < .01$; * $p < .05$.

DISCUSSION

The main aim of this research was to contribute with an analysis of structural validity and internal consistency of the portuguese version of PSDQ in a sample of parents. Regarding the factor structure of the questionnaire, and considering the studies of Miguel et al. (2009) and Pedro et al. (2015), as well as Olivari et al. (2013) reflections, we used a complete version of the instrument (i.e., 32 short-version) and assumed three set-models (i.e., one-factorial model composed by a positive parenting scope, a three-factorial model considering the three parenting styles, and a three-factorial model contemplating a 1st and 2nd order dimensions). By performing a CFA, we concluded that the fit indices support a second-order revised model with a intercorrelated modified structure (i.e., with a thinning process), and so we believe our study provides an additional evidence for a second-order three-factorial model. Considering PSDQ means scales, our scores were slightly above other researches, but the differences between sub-dimensions were very similar to prior studies (Pedro et al., 2015).

Considering the internal structure analysis, the correlations scores between the PSDQ styles reveals a moderate to highly statistically significant positive associations between the sub-dimensions and authoritative style scale, with negative correlations toward others sub-dimensions. However, concerning the sub-dimension corporal punishment, the results showed no significant correlations with other authoritative sub-dimensions, and also the verbal hostility sub-dimension had no significant association with any authoritative sub-dimensions and parenting style. The permissive scale displayed lower correlations scores with the other two scales, and non-significant or low values with sub-dimensions. Other studies have found similar results, showing also that the permissive style is the least reliable of the three scales (e.g., Tagliabue et al., 2014; Önder & Gülay, 2009). A deeper investigation is needed in order to better analyze these findings, considering the items' content and their adequacy in nowadays parenting practices.

The internal consistency analysis revealed mostly good to very good values, with most scores exceeding the recommended minimum Cronbach's alpha of .70 (Nunnally & Bernstein, 1994), except the permissive scale which had a low value (i.e., α=.56). Yet, they are similar to others studies (e.g., Kern & Jonyniene, 2012; Pedro et al., 2015) and also the original questionnaire research (Robinson et al., 2001). In regard to the corrected item-total correlation range, all of our results were above the minimum recommended value of .20 (Nunnally & Bernstein, 1994).

The correlations between PSDQ dimensions and other variables revealed that parents generally used less warmth, are less involved, and recur less to corporal punishment strategies as children grow.

Some studies have shown that parenting styles and practices vary according age (Sheehan & Watson, 2008) and sex (Garaigordobil & Aliri, 2012). However, we found no differences in parenting practices concerning the child's sex.

Our results showed that mothers' and fathers' academic level were positively associated with the authoritative style, and negative correlated to authoritarian style. So, according to our findings, higher academic levels parents tend to adopt less punitive strategies and authoritarian management style, and more warmth, reasoning and democratic strategies. Other studies have previously found these associations (Hoff, Laursen, & Tardif, 2002).

CONCLUSIONS

Our findings provide some additional support to the use of PSDQ 32-item short version in the portuguese context to measure parenting styles, since it reveals acceptable psychometric properties.

Despite the importance of these results, some limitations must be stressed. Although we found good psychometric properties of the PSDQ, it would be important to analyze the content of the questionnaire in future studies (e.g., by parents and professionals) and other convergent and discriminant measures should be used to reduce the social desirability phenomenon.

The geographical restriction and skewed socio-economic level of the sample does not allow a generalization of the results, since there are key characteristics for parenting practices (e.g., employment level) that can be quite different in other samples.

Considering Baumrind initial studies, as well as others research studies, the child and adolescents point of views should be taken into account, since only parents' perceptions were studied. Nonetheless, this is a relevant study that used PSDQ and included mothers and fathers as informants.

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