

Validating the Assessment of Communication in Parenting Scale (COMPA) with a Sample of Parents and Children Flagged for Parental Abuse and Negligence

Clotilde Alves Nunes Agostinho¹, Isabel Maria Marques Alberto², José Tomás da Silva²

¹Polytechnic Institute of Castelo Branco, Castelo Branco, Portugal

²Faculty of Psychology and Educational Sciences, University of Coimbra, Coimbra, Portugal

Email: clotilde.agost@ipcb.pt

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Abstract

Objectives: This study aims to validate the three versions of the Assessment of Communication in Parenting Scale (*Avaliação da Comunicação na Parentalidade*—COMPA), namely the parental, the child version (7 - 11 years old) and the adolescent version (12 - 16 years old), in a sample of subjects involved in a forensic context. **Method:** The study was conducted with a sample of parents (53 mothers, 26 fathers), children, and adolescents (41 males and 42 females) who had been identified as being at risk of neglect and/or parental abuse within the scope of existing promotion and protection processes at the Commission for the Protection of Children and Young People (*Comissões de Proteção de Crianças e Jovens*—CPCJ). **Results:** The results demonstrated good psychometric properties with regard to internal consistency for the three versions of the COMPA with the exception of the COMPA-A Negative Communication Pattern subscale in relation to the mother. The results of the divergent validity analysis indicate that the COMPA assesses distinct constructs from the EMBU. **Conclusions:** The three versions of COMPA represent a reliable resource for the evaluation of parent-child communication patterns in contexts where abuse or neglect is suspected or has already occurred.

Keywords

Parent-Child Communication, Assessment, Child Abuse, Child Neglect, Scale Validation

1. Introduction

All behavior is, in essence, a form of communication (Watzlawick et al., 1967/1993).

Thus, communication represents a fundamental process in the relationship between parents and children, defining the nature of family roles, rules, limits, and the expression of affection (Carr, 2006; Floyd & Morman, 2014; Horstman et al., 2016; Portugal & Alberto, 2010, 2014, 2015; Rostad & Witaker, 2016; Schrodts & Shimkowski, 2017; Segrin & Flora, 2011; Segrin et al., 2012; Stamp & Shue, 2013; Vangelisti, 2013; Xiao et al., 2010). Empirical research has shown that the communication patterns of some families constitute risk factors for the development and well-being of family members (Burns & Pearson, 2011; Dallaire et al., 2006; Milot et al., 2010; Olson, 2000; Schrodts & Shimkowski, 2017; Van Dijk et al., 2014; Vangelisti, 2013; Xiao et al., 2010; Yu et al., 2006). Family dynamics that include abusive and/or negligent practices represent relational patterns that reflect distorted communication marked by paradox, rejection, disconfirmation, disqualification, aggression and role confusion/rigidity (Dailey et al., 2007, 2012; Effiong & Usoroh, 2020; Portugal & Alberto, 2010, 2013; Watzlawick et al., 1967/1993; Wolfe & McGee, 1994). Family communication patterns which are characterised by inconsistency, poor expression of affection and aggressiveness, are predictors of relational, social and adaptive problems in children (Burlison & MacGeorge, 2002; Choi et al., 2017; Estévez et al., 2014; Fard, 2020; Frazer & Fite, 2016; Povedano et al., 2012; Sánchez-Sosa et al., 2014) and negligent and abusive parenting practices (McGee & Wolfe, 1991; Horstman et al., 2016; Wilson et al., 2010).

Although communication between parents and children is widely acknowledged as a key determinant of parenting quality, there is a paucity of instruments designed to assess this aspect of the parent-child relationship. A systematic review of parent-child communication measures conducted by Zapf et al. (2023) indicates a need for further research into the properties and contributions of psychological assessment instruments on this topic. The Assessment of Communication in Parenting Scale (COMPA) is a multidimensional measure of parent-child communication at two stages in the family life cycle (families with school-age children and families with adolescent children) (Portugal & Alberto, 2013, 2015; Relvas, 1996). The COMPA development is based on the literature that identifies the following dimensions in parent-child communication as crucial: the openness of communication (e.g., availability for dialogue, confirmation of meaning), the expression of affection and empathy (e.g., The exchange of positive messages between family members, clarity of communication, problem-solving, and emotional warmth were identified as key dimensions in parent-child communication (Barnes & Olson, 1985; Cummings & Cummings, 2002; Floyd & Morman, 2003; Herbert, 2004; Kirkman et al., 2005; Portugal & Alberto, 2013, 2014, 2019; Relvas, 1996; Segrin & Flora, 2011; Watzlawick et al., 1967/1993). The COMPA is a scale designed to assess communication between parents and offspring. It comprises three versions, one for parents, one for children aged 7 - 11 years old, and one for adolescents aged 12 - 16 years old. The objective of the scale is to identify patterns of parent-child communication. Studies carried out with COMPA suggest that differences in communication exist between parents and offspring according to

gender, place of residence, parents' socio-economic status and education (Portugal & Alberto, 2013, 2014, 2015) and the absence of statistically significant differences between intact nuclear families and post-divorce families (Portugal & Alberto, 2015, 2019). Nevertheless, to the best of our knowledge, no published studies have validated the COMPA with parents, children, and adolescents from families that have been identified as being at risk of neglect and/or abuse. Therefore, the main objective of this study is to analyse the psychometric qualities of the COMPA in a sample of parents, children, and adolescents who have been flagged for parental abuse or neglect.

2. Method

The study employs a cross-sectional methodology utilizing a non-probabilistic convenience sample. The current study was conducted in accordance with the following inclusion criteria: parents, children (7 - 11-year-olds) and adolescents (12 - 16-year-olds) who had been referred to a Commission for the Protection of Children and Young People (Comissões de Proteção de Crianças e Jovens—CPCJ) for suspected child abuse and/or neglect.

2.1. Participants and Procedure

The sample consisted of 162 participants, members of families with processes in the Commission for the Protection of Children and Young People (CPCJ), flagged for negligent and/or abusive practices. The project was submitted for authorization by the National Commission for the Promotion of the Rights and Protection of Children and Young People (*Comissão Nacional de Promoção dos Direitos e Proteção das Crianças e Jovens*—CNPDPJ) and subsequently by each of the CPCJs. The data were collected in accordance with the ethical principles set forth in the Declaration of Helsinki (World Medical Association, 2000), the Code of Conduct of the American Psychological Association (APA, 2017) and the Code of Ethics of the Order of Portuguese Psychologists (Regulation 58/2011 of April 20). The principal researcher established face-to-face contact with each of the families indicated by the CPCJs and provided an explanation of the research objectives and methodology, thus enabling the subjects to make an informed decision regarding their participation. The voluntary nature of the collaboration and the absence of any link between the investigation and the ongoing process at the CPCJ were guaranteed. Those who agreed to participate completed and signed the informed consent document, which guaranteed anonymity and confidentiality of personal data. In the case of children and adolescents, permission was initially obtained from their parents. Once this permission had been granted, the procedure was carried out in a similar way to that used with adults, culminating in the signing of a declaration of assent.

The protocol (day, time, and place) was scheduled in accordance with the preferences of each participant. All participants indicated that the CPCJ facilities were the most convenient location. The principal researcher administered the protocol

at the CPCJ premises in a room designated for this purpose, ensuring complete privacy. The participants completed the protocol in the presence of the researcher, who provided clarifications as needed. The completion time for children aged 7 to 11 was approximately 30 to 40 minutes, while adolescents aged 12 to 16 required approximately 20 to 30 minutes. The completion time for parents varied considerably, depending on their level of education. Only one member of each parental subsystem participated in the study.

The sample is composed of 53 mothers (32.7%), 26 fathers (16.1%), 41 female children (25.3%), and 42 male children (25.9%). The parents' ages range from 24 to 69 years old ($M = 42.12$; $SD = 1.18$), the children's ages range from 7 to 11 years old ($M = 8.48$; $SD = 0.25$), and the adolescents' ages range from 12 to 16 years old ($M = 14.38$; $SD = 0.19$). With regard to the parents' level of education, 23 individuals (29.1%) completed the first cycle of basic education (years 1 - 4), 20 (25.3%) completed the second cycle (years 5 - 6), 26 (33%) completed the third cycle (years 7 - 9), eight (10.1%) completed secondary education (years 10 - 12), and two (2.5%) completed higher education. The distribution of children and adolescents across the various levels of schooling is as follows: 21 children (26.6%) are enrolled in the first three years of basic education, eight (10.1%) are in year four, four (5.1%) are in year five, 24 (30.4%) are in year six, two (2.5%) are in year seven, three (3.8%) are in year eight, 15 (19%) are in year nine, and two (2.5%) are in year twelve. With regard to the parents' professional status, an analysis of the Portuguese Classification of Professions (INE, 2011) reveals that 46 individuals (58.2%) are classified as "unskilled workers," 16 (20.3%) are designated as "skilled workers in industry, construction, and crafts," 11 (13.9%) are identified as "workers in personal, protection and security services and salespeople," and two (2.5%) are classified as "farmers and skilled workers in agriculture, fishing and forestry," while 10.1% are designated as "administrative staff." Additionally, 1.3% are identified as "specialists in intellectual and scientific activities," and 5.1% are categorized as "representatives of the legislative and executive bodies, directors, directors and executive managers." Additionally, 27 individuals (34.2%) are currently unemployed, six (7.6%) are retired, and 21 (26.6%) are homemakers.

2.2. Measures

A sociodemographic data sheet was used, consisting of a set of questions relating to individual characteristics (gender, age, profession, years of schooling, marital status) and family attributes (household composition, stage of the family life cycle and socioeconomic level).

2.2.1. Assessment of Parenting Communication Scale (COMPA)

The Assessment of Parenting Communication Scale (COMPA) (Portugal & Alberto, 2014) is a self-report instrument designed to assess communication patterns between parents and children. Participants are asked to indicate the frequency of specific communication behaviors using a scale ranging from 1 (Never)

to 5 (Always). The assessment tool is available in three versions: the parental version (COMPA-P), the child version (7 to 12 years old, COMPA-C) and the adolescent version (12 to 16 years old, COMPA-A).

The COMPA-P, parental version, comprising 44 items, is divided into five subscales: Emotional Support/Expression of Affection (ESEA), Parental Availability for Communication (PAC), Metacommunication (META), Parental Trust/Sharing (PTS) and Children Trust/Sharing (CTS). In the original study, Cronbach's alpha coefficients obtained for the general population ranged from .62 for the Children Trust/Sharing (CTS) subscale to .91 for the Total scale, which is acceptable and/or good for clinical and research purposes (Nunnally & Bernstein, 1994; Portugal & Alberto, 2014).

The COMPA-C, designed for children between the ages of 7 and 11, comprises 16 items organized into two subscales: Parental Availability for Communication (PAC) and Emotional Support/ Expression of Affection (ESEA). The scale is answered separately for the father and mother. In the original study, the analysis of internal consistency had a Cronbach's alpha value of .88 and subscale values of .76 and .86, respectively (Portugal & Alberto, 2014).

The COMPA-A version for adolescents (12 - 16 years of age) comprises 39 items distributed across five subscales: Parental Availability for Communication (PAC), Children Trust/Sharing (CTS), Emotional Support/ Expression of Affection (ESEA), Metacommunication (META), and Negative Communication Pattern (NCP). Responses are provided separately for the father and mother. In the original study, Cronbach's alpha coefficients ranged from .65 to .94 (Portugal & Alberto, 2014). A higher score indicates a more positive perception of parent-child communication, while the Negative Communication Pattern (NCP) subscale represents a more negative perception.

2.2.2. EMBU

The EMBU Parents (EMBU-P) (Canavarro & Pereira, 2007a), the Portuguese version of the original *Egna Minnen Beträffande Uppfostran*—Parents version scale (Castro et al., 1993), is a self-report measure that assesses parents' perceptions of their educational parenting styles on a scale from 1 (No, never) to 4 (Yes, always). The scale comprises 42 items divided into three dimensions: Emotional Warmth, Rejection and Control Attempts. The factor structure of the Portuguese version of EMBU-Parents replicates the factor structure of the original version (Castro et al., 1997). The Cronbach's alpha coefficients obtained range from .71 to .82, which is comparable to the values obtained by Castro et al. (1997) (Canavarro & Pereira, 2007a).

EMBU-Children (EMBU-C) (Canavarro & Pereira, 2007b), the Portuguese version of the original scale of the *Egna Minnen Beträffande Uppfostran*—Children version (Castro et al., 1993), evaluates the perception that children (6 to 12 years old) have of their parents' educational parenting styles, responding separately for the father and mother. It consists of 32 items, answered on a scale from 1 (No, never) to 4 (Yes, always), distributed across three dimensions: Emotional

Warmth, Rejection and Control Attempts. The study of the psychometric qualities of the Portuguese version of EMBU-C presented internal consistency values ranged from .62 and .85, which were similar to those observed in the original version (Canavarro & Pereira, 2007b; Castro et al., 1993).

EMBU-Adolescents (EMBU-A) (Lacerda, 2005), the Portuguese version of the original Parental Rearing Style Questionnaire for use with Adolescents (Gerlsma et al., 1991; Lacerda, 2005), provides an assessment of the perception of adolescents (12 to 17 years old) about educational parenting styles, regarding the father and mother separately. The scale comprises 48 items, rated on a Likert scale from 1 (No, never) to 4 (Yes, most of the time), organized into three dimensions: Emotional Warmth, Rejection and Overprotection. The psychometric properties demonstrated higher values than those observed in the original version, with Cronbach's alpha coefficients exhibiting a range between .73 and .94. (Lacerda, 2005).

3. Results

Given the number of participants in each of the sample groups into account (parents, children and adolescents), factor analysis was not deemed suitable, considering the ratio between respondents and items proposed by Nunnally and Bernstein (1994). Reliability studies of the scales were carried out using internal consistency analyses to determine Cronbach's alpha, inter-item correlations, and item-total correlations. Correlations were performed between subscales of each COMPA version. Correlations were performed between the COMPA scales and the EMBU scales to assess divergent validity. The analyses were conducted using the IBM SPSS Statistics software, version 27.

3.1. Reliability—Internal Consistency

3.1.1. COMPA-P (Parents' Version)

The reliability of the COMPA-P was assessed by the Cronbach's alpha coefficient, which presented the following values: .979 for the total scale, .954 for the Emotional Support/Expression of Affection (ESEA) subscale, .922 for the Meta-communication subscale (META), .915 for the Parental Trust/Sharing subscale (PTS), .890 for the Parental Availability for Communication subscale (PPCTS), and .834 for the Child Trust/Sharing subscale (CTS) (Table 1). These coefficients were higher than those reported by Portugal and Alberto (2014) in a general population sample, with alpha values of .91, .821, .732, .725, .753 and .615 for the overall scale and its sub-scales. The corrected item-total correlations for the global scale vary between $r = .108$ (item 43) and $r = .866$ (item 29). The correlation between item 43 (*I feel alone when it is necessary to impose rules and limits on my child*) and the total scale ($r = .108$) is notably low (Nunnally & Bernstein, 1994; Streiner & Norman, 2008). Although there is a slight increase in Cronbach's alpha value when eliminating this item (from .979 to .981), it was decided that it should be maintained, considering its low interference on the internal consistency of the

scale (Nunnally & Bernstein, 1994; Streiner & Norman, 2008). The remaining items have corrected item-total correlation values greater than .40, which demonstrates that they all contribute substantially to the internal consistency of the scale. In the various subscales, the item-total correlations are significant, with the exception of item 43, which indicates that the items are homogeneous and that the subscales consistently measure the construct for which they were created.

Table 1. Cronbach's alpha coefficients (α), mean inter-item correlation (MIIC) and range of corrected item-total correlation (RCITC), COMPA-P (n = 72).

Subscales	α	MIIC	RCITC
Emotional Support/Expression of Affection	.954	.310 - .858	.595 - .907
Parental Availability for Communication	.834	-.041 - .704	.071 - .746
Metacommunication	.922	.245 - .794	.404 - .875
Parental Trust/Sharing	.915	.458 - .780	.599 - .808
Children Trust/Sharing	.890	.307 - .777	.446 - .804

The correlations between the five subscales of the COMPA-P (**Table 2**) are positive, strong, and statistically significant, with coefficients ranging from .759 to .907 ($p < .001$). The highest association is observed between ESEA and META ($r = .907$, $p < .01$).

Table 2. Pearson correlations between subscales of COMPA-P.

Subscales	ESEA	PAC	META	PTS	CTS
Emotional Support/Expression of Affection	-	.830**	.907**	.839**	.831**
Parental Availability for Communication		-	.759**	.839**	.788**
Metacommunication			-	.839**	.795**
Parental Trust/Sharing				-	.850**
Children's Trust/Sharing					-

**Correlation is significant at the 0.01 level (bilateral); *Correlation is significant at the 0.05 level (bilateral); Legend: Emotional Support/Expression of Affection (ESEA), Parental Availability for Communication (PAC), Metacommunication (META), Parental Trust/Sharing (PTS), and Children's Trust/Sharing (CTS).

3.1.2. COMPA-C (Children Aged 7 - 11 Version)

The Cronbach's alpha coefficients obtained for the total COMPA-C are .977 for the father and .949 for the mother. The Emotional Support/Expression of Affection (ESEA) subscale yielded alpha coefficients of .938 for the father and .868 for the mother, whereas the Parental Availability for Communication (PAC) subscale produced coefficients of .970 for the father and .933 for the mother. With the exception of the ESEA subscale in relation to the mother, all the results demonstrate excellent internal consistency (**Table 3**).

Table 3. Cronbach's alpha coefficients (α) for the total scale and subscales of COMPA-C.

Subscales	α
Referring to the Father	
Total	.977
Parental Availability for Communication	.970
Emotional Support/Expression of Affection	.938
Referring to the Mother	
Total	.949
Parental Availability for Communication	.933
Emotional Support/Expression of Affection	.868

The corrected item-total correlations for the total scale range from .728 to .926 for the father and .457 to .866 for the mother. In PAC, the results range from .826 to .943 for the father and from .744 to .845 for the mother. In ESEA, the coefficients for the father registered a range of .686 to .869, while in relation to the mother they vary between .423 and .757. All values exceed .40, indicating that all the items contribute to the internal consistency of the subscales and the total scale (Nunnally & Bernstein, 1994; Field, 2018). With regard to the mean inter-item correlation, the coefficients obtained on the total scale obtained a range of values from .298 (items 11 - 16) to .886 (items 1 - 2). In PAC, the range is from .417 (items 8 - 12) to .786 (items 3 - 5), while in ESEA, it is from .499 (items 1 - 16) to .780 (items 14 - 15). In all cases, the values are above those recommended by Briggs and Cheek (1986). Pearson correlations between the two subscales referring to the father ($r = .946$; $p = .01$) and the mother ($r = .907$; $p = .01$), are positive, strong and statistically significant (Table 4).

Table 4. Pearson correlations between subscales of COMPA-C.

Subscales	ESEA
Parental Availability for Communication—Father	.946**
Parental Availability for Communication—Mother	.907**

**Correlation is significant at the 0.01 level (bilateral); *Correlation is significant at the 0.05 level (bilateral).

3.1.3. COMPA-A (Adolescents Aged 12 - 16 Version)

The Cronbach's alpha coefficients for COMPA-A, considering the total number of items with reference to the father and mother separately, suggest excellent internal consistency (Table 5). Cronbach's alpha coefficients for the subscales vary between good and excellent, with the exception of the Negative Communication Pattern (NCP) referring to the mother, which has an unacceptable coefficient of .479 (Table 5). The NCP is composed of four items, with correlations with the scale varying between .178 (item 5) and .413 (item 5). Even after removing some items, the alpha value never reaches an acceptable level. All coefficients obtained

for the father and mother are higher than in the original study (Portugal & Alberto, 2014), except for the NCP subscale referring to the mother.

The corrected item-total correlations for the total of the 39 items in the scale show values greater than .20, except for item 38 (*I have difficulty believing what my father/mother tells me*), with a value of .135 for the mother and .161 for the father. A detailed examination of this item revealed that its exclusion does not markedly enhance the scale's internal consistency. It was therefore decided to keep the item. In COMPA-A, the exclusion of the item pertaining to the father results in a change in the alpha value from .977 to .979, whereas the exclusion of the item pertaining to the mother results in a change from .975 to .977. When the scale refers to the father, 35 of the 39 items exhibit corrected item-total correlation values exceeding .40; when it refers to the mother, the corrected item-total correlation values exceed 0.40 for 36 of the 39 items.

The corrected item-total correlations for the five subscales regarding the father exhibit variability, with values ranging from $r = .387$ (item 8, META) to $r = .913$ (item 13, PAC). With the exception of item 8, the item-total correlations of the remaining items on the five COMPA-A subscales exceed .40. A similar pattern is observed in four of the five subscales referring to the mother ($r = .499$ to $r = .864$). The NCP subscale displays values below the desired level for item 6 ($r = .178$). The removal of this item does not result in a notable increase in Cronbach's alpha value (from .479 to .488), and thus the decision was made to maintain it because it is relevant from a theoretical point of view. The remaining items show acceptable correlations ($r = .243$ to $r = .413$) (Field, 2018; Nunnally & Bernstein, 1994). In general, the item-total correlation values for COMPA-A indicate the homogeneity of the constituent items within each subscale (Table 5). The values of the inter-item correlations for the subscales are slightly above those recommended by Briggs and Cheek (1986) (between .20 and .40), except for the NCP subscale referring to the mother. This subscale has very low inter-item correlations in more than 50% of the items (items 38 and 6 = .089; items 38 and 5 = .186; items 26 and 6 = -.078). The NCP subscale for the mother seems particularly problematic, with an unacceptable internal consistency (Table 5).

Table 5. Cronbach's alpha coefficients (α) for COMPA-A total and subscales, mean inter-item correlation (MIIC) and range of corrected item-total correlation (RCITC).

Subscales	(α)	MIIC	RCITC
Referring to the Father (n = 46)			
Total	.977	-.010 - .890	.161 - .913
Parental Availability for Communication	.968	.387 - .890	.620 - .913
Children Trust/Sharing	.907	.350 - .752	.547 - .805
Emotional Support/Expression of Affection	.921	.471 - .876	.666 - .917
Metacommunication	.908	.133 - .790	.387 - .853
Negative Communication Pattern	.702	.228 - .438	.421 - .579

Continued

Referring to the Mother (n = 50)				
Total	.975	-.007	.884	.135 - .868
Parental Availability for Communication	.959	.266	.884	.577 - .864
Children Trust/Sharing	.903	.400	.772	.535 - .830
Emotional Support/ Expression of Affection	.907	.556	.774	.678 - .835
Metacommunication	.889	.158	.687	.499 - .795
Negative Communication Pattern	.479	-.078	.443	.178 - .413

Analysis of the correlations between the COMPA-A subscales shows positive, strong and statistically significant correlations between all, except for the NCP, both for the father ($r = .778$ to $r = .878$) and the mother ($r = .791$ to $r = .919$) (Table 6). Low, statistically significant correlations ($p = .005$) were obtained between the NCP subscale (for the father and for the mother) and the subscales PAC, CTS and ESEA and META.

Table 6. Pearson correlations between subscales of COMPA-A.

Subscales	CTS	ESEA	META	NCP
Parental Availability for Communication—Father	.778*	.868**	.793**	.259
Parental Availability for Communication—Mother	.848**	.882**	.919**	.284*
Children Trust/Sharing—Father	-	.871**	.826**	.418**
Children Trust/Sharing—Mother	-	.791**	.840**	.262
Emotional Support/Expression of Affection—Father		-	.878**	.395**
Emotional Support/Expression of Affection—Mother		-	.883**	.220
Metacommunication—Father			-	.333*
Metacommunication—Mother			-	.313*
Negative Communication Pattern—Father				-
Negative Communication Pattern—Mother				-

**Correlation is significant at the 0.01 level (bilateral); *Correlation is significant at the 0.05 level (bilateral); Legend: Children Trust/Sharing (CTS), Emotional Support/Expression of Affection (ESEA), Metacommunication (META) and Negative Communication Pattern (NCP).

3.2. Divergent Validity

To examine the divergent validity, the three versions of EMBU were used—parents, children and adolescents—which assess parental educational practices. Pearson correlations were conducted between the three scales of the EMBU-P and the sub-scales of the three versions of the COMPA.

3.2.1. COMPA-P

Pearson's coefficients indicate that Rejection (EMBU-P) exhibits moderate and

high negative correlations with all COMPA-P subscales (between $-.641$ and $-.818$). Conversely, Control Attempts (EMBU-P) demonstrate moderate positive correlations with all COMPA-P subscales (between $.249$ and $.468$). Additionally, Emotional Warmth (EMBU-P) displays high positive correlations with all COMPA-P subscales (between $.825$ and $.885$) (Table 7).

3.2.2. COMPA-C

Pearson's coefficients concerning the mother demonstrate low and moderate positive correlations between Rejection (EMBU-C) and the two COMPA-C subscales ($.154$ and $.560$), and moderate positive correlations between Control Attempts (EMBU-C) and COMPA-C subscales ($.392$ and $.537$). Moderate positive correlations were observed between the Emotional Warmth (EMBU-C) and COMPA-C subscales ($.723$ and $.761$) (Table 7). With the father as the reference, low and moderate positive correlations were obtained between Rejection (EMBU-C) and the two COMPA-C subscales ($.211$ and $.314$). Moderate positive correlations were observed between Control Attempts (EMBU-C) and COMPA-C subscales ($.732$ and $.754$), and between Emotional Warmth (EMBU-C) and COMPA-C subscales ($.774$ and $.825$) (Table 7).

3.2.3. COMPA-A

Pearson's coefficients regarding the mother are low to moderately positive ($.201$ to $.590$) between the Rejection (EMBU-A) and COMPA-A subscales, and moderately positive between Overprotection (EMBU-A) and COMPA-A subscales ($.300$ and $.470$). The correlations between the Emotional Warmth (EMBU-C) and the COMPA-A subscales are moderate to highly negative coefficients ($-.459$ and $-.886$) (Table 7). With the father as the reference point, the correlations are positive and low to moderate between Rejection (EMBU-A) and the COMPA-A subscales ($.150$ and $.565$), positive and moderate between Overprotection (EMBU-A) and COMPA-A NCP subscale ($.529$), and are negative and moderate to strong between Emotional Warmth (EMBU-A) and the COMPA-A subscales ($-.453$ and $-.914$) (Table 7).

Table 7. Pearson correlation coefficients between COMPA subscales and EMBU scales.

Subscales COMPA-P/EMBU-P	Emotional Warmth	Rejection	Control At- tempts
ESEA	.825	$-.678$.354
PAC	.841	$-.641$.463
META	.851	$-.698$.356
PTS	.838	$-.818$.249
CTS	.885	$-.728$.374
Subscales COMPA-C/EMBU-C	Emotional Warmth	Rejection	Control At- tempts
PAC—Father	.825**	.211	.732**
PAC—Mother	.761**	.154	.536**

Continued

ESEA—Father	.774**	.314*	.754**
ESEA—Mother	.723**	.560**	.392*
Subscales COMPA-A/EMBU-A	Emotional Warmth	Rejection	Overprotection
NCP—Father	-.453**	.565**	.529**
NCP—Mother	-.459**	.201	.470**
CTS—Father	-.863**	.289*	.178
CTS—Mother	-.866**	.454*	.320*
META—Father	-.869**	.150	.074
META—Mother	-.886**	.608**	.377*
PAC—Father	-.914**	.256	.074
PAC—Mother	-.881**	.590**	.346*
ESEA—Father	-.901**	.184	.099
ESEA—Mother	-.882**	.518**	.300

**Correlation is significant at the 0.01 level (bilateral); *Correlation is significant at the 0.05 level (bilateral); Legend: Parental Availability for Communication (PAC), Emotional Support/Expression of Affection (ESEA), Parental Trust/Sharing (PTS), Metacommunication (META), Children Trust/Sharing (CTS), and Negative Communication Pattern (NCP).

3.3. Descriptive Statistics

Means and standard deviations were calculated for each of the subscales of the three versions of the sample studied. These data can also be used in clinical practice to establish reference values.

3.3.1. COMPA-P

The scores are obtained by summing the scores per subscale and dividing the value obtained by the total number of items in each subscale, thus allowing the results to be compared across subscales regardless of the number of items that comprise them. The highest scores are found in ESEA and META, followed by PCS, CCS, and finally PAC (Table 8). In all subscales, the mean scores related to the father are higher than those related to the mother.

3.3.2. COMPA-C

Means and standard deviations were analysed separately for female and male children, using father and mother as references. Children of both sexes scored higher on the PAC than on the ESEA. In both subscales, the mean scores are higher for the mother (Table 8).

3.3.3. COMPA-A

In COMPA-A, means and standard deviations were analysed separately for female and male adolescents, with each parent as a reference. The highest means for male adolescents were found in the NCP with the father as a reference and in the ESEA with the mother as a reference. These were followed by means in PAC for the

mother, in NCP for the father, in META and CCS for the mother, and in ESEA and PAC for the father. The lowest mean scores were found in META and CCS for the father. The highest mean scores for female adolescents were recorded in ESEA, PAC, and META for the mother, in NCP for both the mother and the father, and in CCS for the mother. The lowest scores were recorded in META and CCS for the father for both genders (**Table 8**).

Table 8. Weighted mean scores and standard deviations of the different COMPA versions and subscales.

COMPA-P				
Subscales	Fathers (n = 25)		Mothers (n = 53)	
	M	SD	M	SD
Emotional Support/Expression of Affection	4.18	.772	3.91	.898
Parental Availability for Communication	3.78	.584	3.45	.738
Metacommunication	4.09	.784	3.82	.859
Parental Trust/Sharing	3.87	.843	3.60	.916
Children Trust/Sharing	3.84	.857	3.50	.864
COMPA-C				
Subscales	Boys		Girls	
	M	SD	M	SD
Parental Availability for Communication—Father	2.72	1.415	3.29	.912
—Mother	3.65	.995	3.40	.735
Emotional Support/Expression of Affection—Father	2.70	1.256	3.00	.825
—Mother	3.48	.796	3.16	.678
COMPA-A				
Subscales	Boys		Girls	
	M	SD	M	SD
Parental Availability for Communication—Father	3.09	1.123	3.15	1.478
—Mother	3.48	.910	3.92	1.033
Children Trust/Sharing—Father	2.67	.964	2.52	1.093
—Mother	3.23	.844	3.59	1.283
Emotional Support/Expression of Affection—Father	3.13	1.173	3.15	1.433
—Mother	3.51	.951	4.18	1.010
Metacommunication—Father	2.92	.974	2.95	1.099
—Mother	3.35	.758	3.80	.847
Negative Communication Pattern—Father	3.42	.948	3.64	.925
—Mother	3.60	.536	3.75	1.993

4. Discussion

The current study aimed to analyse the psychometric qualities of the three versions of COMPA in terms of accuracy and divergent validity in a sample of parents

and children/adolescents flagged for neglect and/or parental abuse. In terms of internal consistency, the three versions of COMPA registered high Cronbach's alpha coefficients, except for the NCP subscale of COMPA-A related to the mother, which has a value far below what is acceptable (Field, 2018; Nunnally & Bernstein, 1994; Streiner & Norman, 2008). The reliability indices of the three versions of COMPA and the correlation coefficients between the subscales tend to be higher than those found by Portugal and Alberto (2014) in a general population sample, except for NCP in COMPA-A with reference to the mother. The result in NCP indicates the need for further studies to better establish the internal consistency of this dimension. Pearson's coefficients show strong and significant correlations between the subscales of the three versions of COMPA, with the exception of the NCP subscale of COMPA-A. The NCP shows low, though statistically significant, correlations with the PAC (for the mother), CCS and ESEA (for the father), and META (for both parents) subscales, and non-significant correlations with the PAC (for the father) and ESEA and CCS (for the mother) subscales. This may be because the NCP assesses negative communication, whereas the other subscales assess positive parent-child communication. With the exception of the NCP in COMPA-A, the results in the three versions of COMPA appear to support the internal consistency of this assessment tool in a sample of parents, children, and adolescents from families flagged for neglectful and abusive parenting practices. In addition, the coefficient correlations between the five scales of COMPA-P are higher than those reported by Portugal and Alberto (2014) in the original validation study of the scale for the Portuguese population.

In terms of divergent validity, the positive and low-to-moderate correlation coefficients between all COMPA-P subscales and the EMBU-P Control Attempts scale, and the moderate negative coefficients between the COMPA-P subscales and Rejection (EMBU-P) suggest that COMPA-P measures a different construct than that assessed by the EMBU-P. These data also show that the greater the perception of positive communication patterns between parents and children (trust, availability, expression of affection, and metacommunication), the lower the perception of parental practices of rejection, consistent with the literature (Gaspar & Matos, 2016; Koerner & Schrodt, 2014; Portugal & Alberto, 2014; Schrodt & Shimkowsky, 2017; Vangelisti, 2013). The high positive correlation coefficients between the COMPA-P subscales and the Emotional Warmth scale of the EMBU-P suggest that the dimensions assessed by the two instruments do not overlap, but show that parenting practices such as affective support, parental acceptance, and parental physical and psychological availability are strongly associated with positive patterns of verbal and nonverbal communication. As noted by Horstman et al. (2016), parent-child communication has a strong influence on parenting practices. The correlations obtained between the two COMPA-C subscales, Emotional Support/Expression of Affection and Parental Availability for Communication, and the three EMBU-C scales, Rejection, Control Attempts, and Emotional Warmth, with father and mother as reference vary from low to moderate, suggesting that

the two instruments do not measure the same construct. In particular, there are moderate correlations between Rejection (EMBU-C) and the two COMPA-C subscales related to father and mother. That is, from the children's perspective, the presence of parental parenting practices of rejection does not mean the absence of emotional support and expressions of affection on the part of the parents. The data also show that children who perceive clear and open communication from their parents at the level of ESEA and PAC tend to have a greater perception of the parenting practice of control attempts. One hypothesis that may explain this finding is that children attribute less negative connotations to parents' actions aimed at modifying and controlling their behavior, especially those who use more inductive strategies (Canavarro & Pereira, 2007a; Pinto et al., 2014). Some of the behaviors of parents who intend to modify their children's behavior according to their expectations (Canavarro & Pereira, 2007b) can be interpreted in childhood as indicators of closeness, interest, involvement and emotional warmth on the part of parents (Castro et al., 1993; Markus et al., 2003).

Finally, the low and moderate correlations between the COMPA-A subscales and the Rejection and Overprotection scales of the EMBU-A, with respect to father and mother, show that these scales measure different constructs, i.e., parent-child communication and educational parenting practices are different. The negative, moderate and high correlation coefficients obtained between the Emotional Warmth scale of the EMBU-A and all the subscales of the COMPA-A should be highlighted. The negative correlation of Emotional Warmth with the positive dimensions of parent-child communication is unexpected. The analysis of the items that make up this EMBU-A scale leads to the hypothesis that some of them (e.g. item 28, "Do you feel that your parents try to give you a happy youth in which you can learn many different things (e.g. through books, excursions, etc.)?") do not have the same meaning and value for adolescents whose parents have neglectful and/or abusive parenting practices as they do for adolescents from families that have not been identified as having these practices. Overall, the correlation coefficients found between the subscales of the three versions of the COMPA and the EMBU suggest that these two instruments assess different constructs.

The analysis of descriptive statistics in the present study shows lower scores in all dimensions for both father and mother than those registered in the original validation study for the general population (Portugal & Alberto, 2014), which may indicate that parents with negligent and/or abusive practices have a less positive perception of the communication they establish with their children. Regarding the COMPA-C, the results of the present study show a similar pattern to that obtained by Portugal and Alberto (2014) in the general population sample, although with lower values; this suggests that children of both sexes perceive a better communication pattern with the mother than with the father. Considering the COMPA-A, both male and female adolescents perceive all the communication dimensions assessed by COMPA more positively in relation to the mother, which is in line with the results obtained in the general population sample (Portugal & Alberto, 2014).

The descriptive statistics show that, from the children's perspective, mothers tend to play a prominent role in family communication (COMPAC and COMPAA). These data are consistent with the literature on parent-child communication (Portugal & Alberto, 2013, 2014; Barnes & Olson, 1985; Jiménez & Delgado, 2002), which shows that from the children's perspective, mothers tend to play a central role in parent-child communication. However, the results from the COMPAP subscales indicate that male parents tend to perceive communication more positively than mothers. These data differ from the literature on parent-child communication (Portugal & Alberto, 2013; Portugal & Alberto, 2014; Barnes & Olson, 1985; Jiménez & Delgado, 2002) which indicates that the parents hold the perspective that mothers tend to play a central role in parent-child communication. The results of the present sample may be due to the fact that, despite the increasing involvement of the father figure, mothers continue to play a more responsible role in the exercise of parental functions (Bernardi, 2017; Habib, 2012; Holmberg & Olds, 2015; Lamb, 2010; Lamb & Lewis, 2010; Lamb & Sagi, 2014; Monteiro et al., 2017; Pinquart & Teubert, 2010; Torres et al. 2014). Given that this is mostly a sample of mothers flagged for negligent and abusive practices, it is likely that they perceive the promotion and protection processes as a reflection of their (negative) parental function and, as such, question the quality of the communicative register they establish with their children. Most of the mothers in the sample take the main role in caring for children and adolescents and accept responsibility for promotion and protection processes, which may be reflected in a more critical self-assessment than that of the fathers.

5. Conclusion

The aim of the present study was to evaluate the psychometric qualities of the three versions of COMPA, an instrument for measuring parent-child communication, in a sample of parents, children and adolescents, flagged for parental neglect and/or abuse. Results reflect good psychometric properties in terms of reliability, particularly internal consistency, with the exception of the COMPAA Negative Communication Pattern subscale when referring to the mother. Divergent validity data suggest that the three versions of COMPA assess constructs different from those measured by the EMBU. The correlation coefficients obtained indicate that parent-child communication and parenting practices are distinct, albeit related, constructs. Thus, COMPA, in its three versions, can be considered a good resource for assessing parenting.

Some limitations of the study should be considered, namely: a) the non-representativeness of the sample, as it was based on a convenience sample; b) the imbalance in the number of participants in the sample (e.g., it includes few fathers and is mostly composed of mothers; the subsamples of children and adolescents are smaller than those of parents). A larger sample of parents, children, and adolescents would allow for a more detailed analysis of the accuracy and validity of COMPA. In addition, the COMPAA NCP subscale calls for further study, given

the findings regarding its internal consistency; c) the impossibility of conducting structural validity studies (EFA and CFA) given the size of the sample, which makes it important to do so in future studies; d) the fact that the predictive validity of the instrument was not analysed, which is a particularly important aspect for decision-making in the field of child protection; and e) another limitation related to the fact that the psychometric characteristics of COMPA-P were analysed with joint data from fathers and mothers, given the small number of fathers. Given that communication styles differ according to the gender of the parents (Barnes & Olson, 1985; Portugal & Alberto, 2013, 2015; Segrin & Flora, 2011), it may be necessary to conduct independent validation studies for fathers and mothers. Despite these limitations, the present study contributes to reducing the scarcity of instruments with psychometric qualities that have been validated in Portugal for the assessment of parent-child communication in families flagged for neglectful and/or abusive practices. The three versions of the COMPA allow: 1) assess parent-child communication from the perspective of parents and children, 2) assess parent-child communication at different times (e.g., before and after a clinical forensic intervention), 3) monitor attitudes and behaviors that can improve communication patterns between parents and children, and 4) conduct empirical studies focused on parent-child communication. Some authors (Esteban, 2006; McGee & Wolfe, 1991; Milot et al., 2010; Milot et al., 2016; Wilson et al., 2010; Wolfe & McGee, 1994) have pointed out that abuse and neglect reflect communication practices that jeopardize the well-being and development of children and/or adolescents. In this sense, COMPA is a valid resource for assessing communication patterns in families at high psychosocial risk with children referred to child protective services for abuse or neglect, and for designing and implementing parent education programs for these families.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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