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Factor Analysis of the Italian Version of the Alabama Parenting Questionnaire in a Community Sample

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Abstract Despite difficulties measuring parenting styles, many studies have demonstrated a significant relationship between disruptive children and certain parenting practices. One of the most frequently used scales to measure parenting styles is the Alabama Parenting Questionnaire (APQ). This scale was originally defined based on theoretical dimensions and using samples from the USA. Therefore, both factor analysis studies and its adaptation to other countries have been proposed to improve and widen its use. The aim of this study was to adapt the APQ to the Italian population. A community sample of 258 mothers and children (94 %) and 192 fathers (70 %) from 274 families with children from 10- to 14-years-old who agreed to participate and met the inclusion criteria completed the APQ. Principal components and exploratory factor analyses resulted in a unique 19-item version of the APQ for mothers, fathers, and children. This unified version has resulted in two factor categories: positive (12 items) and negative parenting (7 items). The internal consistency and goodness of fit of the model were satisfactory. Moderate and significant convergent validity were found for mothers and fathers but not for children. In fact, we found differences in validity rates among the participants. Children perceived less positive and more negative parenting than did fathers and mothers, and mothers believed that they provided more positive parenting than did other parents. In conclusion, the APQ Italian version of the parents and children global report forms are considered a suitable measure for positive and negative parenting styles with acceptable validity and reliability indices.

Keywords Alabama Parenting Questionnaire · Community sample · Cross-cultural differences · Factor analysis · Parenting practices

Introduction

Lahey et al. (2003) state that one of the most important objectives of twenty-first century developmental psychopathology is to improve the knowledge and comprehension of the risk factors and mechanisms that influence child/infantile behavior (Scrimgeour et al. 2013; Teti and Cole 2011). Currently, we know that these problems are caused by the interaction of multiple genetic and environmental factors (Sturge-Apple et al. 2012; Karande and Kuril 2011; Rhoades et al. 2011). Among the many environmental risk factors that have been proposed, parental practices represent a prominent element (Forehand et al. 2012). Enough studies that have shown a high incidence between parenting practices and disruptive behaviors in children (Loeber and Stouthamer-Loeber 1986; Graham et al. 2012), and other *longitudinal studies have even associated some negative parental practices with childhood disorders, such as* Attention-Deficit/Hyperactivity Disorder (ADHD), Oppositional defiant disorder, learning disorders, and Conduct Disorder (Dadds et al. 2003). *Although* there are still no available models to explain the relationship between parenting practices and the development of child behavior problems from a causal point of

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view (Frick and McMahon 2008), correct assessment of this phenomenon is clinically relevant because many of treatment programs for childhood behavior disorders are aimed at improving some of these practices.

Among the various parenting practices analyzed, harsh and inconsistent discipline, poor supervision, lack of involvement and rigid discipline have been highlighted (Chamberlain et al. 1997). A meta-analysis study also described rejection and hostility (Hoeve et al. 2009). These parenting practices have been evaluated in multiples ways using questionnaires, structured interviews, direct and indirect behavior observation reports or combinations of these procedures (Hawes and Dadds 2006; Scott et al. 2011). However, the most practical and recommended option is a parent questionnaire and, if possible, a children's version, which can be more effective (Hawes and Dadds 2006).

The best known instruments to evaluate parenting practices include the following: the Child's Report of Parental Behavior Inventory (CRPBI, Schaefer 1965), Parental Bonding Instrument (PBI; Parker et al. 1979), Egna Minnen Betraffande Uppfostram (EMBU; Perris et al. 1980), Parent–Child Relationship Inventory (PCRI; Gerard 1994) and Alabama Parenting Questionnaire (APQ; Shelton et al. 1996). All these scales have received empirical support, although as far as we know none of them has been factor analyzed using Italian samples.

Frick (1991) developed the APQ based on items in previous proposals (Capaldi and Patterson 1989; Loeber and Stouthamer-Loeber 1986; Schaefer 1965) to select the domains that mostly involved behavior issues. Accordingly, the APQ combines a set of items that evaluate parenting behavior in five dimensions based on face validity: positive parenting, involvement, inconsistent discipline, poor supervision and corporal punishment. APQ is a multisource (parents and children, ages 9 and above) and multimethod (self-report and phone interview) instrument. Frick et al. (1999) reported good internal consistency for the four APQ versions (parent global, parent interview, child global and child interview) across three age groups of children and adolescents and for all scales, with the exception of the poor monitoring/supervision scales in the telephone interview format and the corporal punishment in all formats. Dadds et al. (2003) replicated these results with a large Australian community sample using the parent global version. There is also interesting data about validity of the APQ scales. For example, a significant number of studies supported the association between these scales and children conduct problems (Blader 2004; Oxford et al. 2003; Prevatt 2003), and other studies found the APQ scales to be sensitive to parent training intervention (August et al. 2003; Feinfield and Baker 2004). Moreover, the APQ forms in other languages and countries have also shown acceptable or good reliability and validity (Clerkin et al. 2007; Dadds et al. 2003; Escribano et al. 2013; Essau et al. 2006; Molinuevo et al. 2011; Shelton et al. 1996). Therefore, it is not unusual that APQ has been used in numerous studies, and its scales have been considered psychometrically valid for assessing parenting practices (Hausman et al. 2013; Donnelly et al. 2013; Martel et al. 2012; Locke and Prinz 2002; Frick et al. 1999).

However, as stated by Essau et al. (2006), one notable deficiency in the APQ research is the failure to determine the construct validity of the five original parenting scales proposed. These researchers were able to replicate this structure with a German sample, but other studies have not succeeded using samples from other countries or different languages (Esposito et al. 2013; Molinuevo et al. 2011; Scott et al. 2011; Esposito and Moreno-Garcia 2010; Elgar et al. 2007).

Wells et al. (2000) used a main component analysis for children with ADHD and found a three-factor solution for both the parent and child versions of APQ: Positive Involvement, Ineffective/Negative Discipline, and Poor Monitoring. For the APQ German version for children, Essau et al. (2006) reproduced the structure of the five original scales through exploratory and confirmatory factor analysis. Scott et al. (2011) built a short version of APQ by choosing three items from each parenting domain that showed the highest average loadings on their respective factor from previous studies that reported loadings. These authors replicated the factor structure of the five scales of the APQ in a sample of English parents and children. However, Randolph and Radey (2011) obtained a factorial structure of only three factors with a sample of 790 US parents (positive reinforcement, positive discipline and negative discipline). In the Catalan adaptation of the APQ for parents and children, Molinuevo et al. (2011) also obtained a three-factor structure including Positive Parenting Practices, Inconsistent and Negative Discipline (internal consistency for children was unacceptable), and Poor Monitoring/Supervision. Zlomke et al. (2014) studied a sample of USA parents of teenagers and obtained a factorial structure quite similar to the original with the following four factors: Positive and Involved Parenting, Parental Monitoring, Discipline Practices, and Discipline Process. In the Spanish adaptation of the APQ-C, Escribano et al. (2013) also obtained a four-factor structure completely coinciding with the five original scales, from which only corporal punishment disappeared. Finally, there are at least two factorial studies that used the APQ in samples of parents of preschoolers: the main component analysis of Clerkin et al. (2007) revealed a three-factor structure consisting of Positive Parenting, Negative/Inconsistent Parenting and Punitive

Parenting. This structure was replicated by De la Osa et al. (2014) in a Spanish sample.

Generally, the factorial analysis that has been applied to the five original scales of the APQ is rather incongruent. A series of studies agreed on the replicating factor structure of these scales, but another series of studies considered the three-factor solution to be more appropriate. However, the name and the content of the factors vary from one study to the other, and most define one factor of positive parenting and two factors that can be considered negative parenting. These studies are divided between those that use two versions of the APQ (for parents and for children) and those that use only one of the two versions. Currently, most of the studies have been developed with Anglo-Saxon samples, although there are German, Spanish and Catalan adaptations. It is not known to what extent cultural differences can influence the APQ factor structure, but it seems highly recommended to make factorial studies in different languages and countries. The parental version of APQ has been translated into Italian (Benedetto and Ingrassia 2013; Esposito 2011), but a factor analysis for the Italian population that could be useful for clinicians has never been conducted.

In this study, we attempted to provide additional data to clarify the controversy over the APQ factorial structure and also to make available to the Italian professional community a short, easy-to-use, and reliable self-report that simultaneously assesses parenting practices for mothers, fathers and children. This study has two objectives: (1) to conduct a factor analysis of the original APQ scales in an Italian sample of mothers, fathers and children and (2) to adapt this questionnaire to provide support to Italian clinicians concerned with parenting practices from both evaluation and intervention perspectives.

Method

Participants

This study was conducted in three public secondary schools in Naples. Six hundred informed consents were distributed among all the families of children from first to third grade of secondary school, and 331 consent forms were sent back. Therefore, the response rate was 55.16 %. Next, a community sample of 274 families was selected based on the following inclusion criteria: (1) signed parental consent, (2) at least one parent of Italian origin, (3) participation of at least one parent in the study, and (4) no less than one parent living permanently with the child. Among these 274 families, data were collected for 258 mothers and children (94 % of the sample) and for 192 fathers (70 % of the sample).

Children were 10- to 14-years-old ($M = 12.42$, $SD = 0.64$), 24.9 % were in their first year of secondary school, 59.8 % in their second year, and 15.3 % in their third year. The socioeconomic status of each child's parents, estimated based on their school locations, was medium. In nearly all cases, both parents were of Italian origin (98 %).

Procedure

The protocol of this study was approved by the IRB of Federico II University according to the following procedure. First, the Italian version of parents and children APQ scales (Esposito 2011) were translated from English to Italian with the written authorization of the author of the original version. Recommendations in the literature on cross-cultural adaptation of questionnaires and rating scales (Streiner et al. 2015) were followed for questionnaire translation and adaptation to the Italian context. The Italian translation was progressively refined through the suggestions of some Italian experts with English fluency to ensure consistent meanings between the items of the original instrument and the corresponding items of the Italian version. Additionally, the analysis of the semantic understanding of the Italian translation for each item of the instrument, based on the results of previous investigations, was performed (Esposito 2011).

Then, the aims and methods of the present study were explained to the school principals, children, and their parents. The written approval from school administrators was obtained. Tutors sent assessment protocols to the families through the students in closed envelopes with a letter explaining the project and requesting both their permission for their children's participation and their own collaboration in the study. Families returned the questionnaires to the school in a closed envelope that was attached to the protocol within 15 days. Next, we requested the collaboration of the teachers and the students. The children who brought the signed consent of the parents to participate in the research answered the questionnaires collectively during school hours. During the test administration, two researchers were in the classrooms to explain the instructions and resolve doubts. Participation was anonymous, and participants did not receive monetary compensation.

Measures

The Alabama Parenting Questionnaire (APQ, Shelton et al. 1996) measures parenting practices across the following five domains: Parental Involvement (PI), Positive Parenting (PP), Poor Monitoring/Supervision (PM), Inconsistent Discipline (ID), and Corporal Punishment (CP). Two of these five domains or rationally formulated constructs are

positive parenting scales (PI and PP), and three are negative parenting scales (PM, ID, and CC). Both the parent self-report version (APQ-P) and child version (APQ-C) were administered to the participants. The APQ-P has 35 items and seven additional items that measure specific discipline practices other than corporal punishment to avoid negative biases, and they are not considered in any construct. The APQ-C has the same structure, except that nine of 10 items from the PI scale are repeated and separately ask about the mother's and the father's parenting practices. Ratings of specific items are made on a 5-point scale (never, almost never, sometimes, often, and always). The PI scale has 10 items (e.g., "you have a friendly talk with your child"), the PP scale has six items (e.g., "you let your child know when he/she is doing a good job with something"), PM has 10 items (e.g., "your child stays out in the evening past the time he/she is supposed to be home"), ID has six items (e.g., "you threaten to punish your child and then do not actually punish him/her"), and CP has three items (e.g., "you spank your child with your hand when he/she has done something wrong"). High scores are interpreted differently depending on the scale. In the positive scales, they indicate adequate practices, and in the negative scales, they indicate inefficient practices.

Data Analyses

Principal Component (PC) and Exploratory Factor Analysis (EFA) were performed to assess the mothers, fathers, and children. The statistical programs SPSS 21 and FACTOR (Lorenzo-Seva and Ferrando 2006, 2013) were used. First, Parallel Analysis (PA) was conducted to determine the number of factors, and Unweighted Least Squares (ULS) was applied as the factor extraction procedure. Second, Promin (Lorenzo-Seva 1999)—a method derived from Simplimax (Kiers 1994)—was chosen to perform factor rotation. As Lorenzo-Seva and Ferrando (2006, p. 89) noted: "This special case of Simplimax usually leads to good results and does not require any parameter to be specified".

The criteria to select the final items of each factor were eigenvalues close to two; factor loading of at least .30; communality more than .10 on non-rotated loading matrix; and interpretability (items coherence in relation to factors); and similarity among the tree factor solutions (mothers, fathers, and children) to facilitate comparisons. To test the appropriateness of each factor analysis determinant of the correlation matrix, Barlett's test of roundness and the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy were used. The goodness of fit indices included NNFI (Non-Normed Fit Index), CFI (Comparative Fit Index), and AGFI (Adjusted Goodness of Fit Index). We also used Bentler's Simplicity index (S) and Loading Simplicity Index (LS) (Lorenzo-Seva 2003).

Results

The internal consistency with Alpha's coefficients for the original scales ranged from .62 (Poor Monitoring) to .78 (Parental Involvement and Positive Parenting) for fathers, and from .56 (Poor Monitoring) to .70 (Positive Parenting) for mothers. We analyzed mother and father differences in these original five domains of APQ. The results are shown in Table 1 and revealed that mothers and fathers differed in Parenting Involvement and Positive Parenting, and mothers considered themselves more involved and positive than did the fathers. The effect size was medium in the first case and small in the second case. Finally, mothers used Corporal Punishment more frequently than did fathers, but the difference had a very small effect size. These results confirm the need to perform separate factor analyses for mothers' and fathers' APQ scales.

The Scree Plot and PA for fathers' and mothers' scales retained three factors. The ULS method was applied as a factor extraction procedure, and PROMIN was used as a rotation method to reach factor simplicity. The tests on factor analysis adequacy have been considered good or almost equivalent for mothers and fathers. The determinants were .0002 for mothers and .0004 for fathers. The KMOs were .71 for mothers and .81 for fathers, and both Bartlett's tests were statistically significant ($p = .000$). However, fathers and mothers consistently agreed on only two of the three resulting factors. Based on the original scales, the two consistent factors were "positive parenting" and "inconsistent discipline". Lack of coherence on the third factor for mothers and fathers is related to the load of its six items, only one of which is consistent. Two items had positive loadings for mothers and negative loadings for fathers in other factors, and the remaining three items were different for both informants.

The Scree Plot and PA for children scales (Parenting Involvement scale was divided into mother and father items) also indicated a three-factor solution. The tests on factor analysis adequacy were good or fair. The determinants were .0020 for mothers' items and .0017 for fathers' items. The KMOs were .76 for mothers' items and .74 for fathers' items, and both Barlett's tests were statistically significant ($p = .000$). Again, only two factors were consistent. These two factors were "positive parenting/parenting involvement" and "inconsistent discipline/poor monitoring". Three items from the mothers' scale, but all from different scales, loaded on the third factor, and six items from the fathers' scale loaded on this third factor, but they also loaded on other factors.

Table 1 Paired *t* test and Cohen's effect size for fathers' and mothers' differences on the APQ original scales

Scale	Mean dif.	Pooled SD	*T*	*p*	*d*
Parental involvement	−3.89	5.59	−9.22	.00*	0.69
Positive parenting	−1.13	3.40	−4.38	.00*	0.33
Poor monitoring	0.15	3.09	0.66	.51	0.05
Inconsistent discipline	−0.07	2.70	−0.36	.72	0.03
Corporal punishment	−0.25	1.57	−2.12	.04	0.16

t = *t* test d = Cohen's effect size

* $p < 0.01$

According to these results, we considered whether to develop a different scale for each informant or a single scale that could be used for all of them. Because consistency was detected in at least two factors, and it was—clinically speaking—more interesting, we decided to focus on the second option. The cost of attempting a two-factor solution would require eliminating many items from the original scale. The benefit was a simpler and more robust scale. Table 2 shows the two-factor solution for the three informants. As seen in the table, Factor I has 12 matching items for the three evaluators. Six of these items are from the 10 items of the PI scale, and the other six are items that compose the original PP scale. Therefore, we decided to name this factor "Positive Parenting" because it includes 75 % of the items from the two original positive parenting scales (PI and PP). Seven items belong to factor II; five match the three evaluators and two additional items, which do not strictly meet the inclusion criteria for mothers, were included in the scale because they nearly met the criteria. The name of this factor is "Negative Parenting" because none of the original negative parenting scales were able to define the factor by itself; half of these items come from the ID scale and the other half from the PM scale.

Table 2 Italian APQ factor structure for mothers, fathers, and children

Item	Factor 1 (positive parenting)				Factor 2 (negative parenting)			
	M	F	Cm	Cf	M	F	Cm	Cf
1	.399	.689	.515	.532				
2	.556	.595	.408	.395				
4	.382	.666	.456	.412				
5	.406	.371	.451	.386				
7	.494	.627	.686	.601				
8					.612	.519	.457	.458
10					.387	.447	.506	.501
12					.623	.572	.492	.473
13	.620	.525	.448	.391				
14	.444	.491	.524	.549				
15	.431	.528	.673	.593				
16	.647	.497	.487	.438				
18	.566	.661	.509	.436				
19					.420	.562	.655	.673
20	.404	.511	.444	.441				
22					.545	.536	.474	.453
27	.392	.539	.514	.411				
30					.298[a]	.359	.368	.383
31					.299[a]	.341	.313	.308
Eigenvalue	4.15	5.58	4.50	4.10	2.44	2.84	3.12	3.19
Variance (%)	19.70	21.40	18.70	17.30	11.60	10.90	12.90	12.70
Total variance (%)	31.40	32.40	31.70	30.00				

M mother scale, *F* father scale, *Cm* children scale, mother items, *Cf* children scale, father items

[a] These items showed an approximate communality of .096

The tests on factor analysis adequacy of this two-factor solution were fair or good. The determinants were .0067 (mothers), .0004 (fathers), .0027 (children, mother items), and .0026 (children, father items). The KMOs were .75 (mothers), .80 (fathers), .79 (children, mother items), and .75 (children, father items). All Barlett's tests were significant ($p = .000$). The goodness of fit values were fair and were as follows: NNFI = .71 (mothers), .79 (fathers), and .73 (children); CFI = .78 (mothers), .81 (fathers), and .77 (children); and AGFI = .92 (mothers), .91 (fathers), and .94 (children). The simplicity indices were fair or good as well; all L indices were .98/.99, and LS indices ranged from .54 to .59 (percentile 100). The factor reliability (internal consistency), as shown in Table 3, was satisfactory in all cases.

Therefore, the Italian version of APQ consists of two scales based on a two-factor solution (named generically positive and negative parenting) with the same items for mothers, fathers, and children. In the children version, as in the original scale, participants evaluate their mothers' and fathers' positive parenting items separately. Table 4 shows the multitrait-multimethod matrix to analyze the convergent validity of the two scales.

The convergent validity was acceptable for both parents' scales (.57 for positive parenting and .68 for negative parenting). However, there was no convergent validity among the parents' scales and children's scales. Only a significant but low value appeared in the negative parenting scale for mothers and children (.26). We must also mention the negative but insignificant or low correlations between positive and negative scales for the three informants. Moreover, the relationship among the two salient factors and the original APQ scales followed the expected trend. The Positive Parenting Factor of fathers, mothers, and children showed high positive correlations with the respective APQ positive scales: PI (.84 for fathers, .81 for mothers, .80 for children fathers items, and .85 for children mothers items) and PP (.88 for fathers, .84 for mothers, .79 for children fathers items, and .85 for children mothers items). Finally, Positive Parenting Factor correlations with APQ negative scales were negative and low, and none exceeded −.16 for parents and −.22 for children.

The Negative Parenting Factor showed moderate/high positive correlation with two APQ negative scales: PM (.43 for fathers, .40 for mothers, and .71 for children) and ID (.87 for fathers and mothers, and .73 for children). The low and negative correlations between the Negative Parenting Factor and positive APQ scales did not exceed −.20 for any informant. The CP scale could be considered different because none of its items related to any factor that was not correlated with them in any relevant way.

Finally, Table 5 shows the mean and standard deviations of the parents' and children's scales. Repeated measures ANOVA were performed to evaluate the differences among informants in the positive and negative parenting scales. For the positive parenting scale, the ANOVA was statistically significant, F (3. 579) = 30.77 ($p = .000$). The paired t test, corrected by Bonferroni, showed that mothers scored significantly higher than fathers ($t = 6.25$, $p = .000$, $d = 0.45$) and that children scored significantly lower than mothers ($t = 6.30$, $p = .000$, $d = 0.45$) and fathers ($t = 3.43$ $p = 001$, $d = 0.25$). For the negative parenting scale, ANOVA was also significant, F (2, 3869) = 16.47 ($p = .000$). The paired t test did not show significant differences between mothers and fathers, but children scored significantly higher than did mothers ($t = 4.69$, $p = .000$, $d = 0.34$) and fathers ($t = 4.43$, $p = .000$, $d = 0.32$).

Table 4 Multitrait-multimethod correlation matrix for Italian version of the APQ scales

	Mothers		Fathers		Children		
	PP	NP	PP	NP	PP M	PP P	NP
Mothers							
PP	__						
NP	−.19**	__					
Fathers							
PP	**.57****	−.05	__				
NP	−.14	**.68****	−.17*	__			
Children							
PP_M	**.09**	−.05	.02	−.05	__		
PP_F	.04	−.03	**.09**	.00	.83**	__	
NP	−.03	**.26****	.08	**.06**	−.07	−.06	__

Convergent validity is in bold face

PP positive parenting, *NP* negative parenting, *PP M* positive parenting for mothers, *PP F* negative parenting for fathers

* $p < .05$; ** $p < .01$

Table 3 Internal consistency reliability of Italian APQ version (Cronbach's alpha coefficients)

Informant	Factor 1 (positive parenting)	Factor 2 (negative parenting)
Mothers	.81	.75
Fathers	.78	.88
Children (mothers' items)	.80	.83
Children (fathers' items)	.80	.80

Table 5 Italian APQ means and standard deviations ($N = 194$)

	Positive parenting		Negative parenting	
	M	SD	M	SD
Fathers	45.46	6.80	11.50	3.15
Mothers	48.05	5.33	11.60	3.08
Children_M	43.97	7.77	13.10	4.12
Children_F	42.55	7.54		

Children_M = mother items; Children_F = father items; there is no distinction for negative parenting between children, mother and father items

Discussion

Developing scientific knowledge concerning the causes of children's disruptive behavior is a challenge of psychopathology in the twenty-first century. Among the prominent factors, negative parenting practices have been proposed as a critical issue, despite the methodological difficulties associated with its measurement. Negative parenting (e.g., harsh discipline, inconsistent discipline, poor supervision, lack of involvement, rigid discipline, etc.) has been linked to children's behavior problems (Chamberlain et al. 1997; Hoeve et al. 2009). There are many instruments containing different scales to assess parenting practices—but they are often poorly contrasted—and may be affected by various biases (e.g., type of informant, informant's characteristics or various social and cultural issues). Among them, the Alabama Parenting Questionnaire (APQ; Shelton et al. 1996) can be considered one of the best alternatives, especially in cross-cultural studies, because (1) it is a scale based on the most recognized and studied parenting practices (Shelton et al. 1996), (2) it has versions for parents and children (this is not the case with most other scales), (3) it is based on current experiences (not retrospective as, for example, in the EMBU), (4) it has been translated into several languages, including Italian (Benedetto and Ingrassia 2013; Esposito 2011), and (5) it has good psychometrics indices.

The APQ (Shelton et al. 1996) is a multi-source and multi-method instrument that measures the following five dimensions of parenting: PI (Parental Involvement), PP (Positive Parenting), PM (Poor Monitoring), ID (Inconsistent Discipline) and CP (Corporal Punishment). These five dimensions were established on the base of face validity and this could be one of its weaknesses. Therefore, factor analyses were carried out in different countries and different languages in order to evaluate its construct validity. Essau et al. (2006) were able to replicate the original structure with a German sample and Escribano et al. (2013) with a Spanish sample, but data based on others studies are rather incongruent and overall indicate the presence of only three factors (Clerkin et al. 2007; De la Osa et al. 2014; Molinuevo et al. 2011; Randolph and Radey 2011; Wells et al. 2000).

Therefore, our main goal was to analyze the APQ structure for fathers, mothers and children with an Italian sample and to eventually provide a simple, valid and easy instrument to be used with this population.

Prior to conducting the APQ factor analysis it was important to determine whether mothers and fathers differed on the five original scales. The conclusion is that mothers and fathers claimed to adopt relatively different parenting practices with their children with mothers using more positive parenting (PI and PP) than did fathers. However, the negative parenting differences between mothers and fathers were very small. The CP factor was not considered because both parents admitted to resorting to this conduct, and therefore, the effect size was not relevant. Overall, these results convince us to carry out separate factor analyses for fathers, mothers, and of course, children.

Our results have proven that the APQ's five original scales could be reduced to a lower number as in previous studies (Clerkin et al. 2007; Molinuevo et al. 2011; Randolph and Radey 2011; Wells et al. 2000). In fact, a three-factor solution, in a way similar to previous studies, was found. However, it should be noted that three factors are not the same in all studies. Wells et al. (2000) found one factor of positive parenting (Parental Involvement) and two of negative parenting (Ineffective/Negative Discipline and Poor Monitoring), whereas Randolph and Radey (2011) obtained two factors of positive parenting (Positive Reinforcement and Positive Discipline) and only one of negative parenting (Negative Discipline). Moreover, in the study by Molinuevo et al. (2011), the three factors did not show the same internal consistency for parents and children.

In our study, the three-factor solution was the most successful, mathematically speaking, but the third factor was very difficult to interpret. In the father and mother versions, the third factor consisted of six items, but only one item was the same for both; the other three items were different, and the last two showed opposite loads (one was positive and the other negative) for each informant. In the children's version, the third factor was completely different for the item that referred to mothers and fathers, and they were taken from another scale. Therefore, for reasons of interpretability as well as for simplicity, we decided to test a two-factor solution, which resulted in a "Positive Parenting" factor with 12 items and a "Negative Parenting" factor with 7 items. This solution was clearer and more valid to define Italian parenting practices. The solution reduces the number of items from the original 35 to 19, but

provides the same items for mothers, fathers, and children. The correspondence between the Italian version of the APQ and the original scale is considered acceptable. A high score in the positive parenting factor could indicate a high mark on the two original scales of the APQ positive parenting because the correlation was quite high for all three informants. However, a high negative parenting factor score simply corresponds to a high score on the original ID scale for all three informants, considering that the link to the PM was high only for the children and moderate for mothers and fathers (about .40). The goodness of fit, the simplicity index, and the reliability of this two-factor solution were acceptable or good. Mothers and fathers have also shown acceptable convergent and good discriminant validity between positive and negative parenting factors, but this was not the case for children. As we will discuss later, the children scores are quite different from the parents.

To sum up, the Italian version of the APQ is a unique version of the two-factor solution that could fit fathers, mothers and children. This version is simpler than those previously published and this may have advantages and disadvantages. Perhaps the main drawback is that only assessing "positive and negative parenting" information about more specific parenting practices may be lost. However, we have found a high association between the two original scales of positive parenting (PI and PP) and the two of negative parenting (PM and ID). Furthermore, from a clinical point of view, we consider that the corporal punishment scale is special and should be maintained whilst not constituting a factor. The items of this scale were completely independent from the rest of the scale. Because CP is a parenting practice rarely adopted, it had little variability. In fact, the following sentence "We don't use it in our family" was selected by 82 % of the fathers, 79 % of the mothers, and 76 % of the children. Moreover, it involves behaviors generally considered socially reprehensible, and therefore, informants show difficulty in recognizing them. Therefore, adding the three CP items to the Italian version of the APQ is appropriate because they provide genuine information that is not part of any of the two factors. Additionally, corporal punishment should be assessed by choosing other methods—apart from questionnaires—such as interviews or people's reports. The main advantages of our two-factor solution would be, first, to help solve the inconsistency of the third factor found in many previous studies, and, second, get an easy, fast, reliable and valid assessment of parenting practices. Perhaps from the point of view of research, it is important to have scores of all different parenting practices, but from a clinical point of view may be enough to have a consistent and comprehensive measure of the positive and negative parenting practice.

The last objective of our study was to analyze the differences among the informants in positive and negative parenting factors. The main conclusion is that children tend to perceive worse parenting than do parents. Differences are statistically significant for positive and negative parenting, although the effect sizes are small in both cases. There are no differences between fathers and mothers in negative parenting, but in positive parenting, mothers' scores are higher but with a small effect size (0.45).

The main implication of these results is that in order to evaluate parenting practices it is always necessary to gather information from children in addition to parents. Relying exclusively on parent self-reporting may cause a bias because parents tend to perceive their behavior as more appropriate than do the children. This bias could become greater if we rely on mothers' self-reporting because they believe that they are able to provide significantly more positive parenting than fathers. However, although it is true that children recognize that mothers provide more positive parenting than do the fathers, the differences are minimal and not significant. Cultural factors and family roles could explain these slight differences, but to analyze them, more complex studies are needed.

Limitations

The main limitation of this study is a reduced sample size. It would have required a sample of 350 families if we applied the usual subject to item ratio of 10:1. It is true that at least in the case of mothers and children, the sample is relatively close to the desired number ($N = 258$), but it is too small for the case of fathers, and especially to apply to CFA procedures. Future studies with samples approximately 400–500 families and that apply CFA procedures will be definitive to establish the factor structure of the Italian APQ.

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