Adult attachment and dyadic adjustment: The mediating role of shame

Teresa C. Martins[1,2], Maria Cristina Canavarro[1] & Helena Moreira[1]

[1]Cognitive–Behavioral Research Centre (CINEICC), Faculty of Psychology and Education Sciences, University of Coimbra, Coimbra, Portugal

[2]Centre for Neurosciences and Cell Biology (CNC), University of Coimbra, Coimbra, Portugal

Address correspondence to Teresa C. Martins, Serviço de Física Médica, Instituto Português de Oncologia de Coimbra de Francisco Gentil, Av. Bissaya Barreto 98, Apartado 2005, 3000-651 Coimbra, Portugal.

Abstract

Although it is widely recognized that adult attachment is associated with romantic relationship quality, the mechanisms involved remain poorly understood. This study aimed to investigate the mediating role of external and internal shame on the association between attachment and dyadic adjustment. A battery of self-report measures was completed by 228 Portuguese participants and a serial multiple mediation model was tested. Data showed that, in the population under study, attachment dimensions were associated with worse dyadic adjustment through high external and internal shame. Internal shame alone also mediated the association between attachment avoidance and dyadic adjustment. This study identifies a new putative mechanism linking adult attachment and intimate relationship functioning that may be targeted in couples therapy to promote a better dyadic adjustment and relationship functioning.

Key words: attachment, dyadic adjustment, external shame, internal shame, shame-proneness.

Introduction

It is well established that attachment styles influence the way adults think, feel and act in romantic relationships and that secure adult attachment is generally associated with greater relationship satisfaction and happier and more trusting experiences (Berlin, Cassidy, & Appleyard, 2008; McCarthy & Maughan, 2010; Meyers & Landsberger, 2002; Saavedra, Chapman, & Rogge, 2010; Stackert & Bursik, 2003). In a dimensional perspective, secure attachment is characterised by low levels of attachment anxiety and avoidance (Brennan, Clark, & Shaver, 1998; Feeney, 2008; Fraley & Shaver, 2000). Attachment anxiety is characterized by sensitivity to rejection and abandonment, and concerns about the romantic partner's availability or support in times of need, and is associated with clingy and dependent behaviour in relationships. In turn, attachment avoidance is characterized by discomfort with intimacy and closeness in relationships. It mirrors the degree to which individuals distrust their partners' good intentions and strive to reduce intimacy and to maintain emotional distance and independence from their partners (Fraley, Waller, & Brennan, 2000; Joel, MacDonald, & Shimotomai, 2011; Mikulincer, Florian, Cowan, & Cowan, 2002; Selcuk, Zayas, & Hazan, 2010).

Attachment avoidance and anxiety are both negatively correlated with marital adjustment (e.g. Lopez, Riggs, Pollard, & Hook, 2011). However, the mechanisms involved in the association between attachment and marital functioning are still poorly understood. The majority of studies have focused on proximal relational variables (e.g., communication, self-disclosure and emotional expression; reviewed in Meyers & Landsberger, 2002). However, individual features remain poorly studied. One important individual variable that may impact romantic relationship functioning is shame, a self-conscious emotion that is shaped in early interactions with primary caregivers. Because it is essentially a social emotion, it is expected that shame will affect interpersonal interactions, such as intimate relationships with a romantic partner.

Shame may concern a transient emotional experience (state shame) or a predisposition to feel shame (trait shame or shame-proneness). According to Gilbert (e.g., 1998), shame-proneness comprises external shame, which concerns the perception of being evaluated by others as inferior, defective or unattractive, and internal shame, which is associated with negative self-evaluations and judgments focused on one's imperfections and limitations with regard to themes as diverse as personal attributes, dependence/independence, competition, the sense of self, personal attractiveness, sexuality, issues of seeing and being seen, and the desire for and fear of intimacy (Gilbert, 2000; Nathanson, 1992).

The experience of shame usually involves an interaction between internal and external shame (Gilbert & Procter, 2006). Gilbert (2010) proposed that internal shame has its origins in external shame. Specifically, this author argued that early negative experiences with caregivers (e.g., experiences of shaming) result in vulnerability to external shame, which may activate defensive strategies, including an internalised shame response, associated with self-devaluation and negative internal attributions and adoption of subordinate, submissive behaviour with self-monitoring and self-blame.

Shame may arise in early interactions with attachment figures (Consedine & Magai, 2003; Mills, 2005; Pinto-Gouveia & Matos, 2011). Lewis (1971) argued that shame stems from the needs for attachment to others and that rejection by significant others, which is usually perceived as a global and uncontrollable rejection of an undesirable self, should be considered a characteristic shame-inducing experience. Baldwin (1992, 1997, 2005) proposed that the internal working models (IWM) not only influence predictions about self and others' behaviours in social interactions, but also shape self-evaluation and self-to-self experiences that can generate shame. Schore (1994, 1996) argued that the child's attachment orientation is primarily a shame regulation style and that, when attachment figures are consistently unavailable and do not support

child's affect regulation, the child uses shame in self-regulation through detachment and withdrawal. Consequently, the child may minimize and inhibit the expression of attachment-related emotions and may demonstrate anxiety, inhibition and proneness to shame. Furthermore, it has been demonstrated that shame memories may shape the IWM of self (which is perceived as unworthy and undesirable) and others (who are perceived as threatening, harsh, powerful, rejecting, critical and hostile) and become part of relational schemata (Matos, Pinto-Gouveia, & Costa, 2013), being perceived as reference marks for daily inferences and for future expectations (Pinto-Gouveia & Matos, 2011). Thus, shame may drive behaviour in social interactions, influence one's feelings about oneself, and shape one's sense of self-identity and feelings of social desirability and acceptance (Gilbert, 1998; Tangney & Dearing, 2002).

It has been recognized that different shame experiences (related to different shame domains, such as conformity, prosocial behaviour, sex and status/competition) and shame proneness may exist in distinct cultures, namely in individualistic and collectivistic societies (Greenwald & Harder, 1998; Sznycer, Takemura, Delton, Sato, Robertson, Cosmides, & Tooby, 2012). In Portugal, like in the majority of Western societies, individualism prevails. In individualistic cultures, shame is focused inwards, on the self, and, therefore, individual achievement and status competition is of great importance for the majority of individuals. High competitiveness may be detrimental for the quality of relationships (Greenwald & Harder, 1998).

Cultural differences in shame proneness may also relate to other features of an individual's social ecology, such as the likelihood and costs of dissemination of damaging information about the self. According to the information threat theory of shame (Sznycer et al., 2012), to reduce the costs of being devalued by a significant other (e.g., relationship partner), one may engage in alternative relationships, thus receiving support from others. Thus, shame proneness will be influenced by relational mobility (the degree to which an individual in a given society may

establish new relationships and end old ones; Schug, Yuki, & Maddux, 2010). As low levels of relational mobility are associated with increased difficulty in the formation of compensatory relationships, they contribute to increased shame proneness, particularly in close relationships (Sznycer et al., 2012).

Taking all these points into consideration, it is conceivable that shame-proneness may influence romantic relationships. Several studies have demonstrated that shame and shame-related constructs are associated with several relationship outcomes. Gross and Hansen (2000) argued that people who feel unworthy tend to experience increased interpersonal difficulties and to be more aware of the importance of intimate relationships. Claesson and Sohlberg (2002) demonstrated that individuals with high levels of shame show persistent concerns about rejection and the discovery of their negative self, establishing relationship dynamics that ultimately may lead to abandonment and rejection. In turn, Harper (2011) argued that shame-associated guardedness and strategies employed to prevent shame from being discovered may affect couple communication. These relationship dynamics may include the non-disclosure of emotions and fears of intimacy, which can be attributed to the anticipation of negative interpersonal responses to disclosure (Lutwak, Panish, & Ferrari, 2003; MacDonald & Morley, 2001). Last, it has been shown that the way people believe they are evaluated by their partners plays a pivotal role in relationship functioning (Overall & Fletcher, 2010).

Because shame is a social emotion that arises from early interactions with significant others and affects intimate relationships, we hypothesize that shame may mediate the association between attachment and dyadic adjustment. Nevertheless, to the best of our knowledge, this mechanism has never been investigated. Understanding the role of shame in this context may be important for the identification of new therapeutic targets, which may be easier to manage in couple therapy than interpersonal schemata. Thus, the present study aimed to explore the indirect

effects of attachment anxiety and avoidance on dyadic adjustment, through external and internal shame. Dyadic adjustment was measured through the composite assessment of dyadic consensus, satisfaction and cohesion. The extension of problematic dyadic differences, interpersonal tension and conflict, individual anxiety, dyadic satisfaction and cohesion, couple's consensus on issues that are important for relationship functioning (e.g. family, financial, affection and sexual issues), the quality of partners' interactions and shared activities, and global evaluation of the relationship determine dyadic adjustment (Busby, Christensen, Crane, & Larson, 1995).

It was expected that higher levels of attachment anxiety and avoidance would be associated with decreased dyadic adjustment through higher levels of external shame, which, in turn, would be associated with high internal shame.

Methodology

Participants

A convenience sample was used, which comprised 228 Caucasian subjects from the general Portuguese population who met the following inclusion criteria: (a) 18 years old or older; and (b) in a romantic relationship for at least six months (to assure some relationship stability). The socio-demographic characteristics of the sample are presented in Table 1. All couples included in this study were heterosexual couples.

Procedure

A battery of self-report questionnaires designed to measure adult attachment, internal and external shame and dyadic adjustment were provided to the participants online through a data collection website (LimeSurvey©). This battery was accompanied by an introductory text that

stated the inclusion criteria and presented information on the confidentiality of the data and ethical issues. Only people who agreed with these conditions filled out the questionnaire. An invitation to participate in this study was distributed through an email containing a brief explanation of the study and the survey link, which was sent to different departments of the University of Coimbra (researchers, staff and graduate students) and to the researchers' acquaintances, friends and family. In addition, all potential participants were asked to forward the email to at least one person to obtain the largest and most diverse community sample possible. Participation in the study was voluntary. No compensation was given to the participants.

Measures

Adult attachment. The *Experiences in Close Relationships – Relationship Structures* (ECR-RS) scale (Fraley, Heffernan, Vicary, & Brumbaugh, 2011; Portuguese version: Moreira, Martins, Gouveia, & Canavarro, 2015) is a self-report instrument designed to measure attachment dimensions (anxiety and avoidance) in different types of close relationships (mother, father, romantic partner and best friend). It is possible to obtain global measures of attachment anxiety and avoidance through the estimation of the means of the two dimensions in the four relationship targets. For each target, the scale is composed of nine items rated in a seven-point Likert scale (1 = *Strongly disagree*; 7 = *Strongly agree*). Higher scores on these subscales are indicative of high attachment avoidance and anxiety. In this study, we used the global anxiety and avoidance scores. All participants were able to rate the four targets.

Fraley et al. (2011) found the ECR-RS to be a psychometrically sound measure of the two dimensions in the four relational domains and provided evidence of its reliability (Cronbach's α ranged from .85 to .92) and validity. The Portuguese version revealed adequate reliability (Cronbach's α ranged from .72 to .91) and confirmed the original two-factor structure. In the

present study, Cronbach's α was .88 for the Avoidance Subscale, and .93 for the Anxiety Subscale.

Internal shame. The *Internal Shame Scale* (ISS; Cook, 1996; Portuguese version: Matos, Pinto-Gouveia, & Duarte, 2012) is a self-report inventory comprising 30 items, 24 of which constitute the internal shame subscale that measures trait shame, particularly internal shame. These items are negatively worded and assess the frequency with which people experience feelings of shame. The ISS also includes a 6-item self-esteem subscale, which was not used in the present study. All items are rated on a five-point Likert scale (0 = *Never* to 4 = *Almost always*). Higher scores on the internal shame subscale reveal high internal trait shame. The Portuguese version has shown high internal consistency with a Cronbach's α of .95 for the internal shame subscale, and moderate to high item-total correlations. It has also revealed excellent temporal stability, as well as convergent (a strong and positive correlation with an external shame measure and a negative association with favourable social comparisons) and discriminant (moderate positive correlations with depressive, anxiety and stress symptoms) validity. In this study, the Cronbach's α for the internal shame subscale was .95.

External shame. The *Other As Shamer Scale* (OAS; Allan, Gilbert, & Goss, 1994; Goss, Gilbert, & Allan, 1994; Portuguese version: Matos, Pinto-Gouveia, & Duarte, 2011) is composed of 18 items measuring the frequency of feelings and experiences of external shame (global judgements of how people believe others view them), rated on a five-point Likert scale (0 = *Never* to 4 = *Almost always*). Higher scores on this scale are indicative of high external shame. The original scale (Goss, Gilbert, & Allan, 1994) has a high internal consistency (Cronbach's

α .92). In this study, the Cronbach's α was .91.

Relationship functioning. The Portuguese version of *Revised Dyadic Adjustment Scale* (RDAS; Busby et al., 1995; Pereira, Narciso, & Canavarro, 2015) was used to measure the individual's perceived dyadic functioning. This self-report questionnaire, consisting of 14 items rated on five- or six-point Likert scales, measures the adjustment in romantic relationships with regard to consensus (decision making, values and affection), satisfaction (stability and conflict), and cohesion (activities and discussions). The RDAS has shown adequate reliability, construct validity and criterion validity (Busby et al., 1995). In this study, the Cronbach's α of the scale was .82.

Data Analysis

The data analyses were conducted using the *Statistical Package for the Social Sciences* (SPSS, version 20.0; IBM SPSS, Chicago, IL). Missing data were random and infrequent (< 5%) and were handled by simple group mean substitution. Socio-demographic data were not substituted.

Descriptive statistics were computed for all socio-demographic and study variables. Pearson product-moment correlations between socio-demographic and study variables were performed to identify possible covariates. Cohen's guidelines (1988) were used to describe the effect sizes of reported correlations (i.e., *small* for correlations close to .10, *medium* for those near .30, and *large* for correlations at .50 or higher). Significance was set at the .05 level.

A mediation model was tested with PROCESS (Hayes, 2013), a computational tool for path analysis-based moderation and mediation analysis. Using this SPSS macro, a serial multiple

mediation model ("model 6" in Hayes, 2013) with two independent and two mediator variables was estimated. A bootstrapping procedure using 10,000 resamples was used to assess unconditional indirect effects. Bootstrapping is a nonparametric resampling procedure that is recommended for testing indirect effects because it does not require the assumption of normality of the sampling distribution of the indirect effects (Hayes, 2013). This procedure creates 95% bias-corrected and accelerated confidence intervals (BCa CIs) of the indirect effects. An indirect effect is considered significantly different from zero if zero is not contained within the lower and upper CIs.

Results

Descriptive Statistics and Correlations

The means, standard deviations and intercorrelations for the study variables are presented in Table 2. With regard to attachment and dyadic adjustment, the results show that attachment avoidance and attachment anxiety were both negatively and moderately correlated with dyadic adjustment ($r = -.29$, $p < .001$; and $r = -.30$, $p < .001$, respectively). Attachment dimensions were also significantly correlated with both internal and external shame. There was a medium positive correlation between anxiety and both internal ($r = .34$, $p < .001$) and external shame ($r = .36$, $p < .001$), and a medium to high positive correlation between avoidance and internal ($r = .44$, $p < .001$) and external shame ($r = .41$, $p < .001$). The Pearson product-moment correlation coefficients showed that shame was moderately and negatively correlated with dyadic adjustment ($r = -.42$, $p < .001$, for internal shame; and $r = -.34$, $p < .001$, for external shame).

Bivariate associations between the socio-demographic and study variables were also analyzed. Significant correlations were found between gender (0 = male; 1 = female) and

attachment avoidance (r = -.14, p = .038); and between attachment anxiety and relationship duration (r = .15, p = .027) and cohabiting time (r = .14, p = .031).

Mediation Analysis

To evaluate the indirect effect of attachment dimensions on dyadic adjustment through external and internal shame, a serial multiple mediation model was estimated. In this model, dyadic adjustment acted as the dependent variable (DV), attachment dimensions (anxiety and avoidance) acted as the independent variables (IVs), and external and internal shame acted as the mediators (M_1 and M_2, respectively). The effects of the IVs on the proposed Ms (paths a_1 and a_2), the effects of M_1 and M_2 on the DV partialling out the effect of the IVs and the other M variable (paths b_1 and b_2), the direct effect of the IVs on DV after controlling for M_1 and M_2 (paths c'), and the total effect of the IVs on the DV (path c) are presented in Figure 1. Gender and relationship duration were entered as covariates. Cohabiting time was not included in the model as a covariate due to its high correlation with relationship time (r = .94).

The analysis of individual paths showed that attachment anxiety and avoidance were significantly associated with external shame (b = 1.95, SE = 0.49, p < .001; b = 4.04, SE = 0.80, p < .001, respectively), explaining 22.9% of its variance (R^2 = .229, $F(4, 223)$ = 16.59, p < .001). Internal shame was significantly associated with external shame (b = .97, SE = 0.09, p < .001) and attachment avoidance (b = 3.73, SE = 1.11, p < .001), but not with attachment anxiety (b = .73, SE = 0.67, p = .28). These variables explained 50.5% of internal shame variance (R^2 = .505, $F(5, 222)$ = 45.30, p < .001). Dyadic adjustment was significantly associated with internal shame and attachment anxiety (b = -.16, SE = 0.04, p < .001; b = -.91, SE = 0.43, p < .05, respectively), but not with external shame (b = -.03, SE = 0.07, p = .65) or attachment avoidance (b = -.89, SE =

0.73, $p = .23$). All the variables explained 21.1% of dyadic adjustment variance ($R^2 = .211$, $F(6, 221) = 9.85$, $p < .001$).

A significant specific indirect effect of attachment anxiety on dyadic adjustment through external and internal shame was found ($a_1d_{21}b_2 = -.30$, $SE = 0.13$, 95%BCaCI [-.63, -.10]). This means that people with increased attachment anxiety have poorer dyadic adjustment as a result of higher levels of external shame, which, in turn, are associated with higher internal shame. Neither external shame nor internal shame alone acted as mediators of the effects of attachment anxiety on dyadic adjustment ($a_1b_1 = -.06$, $SE = 0.16$, 95%BCaCI [-.41, .26]; $a_2b_2 = -.11$, $SE = 0.12$, 95%BCaCI [-.37, .10], respectively).

A significant specific indirect effect of attachment avoidance on dyadic adjustment through external and internal shame was also found ($a_1d_{21}b_2 = -.62$, $SE = 0.25$, 95%BCaCI [-1.23, -.27]), meaning that people with increased attachment avoidance have poorer dyadic adjustment as a result of higher levels of external shame, which, in turn, are associated with higher internal shame. A significant indirect effect was also found with regard to the association of attachment avoidance and dyadic adjustment though internal shame ($a_2b_2 = -.59$, $SE = 0.22$, 95%BCaCI [-1.15, -.24]). Conversely, external shame alone did not act as a mediator of the effects of attachment avoidance on dyadic adjustment ($a_1b_1 = -.13$, $SE = 0.33$, 95%BCaCI [-.85, .49]).

Discussion

Because attachment experiences may constitute a source of shame and shame may affect intimate relationship functioning, this study explored the mediating role of shame on the effects of attachment on dyadic adjustment. Given that internal shame may arise as a defensive mechanism against external shame (Gilbert, 2010), a serial mediation analysis was performed. As expected, the results showed that, in the population under study, increased attachment anxiety

and avoidance were associated with poorer dyadic adjustment through high levels of external shame, which were associated with high internal shame. In addition, the results demonstrated that the association of attachment avoidance and dyadic adjustment could be mediated by internal shame alone. The data in this work did not confirm the hypotheses of a mediating role for external shame alone on the association between attachment and dyadic adjustment, or of a mediator role for internal shame alone in the link between attachment anxiety and dyadic adjustment.

As described in other studies (Bogaert & Sadava, 2002; Lopez et al., 2011; Stackert & Bursik, 2003), a significant negative association between attachment dimensions and dyadic adjustment was observed. Attachment security (low anxiety and avoidance) is usually associated with positive beliefs about and increased satisfaction with intimate relationships, the formation of stable relationships, higher levels of intimacy, commitment and emotional involvement, and positive patterns of communication and interaction (Mikulincer et al., 2002). These positive outcomes may result from the affective consequences of secure attachment (reduced distress due to proximity to a significant person), which contribute to a positive orientation toward closeness and intimacy and promote involvement in lasting romantic relationships (Mikulincer et al., 2002). In addition, low attachment anxiety and avoidance, which reflect positive IWM of the self and others (Feeney, 2008), may foster the development of a cognitive-affective framework for conflict management, and facilitate the satisfaction of other psychological needs (e.g., exploration, affiliation and caregiving) within the relationship, thus contributing to the maintenance of satisfying relationships (Feeney & Hohaus, 2001; Mikulincer et al., 2002; Selcuk et al., 2010). In contrast, attachment avoidance was shown to be positively associated with divorce and multiple marriages, whereas attachment anxiety has been correlated with the maintenance of an unhappy marriage. Both dimensions seem to be positively associated with

destructive and coercive conflict management behaviours and negatively related to constructive and compromising behaviours (reviewed in Selcuk et al., 2010).

The innovative contribution of this study is the demonstration that both external and internal shame mediated the effect of attachment anxiety and avoidance on dyadic adjustment. These data are consistent with Gilbert's model of shame, which states that insecure attachment is at the roots of believing that others do not value the self but rather look down on the self (external shame; Gilbert, McEwan, Bellew, Mills, & Gale, 2009). When an individual believes that others hold a negative view of the self, he/she may engage in various defensive strategies. One of these strategies is the internalization of shame, which leads individuals to experience the self as inferior, worthless, defective and undesirable (Gilbert, 2010; Tangney, Stuewing, & Mashek, 2007), this way putting a constant pressure on insecurely attached individuals to find acceptance in the eyes of others and of the self. This pressure makes the individual strive to avoid inferiority and negative evaluations, and leads to an intense need for partner's validation (Dykman, 1998; Gilbert et al., 2009).

Our data are also in agreement with the observation that shame is positively correlated with fearful and preoccupied attachment, which are characterised by high levels of attachment anxiety (Gross & Hansen, 2000; Lopez et al., 1997). However, our results on attachment avoidance, namely the mediator role of internal shame alone on the association between attachment avoidance and dyadic adjustment, somewhat contrast the ones obtained by these authors, which failed to demonstrate a correlation between shame and dismissing attachment (high in attachment avoidance). However, different measures of shame and attachment, and a distinct attachment conceptualization (dimensional) were used in this work. The results presented here suggest that individuals who are high in attachment avoidance possess a negative view of the self (possibly fearful avoidant individuals), reflected in their high levels of internal shame, and that the avoidant

behaviour of these individuals in relationships, which is generally attributed to their negative view of significant others (as rejecting or unavailable), may also be due to their perception that others view them negatively (external shame). Our data are congruent with Gross and Hansen's (2000) hypothesis that dismissing individuals' minimization of others constitutes a defensive, self-protective strategy with an underlying negative sense of self. It has been shown that individuals high in attachment avoidance tend to organize the self in a defensive way, which characteristically includes poor access to negative self-features, weak integration of these features with other self-related attributes and the use of different defensive strategies, such as self-inflation. It is believed that this defensive organization of the self stems from fear of rejection and is used to maintain a consistent self-concept (Cassidy, 1988; Mikulincer, 1995; Mikulincer & Shaver, 2008; Smolewska & Dion, 2005).

Shame may affect dyadic functioning in several ways. For instance, it has been shown that the way people believe they are evaluated by their partners plays a pivotal role in relationship functioning (Overall & Fletcher, 2010). Individuals who are high in internal shame may be pessimistic about the likelihood of others' acceptance (Overall & Fletcher, 2010) and may underestimate the positive view of their romantic partners (Murray, Holmes, Griffin, Bellavia, & Rose, 2001), as may people who are high in external shame. These individuals usually experience poorer relationship quality and protect themselves from expected rejection by devaluing and withdrawing from their partners (Murray, Bellavia, Rose, & Griffin, 2003). In contrast, individuals who have a positive perception of their partner's regard report high relationship satisfaction and trust in their partners' continued regard and they positively cope with relationship problems by trying to restore intimacy (Campbell, Simpson, Kashy, & Fletcher, 2001; Murray et al., 2003).

Shame may also impact dyadic adjustment through conflict management and interpersonal

tension because it activates feelings of unworthiness during conflicts, generating hostile defensiveness (Tangney et al., 2007; Williamson, Sandage, & Lee, 2007), self- (regarding one's behaviour and character) and others-blaming (Gilbert & Procter, 2006; Lutwak et al., 2003; Tangney et al., 2007), and self and others-attack (Fedewa, Burns, & Gomez, 2005; Tangney et al., 2007). Irrational rage episodes that characterise the interpersonal style of high-shame individuals tend to alienate romantic partners (Tangney et al., 2007). Self-blame constitutes a shame-associated defensive strategy that is used in response to conflict in intimate relationships, namely in abusive relationships (Andrews & Brewin, 1990; Buchbinder & Eisikovits, 2003, Gilbert & Procter, 2006). In addition, self-blaming and self-criticism that arise during conflicts may promote both internal and external shame and increase the sense of internal threat (Castilho & Pinto-Gouveia, 2011; Gilbert & Irons, 2004; Gilbert & Procter, 2006). Other damage limitation strategies associated with shame that may affect dyadic consensus and relationship satisfaction include adoption of a submissive posture (Gilbert, 2010). However, extensive submissiveness is not attractive or adaptive and can lead to a lack of control over relationship outcomes and to rejection, which, in turn, confirm judgments of one's low rank and the need to be submissive (Gilbert, 2000).

Shame may also affect dyadic adjustment through its impact on intimacy (Lutwak et al., 2003), sexual functioning (Harper, 2011; Lombardi, 2007), self-disclosure (Laurenceau, Feldman Barrett & Pietromonaco, 1998; MacDonald & Morley, 2001), and communication (Harper, 2011). It is also possible that people who are high in shame negatively evaluate their behaviour in the relationship and make negative global, internal and stable attributions about the self, particularly in times of stress, as they do in other life domains (Mills, 2005). This behaviour may also reduce relationship satisfaction and dyadic adjustment. In addition, the fear of losing attractiveness in the minds of others, which is associated with shame (Gilbert, 2000), may

undermine the ability of high-shame individuals to deal with the affiliative needs of their partners, because they may see people outside the relationship as more attractive and powerful competitors, and as a threat for their romantic relationship. This may also have a negative impact on relationship satisfaction (Mikulincer et al., 2002).

We propose that the devaluating self view of people with high internal shame and their fear of being perceived as undesirable by others (external shame), which may arise from early experiences with attachment figures, may have a negative effect on dyadic adjustment in three ways: (1) through insecure striving and the adoption of a clingy and dependent behaviour; (2) through the adoption of a submissive behaviour; and/or (3) through minimization of the importance of others and distancing in romantic relationships as a defensive strategy against the discovery of one's "true", defective self. In turn, perceived or real episodes of rejection may further increase shame in these individuals.

Attachment avoidance and anxiety are associated with different relationship dynamics and behaviours (e.g., Fraley, Waller & Brennan, 2000), which may be driven by shame (Gilbert, 1998). As mentioned before, attachment anxiety is usually associated to clingy and dependent behaviour, as well as striving for acceptance, as the proximity of others is valued (Fraley, Waller & Brennan, 2000; Joel, MacDonald & Shimotomai, 2011). It has been shown that one of the consequences of insecure attachment is that individuals feel that their social place is not secure or easily won and that they must work hard to feel accepted and loved (Gilbert et al., 2009). Intimate relationships are highly competitive, as people strive to win a valued place in the hearts and minds of others, while being aware that others are making comparative judgments about the self and others. The more insecure and uncertain people feel about their qualities and the more they fear the consequences of their low rank, the more competitive (instead of cooperative or caring) their orientation to social relationships tends to be, and the more processing systems

become focused on social comparison, on concerns about what others think about the self and on the need for assertive or submissive behaviour, or for insecure striving (Gilbert et al., 2009). The individual feels that he/she must repeatedly prove that he/she has attributes that make him/her lovable, acceptable and desired. This situation is associated with difficulties in feeling satisfaction, acceptance and security in the relationship, putting significant strain on the self and the relationship. As mentioned, striving to avoid unwanted inferiority, abandonment or rejection, as well as clingy behaviour, may have a paradoxical effect on relationships, increasing the partner's dissatisfaction with the relationship and, in the long term, leading to rejection (Selcuk et al., 2010). Because the main threat that triggers shame in humans is related to rejection and loss of acceptance (Gilbert, 2000), the behaviour of anxiously attached people in relationships may further promote their internal shame, which will negatively impact dyadic adjustment.

In the case of attachment avoidance, the indirect effects of shame may be related to the defensive strategies elicited to conceal a defective self and shame, to prevent others from discovering one's flaws and shortcomings, to avoid feelings of inferiority, and to increase one's sense of self (e.g. compensation, masking the self, positive self-presentation, intimacy avoidance, emotional distancing and independence, and putting down or devaluing others) (Gilbert, 2010; Harper, 2011). These defensive strategies have a calming effect as long as the individual believes that others will not uncover their shame (Harper, 2011). Other ways of creating distance from others and devaluing their importance include rage and contempt (Gardner & Grofein, 2005), which are also defensive strategies to cope with external shame (Gilbert, 2010). Thus, fearing discovery, the avoidant individual may distance him/herself from the intimate partner to prevent the anticipated discovery of shame and the feared abandonment and rejection by the romantic partner when their shame, or "true" self is discovered (Harper, 2011; Murray et al., 2003). However, these are all maladaptive responses that may impede intimacy and self-disclosure and

may contribute to the end of intimate relationships (Harper, 2011).

It is worth noting that the herein described mediator effect of shame on the association between attachment and dyadic adjustment may vary in different cultures and social ecologies, due to variations in shame proneness. It is possible that this effect will be even more pronounced in "shaming cultures" (such as traditional Eastern cultures) and in social ecologies with lower relational mobility, as this is a critical feature that calibrates shame in close relationships with valued partners (Sznycer et al., 2012), as is the case of romantic relationships.

A number of limitations of this study must be noted. The primary limitation is the cross-sectional design of the study, which does not allow causal inferences. In addition, dyadic adjustment is a dynamic process rather than a static outcome. These two aspects could be better analysed using a longitudinal design testing a cross-lagged model with multiple assessments of each variable, which would allow distinction between uni- and bidirectional effects. Second, there was an imbalance between men and women participating in this study (27.2% and 72.8%, respectively). It is important to increase the number of men in future studies, particularly because we have found a correlation between gender and attachment avoidance. Third, there was a disproportion in education levels (86.4% of the sample was composed of people with graduate level studies or higher) and in cohabitation status (73.7% of the participants cohabited with romantic partners). Although no correlation was found between cohabiting status and the study variables, future studies should address these issues. Fourth, the representativeness of our sample may be questioned due to the distribution strategy used (e-mail). This feature may account for the sample imbalance with regard to education levels and to the increased socio-economic level of the sample when compared to Portuguese national levels. Another potential limitation is the high correlation between internal and external shame, which may have masked some effects of the external shame. Also, we must mention the use of self-report instruments, which may artificially

inflate the associations between variables due to shared method variance. In addition, self-report instruments may not accurately reflect what people actually feel, think or do in real life situations and may be prone to the social desirability effect. However, this effect may have been minimized by the online, anonymous completion of the questionnaires. Last, in the current study, dyadic functioning may be best conceptualized as "perceived" functioning. Ideally, both members of the couple should be assessed through different assessment methods (e.g. Current Relationship Interview), which would allow dyadic analyses to be conducted.

Despite these limitations, a number of strengths can be highlighted. This research focused on intrapersonal variables that are relevant in this scientific domain but have been poorly explored until now. To our knowledge, this is the first study that addresses the mediating role of shame on the association between attachment and intimate relationship functioning. In addition, this study has scientific and practical implications. Intimate relationship functioning is gaining increasing scientific attention due to progressive increases in divorce rates, which are also occurring at earlier times in marriage. Thus, the understanding of the factors that may compromise romantic relationships assumes critical importance in the design of intervention strategies aimed at promoting a higher marital satisfaction and relationship quality. Although adult attachment is clearly related to dyadic functioning, the mechanisms involved are still poorly understood. In addition, early experiences with primary caregivers are structured in interpersonal schemata that are not easily accessible for intervention and are resistant to change (Fraley & Shaver, 2000). The identification of variables that are easier to manage in couple therapy is of crucial importance. In this study, we have identified internal and external shame as mediators of the effect of attachment on dyadic adjustment. As such, it may be important to evaluate and address shame in the context of couple's therapy, namely through compassion-focused therapy (e.g., Gilbert, 2010), or other approaches aimed to promote self-compassion, such as the

Mindfulness-Based Relationship Enhancement (Carson, Carson, Gil, & Baucom, 2004) and the Mindful Self-Compassion program (Neff & Germer, 2011). This approach may promote the activation of the affiliation or soothing system of affect regulation (Gilbert, 2010), allowing people to experience warmth, safeness and connectedness in intimate relationships. Indeed, shame experiences with attachment figures are associated with overdevelopment of the threat system and underdevelopment and reduced access to the affiliation system, which compromises the regulation of threat-focused feelings (Gilbert, 2010). Promoting self-compassion within romantic relationships may increase relationship quality since self-compassionate individuals tend to present a more positive behaviour in romantic relationships and a higher relationship satisfaction than people lacking self-compassion (Neff & Beretvas, 2012). Therefore, helping people to deal with shame in a more self-compassionate way may contribute to more satisfying, gratifying and fulfilling relationships, which in turn may contribute to changes in attachment and interpersonal schemata and more adaptive interpersonal functioning.

References

Allan, S., Gilbert, P., & Goss, K. (1994). An exploration of shame measures: II. Psychopathology. *Personality and Individual Differences, 3,* 293–299. DOI: 10.1016/0191-8869(94)90150-3

Andrews, B., & Brewin, C. R. (1990). Attributions of blame for marital violence: A study of antecedents and consequences. *Journal of Family and Marriage*, *52,* 757–767.

Baldwin, M. W. (1992). Relational schemas and the processing of social information. *Psychological Bulletin, 112,* 461–484.

Baldwin, M. W. (1997). Relational schemas as a source of if-then self-inference procedures.

Review of General Psychology, 1, 326–335.

Baldwin, M. W. (Ed.) (2005). *Interpersonal cognition*. New York: Guilford Press.

Berlin, L. J., Cassidy, J., & Appleyard, K. (2008). The influence of early attachments on other relationships. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications* (2nd Ed.; pp. 333–347). New York: Guilford Press.

Bogaert, A. F., & Sadava, S. (2002). Adult attachment and sexual behavior. *Personal Relationships, 9,* 191–204. DOI: 10.1111/1475-6811.00012.

Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson & W.S. Rholes (Eds.). *Attachment theory and close relationships* (pp. 46–76). New York: Guilford Press.

Buchbinder, E., & Eisikovits, Z. (2003). Battered women's entrapment in shame: A phenomenological study. *American Journal of Orthopsychiatry*, *73,* 355–366. DOI: 10.1037/0002-9432.73.4.355

Busby, D. M., Christensen, C., Crane, D. R., & Larson, J. H. (1995). A revision of the dyadic adjustment scale for use with distressed and nondistressed couples: Construct hierarchy and multidimensional scales. *Journal of Marital and Family Therapy*, *21*, 289-308. DOI: 10.1111/j.1752-0606.1995.tb00163.x

Campbell, L., Simpson, J. A., Kashy, D. A., & Fletcher, G. J. O. (2001). Ideal standards, the self, and flexibility of ideals in close relationships. *Personality and Social Psychology Bulletin*, *27,* 447–462. DOI: 10.1177/0146167201274006

Carson, J. W., Carson, K. M., Gil, K. M., & Baucom, D. H. (2004). Mindfulness-based relationship enhancement. *Behavior Therapy, 35,* 471–494.

Cassidy, J. (1988). Child-mother attachment and the self in the 6-year-olds. *Child Development, 59,* 121–134.

Castilho, P., & Pinto-Gouveia, J. (2011). Auto-criticismo: Estudo de validação da versão portuguesa da Escala das Formas do Auto-criticismo e Auto-tranquilização (FSCRC) e da Escala das Funções do Auto-criticismo e Auto-ataque (FSCS). *Psychologica*, *54,* 63–86.

Claesson, K., & Sohlberg, S. (2002). Shame and interpersonal scripts: Internalized and other scripts characterized by indifference, abandonment and rejection: Replicated findings. *Clinical Psychology & Psychotherapy*, *59,* 277–284.

Cohen, J. (1988). *Statistical power analysis for the behavioural sciences*. Hillsdale: Erbaum.

Consedine, N. S., & Magai, C. (2003). Attachment and emotion experience in later life: The view from emotions theory. *Attachment and Human Development, 5,* 165–187. DOI:10.1080/1461673031000108496

Cook, D. R. (1996). Emprirical studies of shame and guilt: The internalized shame scale. In D. L. Nathanson (Ed.). *Knowing feeling: Affect, script, and psychotherapy* (pp. 132–165). New York: W.W. Norton.

Dykman, B. M. (1998). Integrating cognitive and motivational factors in depression. Initial tests of a goal orientation approach. *Journal of Personality and Social Psychology, 74,* 139–158.

Fedewa, B. A., Burns, L. R., & Gomez, A. A. (2005). Positive and negative perfectionism and the shame/guilt distinction: Adaptive and maladaptive characteristics. *Personality and Individual Differences, 38,* 1609–1619. DOI:10.1016/j.paid.2004.09.026

Feeney, J. A. (2008). Adult romantic attachment: Developments in the study of couple relationships. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications* (2nd Ed.; pp. 456–481). New York: Guilford Press.

Feeney, J. A., & Hohaus, L. (2001). Attachment and spousal caregiving. *Personal Relationships*, *8,* 21–39.

Fraley, R. C., Heffernan, M. E., Vicary, A. M., & Brumbaugh, C. C. (2011). The experiences in

close relationships – relationship structures questionnaire: A method for assessing attachment orientations across relationships. *Psychological Assessment, 23,* 615–625. DOI: 10.1037/a0022898.

Fraley, R. C., & Shaver, P. R. (2000). Adult romantic attachment: Theoretical developments, emerging controversies, and unanswered questions. *Review of General Psychology, 4,* 132–154. DOI: 10.1037/1089-2680.4.2.132.

Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). An item response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology, 78,* 350–365. DOI: 10.1037/0022-3514.78.2.350.

Gardner, C. B., & Gronfein, W. P. (2005). Reflections on varieties of shame induction, shame management, and shame avoidance in some works of Erving Goffman. *Symbolic Interaction, 28,* 175–182. DOI: 10.1525/si.2005.28.2.175

Gilbert, P. (1998). What is shame? Some core issues and controversies. In P. Gilbert, & B. Andrews (Eds.), *Shame: Interpersonal behaviour, psychopathology and culture* (pp. 3–36). New York: Oxford University Press.

Gilbert, P. (2000). The relationship of shame, social anxiety and depression: The role of the evaluation of social rank. *Clinical Psychology and Psychotherapy, 7,* 174–189. DOI: 10.1002/1099-0879(200007)7:3<174::AID-CPP236>3.0.CO;2-U

Gilbert, P. (2010). *Compassion focused therapy.* W. Dryden (Ed.). New York: Routledge.

Gilbert, P., & Irons, C. (2004). A pilot exploration of the use of compassionate images in a group of self-critical people. *Memory, 12,* 507–516. DOI: 10.1080/09658210444000115

Gilbert, P., McEwan, K., Bellew, R., Mills, A., & Gale, C. (2009). The dark side of competition: How competitive behaviour and striving to avoid inferiority are linked to depression, anxiety, stress and self-harm. *Psychology and Psychotherapy: Theory, Research and Practice, 82,*

123–136. DOI: 10.1348/147608308X379806

Gilbert, P., & Procter, S. (2006). Compassionate mind training for people with high shame and self-criticism: Overview and pilot study of a group therapy approach. *Clinical Psychology and Psychotherapy, 13,* 353–379. DOI: 10.1002/cpp.507.

Goss, K., Gilbert, P., & Allan, S. (1994). An exploration of shame measures: I. The "Other as Shamer Scale". *Personality and Individual Differences, 17,* 713–717. DOI:10.1016/0191-8869(94)90149-X

Gross, C. A., & Hansen, N. E. (2000). Clarifying the experience of shame: The role of attachment style, gender, and investment in relatedness. *Personality and Individual Differences*, *28,* 897–907. DOI: 10.1016/S0191-8869(99)00148-8

Greenwald, D. F., & Harder, D. W. (1998). Domains of shame: Evolutionary, cultural and psychotherapeutic aspects. In P. Gilbert, & B. Andrews (Eds.), *Shame: Interpersonal behaviour, psychopathology and culture* (pp. 225–245). New York: Oxford University Press.

Harper, J. M. (2011). Regulating and coping with shame. In R. Trnka, K. Balcar & M. Kuška (Eds.). *Re-constructing emotional spaces: From experience to regulation* (pp. 189–206). Prague: Prague College of Psychosocial Studies Press.

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach.* New York: Guilford Press.

Joel, S., MacDonald, G., & Shimotomai, A. (2011). Conflicting pressures on romantic relationships commitment for anxiously attached individuals. *Journal of Personality, 79,* 51–73. DOI: 10.1111/j.1467-6494.2010.00680.x.

Laurenceau, J. P., Feldman Barrett, L., & Pietromonaco, P. R. (1998). Intimacy as an interpersonal process: The importance of self-disclosure, partner disclosure, and perceived

partner responsiveness in interpersonal exchanges. *Journal of Personality and Social Psychology, 74,* 1238–1251.

Lewis, H. B. (1971). *Shame and guilt in neurosis*. New York: International Universities Press.

Lombardi, R. (2007). Shame in relation to the body, sex, and death: A clinical exploration of the psychotic levels of shame. *Psychoanalytic Dialogues*, *17,* 385–399. DOI: 10.1080/10481880701413645

Matos, M., Pinto-Gouveia, J., & Duarte, C. (2011). Other as Shamer: Portuguese version and psychometric properties of an external shame measure, submitted for publication.

Lopez, F.G., Gover, M. R., Leskela, J., Sauer, E. M., Schirmer, L., & Wyssmann, J. (1997). Attachment styles, shame, guilt and collaborative problem-solving orientations. *Personal Relationships, 4,* 187-–199. DOI: 10.1111/j.1475-6811.1997.tb00138.x

Lopez, J. L., Riggs, S. A., Pollard, S. E., & Hook, J. N. (2011). Religious commitment, adult attachment, and marital adjustment in newly married couples. *Journal of Family Psychology, 25,* 301–309. DOI: 10.1037/a0022943

Lutwak, N., Panish, J., & Ferrari, J. (2003). Shame and guilt: Characterological vs. behavioral self-blame and their relationship to fear of intimacy. *Personality and Individual Differences*, *35,* 909–916. DOI: 10.1016/S0191-8869(02)00307-0

MacDonald, J, & Morley, I. (2001). Shame and non-disclosure: A study of the emotional isolation of people referred for psychotherapy. *British Journal of Medical Psychology*, *74,* 1–21.

Matos, M., Pinto-Gouveia, J., & Costa, V. (2013). Understanding the importance of attachment in shame traumatic memory relation to depression: The impact of emotion regulation processes. *Clinical Psychology and Psychotherapy*, *20,* 149–165. DOI: 10.1002/cpp.786

Matos, M., Pinto-Gouveia, J., & Duarte, C. (2011). Other as Shamer: Portuguese version and

psychometric properties of an external shame measure, submitted for publication.

Matos, M., Pinto-Gouveia, J., & Duarte, C. (2012). When I don't like myself: Portuguese version of the Internalized Shame Scale. *The Spanish Journal of Psychology, 15,* 1411–1423.

McCarthy, G., & Maughan, B. (2010). Negative childhood experiences and adult love relationships: The role of internal working models of attachment. *Attachment and Human Development*, *12,* 445–461. DOI: 10.1080/14616734.2010.501968

Meyers, S. A., & Landsberger, S. A. (2002). Direct and indirect pathways between adult attachment style and marital satisfaction. *Personal Relationships*, *9,* 159–172.

Mikulincer, M. (1995). Attachment style and the mental representation of the self. *Journal of Personality and Social Psychology, 69,* 1203–1215.

Mikulincer, M., Florian, V., Cowan, P. A., & Cowan, C. P. (2002). Attachment security in couple relationships: A systemic model and its implications for family dynamics. *Family Process, 41,* 405–434.

Mikulincer, M., & Shaver, P. R. (2008). Adult attachment and affect regulation. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications* (2nd Ed.; pp. 503–531). New York: Guilford Press.

Mills, R. S. L. (2005). Taking stock of the developmental literature on shame. *Developmental Review, 25*, 26–63. DOI: 10.1016/j.dr.2004.08.001.

Moreira, H., Martins, T., Gouveia, M. J., & Canavarro, M. C. (2015). Assessing adult attachment across different contexts: Validation of the Portuguese version of the Experiences in Close Relationships – Relationship Structures Questionnaire. *Journal of Personality Assessment, 97,* 22–30. DOI: 10.1080/00223891.2014.950377

Murray, S. L., Bellavia, G. M., Rose, P., & Griffin, D. W. (2003). Once hurt, twice hurtful: How perceived regard regulates daily marital interactions. *Journal of Personality and Social*

Psychology, 84, 126–147.

Murray, S. L., Holmes, J. G., Griffin, D. W., Bellavia, G., & Rose, P. (2001). The mismeasure of love: How self-doubt contaminates relationship beliefs. *Personality and Social Psychology Bulletin, 27,* 423–436. DOI: 10.1177/0146167201274004.

Nathanson, D. L. (1992). *Shame and pride: Affect, sex, and the birth of the self.* New York: W. W. Norton.

Neff, K. D., & Beretvas, S. N. (2012). The role of self-compassion in romantic relationships. *Self and Identity, 12,* 78-98. DOI: 10.1080/15298868.2011.639548

Neff, K. D., & Germer, C. (2011). *Mindful Self-Compassion Training.* Presentation given at the Max Planck Institute, Berlin, Germany.

Overall, N. C., & Fletcher, G. J. O. (2010). Perceiving regulation from intimate partners: Reflected appraisal and self-regulation processes in close relationships. *Personal Relationships*, *17,* 433–456. DOI: 10.1111/j.1475-6811.2010.01286.x

Pereira, M., Narciso, I., & Canavarro, M. C. (2015). Psychometric properties of the Revised Dyadic Adjustment Scale (RDAS) in a community sample of couples. Manuscript in preparation.

Pinto-Gouveia, J., & Matos, M. (2011). Can shame memories become a key to identity? The centrality of shame memories predicts psycopathology. *Applied Cognitive Psychology*, *25,* 281–290. DOI: 10.1002/acp.1689

Saavedra, M. C., Chapman, K. E. & Rogge, R. D. (2010). Clarifying links between attachment and relationship quality: Hostile conflict and mindfulness moderators. *Journal of Family Psychology*, *24,* 380–90. DOI: 10.1037/a0019872

Schore, A. N. (1994). *Affect regulation and the origin of the self: The neurobiology of emotional development.* Hillsdale: Erlbaum.

Schore, A. N. (1996). The experience-dependent maturation of a regulatory system in the orbital prefrontal cortex and the origin of developmental psychopathology. *Development and Psychopathology, 8,* 59–87.

Schug, J., Yuki, M., Maddux, W. (2010). Relational mobility explains between- and within-culture differences in self-disclosure to close friends. *Psychological Science, 21,*1471–1478. DOI: 10.1177/0956797610382786

Selcuk, E., Zayas, V., & Hazan, C. (2010). Beyond satisfaction: The role of attachment in marital functioning. *Journal of Family Theory & Review, 2,* 258–279. DOI: 10.1111/j.1756-2589.2010.00061.x

Smolewska, K., & Dion, K. L. (2005). Narcissism and adult attachment: A multivariate approach. *Self and Identity, 4,* 59–68.

Sznycer, D., Takemura, K., Delton, A. W., Sato, K., Robertson, T., Cosmides, L., & Tooby, J. (2012). Cross-cultural differences and similarities in proneness to shame; An adaptationist and ecological approach. *Evolutionary Psychology, 10,* 352–370.

Stackert, R. A., & Bursik, K. (2003). Why am I unsatisfied? Adult attachment style, gendered irrational relationship beliefs, and young adult romantic relationship satisfaction. *Personality and Individual Differences, 34,* 1419–1429. DOI: 10.1016/S0191-8869(02)00124-1

Tangney, J., & Dearing, R. (2002). *Shame and guilt.* New York: Guilford Press.

Tangney, J. P., Stuewing, J., & Mashek, D. J. (2007). Moral emotions and moral behaviour. *Annual Reviews in Psychology, 58,* 345–372. DOI: 10.1146/annurev.psych.56.091103.070145

Williamson, I., Sandage, S. J., & Lee, R. M. (2007). How social connectedness affects guilt and shame: Mediation by hope and differentiation of self. *Personality and Individual Differences, 43,* 2159–2170. DOI: 10.1016/j.paid.2007.06.026

Author Notes:

Teresa C. Martins is a researcher at the Portuguese Institute for Oncology at Coimbra, and the Centres for Neurosciences and Cell Biology and for Cognitive–Behavioral Research of the University of Coimbra, Portugal. Her current research interests are interpersonal relationships, psycho-oncology and neuropsychology.

Maria Cristina Canavarro is a Full Professor at the Faculty of Psychology and Educational Sciences of the University of Coimbra, Portugal.

Helena Moreira is a researcher at the Cognitive–Behavioral Research of the University of Coimbra, Portugal. Her current research interests include attachment, parenting, mindful parenting, and pediatric psychology.

Table 1

Socio-demographic characteristics of the sample

	N = 228
	Mean (SD); observed range
Age (years)	33.77 (9.98); 18-66
Relationship time (months)	118.79 (110.60); 6-588
Cohabiting time (months)	75.34 (106.16); 0-519
	n (%)
Gender	
Male	62 (27.2)
Female	166 (72.8)
Cohabitation status	
Cohabiting	168 (73.7)
Non-cohabiting	60 (26.3)
Education levels	
Undergraduate studies	30 (13)
Graduate studies	109 (47.8)
Post-graduate studies	88 (38.6)
Missing information	1 (0.4)
Professional status	
Employed	164 (71.9)
Unemployed	25 (11)

Retired	7 (3.1)
Student	22 (9.6)
Other	10 (4.4)
Missing information	0 (0.0)
Household income (per month)	
< 800 €	16 (7)
800 – 2000 €	106 (46.5)
2000 – 3500 €	75 (32.9)
> 3500 €	26 (11.4)
Missing information	5 (2.2)

Table 2

Descriptive statistics and correlations between study variables

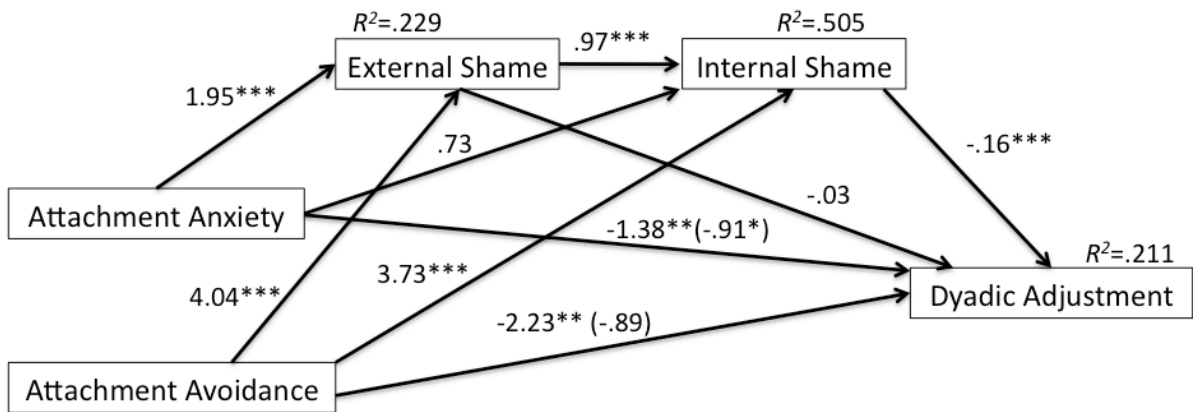|	Variables	Mean (*SD*); observed range	1	2	3	4
1	Attachment avoidance	2.31 (0.75) 1-4.75	-			
2	Attachment anxiety	2.21 (1.22) 1-6.33	.38**	-		
3	Dyadic adjustment	50.89 (7.81) 18-66	-.29**	-.30**	-	
4	Internal shame	25.93 (15.32) 0-88	.44**	.34**	-.42**	-
5	External shame	19.77 (9.37) 0-65	.41**	.36**	-.34**	.68**

** *p* < .01

df = 226

Figure 1. Statistical diagram of a serial multiple mediator model for the presumed shame influence on the effects of attachment dimensions on dyadic adjustment. Path values represent unstandardised regression coefficients. In the arrows linking attachment dimensions and dyadic adjustment, the value outside parentheses represents the total effect of attachment anxiety or avoidance on dyadic adjustment before the inclusion of the mediating variables. The value in parentheses represents the direct effect, from bootstrapping analysis, of attachment anxiety and avoidance on dyadic adjustment after inclusion of the mediators. *p < .05; **p < .01; ***p < .001.