

Creation of the TXP parenting questionnaire and study of its psychometric properties

Creación y estudio de las propiedades psicométricas del cuestionario de socialización parental TXP

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Abstract

Parenting is linked to conduct disorders (CD) and substance related disorders (SRD) in adolescents, but with differences according to cultural context. A questionnaire with two versions (parenting questionnaire *TXP-A* for adolescents and *TXP-C* for primary caregivers) was designed using the Delphi method to evaluate parenting practices related to CD and SRD in a Spanish population. It was validated in a community sample of 631 adolescents aged between 14 and 16 and their caregivers. Results suggest a 29-item *TXP-A* questionnaire with bifactorial structure: affection-communication and control-structure, with high internal (Cronbach's alpha=0.89) and test-retest (intraclass correlation coefficient=0.94) reliabilities. Both factors are related to SRD ($r=0.273$, $p<0.001$) and with most of the psychopathological dimensions studied. The total score and affection-communication are related to dissociative disorder ($t=3.259$, $p=0.001$) and its severity ($r=0.119$; $p=0.003$). Inter-observer reliability between adolescents and caregivers is low, in part because the 16-item *TXP-C* has a different bifactorial structure: affection-communication and prosocial values. *TXP-C*'s internal (Cronbach's alpha=0.87) and test-retest (intraclass correlation coefficient=0.94) reliabilities are high. The total score and affection-communication were related to dissociative disorder ($t=2.586$; $p=0.010$) but *TXP-C* did not discriminate according to SRD.

In conclusion, the *TXP-A* questionnaire for adolescents seems to be a reliable, valid and unbiased instrument that evaluates the perception of parenting practices, relating higher affection-communication and control-structure to less psychopathology and alcohol and drug use. *TXP-C* also seems to be reliable and unbiased, but shows less evidence of validity regarding substance use and psychopathology.

Keywords: Parenting; Conduct disorders; Substance related disorders; Affection-communication; Control-structure; Prosocial values.

Resumen

El estilo parental de socialización se relaciona con trastornos de conducta (TC) y trastornos relacionados con sustancias (TRS) en adolescentes, con diferencias según el contexto cultural. Se diseñó mediante método Delphi un cuestionario con dos versiones (Cuestionario de socialización parental *TXP-A* para adolescentes y *TXP-C* para cuidador principal) para evaluar en población española las prácticas de socialización parental relacionadas con TC y TRS. Se validó en una muestra comunitaria de 631 adolescentes entre 14 y 16 años y sus cuidadores. Los resultados recomiendan un cuestionario *TXP-A* de 29 ítems y estructura bifactorial: afecto-comunicación y control-estructura, mostrando alta fiabilidad interna (alfa de Cronbach=0,89) y test-retest (coeficiente de correlación intraclass=0,94). Ambos factores correlacionan con TRS ($r=0,273$; $p<0,001$) y con la mayoría de las dimensiones psicopatológicas estudiadas. La puntuación total y afecto-comunicación se relacionan con el trastorno disocial ($t=3,259$; $p=0,001$) y su gravedad ($r=0,119$; $p=0,003$). La fiabilidad interjueces entre adolescentes y cuidadores es baja, en parte porque el *TXP-C*, de 16 ítems, presenta una estructura bifactorial diferente: afecto-comunicación y valores prosociales. La fiabilidad interna (alfa de Cronbach=0,87) y test-retest (coeficiente de correlación intraclass=0,94) del *TXP-C* son altas. La puntuación total y afecto-comunicación se relacionan con el trastorno disocial ($t=2,586$; $p=0,010$) pero no discrimina según el TRS. En conclusión, el cuestionario *TXP-A* para adolescentes parece un instrumento fiable, válido y sin sesgos que evalúa la percepción de las prácticas de socialización parental, relacionando mayores puntuaciones en afecto-comunicación y control-estructura con menor psicopatología y consumo de alcohol y drogas. El *TXP-C* también parece fiable y sin sesgos, pero muestra menos evidencias de validez respecto al consumo de sustancias y la psicopatología.

Palabras clave: Socialización parental; Trastornos de conducta; Trastornos relacionados con sustancias; Afecto-comunicación; Control-estructura; Valores prosociales.

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The family is a key context for learning values, norms and customs during childhood and adolescence (Visser, de Winter, Vollebergh, Verhulst & Reijneveld, 2013) and one of the agents that can influence the worsening, maintenance or amelioration of psychopathological symptoms (Rosa-Alcázar, Parada-Navas & Rosa-Alcázar, 2014). Most of the studies on the family have focused on the parents and, more specifically, on the educational styles or parental socialization that they use (Rosa-Alcázar et al., 2014).

The traditional model of family socialization of Baumrind (1991) has two dimensions: responsiveness-warmth (the behavior of parents towards children through which children feel that they are loved and accepted as individuals within the family) and demandingness-control (degree of intensity or type of influence of parents on the behavior of children), along which parents are classified into three styles: authoritative (high control with high acceptance and sensitivity, emphasizing both the respect for the individuality of the child and the learning of social values), authoritarian (high demand and control with low sensitivity, emphasizing control and obedience) and permissive (low demand and control with high acceptance and sensitivity, emphasizing self-expression and self-regulation) (Bersabé, Fuentes & Motrico, 2001; Martínez, Díaz, Salazar & Duron, 2014). Maccoby and Martin (1983) add a negligent parenting style (low demand-control with low affect-communication). Other models and dimensions of parental socialization have been proposed, such as Olson's three-dimensional circumplex model (1988), with three dimensions: cohesion, flexibility and communication, which classifies families into 25 types (Rees & Valenzuela, 2003).

Despite the diversity of models, it is believed that there are two basic dimensions of educational styles (Sansinenea & Sansinenea, 2004): one related to the emotional tone of the relationship and communication (affect and communication, acceptance/rejection, warmth/coldness, affection/hostility, proximity/distance) and another with the behaviors that come into play when controlling and guiding the behavior of children (control and discipline). These practices are normally present in all families, with the use of one or the other depending on the specific situation in which it is applied, although there is usually a dominant style that is set in motion more frequently (Rodríguez & Torrente, 2003). Although autonomy increases during the transition to adolescence, parents continue to be important for adolescent development (Visser et al., 2013), with adolescents perceiving that the patterns of education their parents use are relatively stable (Rodríguez & Torrente, 2003).

Research over many decades has highlighted the importance of parenting style in the development of antisocial behaviors (Waller, Gardner & Hyde, 2013). Negative affect correlates with aggressive behavior alongside attention and behavioral problems, while an authoritarian style correlates

with depression and anxiety, criminal behavior and other internalizing problems (Rosa-Alcázar et al., 2014). Violence and neglect are two of the factors that best predict conduct disorders and antisocial behavior (Holmes, Slaughter & Kashani, 2001). Monitoring, warmth and behavioral control are associated with lower levels of behavior problems in adolescence (Trudeau, Mason, Randall, Spoth & Ralston, 2012). Affection and support alongside moderate and consistent discipline can inhibit behavior problems (Loke & Mak, 2013). In addition, affection and the feeling of family togetherness act as protective factors against many of the high-risk behaviors of adolescents (Loke & Mak, 2013). Parental monitoring is thus associated with positive effects in the use of substances by adolescents, leading to a reduction in consumption and a lower probability of having substance-using peers, while also protecting adolescents from potentially negative peer influence (Tornay et al., 2013).

The authoritative style is the one that has yielded the greatest benefits in child development (Fernández, 2009), and is recognized as the most beneficial in American society (Lidner, 2013); authoritative and authoritarian styles have acted as a protective factor there against substance use, while indulgent and negligent styles were a risk factor (Martínez, Fuentes, García & Madrid, 2013). However, in ethnic minority groups, in contexts other than the Anglo-Saxon and in families with low socio-economic status, an authoritarian parenting style based on imposition rather than parental affection seems to be a more appropriate style (Fuentes, García, García & Alarcón, 2015). In Spain, various studies associate an indulgent style, based on affect, with the best results regarding the psychosocial adjustment of children (Fuentes et al., 2015). A remarkable number of publications agree that adolescent children of indulgent parents obtain equal or better scores in different adjustment criteria than children with authoritative parents (Pérez, 2012) and that the indulgent style acts as a protection against substance use in adolescence (Martínez et al., 2013). This contrasts with studies of Spanish adolescents which find that high permissiveness is linked to alcohol consumption (Mezquita et al., 2006).

Numerous instruments have been developed to evaluate parenting styles, significant examples being: *Children's Reports of Parental Behavior Inventory* (CRPBI, Schaefer, 1965); *Family Social Climate Scale* (Moos, Moos & Trickett, 1984), *FACES III (Family Adaptability and Cohesion Evaluation Scale, third version)* (Olson, Portner & Lavee, 1985); *Parental Authority Questionnaire* (PAQ; Buri, 1991), *Alabama Child Parenting Questionnaire* (ACPQ; Shelton, Frick & Wootton, 1996), *Parental socialization scale in adolescence* (ESPA29; Musitu & García, 2001), *Parenting style scale* (Oliva, Parra, Sánchez-Quija & López, 2007) & *Perceived parental rearing style questionnaire* (EMBU; Arrindell et al., 2005). These instruments are limited in the sense that only the ESPA29 and the *Evaluation of Parenting Style Scale* have been devel-

oped in the Spanish cultural context. Additionally, these two instruments only assess the perception of the adolescent and not of the parent. This would justify the creation of an instrument assessing both perspectives in a Spanish environment.

According to Bersabé et al. (2001), the questionnaires on parental educational styles are problematic with regard to content (they assess parents' intentions or opinions rather than specific practices, or the items are formulated in a generic or third-person manner, which encourages a social desirability bias and makes them ambiguous) and methodology (many do not specify the ages of the children to which they are directed, some give no information as to their psychometric properties or the response scale used; the number of items varies greatly and is in some cases excessive; many only collect the opinion of parents and not how their educational styles are perceived by children). Moreover, given the paucity of questionnaires on educational styles in Spain, in many cases researchers have had to adapt or translate the questionnaires validated in other populations (Bersabé et al., 2001).

In clinical practice with adolescents, it is fundamental to work with parents. While the efficacy of multicomponent programs has been proven (Romero, Rodríguez, Villar & Gómez-Fraguela, 2017), in order to determine the components to be included in these programs it is necessary to know on which factors of parental socialization the intervention must focus to prevent or alleviate certain pathologies. It is thus much more functional to include interventions on concrete parenting practices than on global parenting style. However, the components of educational styles are related in different ways to different psychopathological symptoms. For example, monitoring, warmth and control have been linked to behavioral problems (Trudeau et al., 2012), while degrees of cohesion, adaptability, and family strengths and bonds, and the marital happiness of the parents, are associated with drug use (Rees & Valenzuela, 2003). For these reasons, in order to design clinical interventions, it seems more operational to use a questionnaire based on those concrete parenting practices considered by the experts to be relevant to the appearance and maintenance of these pathologies rather than one that assesses global parenting style.

In addition, the relationship of parental socialization and pathologies differs depending on the cultural context in which socialization occurs, with certain practices being more effective than others in certain contexts. For example, in ethnic minority groups, in contexts other than the Anglo-Saxon, and even in families with low socio-economic status, imposition could work better than affection, while in Spain the reverse would be true (Fuentes et al., 2015). This highlights the importance of using instruments designed for the cultural context in which they are to be used.

These reasons, together with the limitations found in the existing questionnaires, warrant the creation of our ques-

tionnaire. To this end we set ourselves the objective of designing and analyzing the psychometric properties in a community sample of a questionnaire that assesses the practices of parental socialization in a Spanish population that influence the appearance and maintenance of conduct disorders (CDs) and substance-related disorders (SRDs), taking into account both the perception of the adolescent and that of their primary caregiver. Hypothesis 1 is that the questionnaire will have a two-factor structure (affect-communication and control-discipline), with a secondary objective to verify how the factors and total scores are related to personality, psychopathology and the use of alcohol and drugs, as well as how to assess the extent to which they can differentiate adolescents with dissocial disorder or with an oppositional defiant disorder from the general population. Hypothesis 2 is that low scores in both factors and in total will be related to greater psychopathology, with the questionnaire showing evidence of convergent, discriminant and criterion validity.

Methods

Questionnaire design

The questionnaire was designed in three stages using the Delphi method (Bravo & Arrieta, 2005):

1. Preliminary phase: delimitation of context (limitations in the parenting styles scales) and objective (to design a parental socialization questionnaire relevant to the appearance and maintenance of CDs and SRDs) and selection of a group of experts both national (from Valencia and Galicia) and international (from Uruguay, Venezuela, Argentina and USA), with psychiatrists and psychologists specializing in childhood and juvenile disorders, with accredited experience in care, teaching and research from the perspective of different theoretical models (cognitive, behavioral, systemic and dynamic).
2. Exploratory phase: preparation and implementation of the surveys. Based on the main scales available on parental socialization and their own professional experience, the experts suggested those parenting practices that they considered relevant to the appearance and maintenance of CD and SRT. Initial material for analysis was prepared, consisting of a list of key concepts and definitions with which a survey was created that the experts had to complete, indicating the relevance of the concept and justifying their opinion. After several cycles of survey analysis, with feedback from the results of the previous round, the concepts to be used in the final questionnaire were obtained. It was decided that in order to evaluate these concepts, a questionnaire of ordered categories would be used, with items answered on a 5-point Likert scale from disagree completely to agree completely. Next, each of the experts proposed several items to assess each

of the concepts. The following guidelines were to be observed when preparation items: present tense, relevant, clear, one single point, direct and inverse, and avoiding the use of negation (Abad, Olea, Ponsoda & Garcia, 2011). Once this item bank for each concept was completed, the experts were again asked to select the item they considered most appropriate to assess each concept and to justify their selection. After three cycles of survey analysis, with feedback from the results of the previous round, the items to be included in the final questionnaire were obtained.

3. Final phase: based on the results obtained from the statistical analysis, the 38 main relevant concepts and the 38 most suitable items to assess them were selected, and the questionnaire was thus drawn up.

Version 1 of the questionnaire was obtained following the above procedure.

Sample

The sample consisted of 631 adolescents of both sexes attending public secondary schools in the Autonomous Community of Valencia (Spain) and their main caregivers. The adolescents were in the 3rd or 4th grade of ESO (compulsory secondary education). Inclusion criteria were: a) aged between 14 and 16, b) living in the family home, c) informed consent given by both the adolescent and the family to participate in the study. The exclusion criterion was having been adopted. Purposive convenience sampling was carried out, offering participation in the study to all 3rd and 4th grade ESO pupils attending the eleven secondary schools that took part in the study. Of the 706 adolescents thus approached, 10.62% declined to participate, and of the resulting 631 caregivers, 485 returned the completed questionnaires (23.13% dropout rate)

Instruments

- *Parental socialization questionnaire TXP version 1*: comprising 38 items evaluating 38 practices of parental socialization involved in the appearance and maintenance of CD and SRD. Designed with the Delphi method. Responses are given on 5-point Likert scales, from *disagree completely* to *agree completely*. It is believed that the higher the score on the item and the questionnaire, the less likely that CDs and SRDs will appear. Two versions were used: one for the adolescent (*TXP-A*) and another one for his/her main caregiver (*TXP-C*). The main caregiver was designated by the adolescents themselves as the person who most influenced their education and spent more time with them. Six inverse items were included in *TXP-A* (2, 15, 35, 36, 37, 38) which were recoded for correction. In *TXP-C*, five inverse items were included (2, 12, 35, 36, 37).

- Structured interview for collecting socio-familial data and family history of alcoholism, drug dependence and mental illness.
- Structured interview for the assessment of the DSM-IV-TR diagnostic criteria regarding dissocial and oppositional defiant disorders (American Psychiatric Association, 2002).
- *Clinical Analysis Questionnaire* (CAQ, Krug, 1994), which evaluates 12 clinical scales: hypochondriasis, suicidal depression, agitated depression, anxious depression, low energy depression, guilt and resentment, boredom and withdrawal, paranoia, psychopathic deviation, schizophrenia, psychastenia and psychological inadequacy. It consists of 144 items of three options. The Spanish version has a satisfactory mean alpha coefficient value and moderate discriminant validity (Forns, Amador, Abad & Martorell, 1998).
- *High school personality questionnaire* (HSPQ, Cattell & Cattell, 1981). Consisting of 140 items with three response options, it allows the measurement of 18 personality dimensions: anxiety, extraversion, excitability, independence, reserved-open, intelligence, stability, calmness-excitability, submission-dominance, enthusiasm, cheerfulness, entrepreneurial, sensitivity, self-sufficiency, serenity, sociability, integration, relaxation. The indices of internal consistency of the scales range from 0.66 and 0.86 and those of test-retest reliability from 0.69 to 0.87 (Cattell & Cattell, 1995).
- *Problem Oriented Screening Instrument for Teenagers* (POSIT, National Institute on Drug Abuse, 1991). The abbreviated version composed of 19 dichotomous response (yes/no) items, was used for the assessment of drug use/abuse. The higher the score, the fewer the problems with drugs and alcohol, using 33 as a cut-off point, with subjects considered to have significant problems with a score equal to or below 33. The Spanish version has high internal consistency (alpha = 0.82), sensitivity (94.3%) and specificity 83.9% (Araujo, Golpe, Braña, Varela & Rial, 2017).

Procedure

Authorization was obtained from the Ministry of Education of the Generalitat Valenciana and the research ethics committee of the Castellón Provincial Hospital Consortium (April 11, 2008). Declaration of Helsinki principles were observed. The schools were contacted to offer them the possibility of participating in the study. A psychologist went to those schools that agreed to collaborate and requested the voluntary and disinterested participation of adolescents and their families, who agreed to participate by signing the informed consent form.

Once participation was accepted, a psychologist carried out the assessment in two sessions. Both sessions were held during school hours, at the school, and within the pupil's

class schedule whenever possible. In the first session, the adolescent took part in an interview to obtain sociodemographic data, identify the main caregiver (the person who, according to the adolescent, had the most influence on their education and spent the most time with them) and evaluate the family background and diagnostic criteria for dissocial conduct disorder and oppositional defiant disorder. The *CAQ* and the *TXP-A* were also administered and the adolescent was given the *TXP-C* to take to the main caregiver who was to return it completed for the next session. During the second session two weeks later, the *TXP-C* was collected and the *HSPQ*, the *POSIT* and the *TXP-A* (again) were administered to the adolescent. The *TXP-C* was also provided a second time for the teenager to take home and return once completed by the primary caregiver.

Data analysis

SPSS v.20 (IBM Corp. Released, 2011) and Factor 10.5.03 (Lorenzo-Seva & Ferrando, 2006) were the programs used for factor analyses, and Jmetrik 4.0.5 (Meyer, 2014) for item analysis with classical test theory and item response theory. The descriptive analysis of the variables revealed kurtosis in the questionnaire data. The percentage of missing data was less than 5%, and these values were eliminated pairwise or listwise, depending on the procedure. Psychometric validation of the *TXP-A* was performed. The sample was randomly divided into two halves. The inverse items were recoded. To find out whether factor analysis of the questionnaire was appropriate, the Kaiser-Meyer-Olkin index (KMO) and the Bartlett sphere test were used. Exploratory factor analysis was performed on one half of the sample of version 1 of the questionnaire based on the polychoric correlations with extraction of unweighted least squares, with parallel analysis and Cattell's scree-test used as methods of factor extraction. The Promin rotation method was used. Items that saturated less than 0.35 were eliminated from the factors obtained, thus creating version 2 of the questionnaire. With the other half of the sample, a confirmatory factor analysis of version 2 was performed with the polychoric correlation matrix. Calculations were made of the RMSR index (acceptable values between 0.05 and 0.08), the goodness of fit index (GFI) (with values greater than 0.9 indicating good fit), the RMSEA index (acceptable values between 0.05 and 0.08) and the minimum fit ($p > 0.05$ indicates goodness of fit) to measure the fit of the factorial model obtained (Hair, Anderson, Tatham & Black, 1998). Items saturating less than 0.35 were eliminated from the factors obtained, leading to the creation of version 3 of the questionnaire. EFA and CFA of the *TXP-C* were performed in the same way, and version 3 of the questionnaire was obtained. In the total sample, the factorial saturations of the items in the final versions were obtained, as were the RMSR index, the GFI, the RMSEA index and the minimum fit. Item analysis was also carried out using classical test theory and item response theory, in-

cluding Rasch analysis and differential functioning using the Mantel-Haenszel procedure. The percentiles of both versions of the questionnaire were calculated. Cronbach's alpha and the greater lower bound (GLB) were used to measure score reliability. Pearson correlation coefficient was used to measure convergent and discriminant validity and interrater reliability, with the intraclass correlation coefficient used for test-retest reliability, and the Pearson correlation coefficient, t-test and ANOVA to analyze possible differential functioning. The effect size (ES) of the t-test was calculated with Cohen's d (0.2 small, 0.5 medium and 0.8 large effect) and that of ANOVA by partial squared eta (0.01 small, 0.06 medium and 0.14 large effect).

Results

Sociodemographic and psychopathological sample data

Males made up 42.8% ($n = 269$) of the sample and females 57.2% ($n = 359$). Mean age was 15.27 years ($SD = 0.70$), with an age range between 14 and 16, with 58% in the 3rd grade of compulsory secondary education (ESO) and 42% in the 4th grade. The great majority were Spanish nationals (85.1%), with 9.4% coming from other European countries, 3.6% from Central and South America, 1.3% from Africa and 0.6% had other nationalities.

Of the adolescents, 15.6% were only children, 1.9% had one sibling and 82.5% had two or more siblings. The majority (78.9%) of parents were married (including domestic partnerships), 7.1% were in second marriages, 4.7% were separated, 6.6% were divorced, 2.1% were widowed and 0.5% single. In 90.7% of cases the main caregiver was the mother, in 7.3% the father and in 2% the grandparents, uncles, the sister or partner of the father or mother took on this role.

A family history of alcoholism was found in 13.3% of cases, 8.4% adolescents had a family member with drug addiction problems and 13.9% had a family history of mental illness. Dissocial disorder criteria were met by 0.6% ($n = 4$) and oppositional defiant disorder by 0.6% ($n = 4$) of the adolescents. Table 1 shows the *CAQ* and *HSPQ* scores. The mean *POSIT* score was 36.56 ($SD = 2.07$), indicating that 7.4% ($n = 46$) of the sample had problems with drugs or alcohol.

Item analysis of version 1 (n adolescents = 316 and n caregivers = 235)

In version 1 of *TXP-A*, mean item scores ranged from 2.72 to 4.66. The descriptive item analysis can be seen in Table 2. The highest-scoring item was 37 and the lowest 35. Internal consistency of 0.89 was obtained for the total scale. The range of correlations of each of the items with the total score of the corrected scale ranged between -0.009 (item 1) and 0.71 (items 17 and 18).

Mean item scores in version 1 of *TXP-C* ranged from 2.17 to 4.97. The descriptive item analysis is also shown in Table 2. The item that scored highest was 24 and the one with the lowest score was 35. Internal consistency of 0.80 was obtained for the total scale. The range of correlations of each of the items with the total score of the corrected scale ranged from -0.17 (item 12) to 0.63 (item 17).

Exploratory factor analysis of TXP-A version 1 (n = 316)

The KMO index was 0.90 and Bartlett’s sphericity test (703) = 4367.009; p < 0.001. The parallel analysis and Cattell’s scree-test indicated a two-factor structure. Both factors presented a correlation of 0.74. Items 3, 11, 15, 16, 32 and 36 were eliminated due to saturations below 0.35, resulting in version 2 with 32 items. Table 2 shows the factor saturations of each item.

Confirmatory factor analysis of TXP-A version 2 (n = 315)

The KMO index was 0.90 and Bartlett’s sphericity test (496) = 3842.3; p < 0.001. Items 7, 10 and 31 were eliminated due to saturations of below 0.35, resulting in version 3 with 29 items. The eigenvalue for factor 1 was 11.42 and the percentage of variance explained 35.6%; for factor 2, the eigenvalue was 2.65 and the percentage of variance explained 8.3%. The total variance explained was 43.9%. The correlation between both factors was 0.72. The RMSR was 0.05, the GFI 0.97, the RMSEA 0.03 and the minimum

adjustment (433) = 546331 (p < 0.001). Table 2 shows the factor saturations of each item.

Exploratory factor analysis of TXP-C version 1 (n = 235)

The KMO index was 0.79 and Bartlett’s sphericity test (703) = 2475.547; p < 0.001. The parallel analysis and Cattell’s scree-test indicated a two-factor structure. With saturations below 0.35, items 1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 15, 18, 19, 20, 30, 31, 33, 35, 36, 37, and 38 were eliminated, resulting in version 2 with 17 items. Table 2 shows the factor saturations of each item.

Confirmatory factor analysis of TXP-C version 2 (n = 250)

The KMO index was 0.89 and Bartlett’s sphericity test (136) = 1611.0; p < 0.001. Item 16 was eliminated due to saturation below 0.35, resulting in version 3 with 16 items. The eigenvalue for factor 1 was 6.65 and the percentage of variance explained 39.1%; for factor 2, the eigenvalue was 1.66 and the percentage of variance explained 9.7%. The total variance explained was 48.9%. The correlation between both factors was 0.67. The RMSR was 0.06, the GFI 0.98, the RMSEA 0.05 and the minimum adjustment (103) = 112812 (p < 0.23). Table 2 shows the factor saturations of each item.

Item analysis of version 3 (n adolescents = 631 and n caregivers = 485)

Table 3 shows the results of the item analysis and the factor saturations of *TXP-A* version 3. For factor 1, the eigen-

Table 1. Mean scores of adolescents on the Krug Clinical Analysis Questionnaire (CAQ) and the Cattell and Cattell High School Personality Questionnaire (HSPQ).

Clinical Analysis Questionnaire CAQ		Adolescent Personality Questionnaire HSPQ	
Dimension	Mean (SD)	Dimension	Mean (SD)
Hypochondriasis	5.78 (1.81)	Anxiety	1.55 (2.90)
Suicidal depression	5.89 (1.73)	Extraversion	7.04 (2.93)
Agitated depression	5.92 (1.84)	Excitability	11.43 (2.18)
Anxious depression	5.69 (1.76)	Independence	7.03 (2.93)
Low energy depression	5.78 (1.92)	Reserved-open	5.86 (1.84)
Guilt-resentment	5.15 (1.95)	Intelligence	4.36 (1.92)
Boredom-withdrawal	5.23 (1.84)	Stability	6.23 (2.00)
Paranoia	5.86 (1.81)	Calmness-excitability	4.61 (1.77)
Psychopathic deviation	5.75 (1.78)	Submission-dominance	6.48 (1.74)
Schizophrenia	5.35 (1.77)	Enthusiasm	5.37 (1.89)
Psychasthenia	4.97 (1.91)	Cheerfulness	5.56 (1.77)
Psychological inadequacy	5.17 (1.82)	Entrepreneurial	6.51 (1.77)
		Sensitivity	5.83 (1.75)
		Self-sufficiency	6.26 (1.71)
		Serenity	4.68 (1.90)
		Sociability	5.83 (1.84)
		Integration	5.94 (1.94)
		Relaxation	4.31 (1.77)

Table 2. *Item analysis and factor saturation in exploratory factor analysis of version 1 and factor saturation in confirmatory factor analysis of version 2 of the questionnaire for adolescents and caregivers.*

ÍTEM	ADOLESCENTS					CAREGIVERS				
	M	SD	RC	FSE (n=316)	FSC (n=315)	M	SD	RC	FSE (n=235)	FSC (n=250)
1. In my family my parents clearly impose everybody's functions and roles without allowing changes/In our family, we parents clearly impose everybody's functions and roles without allowing changes.	3.13	1.14	-0.009	F1=0.72	F2=0.86	3.01	1.27	-0.04	F2=0.03	E
2. Without resorting to physical punishment, my parents often punish me/Without resorting to physical punishment, I often apply punishments to modify my child's behavior.	3.45 (I)	1.30	0.14	F2=0.85	F1=0.61	2.84 (I)	1.47	0.07	F1=0.07	E
3. My parents know and control all my activities and friendships/I usually know and control all my son's activities and friendships.	3.25	1.29	0.23	F1=0.33	E	4.06	1.00	0.13	F2=0.03	E
4. My parents let me participate in the making of rules/ My children participate in drawing up family rules.	3.44	1.19	0.34	F2=0.62	F1=0.44	3.83	1.18	0.24	F1=0.13	E
5. In my family we all feel very close and we stay together and faithful to each other.	4.07	1.05	0.63	F2=0.56	F1=0.63	4.48	0.83	0.55	F1=0.66	F2=0,77
6. I believe that my parents are approachable and willing to help/I believe that in our family we are approachable and available for one another.	4.42	0.87	0.57	F2=0.54	F1=0.53	4.59	0.78	0.52	F1=0.59	F2=0,51
7. In my family we often carry out tasks and activities together.	3.36	1.13	0.53	F1=0.35	F1=0.34	4.03	1.07	0.42	F1=0.34	E
8. In our family the roles, tasks and responsibilities of parents and children, are clearly differentiated and boundaries between them are maintained.	3.46	1.13	0.08	F1=0.65	F2=0.71	3.79	1.15	0.22	F2=0.11	E
9. In my house the rules are usually observed, and if not, my parents apply corrective measures/In our house the rules are usually observed, and if not, we parents apply corrective measures	3.62	1.09	0.23	F1=1.009	F2=0.97	3.78	1.20	0.22	F2=0.12	E
10. Although in our family we talk about things that happen to us, I can decide what to do for myself/I think that my family members are self-confident, self-sufficient and make their own decisions.	3.78	1.12	0.31	F2=0.37	F2=0.18	3.96	1.06	0.26	F2=0.20	E
11. My family has taught me that I can trust others: the world is a safe place/We transmit to our children that they can trust others: the world is a safe place.	2.81	1.11	0.16	F2=0.23	E	2.83	1.29	0.23	F1=0.07	E
12. My parents favor relationships with other people outside the family, encourage me to do activities outside the home and accept that I bring friends home./We like to be together more than with people from outside the family.	4.26	0.94	0.47	F2=0.62	F1=0.51	2.58 (I)	1.26	-0.17	F2=0.01	E
13. In my family we attach importance to social values such as respect, solidarity, tolerance, etc./We educate our children with values such as respect, solidarity, tolerance, etc.	4.40	0.86	0.51	F1=0.51	F2=0.37	4.81	0.57	0.26	F2=0.58	F1=0,67
14. My parents fulfill their role as parents and feel comfortable doing it/We are happy to be parents and to take on this role.	4.55	0.75	0.57	F2=0.48	F2=0.50	4.68	0.60	0.45	F1=0.40	F1=0,44
15. My parents continue to treat me as they did when I was a child./As the family and circumstances change, I change my relationship with the children and adapt to the changes.	3.58 (I)	1.30	0.17	F2=0.16	E	4.40	0.81	0.40	F2=0.28	E
16. In my family, we express our emotions often and with intensity.	3.32	1.04	0.43	F1=0.32	E	4.16	0.99	0.38	F2=0.45	F1=0,31
17. In our home we have a friendly atmosphere, full of warmth and positivity.	4.03	1.03	0.71	F2=0.66	F1=0.62	4.42	0.82	0.63	F1=0.77	F2=0,81
18. In my family we understand each other/As parents we try to understand our children.	3.77	1.09	0.71	F2=0.63	F1=0.72	4.82	0.52	0.40	F1=0.33	E
19. I have been taught to take responsibility for my actions and their consequences/In our family we each take responsibility for our actions and their consequences.	4.55	0.60	0.31	F1= 0.55	F2=0.51	4.30	0.87	0.23	F2=0.21	E

Creation of the TXP parenting questionnaire and study of its psychometric properties

20. My parents support me emotionally/When I have a problem, I can get emotional support from my children.	4.26	0.92	0.68	F2=0.60	F1=0.70	3.30	1.36	0.14	F2=0.09	E
21. In my family we know how to resolve problems without too much tension.	3.37	1.13	0.61	F2=0.63	F1=0.47	3.57	1.13	0.47	F1=0.56	F2=0,73
22. In my family we can talk about all our feelings without any problems: happiness, sadness, affection, fear, anger, etc.	4.00	1.05	0.62	F2=: 0.49	F1=0.50	4.55	0.73	0.32	F2=0.64	F1=0,38
23. In my family, we express ourselves and understand each other very well.	3.77	1.04	0.64	F2=0.54	F1=0.55	4.24	0.91	0.62	F1=0.65	F2=0,80
24. I feel important to and valued by my parents/I value my children as an important part of the family.	4.31	0.96	0.65	F2=0.78	F1=0.69	4.97	0.25	0.23	F2=0.68	F1=1,01
25. In my family I am treated with affection/In our family, we usually treat each other with affection.	4.56	0.75	0.68	F2=0.88	F1=0.77	4.67	0.69	0.60	F1=0.56	F2=0,63
26. My parents (or those responsible for my upbringing at home) agree on the way to bring me up/My partner and I agree and act together, without contradicting each other, in the tasks of parenting and raising the children (in case you share this with someone who is not your partner, refer to him/her).	4.42	0.75	0.46	F1=0.37	F2=0.53	3.90	1.12	0.39	F1=0.56	F2=0,65
27. My parents allow me, teach and encourage me to relate to my friends and other people/I teach and encourage my children to relate to people in an appropriate way.	4.48	0.76	0.52	F2=0.64	F1=0.44	4.85	0.43	0.31	F2=0.88	F1=0,76
28. My parents respect my rights and my privacy/In my family we respect each other and we take into account the privacy and individuality of each one of us.	4.14	0.97	0.51	F2=0.64	F1=0.73	4.57	0.73	0.47	F1=0.51	F2=0,48
29. In my family, I am treated justly and fairly/ In my family, we treat each other justly and fairly.	4.09	0.95	0.64	F2=0.59	F1=0.65	4.40	0.80	0.50	F1=0.56	F2=0,48
30. In my family the rules are clear: my actions always have the same consequences/In our family, discipline is clear: an action always has the same consequences.	3.49	1.08	0.10	F1=0.69	F2=0.78	3.39	1.23	0.17	F2=0.11	E
31. My parents congratulate me or reward me if I behave well/I reinforce the good behavior of my child with praise, expressions of support or material rewards.	3.48	1.30	0.37	F1=0.36	F1=0.24	4.16	1.00	0.22	F2=0.22	E
32. My parents, as educators, maintain a satisfactory relationship between them based on affection, respect and support/As educators, our partner relationship is satisfactory and based on affection, respect and support (mark "Not applicable" in the absence of a partner).	4.25	1.02	0.35	F2=0.30	E	4.60	0.74	0.40	F1=0.62	F2=0,44
33. In my family we have clear rules regarding how the family functions that we all know and understand.	3.90	0.94	0.49	F1=0.81	F2=0.74	4.29	0.86	0.50	F1=0.32	E
34. I have fun and enjoy being with my family/In my family we have fun and enjoy being together.	4.12	0.96	0.67	F2=0.55	F1=0.72	4.47	0.71	0.51	F1=0.74	F2=0,70
35. My parents usually tell me what they don't like about me and criticize what I do/I usually tell my children what I don't like about them and criticize what they do.	2.72 (I)	1.25	0.08	F2=0.46	F1=0.39	2.17 (I)	1.28	0.13	F1=0.04	E
36. My parents protect me too much/I predict and solve my children's problems to avoid their suffering and protect them from going through difficulties.	2.74 (I)	1.24	0.04	F2=0.21	E	2.44 (I)	1.38	0.08	F1=0.05	E
37. My parents usually hit me when I behave badly/ When my children do something bad, I usually give them a slap or similar.	4.66 (I)	0.77	0.18	F2=0.49	F1=0.61	4.24 (I)	1.16	0.21	F1=0.13	E
38. I feel isolated and outside my family/No family member is isolated from the rest because we are all involved with and relate to each other.	4.58 (I)	0.93	0.37	F2=0.48	F1=0.71	4.62	0.78	0.36	F1=0.27	E

Note. M: mean; SD: standard deviation; RC: reliability coefficient (correlation of each scale item with the corrected scale score); I: inverse item with recoded score; FSE: factor saturation in the exploratory factor analysis of version 1; FSC: factor saturation in the confirmatory factor analysis of version 2; F1: item saturates in factor 1; F2: item saturates in factor 2; E: item eliminated in exploratory factor analysis

Table 3. Item analysis, factor saturations and correlation with the corrected scale of version 3 of the questionnaire for adolescents ($n = 631$) and the questionnaire for caregivers ($n = 485$).

QUESTIONNAIRE	ITEM	M	SD	DI	RC	FS	CI(95%)FS	WMS	UMS	
QUESTIONNAIRE FOR ADOLESCENTS VERSION 3	1	3.09	1.15	0.04	0.04	F2=0.81	0.68-0.96	1.54	1.73	
	2	3.50	1.28	0.12	0.12	F1=0.73	0.64-0.87	1.77	1.96	
	4	3.41	1.19	0.29	0.29	F1=0.53	0.38-0.67	1.27	1.43	
	5	4.06	1.07	0.63	0.63	F1=0.58	0.45-0.68	0.89	0.83	
	6	4.41	0.87	0.54	0.54	F1=0.51	0.38-0.63	1.01	0.95	
	8	3.39	1.14	0.11	0.11	F2=0.70	0.59-0.84	1.42	1.54	
	9	3.53	1.15	0.24	0.24	F2=0.99	0.90-1.11	1.29	1.35	
	12	4.25	0.99	0.46	0.46	F1=0.52	0.36-0.67	1.14	1.11	
	13	4.41	0.82	0.49	0.49	F2=0.46	0.31-0.59	0.97	0.88	
	14	4.52	0.75	0.58	0.58	F2=0.40	0.27-0.52	0.85	0.76	
	17	4.01	1.01	0.69	0.69	F1=0.63	0.50-0.73	0.67	0.67	
	18	3.80	1.05	0.67	0.67	F1=0.66	0.56-0.78	0.65	0.66	
	19	4.51	0.68	0.36	0.36	F2=0.59	0.45-0.74	0.94	0.91	
	20	4.20	0.92	0.65	0.65	F1=0.62	0.52-0.71	0.74	0.68	
	21	3.32	1.14	0.62	0.62	F1=0.51	0.40-0.63	0.69	0.69	
	22	3.96	1.09	0.61	0.61	F1=0.46	0.35-0.55	0.88	0.84	
	23	3.79	1.03	0.63	0.63	F1=0.52	0.37-0.62	0.68	0.68	
	24	4.35	0.93	0.62	0.62	F1=0.72	0.61-0.82	0.94	0.80	
	25	4.54	0.75	0.66	0.66	F1=0.80	0.69-0.90	0.81	0.66	
	26	4.41	0.77	0.52	0.53	F2=0.52	0.37-0.63	0.81	0.81	
	27	4.47	1.77	0.57	0.57	F1=0.48	0.35-0.65	0.84	0.73	
	28	4.09	1.02	0.51	0.51	F1=0.64	0.52-0.77	1.00	0.92	
	29	4.10	0.92	0.66	0.66	F1=0.59	0.48-0.67	0.62	0.61	
	30	3.50	1.04	0.15	0.16	F2=0.72	0.57-0.86	1.24	1.37	
	33	3.87	0.95	0.50	0.50	F2=0.79	0.69-0.90	0.77	0.76	
	34	4.12	0.94	0.65	0.65	F1=0.62	0.51-0.72	0.68	0.75	
	35	2.76	1.25	0.11	0.11	F1=0.40	0.27-0.55	1.63	1.78	
	37	4.65	0.77	0.27	0.27	F1=0.53	0.37-0.68	1.68	1.58	
	38	4.58	0.93	0.47	0.47	F1=0.58	0.41-0.72	1.73	1.59	
	QUESTIONNAIRE FOR CAREGIVERS VERSION 3	5	4.44	0.85	0.59	0.63	F2=0.67	0.42-0.87	0.89	0.80
		6	4.61	0.78	0.54	0.56	F2=0.57	0.37-0.78	1.29	0.99
		13	4.82	0.57	0.29	0.27	F1=0.81	0.63-1.17	1.82	1.61
		14	4.72	0.63	0.48	0.49	F2=0.41	0.15-0.68	1.20	1.06
		17	4.44	0.85	0.70	0.71	F2=0.77	0.61-0.95	0.72	0.67
		21	3.59	1.14	0.51	0.52	F2=0.76	0.59-0.97	1.07	1.14
		22	4.53	0.76	0.39	0.34	F1=0.73	0.45-1.007	1.30	1.56
		23	4.23	0.91	0.59	0.63	F2=0.72	0.57-0.87	0.83	0.85
		24	4.96	0.25	0.40	0.41	F1=0.87	0.66-1.05	1.01	0.43
25		4.62	0.69	0.60	0.65	F2=0.59	0.43-0.74	0.91	0.80	
26		3.97	1.30	0.47	0.49	F2=0.85	0.60-1.18	1.34	1.33	
27		4.86	0.43	0.45	0.44	F1=0.88	0.68-1.15	1.07	0.80	
28		4.57	0.73	0.52	0.55	F2=0.64	0.38-0.83	1.06	0.99	
29		4.45	0.80	0.58	0.59	F2=0.63	0.48-0.84	0.89	0.85	
32		4.61	1.48	0.28	0.46	F2=0.75	0.52-1.002	1.45	1.38	
34		4.48	0.71	0.61	0.64	F2=0.77	0.65-0.94	0.70	0.79	

Note. M: Mean; DT: Standard deviation; DI: Discrimination index; RC: reliability coefficient (correlation of each scale item with the corrected scale score); FS: factor saturation in the confirmatory factor analysis of version 3; F1: item saturates in factor 1; F2: item saturates in factor 2; CSI(95%)SF: 95% confidence interval in factor saturation; WMS: Weighted mean squared residual (*Infit*); UMS: Unweighted mean squared residual (*Outfit*).

value was 10.83 and the percentage of variance explained 37.3%; for factor 2, the eigenvalue was 2.63 and the percentage of variance explained 9.09%. The total explained variance was 46.4%. The correlation between both factors was 0.73. The RMSR was 0.04, the GFI 0.98, the RMSEA 0.03 and the minimum adjustment $(349) = 608468$ ($p < 0.001$).

Table 3 shows the results of the item analysis and the factor saturations of TXP-C version 3. For factor 1, the eigenvalue was 8.07 and the percentage of variance explained 50.4%; for factor 2, the eigenvalue was 1.60 and the percentage of variance explained 10.04%. The total variance explained was 60.4%. The correlation between both factors was 0.71. The RMSR was 0.05, the GFI 0.98, the RMSEA > 0.1 and the minimum adjustment $(89) = 170783$ ($p < 0.001$).

This third version was accepted as the final version of the questionnaire. The final version of TXP-A comprises 29 items. In factor 1, 20 items saturate: 2, 4, 5, 6, 12, 17, 18, 20, 21, 22, 23, 24, 25, 27, 28, 29, 34, 35, 37 and 38. Nine items saturate in factor 2: 1, 8, 9, 13, 14, 19, 26, 30 and 33. The final version of TXP-C comprises 16 items. In factor 1, 4 items saturate: 13, 22, 24 and 27, while twelve items saturate in factor 2: 5, 6, 14, 17, 21, 23, 25, 26, 28, 29, 32 and 34.

Questionnaire scores

The mean score for TXP-A was 80.45 (SD = 11.84) in factor 1, with 35.28 (SD = 4.79) in factor 2 and 115.74 (SD = 14.42) in the total. The mean score for TXP-C was 19.14 (SD = 1.40) in factor 1, with 52.79 (SD = 6.66) in factor 2 and 71.97 (SD = 7.38) in the total. The percentiles of adolescents and caregivers can be seen in Table 4.

Score reliability

The TXP-A questionnaire has a GLB of 0.97 and Cronbach's alpha of 0.89, factor 1 of 0.89 and factor 2 of 0.71. TXP-C has a GLB of 0.97, Cronbach's alpha of 0.87, factor 1 of 0.58 and factor 2 of 0.87.

Interrater reliability (correlations between scores of adolescents and their caregivers) can be seen in Table 5.

The test-retest reliability (intraclass correlation coefficient) of the TXP-A was 0.94 ($p < 0.001$) and that of the TXP-C 0.94 ($p < 0.001$).

Proof of convergent and discriminant validity

Regarding the psychopathological variables, Tables 6 and 7 show the multiple significant correlations found between the total scores and the two factors, both TXP-A and TXP-C, along with the CAQ and HSPQ scores.

Table 4. Percentiles of factor 1 and 2 scores and total score of parental socialization questionnaire for adolescents and caregivers.

PERCENTILE	ADOLESCENTS			CAREGIVERS		
	FACTOR 1	FACTOR 2	TOTAL	FACTOR 1	FACTOR 2	TOTAL
1	42.96	23.32	68.32	14	32	49.43
5	59	27	90	16	40	57
10	64.2	29	96	18	43.3	62
15	69	30	100.8	18	47	65
20	72	31	106	18	48	67
25	74	32	109	19	50	68
30	76	33	111	19	51	70
35	78	34	113	19	52	71
40	80	34	114	19	53	72
45	81	35	116	20	54	73
50	82	36	118	20	55	74
55	84	36	119.6	20	55	75
60	85	37	121	20	56	76
65	87	37	123	20	57	76
70	88	38	125	20	57	77
75	89	39	126	20	58	77
80	90	40	128	20	58	78
85	92	40	130	20	59	78
90	94	42	133	20	59	79
95	95	43	135	20	60	80
99	98	45	138	20	60	80

Table 5. Correlations between the scores of adolescents and their caregivers on the parental socialization questionnaire.

		ADOLESCENT		
		Total score	Factor 1	Factor 2
CAREGIVER	Total score	0.398**	0.384**	0.242**
	Factor 1	0.226**	<u>0.185**</u>	<u>0.221**</u>
	Factor 2	0.399**	0.391**	<u>0.228**</u>

Note. **p < 0.01. In bold: interrater reliability. Underlined: multitrait-multimethod matrix values.

In terms of substance use, the correlation of POSIT with TXP-A was $r = 0.275$ ($p < 0.001$) with factor 1, $r = 0.140$ ($p < 0.001$) with factor 2 and $r = 0.273$ ($p < 0.001$) with the total score. There are differences in factor 1 ($t = 5.104$, $p < 0.001$, $ES = 0.70$), 2 ($t = 2.541$, $p = 0.011$, $ES = 0.37$) and total score ($t = 5.046$, $p < 0.001$, $ES = 0.70$) between subjects presenting problems with drugs or alcohol (Factor 1 = 72.21, $SD = 14.03$, Factor 2 = 33.54, $SD = 5.29$, Total = 105.76, $SD = 16.99$) and those without (Factor 1 = 81.19,

Table 6. Correlations between factors 1 and 2 and the total scores on the parental socialization questionnaire TXP and the Krug Clinical Analysis Questionnaire (CAQ).

CAQ Dimensions	ADOLESCENTS			CAREGIVERS		
	F1	F2	TOTAL	F1	F2	TOTAL
Hypochondriasis	-.396**	-.209**	-.395**	-.078	-.133**	-.127**
Suicidal depression	-.407**	-.248**	-.417**	-.107*	-.155**	-.156**
Agitated depression	-.131**	-.061	-.128**	-.050	-.127**	-.128**
Anxious depression	-.168**	-.145**	-.186**	-.059	.036	.027
Low energy depression	-.371**	-.175**	-.363**	-.091*	-.124**	-.123*
Guilt-resentment	-.272**	-.184**	-.285**	-.011	-.046	-.036
Boredom-withdrawal	-.307**	-.261**	-.339**	-.117*	-.150**	-.154**
Paranoia	-.409**	-.201**	-.403**	-.043	-.125**	-.116*
Psychopathic deviation	-.004	-.019	-.009	-.040	-.052	-.058
Schizophrenia	-.390**	-.200**	-.387**	-.073	-.091	-.089
Psychasthenia	-.133**	-.076	-.135**	-.056	.077	.055
Psychological inadequacy	-.382**	-.237**	-.393**	-.070	-.071	-.070

Note. *p < 0.05 **p < 0.01

Table 7. Correlations between factors 1 and 2 and the total scores on the parental socialization questionnaire TXP and the Cattell and Cattell adolescent personality questionnaire (HSPQ).

HSPQ Dimensions	ADOLESCENTS			CAREGIVERS		
	F1	F2	TOTAL	F1	F2	TOTAL
Anxiety	-.430**	-.216**	-.427**	-.009	-.147**	-.134**
Extraversion	.087*	.084*	.100*	.029	-.039	-.037
Excitability	-.103*	-.019	-.092*	.092*	.008	.022
Independence	-.166**	-.058	-.156**	-.080	-.135**	-.133**
Reserved-open	.099*	.102*	.115**	.038	.046	.045
Intelligence	.023	.041	.032	-.097*	.041	.015
Stability	.345**	.180**	.344**	.021	.096*	.092
Calmness-excitability	-.240**	-.074	-.222**	-.016	-.088	-.082
Submission-dominance	-.087*	-.055	-.090*	-.129*	-.112*	-.122*
Enthusiasm	-.229**	-.098*	-.221**	.053	-.163**	-.140**
Cheerfulness	.359**	.179**	.356**	.012	.187**	.178**
Entrepreneurial	.123**	.078	.128**	-.031	-.014	-.022
Sensitivity	.186**	.122**	.194**	.080	.161**	.161**
Self-sufficiency	-.126**	-.078	-.130**	.018	.022	.026
Serenity	-.222**	-.121**	-.223**	.004	.006	.011
Sociability	-.030	-.053	-.043	-.028	.021	.019
Integration	.282**	.145**	.281**	.069	.131**	.127**
Relaxation	-.229**	-.137**	-.234**	.030	-.030	-.024

Note. *p < 0.05 **p < 0.01

SD = 11.25, Factor 2 = 35.40, SD = 4.73, Total = 116.59, SD = 13.75).

The correlation of the *POSIT* with *TXP-C* was $r = -0.010$ ($p = 0.830$) with factor 1, $r = -0.127$ ($p = 0.008$) with factor 2 and $r = 0.116$ ($p = 0.015$) with the total score. However, there are no significant differences between those with alcohol and drug problems and those without.

As far as behavioral problems are concerned, *TXP-A* yields differences in the factor 1 scores ($t = 4.084$, $p < 0.001$, $ES = 2.27$) and total ($t = 3.259$, $p = 0.001$, $ES = 1.55$) among the subjects who have a dissocial disorder (Factor 1 = 57, SD = 9.05, Total = 92.75, SD = 15.52) and those who do not (Factor 1 = 80.66, SD = 11.56, Total = 115.93, SD = 14.17). Furthermore, there are correlations of factor 1 ($r = -0.180$, $p < 0.001$) and the total score ($r = -0.141$, $p < 0.001$) with the number of criteria for dissocial disorder, and of factor 1 ($r = -0.149$; $p < 0.001$) and the total score ($r = -0.119$; $p = 0.003$) with the severity of dissocial disorder. There are no differences in the scores according to the presence of oppositional defiant disorder, although there was a correlation between the number of criteria of oppositional defiant disorder and factor 1 ($r = -0.237$, $p < 0.001$), 2 ($r = -0.151$, $p < 0.001$) and total score ($r = -0.245$, $p < 0.001$).

In *TXP-C*, there are differences in factor 2 ($t = 2.820$, $p = 0.005$, $ES = 1.49$) and the total score ($t = 2.586$, $p = 0.010$, $ES = 1.44$) among the caregivers of adolescents with dissocial disorder (Factor 2 = 42, SD = 7.81, Total = 61, SD = 7.93) and those without (Factor 2 = 52.84, SD = 6.62, Total = 72.02, SD = 7.36). In addition, there are correlations of factor 2 ($r = -0.127$, $p = 0.008$) and total score ($r = -0.121$, $p = 0.011$) with the number of criteria for dissocial disorder, and of factor 2 ($r = -0.114$, $p = 0.017$) and the total score ($r = -0.108$, $p = 0.024$) with the severity of dissocial disorder. There are no differences according to the presence of oppositional defiant disorder.

Differential functioning of the questionnaire

In *TXP-A* there is significant correlation of family history of alcoholism with factor 2 ($r = -0.088$, $p = 0.028$) and the total score ($r = -0.085$, $p = 0.034$), and family history of drug addiction with factor 1 ($r = -0.133$; $p = 0.001$) and the total score ($r = -0.127$, $p = 0.002$).

There are differences in the scores of factor 1 ($F = 3.121$, $p = 0.009$, $ES = 0.025$) and the total ($F = 2.706$, $p = 0.020$, $ES = 0.022$) according to the number of siblings. Only children score higher in factor 1 than those with three siblings and only children and those with two siblings have a higher total score than those with three siblings.

There are no differences in the *TXP-A* scores according to sex, the school year of the adolescents, their nationality and kinship with the main caregiver. Regarding sex, all the items are class AA (little or no differential functioning) except 5 and 9, which are BB (moderate differential functioning slightly favoring males).

In *TXP-C* there is significant correlation of family history of alcoholism with factor 2 ($r = -0.131$, $p = 0.006$) and the total score ($r = -0.125$, $p = 0.009$).

There are differences in factor 2 ($F = 3.721$, $p = 0.003$, $ES = 0.041$) and total score ($F = 3.809$, $p = 0.002$, $ES = 0.042$) according to the number of siblings. Only children score higher than those with three siblings in factor 2 and total score.

There are no differences in *TXP-C* according to the sex of the caregiver or adolescent, the school year of the adolescents, their nationality nor the kinship between them. In terms of sex, all items are AA class (little or no differential functioning).

Discussion

The final version of the *parental socialization questionnaire TXP-A* comprises 29 items while *TXP-C* comprises 16 items. Two versions were created because parental practices are defined from a bidirectional perspective as a set of attitudes and global trends in parental behavior that determine interaction with children and have a clear effect on child development (Escribano, Aniorte & Orgilés, 2013). From this perspective, we need to know not only how parents perceive their own parental practices, but also how the children view their parents. This information allows us to understand current parental practices from different perspectives and is a prerequisite for developing any intervention program (Escribano et al., 2013).

It seems that the child's perception of his/her parents' behavior may be more related to his/her adjustment than the parents' behavior itself, whether actual (Schaefer, 1965) or reported (González & Landero, 2012), and that the correlation with an external observer is greater in the case of the self-reports of adolescents than with the self-reports of parents (Iglesias & Romero, 2009). There is also evidence that children display lower social desirability bias than parents (García & Gracia, 2010). However, by relying on information from adolescents on parenting styles, it is difficult to assess whether parents truly use each style as the adolescents report they do (Trinkner, Cohn, Rebellon & Van Gundy, 2012). Therefore, it is useful to include both adolescents' perceptions of parenting style and reports from parents about their own behavior (Trinkner et al., 2012).

As supposed in hypothesis 1, a two-factor structure is confirmed in both versions of the questionnaire. In *TXP-A*, factor 1 would be labeled as affect and communication (with affective and communicative variables, and low use of punishment and criticism) and factor 2 as control and structure (with roles, discipline, rules and limits). This two-factor structure coincides with the two basic dimensions found in most studies: emotional tone-communication and control-discipline (Sansinenea & Sansinenea, 2004). In our study, however, factor 2 would be broader

than the control-discipline dimension, since it would also encompass aspects referring to another factor frequently found in the literature: the family structure, the degree to which parents provide their children with a predictable, organized and consistent environment (Power, 2013). In this sense, relationships of affection and open communication are usually believed to facilitate the establishment of a regime with clear and well-structured rules (García & Gracia, 2010).

Moreover, because the use of punishment and criticism does not saturate with the other variables related to control, it is included in the affect-communication factor, perhaps reflecting the distinction found in other studies between authoritarian control (highly directive and often critical parental behavior) and democratic control (forms of control that promote autonomy), with warmth being low in the first and high in the second (Power, 2013). It has been found that families with lower levels of communication tend to use more coercion and physical punishment (Ramírez, 2005), and the affect factor usually includes parental acceptance (García & Gracia, 2010), which in our case would be reflected in low use of criticism.

Although both versions have a two-factor structure, only one of the factors is the same in both, while the composition of the other factor differs in *TXP-C*, thereby contrasting with our hypothesis 1 assumptions. Thus factor 2 would correspond, albeit with fewer items, to factor 1 of *TXP-A*, also labeled as affection and communication but excluding punishment and criticism. Furthermore, factor 1 of *TXP-C*, composed of only four items, does not correspond to the factor of control and structure, but would have the label prosocial values (education in values, expression of feelings, promotion of family and social relationships). The correlations show that the affect and communication factors of both questionnaires are the most closely related to each other, while the prosocial value factor of *TXP-C* is more closely related to the control and structure factor of *TXP-A*. It is rather striking that items reflecting discipline practices and the establishment of norms and limits are not included in *TXP-C*, with the closest to these dimensions being education in prosocial values. This could reflect the tendency that appears to exist Spain towards the use of a more permissive or forgiving parenting style (Fuentes et al., 2015), or that caregivers are affected more by social desirability when they talk about control and structure than when talking about affection and communication; thus making these items less reliable and coherent and more subject to social desirability when caregivers respond to them than when adolescents do (Oudhof, Rodríguez & Robles, 2012).

In addition to one of the factors differing in both questionnaires, *TXP-A* also includes many more items than *TXP-C*. Instead of eliminating those items not found in both versions or the two factors that do not match so that the

two versions are identical, which would artificially inflate interrater reliability, we have chosen to keep them, since we believe that they can reflect real differences in the perception of parental socialization by parents and children, given the finding that the level of agreement between informants with the same role is greater than between those with different roles (Molinuevo, Pardo & Torrubia, 2011), and that parents and children have different perspectives on their relationships and behaviors (Rebholz et al., 2014). Indeed, there are authors who consider that these discrepancies provide important information about parent-child relationships and can directly affect the adjustment of the adolescent (Reidler & Swenson, 2012). Conversely, other authors choose to force the parallelism between both versions to allow comparisons between informants, while warning that this may suppose a loss of exploratory power (Molinuevo et al., 2011). Subsequent studies may evaluate whether maintaining these items and different factors provides relevant information for the development of CD and SRD.

Item analysis shows that all means except one are greater than 3, which indicates that they are 'easy' items, with the majority of the sample scoring high on them. This is logical given that ours is a general population with a low frequency of psychopathology. We consider that this will allow better discrimination between subjects without pathology and those who present SRD and CD when the questionnaire is applied to clinical samples. Most of the discrimination indices are greater than 0.25. It was decided to keep the six *TXP-A* items with the lowest discrimination index because they also have lower means than most items (indicating "worse" socialization), leading us to believe that while they may not discriminate well in the general population, they may do so in a clinical population. The means of the weighted and unweighted squared residuals are all less than 2 and greater than 0.5. In both versions, most items yield the recommended values of greater than 0.5 and below 1.2 (Wright, Linacre, Gustafson & Martin-Löf, 1994).

Regarding the psychometric characteristics of the questionnaire, the fit indices in *TXP-A* were satisfactory except for the minimum fit. However, we consider that the fit can be considered good since this index is very sensitive to the presence of kurtosis and also matches with the null hypothesis that the data fit the model 'perfectly', which is quite unlikely and makes this test very restrictive (Diamantopoulos and Siguaw, 2000). Although the RMSR and the GFI in *TXP-C* show good fit and the minimum adjustment can be justified by the above, the RMSEA is not satisfactory, and so adjustment to the data appears moderate. The percentages of total variance explained in both versions were similar to those found for the *ACPQ* in the Spanish population (Escribano et al., 2013). In both versions the questionnaire features high internal reliability and excellent test-retest reliability. The lowest internal reliability is yielded by the prosocial values factor of *TXP-C*, although it is similar to

that found in some *ACPQ* factors (Escribano et al., 2013). This lower internal reliability may be due to the low number of factor saturating items or, as mentioned previously, that the information from children regarding their perception of parenting habits is more reliable, coherent and less subject to social desirability than that provided by their parents (Oudhof et al., 2012).

While interrater reliability is low, it is similar to that found in other studies (Escribano et al., 2013). However, we believe that this low concordance between the perception of adolescents and that of their caregivers is not due to the quality of the questionnaire but to the real differences between parents and children when reporting parental socialization, as also revealed in other studies (Bersabé et al., 2001, González & Landero, 2012).

In terms of validity evidence, the multitrait-multimethod matrix shows adequate convergent and discriminant validity, since the highest correlation is found between factor 1 of *TXP-A* and factor 2 of *TXP-C* (both measuring affection and communication). The score on the affect-communication factor and the *TXP-A* total correlate significantly with all the variables of the *CAQ* except psychopathic deviation. The control-structure factor correlates significantly with all the variables except agitated depression, psychopathic deviation and psychasthenia. The lack of correlation with psychopathic deviation could be due to the fact that this dimension is especially influenced by genetic or endophenotypic aspects (Pardini, Raine, Erickson & Loeber, 2014) and less by parental socialization style, and because learning by punishment is modified in adolescents with psychopathic deviation (Salamone & Correa, 2012) or because this scale of the *CAQ* may not be well defined (Gómez, De Paz, Tejerina, Pérez & Luna, 2007). As assumed in hypothesis 2, all correlations go in the expected direction: the higher the questionnaire scores, the lower the levels of psychopathology.

In *TXP-C*, all significant correlations also go in the expected direction with regard to hypothesis 2, and both factors and the total score correlate significantly with the psychopathology variables, although less than in *TXP-A*. Additionally, the prosocial values factor of *TXP-C* only correlates significantly with three of the variables (suicidal depression, low energy depression and boredom-withdrawal), which seems to indicate that this variable may not be so strongly linked with psychopathology in general but with internalizing disorders and depressive symptoms in particular, in line with studies that find prosocial behavior to be a protective factor against depression (Llorca, Mesurado & Samper, 2014).

As in other studies, parental socialization variables are significantly related to personality variables (Castañeda, Garrido-Fernández & Lanzarote, 2012) measured by the *HSPQ*, probably reflecting the complex reciprocal relationships between the personality of the adolescent, their be-

havior, received parental socialization and their perception of parental socialization (Iglesias & Romero, 2009). However, *TXP-C* again presents fewer significant relationships, especially in the case of the prosocial values factor.

As regards evidence of criterion validity, in *TXP-A* factors 1 and 2 and the total score are related to the use of drugs and alcohol, and the questionnaire differentiates between those who have problems with drugs and alcohol and those who do not. In addition, the affect-communication factor and the total score are linked to dissocial disorder and differentiate between those with and without it. Both factors and the total score are related to the presence of oppositional defiant disorder, although the questionnaire does not differentiate between those with the disorder and those without it. This concurs with studies that find warmth and behavioral control associated with lower levels of behavior problems in adolescence (Trudeau et al., 2012), that less emotional warmth and greater parental rejection are associated with substance abuse, and that cohesion and adaptability are negatively linked to alcoholism (Abasi & Mohammadkhani, 2016). Other authors also find that parental control is a protective factor against alcohol abuse and other problems of adolescence (Cabanillas-Rojas, 2012).

In *TXP-C*, the affect and communication factor and the total score are related to the use of drugs and alcohol, although the questionnaire does not differentiate between those who have problems with drugs and alcohol and those who do not. The affect and communication factor and the total score are linked to dissocial disorder and the questionnaire differentiates between adolescents with this disorder and those without. However, the questionnaire and oppositional defiant disorder are not linked.

These data all support the claim that *TXP-A* measures what it was designed to do: parental socialization practices related to the presence of SRD and CD. In the case of the *TXP-C*, however, while the affect-communication factor does seem to show evidence of validity, the prosocial values factor is not related to SRD or CD. This may be due to the fact that the adolescent's perception of parental educational practices (linked to control-structure in *TXP-A* and prosocial values in *TXP-C*) is related more than that of the caregiver with psychopathology in general, CD and SRD (González & Landero, 2012); but it could also be that, since the adolescent also completes the *CAQ* and the *POSIT* and answers questions in the interview on CD, the correlation of these external criteria with the *TXP-A* is greater given that they are completed by the same informant (Molinuevo et al., 2011). Future studies could consider assessing CD and SRD from the caregiver's perspective to check whether the correlation increases or whether the result is repeated that the caregivers' perception of their socialization in prosocial values is not related to the presence of SRD and CD.

It should be noted that no differences were found in either of the two versions between those who presented oppositional defiant disorder and those who did not. This may be due to the scarcity in the sample of subjects with this diagnosis or to the fact that the questionnaire is designed with serious behavioral disorders in mind while oppositional defiant disorder is considered less serious than dissociative disorder (American Psychiatric Association, 2014); although the number of subjects in the sample with the latter is also low, differences are nevertheless found in the data. Since validation was performed with the general population, there are very few subjects in the sample with CD and relatively few with problematic use of drugs and alcohol. In addition, it could be that adolescents who did not participate in the study are precisely those who present more psychopathology and/or experience more dysfunctional parental practices. It would be interesting to conduct a validation study in the clinical population in order to better study which parental practices are more closely related to behavior problems and drug use. This would make longitudinal studies possible and thus allow cut-off points to be established for detecting subjects with a high risk of presenting CD and SRD, which in turn would permit the implementation of preventive interventions.

Finally, it should be pointed out that neither version of the questionnaire presents differential functioning to limit application since no biases are found by sex, school year, nationality and kinship with the caregiver. We believe the other differences in functioning that were found are not a limitation but rather reflect the logical relationship already described in the literature between family socialization variables and the other variables. Thus, with increasing age, the adolescent need structure, rules and limits less and less, while autonomy is encouraged (Oliva, 2006); the presence of a family history of alcoholism and drug dependence is associated with worse parental socialization (Slesnick, Feng, Brakenhoff & Brigham, 2014), and having more children in the family is related to a worse perception of emotional climate, perhaps due to less time available for the caregiver to spend on each child (Beltrán, 2013).

Limitations

The main limitation of the study is that no other parental socialization questionnaires were used to assess convergent validity. Apart from the limitations of those scales (Bersabé et al., 2001), most of them are designed to evaluate styles of parental socialization in general, while we were interested in an instrument that measured specific parental practices related to the presence of SRD and CD. Following Mâsse and Watts (2013), the general parenting style reflects the parental attitudes and beliefs that create the global emotional climate in which parent-child interactions take place; parenting style is described by typologies that classify parents on the basis of their levels of responsiveness

and demandingness (authoritarian, democratic, permissive and negligent); while parenting practices are the specific strategies that parents use to achieve desired results. Although there are scholars who consider parenting styles to be more clearly linked to the psychosocial adjustment of children than parenting practices (García & Gracia, 2010), we consider it to be much more useful with a view to designing prevention and intervention strategies to measure the specific parenting practices related to the presence of disorders. Given that definitions of parenting factors in the literature lack consistency, frequently overlapping conceptually, they limit the understanding of which specific parenting strategies are effective in reducing substance use in adolescents (Ryan, Jorm & Lubman, 2010). Therefore, to improve research on the topic, it is necessary to establish well-defined and different parental variables with consistent assessment methods (Ryan et al., 2010).

One possible limitation is the dropout rate, since there is a possibility that adolescents who reject participation in the study are precisely those with greater psychopathology and that the caregivers who drop out of the study are those with less effective parental socialization practices. However, a 23% caregiver dropout rate is well below the 36% found in the study by Bersabé et al. (2001) and the 49.7% in the study by Molinuevo et al. (2011), and thus appears to be an acceptable percentage.

A further possible limitation is having focused the assessment of parental socialization only on the primary caregiver. This option was chosen for several reasons. Currently the number of single-parent households is increasing (Instituto Nacional de Estadística, 2016), making it inappropriate in some cases to ask for both parents. In addition, although most of the literature tends to focus on the socialization of the mother, fathers also play a significant role in the development of their children and, in many homes and cultures, other relatives, friends and caregivers also contribute to raising the children (Lomanowska, Boivin, Hertzman & Fleming, 2017). We believe that focusing on the person whom the adolescent considers their main caregiver optimizes the information, especially as the correspondence found between the educational styles of both parents has been low (Winsler, Madigan & Aquilino, 2005).

Another limitation is that, although both the perspectives of the adolescent and the caregiver were considered, the complex interactive relationships between the behaviors of both and the appearance and maintenance of CD and SRD were not taken into account. Parental socialization is a bidirectional transactional process, where adolescent behavior and psychopathology also change parental behavior (Kerr, Stattin & Özdemir, 2012). Structural equations could be used in future longitudinal studies to model these relationships.

The limitations of the study also include those linked to the use of self-report questionnaires: social desirability

bias, recall biases, limited awareness of one's own behavior and careless or random responses (Power et al., 2013).

Conclusions

TXP-C seems a reliable instrument without biases, but has yet to provide sufficient evidence of validity. The affect-communication factor seems to be related to psychopathology in general, CD and SRD; while the prosocial values factor is related only to depression and not to SRD and CD. Subsequent studies using CD and SRD assessment instruments and informed by the caregiver or third parties would make it possible to confirm these relationships of the affect-communication factor and whether the caregiver's perception of the prosocial values factor is related to adolescent SRD and CD or not.

TXP-A appears to be a reliable, valid and unbiased tool to measure the perception of parental socialization practices related to the appearance of CD and SRD in adolescents aged between 14 and 16. It is validated in the general population and it would seem relevant to validate it in other age groups and in the clinical population. The implementation of longitudinal studies with this instrument could make it possible to establish cut-off points for detecting populations at risk of developing CD and SRD, identifying parental practices more closely linked to CD and SRD, and focusing on preventive interventions.

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Conflict of interests

There are no conflicts of interest. The questionnaire is not subject to copyright restrictions and its use is free of charge.

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