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Adult Attachment Styles and Psychological Disease: Examining the Mediating Role of Personality Traits

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ABSTRACT. The aim of the present study was to examine differences in anxiety and depression related to differences in attachment models of the self and of others and whether personality traits mediate this relationship. The authors assessed attachment styles, anxiety, depression, and personality traits among 274 adult volunteers. Participants were classified into 4 attachment groups (secure, preoccupied, fearful, and dismissing–avoidant) according to K. Bartholomew's (1990) model. The present authors found significant differences among attachment groups on anxiety and depressive symptoms with attachment styles involving a negative self-model showing higher scores than attachment styles characterized by a positive self-model. The authors also found that differences between attachment styles in anxiety and depression remained significant when personality factors related to attachment prototypes were entered as covariates. Results indicate that secure attachment in adults was associated with better mental health, while insecure attachment styles characterized by negative thinking about the self were associated with higher depression and anxiety scores. Our findings seem to evidence that attachment and personality are only partly overlapping and that attachment cannot be considered as redundant with personality in the explanation of psychological disease.

Keywords: adult attachment, depression, anxiety, personality traits

ATTACHMENT THEORY WAS DEVELOPED by Bowlby (1969, 1973, 1980) to describe and explain how infants become emotionally attached to their primary caregivers. According to Bowlby (1969), the human infant is born with a biologically programmed system allowing one to form close emotional bonds with significant others. Ainsworth and coworkers showed in numerous studies (e.g.,

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Ainsworth, Blehar, Waters, & Wall, 1978) that children either form a *secure* attachment to their parents or develop either of two alternative strategies to face the lack of security: *avoidant attachment* or *anxious ambivalent* attachment. Consistent and sensitive parenting leads to the development of a secure attachment style, characterized by interpersonal trust and comfort with intimacy. In contrast, children with insecure attachment styles, whose bids for security have been either ignored or rebuffed (leading to avoidant attachments) or responded to inconsistently (leading to ambivalent attachments), will acquire models of others as rejecting or inconsistent (Ainsworth et al.). Infant attachment categories have been shown to be applicable to adults as well (e.g., Hazan & Shaver, 1987). Indeed, according to Bowlby's theory, early experiences with primary caregivers are internalized by children to shape internal working models, that is, cognitive structures that act as a prototype for later relationships outside the family. Adult working models influence adult interactions with significant others, and adult romantic love has been conceptualized as an attachment process experienced somewhat differently by different adults because of variations in their attachment histories. Bartholomew has systematized Bowlby's (1973) conception of internal working models in a four-category attachment model (Bartholomew, 1990; Bartholomew & Horowitz, 1991). Four prototypical attachment patterns are defined in terms of two kinds of internal working models: an internal model of the self and an internal model of others. The positivity of the self-model involves the degree to which the self is loveable and worthy, while the positivity of the others model involves a person's expectations about significant others' availability and support. The negative model of the self is characterized by anxiety about closeness and dependence on others for self-esteem, and the negative model of others is characterized by the avoidance of intimacy. Secure people have a positive view of self and of others, while preoccupied individuals have a negative view of themselves, but a positive view of others. The avoidant category is classified into two qualitatively different attachment styles: dismissing and fearful–avoidant styles. Dismissing people have a positive view of the self, viewing themselves as resilient and not needing others, but a negative view of others, whereas fearful individuals have a negative view of both themselves and others.

Bowlby (1973, 1980) has suggested that when children develop negative models of the self or of others, they become more vulnerable to psychopathology. Inconsistent and insensitive parenting was identified as a risk factor for latter attachment difficulties (Bifulco, Moran, Ball, & Lillie, 2002) and has also been frequently associated with depressive and anxiety disorders in adulthood (Bifulco, Brown, Moran, Ball, & Campbell, 1998; Harkness & Wildes, 2002). Indeed, insecure attachment styles have been found to be associated with higher levels of psychopathology including depression and anxiety in adult clinical and nonclinical samples (Bifulco, Moran, Ball, & Bernazzani, 2002; Carnelley, Pietromonaco, & Jaffe, 1994; Dozier, Stovall, & Albus, 1999; Eng, Heimberg, Hart, Schneier, & Liebowitz, 2001; Gerlsma & Luteijn, 2000; McCarthy, 1999; Marazziti et al., 2007; Mickelson, Kessler, & Shaver, 1997; Murphy & Bates, 1997; Myhr,

Sookman, & Pinard, 2004; Reis & Grenyer, 2004; West, Rose, Verhoef, Spreng, & Bobey, 1998). Whereas secure attachment style consistently relates to better mental health, the findings regarding the association among insecure attachment styles and depression are somewhat inconsistent: Although some studies have found depression to be associated with the preoccupied and fearful attachment styles (Conradi & de Jonge, 2009; Gerlsma & Luteijn, 2000; Marazziti et al., 2007; Murphy & Bates, 1997; West et al., 1998), some others have found depression to be more closely associated with the dismissing style (McCarthy, 1999). Still other studies, instead, have shown no differentiation among insecure styles, in relation to depression (Mickelson et al., 1997). Fewer studies have examined the association between attachment styles and anxiety, but the preoccupied classification has been found to be among the associated styles (Dozier et al., 1999; Eng et al., 2001; Fonagy, Leigh, & Steele, 1996).

The inconsistent findings may be partly related to the use of different instruments for the evaluation of adult attachment.

In the present study, the association between adult attachment and levels of anxiety and depression in a community sample was investigated by using the four-category model developed by Bartholomew and Horowitz (1991). In particular, the first aim of the present study consisted in investigating the presence of differences among insecure attachment styles in anxiety and depression scores related to differences in the models of self and of others.

Moreover, since studies into the correlates of adult attachment styles have also suggested possible relations with the neuroticism and extraversion dimensions of personality (Bartholomew & Horowitz, 1991; Collins & Read, 1990; Feeney & Noller, 1990; Shaver & Hazan, 1993), a second aim of the present study was to examine the correlation between attachment in adult romantic relationships and personality traits. A previous study (Shaver & Brennan, 1992) found significant correlations between categorical measures of secure, avoidant, and anxious–ambivalent attachments and the Big Five dimensions of personality. In particular, the attachment groups were differentiated according to their scores on neuroticism, extraversion, and agreeableness with both insecure groups showing higher neuroticism scores and lower extraversion scores than secure participants. Similarly, other studies (Backstrom & Holmes, 2001; Griffin & Bartholomew, 1994) have found that positive models of self as well as positive models of others were associated with higher extraversion scores and lower neuroticism scores, so that negative models of self or of others were associated with lower extraversion, lower agreeableness, and higher neuroticism scores.

The presence of reliable associations between measures of attachment style and personality is not surprising, given that the attachment theory can be seen as a general theory of personality development (Bowlby, 1980). An extreme overlap between the two sets of measures would be problematic, however, as it would suggest that attachment style is redundant with basic dimensions of personality. However, some findings (Feeney, Noller, & Hanrahan, 1994) point to very strong

links between measures of attachment and personality, while others (Shaver & Brennan, 1992) only show modest correlations.

In the present study, the strength of the correlation between attachment in adult romantic relationships and personality traits was also investigated. Moreover, the possibility that personality traits related to attachment styles could mediate the relationship between adult attachment and depression and anxiety was examined.

Method

Participants and Procedure

Participants were 274 healthy volunteers (141 female participants; *M* age = 32.8 years, age range = 18–55 years) from the general community who agreed to participate in a study on "close relationships." Participants were required to have dated for at least 3 months prior to participation: 117 (42.7%) were married or cohabiting, 98 (35.8%) were living apart together, and 59 (21.5%) were single. The educational level of the community sample was as follows: 19% had a primary school level, 37% had a higher grade elementary or secondary school level, and 44% had a higher education level.

Participants were excluded if they reported any history of severe medical or psychiatric illness. Participants were contacted by a researcher who explained the study to them and invited them to complete the research questionnaires and return them to the researcher within a few days. The research questionnaires included the following self-completed instruments: Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991); Big Five Questionnaire (BFQ; Caprara, Barbaranelli, Borgogni, & Perugini, 1993); Beck Depression Inventory (BDI; Beck, 1967); and State-Trait Anxiety Inventory (STAI-Y; Spielberger, 1983). The research questionnaires required around 2 hours to be completed by participants. We offered no reward or inducement for participating.

Materials

The RQ (Bartholomew & Horowitz, 1991) is a brief self-report measure that consists of prototypical descriptions of the four attachment styles. In the present study, participants had first to read the following four attachment descriptions and chose the one that best described their feelings in romantic relationships:

> *Secure*. It is relatively easy for me to become emotionally close to others. I am comfortable depending on others and having others depend on me. I don't worry about being alone or having others not accept me.
>
> *Preoccupied*. I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable

being without close relationships, but I sometimes worry that others don't value me as much as I value them.

Fearful. I am somewhat uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I sometimes worry that I will be hurt if I allow myself to become too close to others.

Dismissing. I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.

Second, participants had to rate their degree of correspondence to each prototype on a 7-point scale.

In the present study, alpha value (Cronbach) of internal consistency was .50.

The BFQ (Caprara et al., 1993) is a self-completed questionnaire to assess the five-factor model of personality. It consists of 132 items, each scored on a 5-point scale. The BFQ contains five domain scales: energy, friendliness, conscientiousness, emotional stability (neuroticism inverted), and openness. The energy domain scale refers to the factor usually labeled "extraversion," the friendliness scale refers to the factor usually labeled "agreeableness," Conscientiousness refers to self-regulation, emotional stability refers to personality characteristics often subsumed under the label of neuroticism, and last openness refers to the factor often referred to as intellect or culture or openness to experience. In the present study, alpha values (Cronbach) of internal consistency were as follows: energy $\alpha = .91$, friendliness $\alpha = .90$, conscientiousness $\alpha = .89$, emotional stability $\alpha = .91$, openness $\alpha = .85$.

The BDI (Beck, 1967) is a 21-question self-report inventory for measuring depression. Each question refers to a symptom related to depression and has a set of four possible answer choices, ranging in intensity. Alpha value of internal consistency was .82.

The STAI (Spielberger, 1983) is a self-completed questionnaire that consists of two different 20-item forms, one measuring trait anxiety, and the second measuring state anxiety. In this study, only the form assessing trait anxiety was used. Alpha value of internal consistency for the trait scale was .88.

Statistical Analysis

All analyses were carried out using SPSS 17.0 for Windows. Participants were classified into the four attachment styles according to their choices in the RQ.

In order to investigate differences in depression and anxiety between the four attachment groups, a multivariate analysis of variance (MANOVA) was conducted using BDI and STAI scores as dependent measures and attachment style (secure, preoccupied, fearful–avoidant, dismissing–avoidant) as between-participants

factor. Pearson correlations were also computed between scores on the four attachment prototypes and BDI and STAI scores. To test the relationship between attachment styles and personality, Pearson correlations between scores on each attachment prototype and BFQ factors were conducted. Last, to investigate if differences in depression and anxiety among attachment styles may be related to differences in personality, a Multivariate Analysis of Covariance (MANCOVA) with attachment style as between factor was conducted, taking BFQ factors related to attachment styles into account as covariate variables.

Results

Attachment Classification

Participants were classified into the four attachment styles according to their choice in the RQ. Participants distribution across the four attachment groups was as follows: Participants in the secure group were 161 (58.8%), participants in the fearful group were 49 (17.9%), participants in the preoccupied group were 39 (14.2%), and participants in the dismissing group were 25 (9.1%).

As illustrated in Table 1, participants in the four attachment groups differed in their degree of fit with each of the four prototypes.

No significant differences in attachment styles related to gender or to age were found.

TABLE 1. Mean Degrees of Correspondence to Each Prototype for Attachment Styles

RQ prototypical descriptions	Secure	Fearful–avoidant	Preoccupied	Dismissing–avoidant
Secure	5.32	2.67	2.59	2.92
Fearful–avoidant	2.06	5.24	2.74	2.80
Preoccupied	2.18	2.67	5.18	2.04
Dismissing–avoidant	2.42	2.28	1.95	5.28

Note. RQ = Relationship Questionnaire.

Attachment Style, Trait Anxiety, and Depression

As Table 2 illustrates, a main effect of attachment style was found for BDI scores, $F(3, 270) = 16.2, p < .001, \eta^2 = .15$; and for STAI scores, $F(3, 270) = 21.9$, $p < .001, \eta^2 = .19$. Secure participants reported lower BDI scores compared to all the other participants ($ps < .05$). Significant differences were also found among the insecure groups: Participants in the preoccupied group showed higher depression scores than dismissing participants ($p < .05$). With regards to STAI scores, no

significant differences were found between secure and dismissing participants, while both groups showed significantly lower scores than preoccupied and fearful participants (ps $< .05$).

TABLE 2. Results of Separate Pairwise Analysis between Relationship Questionnaire (RQ) Attachment Styles for Depression and Trait Anxiety Scores

RQ style	BDI	STAI
Secure	6.38 (5.52)[a]	39.41 (8.26)[a]
Fearful–avoidant	11.75 (7.61)[bc]	48.45 (11.25)[b]
Preoccupied	13.02 (8.45)[b]	50.13 (9.19)[b]
Dismissing–avoidant	9.64 (6.79)[c]	42.96 (10.14)[a]

Note. Within each of the separate dependent measures, letter sets are used to indicate the results of pairwise comparisons. Contents that share at least one letter do not significantly differ. BDI = Beck Depression Inventory; STAI = States Trait Anxiety Inventory.

Correlations between RQ scores in each of the four prototypical descriptions and BDI and STAI scores are presented in Table 3.

The secure score was negatively correlated with both depression and anxiety, while fearful–avoidant and preoccupied scores were positively correlated with both anxiety and depression scores. Scores on the dismissing–avoidant prototype were not related to either anxiety or depression.

TABLE 3. Correlation Matrix of Attachment Prototype Scores, Beck Depression Inventory (BDI) Scores and State-Trait Anxiety Inventory (STAI) Scores

RQ prototypes	BDI	STAI
Secure	$-.33^{**}$	$-.34^{**}$
Fearful–avoidant	$.27^{**}$	$.35^{**}$
Preoccupied	$.29^{**}$	$.37^{**}$
Dismissing–avoidant	.04	$-.02$

Note. RQ = Relationship Questionnaire.
$^{*}p < .05$. $^{**}p < .01$.

Attachment Scores and Personality Factors

Pearson correlations between the subscales of the BFQ and RQ scores for each attachment style are presented in Table 4.

The BFQ energy factor was positively correlated with the secure score ($p < .001$) and negatively correlated with the fearful and preoccupied scores

(ps $< .05$). Emotional stability (neuroticism inverted) was positively correlated with the secure score ($p < .001$) and negatively with fearful and preoccupied scores (ps $< .001$). Friendliness was positively correlated with the secure score ($p < .005$) and negatively correlated with fearful and dismissing scores (ps $< .01$). Although these correlations were modest, each was statistically significant while conscientiousness and openness were not correlated with RQ scores.

TABLE 4. Correlation Matrix of Attachment Prototype Scores and Big Five Questionnaire (BFQ) Factors

	BFQ subscales				
Variable	Energy	Friendliness	Conscientiousness	Emotional stability	Openness
RQ secure	.23**	.17**	.08	.24**	.05
RQ fearful-avoidant	−.31**	−.29**	−.04	−.25**	−.10
RQ preoccupied	−.12*	.04	−.05	−.25**	−.15*
RQ dismissing-avoidant	.05	−.15**	−.06	−.02	.01

Note. RQ = Relationship Questionnaire.
*$p < .05$. **$p < .01$.

Attachment Style, Personality, and Psychological Disease

The MANCOVA that we conducted using attachment style as between factor and taking energy, friendliness, and emotional stability as covariate variables revealed a significant effect of attachment style for BDI, $F(3, 267) = 7.11$, $p < .001$, $\eta^2 = .07$; and for STAI, $F(3, 267) = 7.31$, $p < .001$, $\eta^2 = .08$.

Discussion

In the present study, we found differences in trait anxiety and depression scores among attachment styles using the four-factor model.

As expected, participants classified as secure reported lower depression scores compared with all the other participants, and the secure attachment prototype was negatively correlated with both BDI and STAI scores.

Significant differences were also found among insecure attachment styles. In particular, participants classified as preoccupied reported higher depression scores than dismissing–avoidant participants. Overall, all insecurely attached participants reported higher depression scores, but participants with a negative self-model reported the highest scores. Moreover, the fearful–avoidant and the preoccupied prototypes were positively correlated with BDI scores, while the dismissing–avoidant prototype was not related to depression.

Similarly, anxiety scores differed significantly between attachment groups with a positive view of themselves (secure and dismissing–avoidant) and attachment groups with a negative model of the self (preoccupied and fearful–avoidant), with the latter reporting higher anxiety scores. Both the fearful–avoidant prototype and the preoccupied prototype were positively related to anxiety.

Participants with a negative self-model (preoccupied and fearful–avoidant) reported the highest depression and anxiety scores, independently of the positivity or negativity of others model. Coherent with previous findings (Carnelley et al., 1994; Conradi & de Jonge, 2009; Gerlsma & Luteijn, 2000; Marazziti et al., 2007; Murphy & Bates, 1997; Reis & Grenyer, 2004; West et al., 1998), secure attachment in adults was associated with better mental health and with decreased vulnerability to psychopathology, while insecure attachment styles appeared to operate through negative thinking about the self. Our data suggest that insecure attachments contribute to psychological disease through their influence on individuals' processes for achieving and maintaining a sense of self-worth and on individuals' success at achieving self-esteem. People who feel insecurely attached, perhaps due to current relationship difficulties, but who maintain a healthy sense of self-esteem appear less likely to become anxious and depressed.

Concerning the relationship between attachment styles and personality, attachment prototypes were related to the personality factors of emotional stability, friendliness, and energy. More specifically, as expected, secure attachment scores were positively correlated with energy, emotional stability, and friendliness, while fearful–avoidant and preoccupied scores were negatively correlated with energy and emotional stability. Last, friendliness was negatively correlated with both avoidant attachment scores. Consistent with previous findings (Backstrom & Holmes, 2001; Griffin et al., 1994) attachment styles concerning a negative self-model (preoccupied and fearful–avoidant) were associated with higher neuroticism and lower extraversion, while attachment styles with negative model of others (fearful and dismissing–avoidant) were associated with less agreeableness. It should be underlined that although significant, correlations between attachment styles and personality factors were only modest in size. Moreover, the main effect of attachment style on depression and anxiety scores remained significant, when energy, emotional stability, and friendliness were entered as covariates. Our findings seem to evidence that attachment and personality are only partly overlapping and that attachment cannot be considered as redundant with personality in the explanation of psychological disease.

In the present study, negative representations of the self seem to mediate between attachment insecurity and depression and anxiety. Both anxiety and depression were associated with insecure attachment styles involving a negative model of the self, independently of models of others and of personality traits.

However, several limitations of the present study must be kept in mind. First of all, the present analyses are based on self-reports of attachment, and there is controversy over whether implicit interview-based measures of attachment are

more appropriate for assessing working models. A promising future direction might be to use the Adult Attachment Interview (George, Kaplan, & Main, 1985) to examine genetic and environmental influences on implicit measures of adult attachment and observational measures that are more sensitive to shared environmental effects when compared with questionnaire studies. Our point is that future research should use multiple measures and multiple methods to assess adult internal working models.

Second, the present research was conducted on a community sample, and it is an open question whether such findings would generalize to more severe forms of anxiety and depression. Carnelley and coworkers (1994) for example found somewhat different relationships between working models and depression in student and patient samples. Consistent with present findings, nonclinical depression was associated with adult attachment styles involving a negative model of the self independently of others model, whereas clinical depression was associated only with negative models of the self but positive models of others (fearful–avoidant). Future research should explore this issue in other communities and in clinical samples drawn from a variety of cultures.

Last, although the four-factor model of adult attachment predicted differences in psychological disease related to self-models, in the present study no differences were found between depression- and anxiety-associated attachment styles. However, it is likely that the specific natures of attachment relationships and negative working models would differ in depressed and anxious individuals. Themes of loss and self-deficiency might be prominent in depressed people (Guidano, 1987), whereas elements of danger and fear might predominate in anxious individuals (Ingram, Kendall, Smith, Donnell, & Ronan, 1987). Future studies designed to identify more refined measures of attachment security and working models are needed to link specific variants of insecure adult attachment to specific psychological disorders.

AUTHOR NOTES

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