Assessing adult attachment across different contexts: Validation of the Portuguese version of the Experiences in Close Relationships – Relationship Structures Questionnaire

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Abstract

The Experiences in Close Relationships–Relationship Structures questionnaire (ECR-RS) is one of the most recent measures of adult attachment. This instrument provides a contextual assessment of attachment-related anxiety and avoidance by measuring these dimensions in various close relationships (mother, father, partner, friend). To further explore its psychometric properties and cross-cultural adequacy, the current study presents the validation of the ECR-RS in a sample of Portuguese community individuals (N=236). The Portuguese version showed adequate reliability and construct validity. The original two-factor structure was confirmed through Confirmatory Factor Analysis. The ECR-RS is a psychometrically robust measure of attachment, representing an important advance in the measurement of adult attachment.

Introduction

In the last 30 years in research on adult attachment has developed considerably (Mikulincer & Goodman, 2006; Mikulincer & Shaver, 2007; Rholes & Simpson, 2004; Simpson & Rholes, 1998). Parallel to this growing interest, several self-report measures have been developed to assess individual differences in adult attachment. One of the most recent and promising self-report instruments is the Experiences in Close Relationships – Relationship Structures questionnaire (ECR-RS; Fraley, Heffernan, Vicary, & Brumbaught, 2011). This nine-item questionnaire derives from the Experiences in Close Relationships – Revised (ECR-R; Fraley, Waller, & Brennan, 2000) item pool and provides a brief and reliable evaluation of attachment-related anxiety and avoidance in four types of relationships -- with the individual's mother, father, romantic partner, and best friend.

Although the bi-dimensionality of the ECR-R and the previous Experiences in Close Relationships scale (ECR; Brennan, Clark, & Shaver, 1998) has been extensively investigated in different cultures, no study (including the original validation study) has confirmed the factorial structure of the RS form through confirmatory factor analysis (CFA). Given its reduction to nine items and its application to different relational targets, a formal confirmation of its structure is indispensable. In addition, the psychometric properties and the two-factor structure of the ECR-RS have not been confirmed in adult populations of other cultures. Well-validated measures in different languages would allow for the testing of cross-cultural hypotheses on attachment-related issues and would confirm and reinforce the utility, adequacy, and structure of the scale. In the present study, we intended to test the two-factor structure of the ECR-RS through CFA and explored its reliability and validity in a sample of Portuguese community individuals.

Assessing Adult Attachment and the ECR-RS Questionnaire

Two main traditions or lines of research can be identified in the assessment of individual differences in adult attachment. One line of research, originating in the work of Main and colleagues, gave rise to the Adult Attachment Interview (AAI; Main, Kaplan, & Cassidy, 1985), a semi-structured interview that assesses representations or states of mind regarding attachment. Other methods based on the AAI were subsequently developed, such as the Current Relationships Interview (CRI; Crowell & Owens, 1996) and the Adult Attachment Projective (AAP; George & West, 2001). The second line of research originated from the work of Hazan and Shaver (1987) on romantic adult attachment and gave rise to the development of several self-report measures, including the ECR (Brennan et al., 1998) and the ECR-R (Fraley et al., 2000), to assess individual differences in attachment orientations, mainly in romantic relationships. Several conceptual and methodological differences exist between these two traditions (reviewed in Bartholomew & Shaver, 1998; Mikulincer & Shaver, 2007). While researchers in the first tradition prefer interview- or performance-based measures of adult attachment and are primarily interested in clinical problems and in understanding how adult's representations of their childhood relationships with their own parents influence parenting behaviors, researchers in the Hazan and Shaver's tradition prefer self-report questionnaires, and are mainly focused on adult social relationships (e.g., friendship, dating relationships; Bartholomew & Shaver, 1998). Despite these differences, there is evidence that both are valid methodologies to assess adult attachment and that both relate coherently to attachment theory (Mikulincer & Shaver, 2007).

The ECR-RS has its origins in the second line of research and assesses the two basic attachment dimensions of anxiety and avoidance. Since the investigation of Brennan et al. (1998) and the resulting ECR scale, it has been widely accepted that these two dimensions underlie all self-report measures of attachment. Attachment anxiety is characterized by sensitivity to rejection and abandonment and reflects the extent to which people worry about

another person's availability or support in times of need. Attachment avoidance is characterized by discomfort with intimacy and closeness in relationships and reflects the degree to which individuals distrust their partners' good intentions and strive to maintain emotional distance and independence from their partners (Brennan et al., 1998).

The ECR-RS was developed to overcome several limitations of contemporary self-report measures (Fraley et al., 2011). The first limitation, as noted by the authors, is that existing self-report measures do not consider the possibility of within-person variability in the way people relate to important others. This limitation results from the prevailing trait-like conceptualization of internal working models, which assumes that individuals possess global representations that manifest in different relational contexts. However, it has been argued that substantial variability exists, and that the correlation between attachment anxiety and/or avoidance in different relational domains is not as strong as expected (Baldwin, Keelan, Fehr, Enns, & Kohs-Rangarajoo, 1996; Brumbaugh & Fraley, 2007; Klohnen, Weller, Luo, & Choe, 2005). For instance, an individual who is highly avoidant in the relationship with his or her mother may have a secure relationship with a partner, scoring low on both dimensions of attachment with partner. Second, due in part to this trait-like approach, the majority of self-report instruments do not specify a relational target, assessing individuals' global representations in close relationships in general. Third, many instruments exclusively assess romantic attachment (e.g., ECR). Although these instruments are not ambiguous with regard to the relational target, they are too specific to allow a comprehensive assessment of an individual's attachment representations in different contexts. Lastly, the majority of measures are long, which may increase respondents' burden in research settings in which other instruments need to be completed or when attachment to several figures must be assessed with the same questionnaire. A shorter and psychometrically robust measure may facilitate and increase its utilization. In addition, some instruments, such as the ECR and ECR-R, have

many redundant items that could be reduced to a smaller set without compromising their psychometric properties (e.g., Wei, Russell, Mallinckrodt, & Vogel, 2007). The ECR-RS overcomes these limitations because it is a brief and psychometrically robust measure that can be applied to different types of close relationships. Furthermore, the items are not specific to a certain type of relationship (e.g., romantic), and it has clear instructions regarding the relational target.

The Need for a Portuguese Version of the ECR-RS

To further explore the reliability and validity of the ECR-RS and its cross-cultural adequacy, validation studies in different cultures are essential. However, this investigation is still in its infancy. Other than the original study, no study has validated this measure in a sample of adult participants, particularly for other cultures. The ECR-RS has only been examined in a sample of Danish adolescents between the ages of 15 and 18 years (Donbaek & Elklit, 2013). Furthermore, in this study, only the parental and best friend domains were included, and only one figure was evaluated in the parental domain (the one the adolescent selected as being emotionally closest to him- or herself). Exploratory factor analyses resulted in a two-dimensional structure generally corresponding to the original one, and the scale demonstrated adequate reliability and satisfactory construct validity.

In the present study, we sought to validate the Portuguese version of the ECR-RS. When an assessment measure is translated into another language, it is imperative to examine whether its psychometric properties and internal structure remain adequate before it is used. We expect this study to represent an advance in the measurement of adult attachment by providing a well-validated measure that can be used reliably among Portuguese-speaking populations. Portuguese is one of the most widely spoken languages in the world, with approximately 203 million first-language speakers. It is the official language of nine countries, including Portugal, Brazil, Mozambique, Angola, Cape Verde, and East Timor, and it is

spoken in a total of 12 countries (Lewis, Simons, & Fennig, 2014). A Portuguese version of the ECR-RS will encourage researchers from Lusophone countries to develop studies on attachment, which will complement the existing literature that has mainly been developed among English-speaking populations. For instance, it will enable the development of cross-cultural studies and the testing of specific hypothesis regarding cultural differences or similarities. In particular, the Portuguese version will facilitate the development of cross-cultural studies among Portuguese-speaking non-industrialized societies and expand the current literature, which has focused on western and industrialized cultures. A few cross-cultural studies have been conducted, and these studies have found more similarities than differences between Portuguese individuals and individuals from other countries (mainly US and Europe) in the distribution of attachment styles. However, these previous studies have exclusively focused on adult romantic attachment assessed by the ECR (Moreira et al., 1998; Galinha, Oishi, Pereira, Wirtz, & Esteves, 2013; Schmitt et al., 2004). The ECR-RS will allow for the expansion of the research questions and focus by assessing different relational domains.

Gender Differences in Attachment Across Relational Domains

With this study, we also expect to contribute to increasing knowledge of gender differences in attachment, particularly with respect to relational domains other than the romantic domain. With the exception of Fraley et al. (2011), who found significant differences between men and women in anxiety and avoidance in their relationships with parents, partners, and friends, no study using self-report questionnaires has investigated gender differences in these relational domains. Moreover, although it has been argued that men tend to be more avoidant than women in romantic relationships (Del Guidice, 2011; Schmitt et al., 2003), there is important cross-cultural variability that should not be disregarded. For instance, in a meta-analysis of gender differences in romantic attachment

involving 62 cultural regions (Schmitt et al., 2003), gender differences were found to be smaller in Oceania and East Asia than in most of the other geographic regions (North America, Europe, Middle East, and South/Southeast Asia). In a subsequent meta-analysis, Del Guidice (2011) also found variation in gender differences across cultures, with the largest effect sizes detected in Europe and the Middle East and the smallest in North America. Both studies included the same Portuguese sample (Moreira et al., 2006), in which no significant differences were found between men and women in anxiety and avoidance assessed by the ECR questionnaire. Whether this result reflects a true cultural issue or whether it is a specific result of this particular investigation remains to be clarified.

The Present Study

With the aim of overcoming the aforementioned limitations and gaps in literature, three specific objectives were established. First, through CFA, we intended to determine whether the Portuguese version of the ECR-RS had a two-factor structure similar to the original version. We expected to confirm the two-dimensional structure, which has been strongly supported in the attachment literature and research. Second, we intended to examine the intercorrelations and the internal consistency of the attachment dimensions in the four relational domains (i.e., mother, father, partner, and friend). We expected to find moderate correlations between attachment-related anxiety and avoidance in each of the four relational domains as well as moderate associations within each attachment dimension. Finally, we explored the construct validity of the ECR-RS by analyzing the correlations with measures of intra- and interpersonal functioning and by examining gender differences in the attachment dimensions across the relational domains. We expected the anxiety and avoidance dimensions to correlate positively with internal shame and anxious and depressive symptoms and to correlate negatively with relationship quality dimensions. In addition, consistent with the

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findings of Fraley et al. (2011) and the overall literature (e.g., Schmitt, 2003), we expected women to have higher scores for anxiety and men to have higher scores for avoidance.

Method

Participants

The sample was composed of 236 individuals from the general population (169 (71.6%) women; 67 (28.4%) men). Of these, 167 (70.8%) were living with a partner, and 69 (29.2%) were living alone or with other people. Their mean age was 33.58 years old ($SD =$ 9.75; range: 18-66), and the majority of participants did not have children (149; 63.1%). With regard to education levels, 32 (13.6%) participants had completed basic or secondary studies, and 204 (86.4%) had completed graduate or post-graduate studies.

Measures

Attachment. The ECR-RS (Fraley et al., 2011) is a nine-item self-report instrument designed to measure attachment-related anxiety (items 1-6) and avoidance (items 7-9) in close relationships (with the mother or mother-like figure, father or father-like figure, romantic partner, and best friend). Individuals are instructed to respond to the questions by considering their relationship with each relational target. If the mother or father has passed away, individuals are instructed to respond by considering the way they felt when the person was alive. When individuals are not in a romantic relationship, they are asked to respond by considering their most recent meaningful relationship or the relationship they imagine they could have with someone (if they have never been in a romantic relationship). Although initially developed and tested with these four targets, the authors claim that the ECR-RS can be used for other types of relationships (e.g., teacher, siblings, pets). In each relational domain, the scale is composed of the same nine items, rated on a seven-point Likert scale that ranges from 1 (*strongly disagree*) to 7 (*strongly agree*). The total subscale score consists of the mean of the items and ranges from 1 to 7, with higher scores indicating higher attachment

avoidance or anxiety. It is also possible to obtain global measures of anxiety and avoidance by estimating the mean of the subscale scores of the four domains (e.g., the global avoidance score is the mean of avoidance with the mother, father, partner, and friend). Fraley et al. (2011) tested the main psychometric properties of the ECR-RS in two studies and found this instrument to be a psychometrically sound measure of anxiety and avoidance in the four relational domains. Cronbach's alphas are presented in Table 1.

Relationship quality. The Revised Dyadic Adjustment Scale (RDAS; Busby, Christen, Crane, & Larson, 1995) was used to measure relationship quality in romantic relationships. This measure is a self-report questionnaire consisting of 14 items rated on five- or six-point Likert scales, ranging from 0 (e.g., *always disagree/never*) to 4 or 5 (e.g., *always agree/all the time*). The RDAS has three subscales: Consensus (assessing decision-making, values, and affection dimensions); Satisfaction (assessing stability and conflict dimensions); and Cohesion (assessing activities and discussion dimensions). A global measure of relationship quality can be obtained by estimating the mean of all items. The DAS-R has shown adequate reliability, construct validity, and criterion validity by discriminating between distressed and nondistressed individuals (Busby et al., 1995). In the current study, Cronbach's alphas were .70 (Cohesion), .68 (Consensus), and .75 (Satisfaction).

External shame. The Other as Shamer Scale (OAS; Goss, Gilbert, & Allan, 1994) is composed of 18 items measuring the frequency of feelings and experiences of external shame (i.e., perceptions of being devalued, excluded, avoided, or criticized by the other) rated on a five-point Likert scale ranging from 0 (*never*) to 4 (*almost always*). The total score consists of the sum of the items and ranges from 0 to 72. Higher scores on this scale are indicative of high external shame. In the original study, the scale showed high internal consistency (.92) and construct validity (Goss et al., 1994). In the present study, Cronbach's alpha was .90.

Anxiety and depression symptoms. The Hospital Anxiety and Depression Scale (HADS; Pais-Ribeiro et al., 2007; Zigmond & Snaith, 1983) was used to assess current levels of depressive and anxious symptoms. This scale contains 14 items (seven assessing anxiety and seven assessing depression) and uses a four-point scale that ranges from 0 (e.g., *not at all/only occasionally*) to 3 (e.g., *most of the time/a great deal of the time*). The total score of each subscale consists of the sum of the items and ranges from 0 to 21, with higher scores indicating higher levels of symptoms. The psychometric qualities of the HADS are well established (Pais-Ribeiro et al., 2007; Zigmond & Snaith, 1983), and this scale has been recommended as a useful screening tool in both clinical and research contexts. In the current study, Cronbach's alphas were .76 (depression) and .79 (anxiety).

Procedures

The Portuguese version of the ECR-RS was developed through a forward-backward translation procedure. The authors of the Portuguese version independently translated the nine items of the ECR-RS. Both translated versions were compared, and after discussing and analyzing their similarities and differences, the first Portuguese version was obtained. A native English speaker subsequently translated the preliminary Portuguese version back to English without reference to the original. Finally, the original and the back-translated versions were compared, and translation difficulties were analyzed and resolved between translators to obtain a comprehensible instrument that was conceptually consistent with the original.

Participants were recruited through a data collection website (LimeSurvey©) on which the assessment protocol was available. An invitation for participation in this study was distributed through an e-mail containing a brief explanation of the study and the survey link. This email was sent to the mailing lists of two research units of the University of Coimbra (including researchers, staff, and graduate students) and to the email of researchers' acquaintances, friends, and family. Additionally, all potential participants were asked to share

the study or to forward the written email to at least one person to obtain the largest and most diverse community sample possible. Since participation in the study was anonymous, the specific number of participants collected through the university or through the researchers' personal contacts could not be determined. The first page of the online protocol consisted of a description of the study objectives and the ethical issues underpinning the study. Only those who agreed to the study conditions completed the questionnaire. Participants were informed that their participation in the study was anonymous and that no information that could identify them was collected (e.g. name, address). Participation in the study was voluntary, and no monetary or other compensation was given to the participants.

Results

Descriptive Statistics, Intercorrelations, and Internal Consistency

Table 1 presents the means, standards deviations, Cronbach's alphas, and intercorrelations among the anxiety and avoidance dimensions in each relational domain. The mean values of each dimension ranged from 1.62 (avoidance to partner) to 3.12 (avoidance to father) in a possible range of 1 to 7. The Cronbach's alphas ranged from .72 (avoidance to partner) to .91 (anxiety to partner, avoidance to father, and global anxiety), suggesting adequate internal consistency of the scale.

The intercorrelations between attachment dimensions in the four relational domains were small to medium and significant. The only exceptions were the correlations between anxiety to mother and avoidance to father ($r = .09$) and between anxiety to partner and avoidance to friend ($r = .11$), which were nonsignificant. The correlations between avoidance and anxiety in each domain were small to moderate (.26 for mother; .20 for father; .31 for partner; and .29 for friend). Within each attachment dimension, the greatest amount of similarity was found between the mother and father ($r = .45$ for avoidance; $r = .73$ for anxiety). The least amount of similarity was found between the father and the friend ($r = .15$ for

avoidance) and between the father and the partner ($r = .40$ for anxiety). In addition, in all relational domains, the attachment dimension scores were more strongly correlated with the global score of the same dimension than with the other dimension. For example, anxiety toward the mother was more strongly correlated with global anxiety than with global avoidance.

Confirmatory Factor Analysis

A CFA using AMOS© 20 with maximum likelihood estimation was conducted in each relational domain (mother, father, partner, and friend) to test the hypothesized two-factor structure of the Portuguese version of the ECR-RS. The main goodness-of-fit indices were considered to evaluate the overall model fit. Because the chi-square index (χ^2) is very sensitive to sample size and may overestimate the lack of model fit, we based the assessment of fit on three additional indicators: the comparative fit index (CFI), the root-mean-square error of approximation (RMSEA) with its associated 90% confidence interval, and the standardized root-mean-square residual (SRMR). Criteria for good model fit were a non-significant χ^2 ($p > .05$), CFI $\geq .95$, RMSEA $\leq .06$, and SRMR $\leq .08$, and the criteria for acceptable fit were CFI $\geq .90$, RMSEA $\leq .08$, and SRMR $\leq .10$ (Browne & Cudeck, 1993; Hu & Bentler, 1999). The initial two-factorial model exhibited a less than ideal fit to the data in all of the domains (Mother: $\chi^2(26) = 138.46$, $p < .001$, CFI = .90, RMSEA = .13; Father: $\chi^2(26) = 223.38$, $p < .001$, CFI = .88, RMSEA = .18; Partner: $\chi^2(26) = 137.04$, $p < .001$, CFI = .90, RMSEA = .14; Friend: $\chi^2(26) = 129.75$, $p < .001$, CFI = .91, RMSEA = .13). Therefore, the modification indices were examined, suggesting that the errors belonging to items 1 and 4, 2 and 3, and 5 and 6 might be correlated. Since these pairs of items had similar content and belonged to the same dimension, their measurement errors were allowed to correlate. This type of model respecification is frequently necessary and is justified when there is item content overlap (Byrne, 2010). As presented in Table 2, the final two-factor model exhibited

adequate fit to the data in all of the domains (CFI > .97, SRMR and RMSEA between .05 and .08). All factor loadings for the items in each relational domain were significant (p < .001), ranging from .38 to .95 (anxiety) and from .63 to .95 (avoidance).

Construct Validity

Gender differences. The known-groups validity was examined through an analysis of gender differences on the ECR-RS scores. These differences were analyzed through two multivariate analyses of covariance (MANCOVA), one analyzing the four relational domains and the other analyzing the two global scores. Age was entered as a covariate to control its effect in the comparison analyses given the wide variability in the participants' ages. The MANCOVA yielded a significant multivariate effect of sex in the attachment dimensions, Wilk's Lambda = .932, $F(8, 226) = 2.05$, $p = .041$. As presented in Table 3, significant differences between men and women were found for avoidance to friends, $F (1, 233) = 9.89$, $p = .002$, $d = 0.61$, with men reporting more avoidance in their relationships with their friends than women. With regard to the global scores of attachment, no significant differences were found between men and women, Wilk's Lambda = .995, $F(2, 232) = 0.54$, $p = .584$.

Relationships between ECR-RS and other constructs. To further assess the construct validity of the ECR-RS, we analyzed whether it was significantly correlated with measures assessing constructs that were expected to be related to attachment dimensions. In addition, the influence of mood states on the correlations between attachment dimensions and shame or relationship quality were analyzed through partial correlations, with the effects of anxious and depressive symptoms held constant. Zero-order and partial correlations between ECR-RS and the other measures are presented in Table 4. As expected, moderate associations were found between external shame and the attachment dimensions, with more anxious and avoidant individuals reporting more shame. The relationship quality dimensions were moderately correlated with the attachment dimensions in some relational domains, and the

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strength of these associations was particularly strong in the partner dimension. In most cases, the partial correlations remained significant but were smaller than the zero-order correlations. Finally, small to medium correlations were found between depressive and anxious symptoms and the attachment dimensions in the majority of relational domains. Overall, more anxious and avoidant individuals tended to report more anxious and depressive symptoms.

Discussion

The results of the current study provided additional evidence of the reliability, validity, and cross-cultural adequacy of the ECR-RS, suggesting that this is an adequate measure of attachment dimensions in adulthood across several relational domains. According to our expectations, the Portuguese version of the ECR-RS retained the original two-factor structure, exhibiting a good fit to the observed data in each of the four relational domains.

In line with the results obtained from the original version of the ECR-RS, we found that in a possible range of 1 to 7 the mean values of anxiety and avoidance were below the midpoint of the scale in all of the domains (i.e., the mean scores ranged from 1.62 to 3.12), which may suggests that the average individual is likely to report being secure in these types of relationships. Only avoidance toward the father presented a mean value close to the midpoint of the response scale. With regard to the internal consistency of the scale, the Portuguese version of the ECR-RS proved to be a reliable measure of attachment. Although this is a brief scale, these values are comparable to those obtained in longer measures of attachment (e.g., ECR, ECR-R), which may be due to its higher specificity. In fact, the contextualization of the target may minimize the measurement errors that may occur as a result of a global or unspecified relational target, which may counterbalance the eventual detrimental effect of a reduced number of items.

The correlations between and within the attachment dimensions provided interesting and important results. First, within each relational domain, the correlations between anxiety

and avoidance were moderate, suggesting that higher levels of anxiety in a relationship are associated with higher levels of avoidance in the same relationship. Although anxiety and avoidance are traditionally viewed as orthogonal (Bartholomew & Horowitz, 1991; Mikulincer & Shaver, 2007), in many studies, these dimensions have been shown to be correlated (e.g., Brennan et al., 1998; Fraley et al., 2000; Donbaek & Elklit, 2013; Wei et al., 2007). Cameron, Finnegan, and Morry (2012) conducted a meta-analysis with the goal of examining whether attachment dimensions, assessed with the ECR and ECR-R scales, were orthogonal or oblique. These authors found that the average correlation was approximately .20. As stressed by Fraley et al. (2011), a conceptual distinction between constructs does not require statistical independence between them. Therefore, the frequently observed moderate correlations between attachment dimensions do not imply that these constructs are identical but only that they are associated. As such, we recommend that future adaptations of the ECR-RS to other languages test the factorial structure of the scale by allowing anxiety and avoidance to correlate.

Second, we found that correlations within each attachment dimension were mostly of moderate strength in the avoidance domain. This finding suggests that there is some intra-personal variability in individuals' attachment. Therefore, although it is often assumed that there is a common attachment orientation underlying individuals' relationships, an individual can have, for example, a secure relationship with one parent and an avoidant relationship with a partner. Nevertheless, we should note that, contrary to expectations and the original studies (Fraley et al., 2011), we found strong correlations in the anxiety dimension, which may suggest some consistency across domains in this dimension. In addition, consistent with the study by Fraley et al. (2011), we found the highest degree of similarity between the mother and father (.73 and .45 for anxiety and avoidance, respectively). The lowest degree of

similarity was found between attachment to the father and friends (in the avoidance dimension) and between attachment to the father and partner (in the anxiety domain).

As expected, positive and small to moderate associations were found between the attachment dimensions and external shame, a self-conscious emotion that refers to the perception of being evaluated by others as inferior, defective, or unattractive (Gilbert, 1998). Individuals with high levels of attachment anxiety and avoidance generally possess a negative view of the self (as undesirable) and/or of others (as rejecting or unavailable), which may be reflected in high levels of shame, as suggested by our results. For instance, avoidant individuals may avoid other people because they may believe that others view them in a negative way (i.e., because of their external shame).

In addition, both attachment dimensions were associated with different facets of romantic relationship quality, and these associations were stronger in the partner relational domain. The correlations in this domain were mostly medium-sized correlations, with the exceptions of the association between partner avoidance and consensus and satisfaction, which were large. Indeed, it is well established that the way adults think, feel, or act in romantic relationships is influenced by their attachment styles (Berlin, Cassidy, & Appleyard, 2008; Meyers & Landsberger, 2002; Stackert & Bursik, 2003) and that attachment security is generally associated with greater relationship satisfaction and with happier and more trustful experiences with a partner (Meyers & Landsberger, 2002; Saavedra, Chapman, & Rogge, 2010). It has been argued that these better outcomes may result from the affective consequences of secure attachment (e.g., reduced distress due to proximity to a significant one), which contribute to a positive orientation toward closeness and intimacy (Mikulincer & Shaver, 2007). Therefore, it is possible that participants who reported feeling less anxiety and avoidance toward their partner had a more positive approach toward their relationships, reporting more consensus, satisfaction, and cohesion within their romantic relationships.

Finally, attachment dimensions correlated significantly and negatively with depressive and anxious symptoms, corroborating the well-known influence of attachment in individuals' global well being and psychological functioning (Fraley et al., 2011). It is important to note that due to the relatively large sample size, almost all of the correlation coefficients were significant, although the effect sizes were mostly small to moderate (i.e., less than or approximately .30). Therefore, some caution is needed in interpreting and generalizing the results. Moreover, partial correlations were smaller than the zero-order correlations and some were not significant, which suggests that some of the variance shared between attachment and shame and between attachment and relationship quality dimensions may be accounted for by anxious and depressive symptoms.

With regard to gender differences, no differences were found between men and women in most relational domains with the exception of attachment to friends, in which men reported more avoidance than women. This result is line with previous studies showing that women typically feel emotionally closer to and more intimate with their best friends than men do (Bank & Hansford, 2000). However, the absence of significant differences in the other domains conflicts with most studies on romantic attachment that have revealed higher avoidance among men than among women (Del Giudice, 2011; Schmitt, 2003). This finding is in accordance with the study by Moreira et al. (2006) in which no significant gender differences were found in a Portuguese sample of community individuals. Although these findings may reveal a true cultural issue, it is important to underline that, as in the large majority of studies, the study by Moreira et al. (2006) only focused on romantic attachment, whereas the current investigation also explored attachment to parents and friends. Therefore, the results from both studies may not be entirely comparable. One possible explanation for the absence of significant gender differences may be the low and disproportionate number of male participants due to the use of a sample collected online. Del Giudice (2011) found in his

meta-analysis that although men generally report higher avoidance and lower anxiety than women, that difference is almost nonexistent in web-based studies. As argued by Del Giudice (2011), the small effect observed in this type of study may be the result of the typical imbalance in the composition of web samples, which usually include a much larger number of women than men. This imbalance may be explained by a self-selection bias in participants (e.g., women may be more interested in participating in online surveys about close relationships than men). Therefore, future studies using the ECR-RS and data obtained through traditional paper-and-pencil methods are indispensable for confirming the results obtained in the current study.

The current study has some limitations that should be noted. First, although we attempted to include the most diverse community sample possible, the representativeness of the sample may be compromised because of the high and disproportionate number of women (66.3%) and participants with graduate or post-graduate studies (86.4%). Ideally, this sample should have been composed of an equivalent number of men and women and a greater number of individuals with lower levels of education. Second, we were not able to determine the test-retest reliability of the scale because the assessment protocol was only administered once. Third, although it has been demonstrated that web-based studies are reliable and present several advantages (e.g., larger and more diverse samples, motivated participants; Gosling, Vazire, Srivastava, & John, 2004), they may increase the likelihood of self-selection bias, which may have obscured differences between genders in this particular study. Finally, the exclusive use of self-report measures have introduced a monomethod bias, consequently inflating correlations between measures. It is important for future studies to use other methods of assessment to measure the same constructs. For instance, it would be interesting to use an interview measure such as the AAI (Main, Kaplan, & Cassidy, 1985) to assess adult attachment representations and to explore the degree of convergence between these methods.

Despite these limitations, the current study demonstrated important strengths. This was the first study to test the psychometric properties of the Portuguese version of the ECR-RS, providing a reliable and valid measure of adult attachment for Portuguese researchers as well as other researchers interested in cross-cultural comparison studies. The current study confirms that the Portuguese version of the ECR-RS is a psychometrically robust measure of attachment-related anxiety and avoidance in different relational domains. In addition, to the best of our knowledge, this study was the first to test the two-dimensional structure of the ECR-RS through CFA. Additional research is required to extend and replicate these findings in other cultures. We hope that researchers from different countries who are interested in the assessment of individual differences in adult attachment will translate and investigate the psychometric properties of the ECR-RS to test the cross-cultural validity of the scale.

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Table 1. Means, standard deviations, Cronbach's alphas, and intercorrelations among variables

	Anxiety				Avoidance				Global	
	Mother	Father	Partner	Friend	Mother	Father	Partner	Friend	Anxiety	Avoidance
Anxiety										
Mother	--									
Father	.73**	--								
Partner	.52**	.40**	--							
Friend	.59**	.51**	.52**	--						
Avoidance										
Mother	.26**	.18*	.18*	.23**	--					
Father	.09	.20*	.20*	.22**	.45**	--				
Partner	.29**	.19*	.31**	.26**	.29**	.20**	--			
Friend	.21**	.21**	.11	.29**	.25**	.15*	.31**	--		
Global										
Anxiety	.86**	.78**	.78**	.81**	.26**	.23**	.32**	.25**	--	
Avoidance	.28**	.28**	.28**	.35**	.78**	.79**	.53**	.53**	.37**	--
M	1.82	1.82	2.69	2.17	2.48	3.12	1.62	2.09	2.12	2.32
DP	1.21	1.28	1.53	1.32	1.24	1.56	0.66	0.85	1.08	0.75
Cronbach's α	.75	.86	.91	.89	.89	.91	.72	.81	.91	.88

*p < .01, **p < .001

Table 2. *Confirmatory factor analyses results for the ECR-RS*

| | Goodness of fit statistics | | | | | | Standardized regression weights of factor loadings | | | | | | | | | Anxiety-avoidance correlations |
| | $\chi^2(23)$ | *p* | CFI | SRMR | RMSEA | RMSEA 90% CI | | Anxiety | | | | | | Avoidance | | | |
						Low	Hi	1	2	3	4	5	6	7	8	9	*r* (*p*)
Mother	39.71	.017	.985	.057	.064	.024	.084	.72	.92	.86	.70	.71	.65	.63	.67	.85	.257 (.002)
Father	44.10	.005	.987	.049	.062	.034	.090	.77	.95	.94	.79	.61	.62	.79	.76	.91	.192 (.010)
Partner	58.06	< .001	.969	.084	.081	.055	.100	.67	.88	.89	.52	.38	.38	.84	.85	.95	.185 (.018)
Friend	38.98	.020	.986	.050	.054	.022	.083	.65	.78	.77	.69	.47	.58	.87	.82	.90	.327 (.001)

Note. All standardized regression weights of factor loadings were significant ($p < .001$)

Table 3. *Gender differences in the ECR-RS scores*

	Men $n = 67$ $M\,(SD)$	Women $n = 169$ $M\,(SD)$	F	p	Cohen's d
Anxiety					
Mother	2.06 (1.39)	1.72 (1.12)	1.70	.194	0.27
Father	2.01 (1.35)	1.75 (1.25)	0.29	.590	0.20
Partner	2.64 (1.55)	2.71 (1.53)	0.32	.569	0.05
Friend	2.41 (1.25)	2.08 (1.33)	0.61	.435	0.26
Avoidance					
Mother	2.62 (0.87)	2.42 (1.35)	0.62	.434	0.18
Father	2.98 (1.37)	3.17 (1.63)	1.07	.303	0.13
Partner	1.77 (0.81)	1.56 (0.58)	2.99	.085	0.30
Friend	2.44 (0.79)	1.94 (0.84)	9.89	.002	0.61
Global					
Anxiety	2.28 (1.16)	2.06 (1.04)	0.31	.578	0.20
Avoidance	2.45 (0.65)	2.27 (0.78)	1.03	.310	0.25

Table 4. *Means, standard deviations and correlations between ECR-RS and other measures*

	External shame		Cohesion		Consensus		Satisfaction		Depression	Anxiety
Mean (*SD*)	19.18 (8.73)		3.05 (0.95)		3.92 (0.53)		3.84 (0.62)		3.55 (2.92)	6.39 (3.31)
Anxiety										
Mother	.16	(.08)	-.15	(-.10)	-.11	(-.05)	-.09	(-.00)	.19*	.22**
Father	.08	(.02)	-.16	(-.12)	-.03	(-.02)	-.02	(-.06)	.15	.16
Partner	.35**	(.26**)	-.22**	(-.16*)	-.24**	(-.17*)	-.24**	(-.13)	.25**	.31**
Friend	.39**	(.32**)	-.22**	(-.15)	-.14	(-.07)	-.18*	(-.07)	.25**	.25**
Avoidance										
Mother	.30**	(.28**)	-.15	(-.12)	-.18*	(-.16)	-.17*	(-.14)	.13	.03
Father	.31**	(.28**)	-.13	(-.11)	-.17*	(-.14)	-.14	(-.09)	.11	.17*
Partner	.22**	(.11)	-.32**	(-.24**)	-.46**	(-.40**)	-.52**	(-.44**)	.33**	.27**
Friend	.21**	(.17*)	-.21*	(-.17*)	-.05	(-.02)	-.07	(-.01)	.16	.08
Global										
Anxiety	.31**	(.22**)	-.23**	(-.17*)	-.17*	(-.09)	-.17**	(-.05)	.26**	.30**
Avoidance	.39**	(.34**)	-.26**	(-.21*)	-.28**	(-.23**)	-.27**	(-.20*)	.23**	.19*

Note. Numbers outside of parentheses are the zero-order correlations. Numbers within parentheses are the partial correlations, controlling for anxiety and depression. To control for Type I error, only correlations with *p* < .01 were reported.

p < .01, **p* < .001