Spanish Validation of The Experiences in Close Relationships-Relationship Structures Questionnaire for Pre-adolescents

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Abstract
This study aimed to validate the Spanish version of the Experiences in Close Relationships–Relationship Structures questionnaire (ECR–RS; Fraley et al., 2011). This instrument measures the two-dimensional structure of attachment (anxiety and avoidance) in different relational domains (mother, father, and friends). The sample was composed of 795 pre-adolescents (49.1% girls), aged 9–14 (M=12.86; SD=1.28), who were randomly selected from seven Biscayan schools. The participants completed the measures of attachment, prosocial behavior, emotional and behavioral problems, and difficulties in emotional regulation. The confirmatory factor analysis indicated that the Spanish adaptation of the ECR–RS supported the original two-factor structure and was invariant across genders. Both attachment dimensions were positively associated with emotional and behavioral problems, and difficulties in emotional regulation, and were negatively correlated with prosocial behavior. Gender differences were found in friends, mother, and global measures, in which boys scored higher than girls in anxiety and girls higher than boys in avoidance. This study demonstrated that the Spanish adaptation of the ECR–RS for pre-adolescents is a reliable and valid instrument to measure anxiety and avoidance attachment in different relational domains.

Keywords: ECR–RS; validation; attachment dimensions; pre-adolescents.

Attachment theory proposes a framework to understand how early bonds between individuals and their caregivers can determine the psychosocial development of people (Goldberg et al., 2013). According to Ainsworth and Bowlby (1991), humans need to establish secure emotional bonds with their figures of reference to provide them with security when faced with threats and adverse situations. For this reason, Bowlby stressed the idea of considering attachment relations as a relevant predictor of human psychosocial development.

Although there is evidence that attachment persists throughout the lifespan, most research has focused on studying this phenomenon in infancy, early childhood, late adolescence, and adulthood (Bosmans & Kerns, 2015). Fewer studies have focused on middle childhood or early adolescence (Khan et al., 2020). During these

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stages, children and adolescents begin to explore and experience socialization in which early attachment bonds play a relevant role (Brenning et al., 2011).

During these life stages, anxiety and avoidance attachment have been associated with emotional and behavioral problems (Brumariu et al., 2018), difficulties in emotional regulation (Mikulincer & Shaver, 2019) and low prosocial behaviors (Gross et al., 2017).

Regarding gender differences, little is known about whether women and men score differently in anxiety and avoidance attachment. With a few exceptions (e.g., Fraley et al., 2011; Moreira et al., 2015), no studies have focused on evaluating gender differences in attachment dimensions toward different relational domains, such as mother, father, and friends. Additionally, mixed results were obtained, as some studies reported higher scores in avoidance attachment in men compared to women and higher scores in anxiety attachment in women compared to men. (Fraley et al., 2011). In other studies, gender differences were not found (Moreira et al., 2015). Therefore, more research is needed in this regard.

Traditionally, two approaches have coexisted in the study and measurement of attachment (Martínez & Santelices, 2005). From the clinical perspective, attachment is studied based on a categorization of attachment styles in which secure, anxious, resistant-ambivalent, or disorganized styles are distinguished (Nóblega et al., 2018). Conversely, social psychology has advocated a dimensional conceptualization of attachment (Nóblega et al., 2018). This approach assumes that attachment styles are represented through a combination of two dimensions: attachment anxiety and attachment avoidance (Sarling et al., 2021). Attachment anxiety refers to the degree to which people worry about others not being available when they are needed, whereas attachment avoidance represents the extent to which people feel uncomfortable with emotional dependency, closeness, and intimacy. Although each of these approaches is currently considered to respond to different objectives, recent literature maintains that the dimensional perspective offers a more adequate and accurate representation of the attachment domain (Deveci Şirin & Şen Doğan, 2021; Sarling et al., 2021).

Thus, different self-reports have been employed to capture attachment through this dimensional perspective. Among others, the Attachment Security Scale (ASS; Kerns et al., 1996), the Preoccupied andAvoidance Coping Questionnaire (PACQ; Finnegan et al., 1996), and the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987) have been developed. Although these measures have been widely used, some limitations have been detected: the unidimensional assessment of ASS by which attachment security is only measured; the difficulty of using longitudinal methods with the PACQ as the content of the items changes across age-groups; and the inclusion of some qualities in the IPPA which have not been considered as attachment dimensions (Skoczzeń et al., 2019).

Therefore, the Experiences in Close Relationships–Relationship Structures questionnaire (ECR–RS; Fraley et al., 2011) was proposed to respond to these limitations (Marci et al., 2019). This questionnaire measures the dynamics between the anxiety and avoidance dimensions of attachment through different relational domains and it can be applied in different developmental periods (Skoczzeń et al., 2019). Some authors have criticized its large number of items when assessing attachment to all relational domains (Brenning et al., 2014). Therefore, some short versions have been validated specifically to facilitate their application (Khan et al., 2020; Nóblega et al., 2018; Skoczzeń et al., 2019).

The adaptation to different cultures of the nine-item ECR–RS has shown a good fit to the two-dimensional model in adults, adolescents, and children (Deveci Şirin & Şen Doğan, 2021). The Portuguese (Moreira et al., 2015), Hungarian (Gyöngyvér & András, 2016), Czech (Siroňová et al., 2020), Swedish (Sarling et al., 2021), and Turkish (Deveci Şirin & Şen Doğan, 2021) versions have been validated in adults. Fewer adaptations have been made for adolescents and children (Karapas et al., 2015; Marci et al., 2019), but those published have demonstrated to follow the proposed two-dimensional model.

The long versions (18 and 36 items) of the Spanish adaptation of the ECR–RS have been conducted on late adolescent (Fernández-Fuertes et al., 2011) and youth populations (Nóblega et al., 2018; Zambrano et al., 2009). The Spanish adaptations showed good psychometric properties: α_anxiety = .80-.91, α_avoidance = .71-.86. To the best of the authors’ knowledge, no Spanish adaptations of the ECR–RS (nine-item version) have been developed for pre-adolescents.

The Present Study

The main objective of this study was to validate the nine-item version of the ECR–RS in a sample of Spanish pre-adolescents. It was hypothesized that the ECR–RS would fit the two-dimensional model in the three relational domains (mother, father, and friends), and would show good reliability and construct validity. The second objective was to examine the gender differences in the ECR–RS and assess the invariance of the measurement model across gender. As the conclusions on gender differences were unclear (Moreira et al., 2015), no concrete hypothesis was proposed in this regard. However, it was expected to find invariance of the structure across gender.

The third objective was to analyze the associations between ECR–RS and pre-adolescents’ prosocial behavior, emotional and behavioral problems, and difficulties in emotional regulation to test convergent validity. Negative associations of both attachment dimensions with prosocial behavior and positive associations with emotional and behavioral problems and difficulties in emotional regulation were expected.

Method

Participants

The sample was composed of 795 participants aged 9–14 (M = 12.91, SD = 1.29). Among the participants, 49.1% identified themselves as girls, and 50.9% as boys.

Pre-adolescents were randomly selected from three private and four public schools in Bizkaia (Spain). Among the sample, 6.7% was in the fourth year of primary, 9.3% in the fifth, 6.2% in the sixth, 39.9% in the first year of secondary, and 38.1% in the second year of secondary. Only participants with difficulties in answering on their own and those who did not manage Spanish were excluded. By applying the criteria of the Spanish Society of Epidemiology and Family and Community Medicine (2000), 23.45% belonged to low socioeconomic level, 19.05% medium-low, 16.77% medium, 13.12% medium-high and 27.6% high.

Instruments

A short version of the ECR–RS (Fraley et al., 2011) was used to measure attachment. To translate this self-report scale into Spanish, the back-translation method was conducted (Muñiz et al., 2013). For this study, the mother, father, and friends domains were included. Additionally, a global measure of anxiety and avoidance was calculated by estimating the mean of the dimensions’ scores for the three domains.
The ECR–RS consists of nine items, of which six refer to the dimension of attachment anxiety (1–6 items) and the remaining three to attachment avoidance (7–9 items). Participants were asked to rate each item on a seven-point Likert scale (1 = strongly disagree; 7 = strongly agree). For all analyses, the mean scores for each dimension were calculated, considering that items 1, 2, 3, and 4 were reverse-coded.

Prosocial behavior and, emotional and behavioral problems were measured using the Spanish adaptation (Ortuño-Sierra et al., 2015) of the Strength and Difficulties Questionnaire (SDQ; Goodman, 1997). Composed of 25 items, the SDQ is a brief self-report questionnaire used to assess the following aspects: hyperactivity/inattention, emotional symptoms, conduct problems, peer relationship problems, and prosocial behavior. In the present study, prosocial behavior and, emotional and behavioral problems were included. A scale with three response options was used: 0 (not true), 1 (somewhat true), and 2 (certainly true), except for items 7, 11, 14, 21, and 25, which are reverse-coded items. The mean scores for each of the six aspects were estimated for all analyses. In previous research, the SDQ has shown good psychometric properties (Rodríguez-Hernández et al., 2014). In this study, the ordinal alphas were good in emotional and behavioral problems, and moderate in prosocial behavior: = .76, = .56.

The Spanish adaptation (Hervás & Jódar, 2008) of the Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) was applied for measuring difficulties in emotional regulation. This version is composed by 18 items scored by a five-point Likert scale (1: almost never, 5: almost always). Items 1, 4, and 6 were reverse-coded. For this study, a global score was calculated. As in previous studies (Gómez-Simón et al., 2014), the current study also had good psychometric properties: the ordinal alpha of the global measure was .85.

Procedure

Seven schools were randomly selected to participate in the study. Once schools accepted to participate, an information letter together with an informed consent was sent to parents. More than 98% of the families accepted the participation of their children in the study. Once at the classrooms, pre-adolescents were informed about the study, emphasizing that the study was voluntary and confidential. Participants spent half an hour completing the questionnaires individually. This study was approved by the ethics committee of Deusto University.

Data Analysis

First, using the IBM SPSS 27 program, the general descriptive data, the Pearson correlation coefficients between the attachment dimensions in each relational domain and prosocial behavior, emotional and behavioral problems, and difficulties in emotional regulation, and Student's t test to examine the gender differences in the attachment dimensions were calculated. Second, to test the structure of the short version of the ECR–RS, an exploratory factor analysis (EFA) and a confirmatory factor analysis (CFA) were conducted across two randomly selected subsamples (n = 397 for EFA and n = 398 for CFA). EFA was performed by SPSS 27 and CFA by LISREL 10.20 using the robust maximum likelihood estimation method (Jöreskog et al., 2016). Following the recommendations of various authors (Little, 2013), the mean square error of approximation (RMSEA), the standardized root mean square residual (SRMR), the comparative fit index (CFI), and the nonnormative fit index (NNFI) were used to assess the goodness of fit. Values of .08 or less indicate a good fit in both RMSEA and SRMR, and values of .90 or greater reflect a good fit in CFI and NNFI. Additionally, the reliability of the CFA was examined by ordinal alpha, McDonald’s omega, Composite Reliability (CR), and Average Variance Extracted (AVE). It was considered that reliability was good when the value was above .70 in ordinal alpha, McDonald’s omega (Campo-Arias & Oviedo, 2008) and in CR (Nunnally, 1978), and above .50 in AVE (Hair et al., 2006). Whether the model was equivalent across girls and boys was determined through multiple-group analysis.

Results

Descriptive Data, and Intercorrelations

Table 1 reports the means, standard deviations, and correlations between anxiety and avoidance attachment in each relational domain. The correlations between and within anxiety and avoidance attachment in all relational domains were small and not significant. Conversely, the correlations between anxiety with friends and avoidance of mother and between avoidance of friends and anxiety with father and global measure were small but significant. In the anxiety dimension, most of the correlations were large and significant, except for the correlations between anxiety with friends and anxiety with mother, father, and friends, which were small. In the case of the avoidance dimension, every correlation was large and significant, highlighting the correlations between global avoidance and avoidance of all the relational domains.

<table>
<thead>
<tr>
<th>Anxiety</th>
<th></th>
<th>Avoidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother</td>
<td>Father</td>
<td>Friends</td>
</tr>
<tr>
<td>Anxiety</td>
<td>.03</td>
<td>-.01</td>
</tr>
<tr>
<td>Father</td>
<td>.004</td>
<td>-.05</td>
</tr>
<tr>
<td>Friends</td>
<td>.09*</td>
<td>.16**</td>
</tr>
<tr>
<td>Global</td>
<td>.02</td>
<td>.04</td>
</tr>
<tr>
<td>M</td>
<td>3.11</td>
<td>3.60</td>
</tr>
<tr>
<td>SD</td>
<td>1.21</td>
<td>1.32</td>
</tr>
</tbody>
</table>

Note. ** p < .001; * p < .05.

Exploratory and Confirmatory Factor Analyses

Regarding EFA (Table 2), Bartlett’s test and the Kaiser Meyer Olkin (KMO) were conducted to evaluate sphericity and sampling adequacy, respectively. Results indicated that the factor analysis is suitable for the data. Additionally, factor loadings were well defined and a two-dimension structure was followed in each relational domain.

Separate CFAs were conducted for mother, father, friends, and global measures. Although the CFI and NNFI indexes were adequate for the original structure of the model (with scores of .87–.95), the RMSEA and SRMR indexes were not (with values of .075–.129). Thus, the modification indexes were examined, and a modified model was developed to improve model fit. The modification indexes suggested that the errors belonging to items 5 and 6 and those belonging to items 1 and 4 were correlated.
Thus, based on the modification indices and considering that these pairs of items had similar content and belonged to the same dimension, their measurement errors were allowed to correlate. This procedure has also been used in previous validation studies of the ECR–RS (Moreira et al., 2015; Sarling et al., 2021; Siroňová et al., 2020). The modified model obtained better fit indices than the original model (Table 3). Nevertheless, the Satorra-Bentler \( \chi^2 \) test remained significant in all relational domains due to the high sensitivity of this goodness of fit to large samples (Sarling et al., 2021). Considering the subsample for the CFA, the Spanish adaptation of the ECR-RS showed good reliability regarding ordinal alpha, McDonald’s omega, CR, and AVE, except for the coefficients obtained in AVE for anxiety dimension which were adequate (Table 3).

A multiple-group analysis was performed to test whether the factorial structure model of the ECR–RS was invariant across genders in terms of the anxiety and avoidance measures in all the relational domains (Table 4).

First, the model was estimated separately for girls and boys. The fit indexes were adequate for girls and boys in all the relational domains, except for girls in the global measure. Second, the configural invariance of the model was calculated. Third, by forcing the relative factor loadings to be equal in both groups, the constrained model was estimated. This imposition did not significantly increase the \( \chi^2 \) in any of the relational domains, indicating no gender differences in the model.

Table 5 showed that gender differences were significant in the measures of anxiety and avoidance of friends, which had moderate effect sizes (Cohen, 1988). Overall, boys scored higher than girls in anxiety attachment, while girls scored higher than boys in avoidance attachment. Boys also scored higher than girls in anxiety to mother and global anxiety whereas girls scored higher in global avoidance.

Convergent Validity

Convergent validity of the instrument was good considering the correlations between the attachment dimensions and associated variables (Table 6). The correlations were significant but small. However, it is remarkable that avoidance of all relational domains was not significantly associated with prosocial behavior. Prosocial behavior was the only variable that negatively and significantly correlated with anxiety attachment. Boys also scored higher than girls in anxiety to mother and global anxiety whereas girls scored higher in global avoidance.

Discussion

This study provides evidence of the validity of the ECR–RS in a sample of Spanish pre-adolescents. Thus, this questionnaire was considered a suitable instrument for measuring anxiety and avoidance attachment in different relational domains (mother, father, friends, global). Consistent with other investigations (Moreira et al., 2015; Sarling et al., 2021), the Spanish version also fitted the two-dimensional model with the three relational domains and in its global measure in girls and boys. It showed good reliability and validity as in previous studies (Karapas et al., 2015; Khan et al., 2020). This suggests
that the short version of the ECR–RS for pre-adolescents is equally as reliable as the previous Spanish longer measures (Fernández-Fuertes et al., 2011; Nóblega et al., 2018; Zambrano et al., 2009).

Additionally, relevant results were obtained for the correlations within and between anxiety and avoidance dimensions. No intercorrelations were found within each relational domain, consistent with previous literature explaining that anxiety and avoidance attachment are not associated (Cameron et al., 2012). According to this view, high levels in one of the attachment dimensions do not necessarily mean

Table 4. Multiple Group Analyses Across Gender

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>CFI</th>
<th>NNFI</th>
<th>RMSEA [CI-90%]</th>
<th>SRMR</th>
<th>χ²</th>
<th>DF</th>
<th>Δχ² (7)</th>
<th>p</th>
</tr>
</thead>
<tbody>
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</tr>
</tbody>
</table>

**Mother**

Girls: 187  
Boys: 201  
Configural: 388  
Invariance: 388

**Father**

Girls: 178  
Boys: 199  
Configural: 377  
Invariance: 388

**Friends**

Girls: 187  
Boys: 201  
Configural: 388  
Invariance: 388

**Global**

Girls: 188  
Boys: 201  
Configural: 389  
Invariance: 389

Table 5. Gender Differences in ECR-RS

<table>
<thead>
<tr>
<th></th>
<th>Girls</th>
<th>Boys</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Anxiety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father</td>
<td>2.94</td>
<td>1.18</td>
</tr>
<tr>
<td>Friends</td>
<td>2.85</td>
<td>1.25</td>
</tr>
<tr>
<td>Global</td>
<td>3.13</td>
<td>.98</td>
</tr>
<tr>
<td>Avoidance</td>
<td>3.57</td>
<td>1.96</td>
</tr>
<tr>
<td>Father</td>
<td>3.60</td>
<td>1.94</td>
</tr>
<tr>
<td>Friends</td>
<td>4.43</td>
<td>1.75</td>
</tr>
<tr>
<td>Global</td>
<td>3.87</td>
<td>1.68</td>
</tr>
</tbody>
</table>

Note. **p < .001; * p < .05.

that the short version of the ECR–RS for pre-adolescents is equally as reliable as the previous Spanish longer measures (Fernández-Fuertes et al., 2011; Nóblega et al., 2018; Zambrano et al., 2009).

Additionally, relevant results were obtained for the correlations within and between anxiety and avoidance dimensions. No intercorrelations were found within each relational domain, consistent with previous literature explaining that anxiety and avoidance attachment are not associated (Cameron et al., 2012). According to this view, high levels in one of the attachment dimensions do not necessarily mean

Table 6. Correlations Between Attachment, Prosocial Behavior, Emotional and Behavioral Problems, and Difficulties in Emotional Regulation

<table>
<thead>
<tr>
<th></th>
<th>PB</th>
<th>EBP</th>
<th>DER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father</td>
<td>2.1**</td>
<td>.27**</td>
<td>.31**</td>
</tr>
<tr>
<td>Friends</td>
<td>2.0**</td>
<td>.12**</td>
<td>.06</td>
</tr>
<tr>
<td>Global</td>
<td>2.6**</td>
<td>.29**</td>
<td>.29**</td>
</tr>
</tbody>
</table>

Note. PB = Prosocial Behavior; EBD = Emotional and Behavioral Problems; DER = Difficulties in Emotional Regulation. ** p < .001; * p < .05.
high levels in the other dimension. With regard to the associations between the dimensions in all the domains, significant but low correlations were found between avoidance attachment in friends with maternal and paternal attachment anxiety, and anxiety with friends with maternal avoidance. As these associations were small, future studies are needed to clarify the results.

In the associations within each attachment dimension, all correlations were significant and high, except for the association between anxiety with friends and anxiety with mother and father, which was significant but low. The lowest correlations were found between the friends domain and the mother and father domains in both dimensions, especially in the anxiety dimension. Consistent with Fraley et al. (2011), the most similar relationships were found between the mother and father domains in both dimensions. This finding suggests consistency across the mother and father domains in both dimensions, thus indicating that maternal and paternal attachment may share a common developmental patron (Moreira et al., 2015).

Regarding gender differences in the ECR–RS, significant and moderate gender differences were found in mother, friends, and global domains. Contrary to other research (Del Giudice, 2019; Fraley et al., 2011), boys scored higher in anxiety with friends and girls in avoidance. These studies found that boys scored higher in avoidance than girls. However, in these studies, the main target was adults, and the number of women participating was much higher than that of men. For this reason, the results obtained in the present study may not be comparable to those results, as pre-adolescents were involved and the sample was balanced in terms of gender. Future studies should overcome the lack of evidence with respect to gender differences.

As expected, anxiety and avoidance attachment were positively and significantly associated with emotional and behavioral problems, and difficulties in emotional regulation, suggesting that people struggling with emotional and behavioral difficulties are more likely to present anxiety and avoidance attachment in any of the relational domains. Nevertheless, prosocial behavior was only negatively and significantly linked to anxiety attachment. This does not completely agree with the literature, which shows a negative association between prosocial behavior and both anxiety and avoidance attachment (Shaver et al., 2019). Some researchers observed that people with high anxiety attachments were distressed with other people's suffering but did not attempt to help them because of their difficulties in emotional regulation. In these people, high levels of avoidance attachment tended to show non-prosocial behavior because of their discomfort in feeling closeness. Conversely, this association was not found in the present study.

Limitations and Future Studies

Although this study provides evidence of the validity of the ECR-RS in Spanish culture, it has some limitations. First, it did not include a second wave that would have allowed the reliability of the test-retest to be shown. Second, data from other agents should have been reported to complete the aspects related to attachment. In this sense, another attachment instrument should be included to compare its results with those obtained in the ECR–RS. Finally, only pre-adolescents from Bizkaia were included; thus, the representativeness of the whole country was not represented. Therefore, future studies should try to include participants from all Spanish regions with different ages and an equivalent number of girls and boys to adjust the results as best as possible to the Spanish population.

Strengths and Clinical Implications

Despite the aforementioned limitations, this study represents an important contribution to the existing literature on dimensional instruments that measure attachment.

This study is one of the first to include a balanced sample in terms of gender. It not only analyzes the three main relational domains of the ECR–RS but also includes the global results of this scale. It is also one of the few studies that have attempted to use the ECR–RS on child and adolescent populations. Therefore, it provides evidence of the validity of the ECR–RS in this sample target and considers this tool as an appropriate scale to analyze attachment in a longitudinal and transversal manner. Moreover, this instrument can help clarify the current hypotheses about attachment theory, which state that more than one attachment figure exists and that attachment relationships may change and evolve over time.

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