

Predicting Prosocial Personality from Attachment Facets: Are Some Facets More Critical than Others?

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Abstract

Research across various countries and relationship contexts suggests that attachment anxiety and avoidance are associated with people's prosocial feelings, tendencies, and behaviors (e.g., Gillath et al., 2005; Karantzas, Evans, & Foddy, 2007). In the present paper we extend the two dimensional model of attachment to include a series of nested facets. Doing so allowed us to examine whether the multifaceted nested factor model provides a better explanation of the associations between attachment and the components of prosocial personality as compared to the bi-factor model (attachment anxiety and avoidance). Three hundred and eighty participants, aged 18 to 33 years completed self-report measures of adult attachment and prosocial personality. Data were fitted to various models – as expected the nested model provided a better fit to the data and explained a significantly larger proportion of the variance in prosocial tendencies than the bi-factor model. The attachment facets were found to make distinct contributions to prosocial personality beyond the broad attachment dimensions (e.g., the preoccupied facet was uniquely associated with personal distress). Implications for the revised attachment structure across various prosocial contexts are discussed, as are the limitations of using the Experience in Close Relationships Scale (ECR; Brennan et al., 1998) to test a multifaceted attachment model.

Prosocial behaviour is defined as acts or behaviours by individuals that are deemed by divisions of society or social groups as beneficial to others (Penner, Dovidio, Piliavin, & Schroeder, 2005). Much research has been conducted in the area of prosocial behavior from the biological/evolutionary, developmental, and social cognition perspectives (Buck, 2002; Davis, Luce, & Kraus, 1994; Eisenberg, 2000; Garcia, Weaver, Moskowitz, & Darley, 2002). Nevertheless, it is only over the last decade that concerted efforts have been made to understand the aspects of personality that predispose or prevent individuals from engaging in helping acts (e.g., Gillath et al., 2005; Graziano, Habashi, Sheese, & Tobin, in press; Penner, 2002).

Attachment and Caregiving: Complementary Behavioural Systems

According to attachment theory (Bowlby, 1969/1982) the evolution of humans has resulted in the development of various behavioral systems as adaptive means of ensuring the reproduction and survival of one's genes, with each system comprising unique functions, goals, triggers, and responses (for a full review see Mikulincer & Shaver, 2003). Two of these systems were suggested by Bowlby as shaping the relationships between children and their caregivers - attachment and caregiving. The attachment system is associated with the maintenance of proximity to supportive and caring others (i.e., attachment figures) during periods of threat and distress. The caregiving system is thought to be a complementary system, associated with the provision of comfort, support and care to others in need, fostering in attachment figures the desire to help close and dependent others. According to Bowlby these diverse systems interact to shape people's behavior such that mental models and behavioural tendencies associated with attachment security are likely to affect the extent that a person engages in responsive and sensitive caregiving and helping behaviour.

Attachment. Bowlby (1982) described the primary function of attachment figures as providing a secure base and safe haven for their close needy others - usually their children. This, in turn, promotes in the care recipient a sense of security, which enables the person to confidently explore and master his or her environment (Ainsworth, 1989; Bowlby, 1988). Across repeated interactions, the sensitivity and responsiveness of an attachment figure in meeting the child's needs shapes the mental representations that this child holds about the availability of the attachment figure as a sensitive caregiver, and his or her worthiness for receiving such love and care. These mental representations of self and others (termed by Bowlby as working models) are commonly conceptualized as occupying a bi-dimensional space consisting of two orthogonal dimensions: attachment avoidance and anxiety (e.g., Brennan, Clark, & Shaver, 1998; Erwin, Salter, & Purves, 2004).

The avoidance dimension is thought to reflect the extent to which an individual avoids intimacy and closeness, and is unwilling to trust or depend on others. It is therefore associated with the reluctance to seek out help and support, along with compulsive self-reliance (Bartholomew & Horowitz, 1991; Bowlby, 1982; Griffin & Bartholomew, 1994). Conversely, the anxiety dimension is thought to reflect an individual's constant fear of rejection, excessive reassurance seeking, and a desire to merge with one's relationship partner. It is therefore associated with negative affect and a strong yearning for help and support, coupled with frustration due to perceiving support as unavailable (e.g., Florian, Mikulincer, & Bucholtz, 1995; Shaver, Schachner, & Mikulincer, 2005). Someone who is low on both of these dimensions (avoidance and anxiety) is considered to be securely attached. Attachment security reflects a tendency to trust and feel intimate with, and close to, others, an ability to depend on other people for support (Florian et al., 1995), and an increased tendency to help others in need (Gillath et al., 2005).

However, in reviewing the literature on self-report attachment measures authors such as Kurdek (2002), Finney and Fairchild (2006) report that some researchers have found, and continue to find, factor structures more complex than the two-dimensional model accepted by Brennan et al. (1998). (See, for example, Carver, 1997; Collins & Read, 1990; Feeney et al., 1994; Gillath, Hart, Nofle, & Stockdale, 2007.) For instance, Collins and Read (1990) proposed a three-factor model of attachment styles comprising an anxiety dimension, but two facets or subfactors of avoidance: discomfort with closeness and discomfort depending on others (which correlated above .40 with each other). Feeney et al. (1994) identified two avoidance facets – discomfort with closeness and “relationships as secondary,” and two anxiety facets – “preoccupation with attachment” and “need for approval”. They also identified a fifth factor termed “confidence”, which correlated negatively with the anxiety facets. Even Brennan et al. (1998) in their factor analysis of all known attachment scales found multi-factorial structure of attachment in their first round of factor analysis. It was only in their subsequent analysis of these subfactors that a bi-dimensional solution emerged.

In more recent times, the debate concerning how best to represent individual differences in adult attachment has re-emerged with the use of more sophisticated data reduction procedures such as Confirmatory Factor Analysis (CFA). For instance, while Fairchild and Finney (2006) found that a two-factor model (anxiety and avoidance) was an apt representation of attachment dimensions, there was sufficient misfit to suggest that distinct forms of avoidance relating to discomfort with closeness and discomfort depending on others were present in measures such as the ECR.

These complex findings, while fully compatible with Brennan et al.'s (1998) finding of two second-order factors comprising several first-order mini-factors, raise the possibility that specific facets of anxiety and avoidance could make differential predictions with respect to other criterion variables such as prosocial behaviour (see Fossati et al., 2003; Shaver, Belsky, & Brennan, 2000). To test this possibility, we developed a nested eight-factor model of

attachment that comprised the broad attachment factor of avoidance along with two avoidance facets – “discomfort with closeness” and “discomfort with depending on others”, broad anxiety factor together with two anxiety facets “fear of abandonment/rejection” and “preoccupation” and two method factors pertaining to the positive and negative wording of the attachment scale items. Given that the broad factors are nested amongst the attachment facets, the nested model is represented as an orthogonal factor structure rather than as an oblique structure. The orthogonality of the structure was validated through preliminary analyses that demonstrated the significant reduction of correlations across attachment facets with the introduction of the broad attachment factors. The model was found to have superior fit compared to alternative conceptions of attachment including the two factor model proposed by Brennan et al. (1998).

The caregiving system. As mentioned earlier, the caregiving behavioural system is designed to reduce another’s distress and, as a function, encompasses a wide set of behaviors and strategies that serve to alleviate the suffering of others in need of support (e.g., comforting a distressed other, assisting in the development of constructive strategies to solve a problem). Driven by a tendency to empathise with another’s suffering (Batson, 1991) the activation of the system directs an attachment figure to engage in behaviors that re-establishes feelings of security and safety in the needy other (for a review see Mikulincer & Shaver, 2007).

Linking Attachment and Caregiving: Implications for Prosocial Behaviour. Thus, the attachment and caregiving systems are regarded as complementary systems, whereby the activation of the attachment system in an individual is thought to activate the caregiving system in their respective attachment figure to render the necessary care and support, ameliorating the distress of the care-recipient (Collins & Feeney, 2004; Gilbert, 2005; Gillath et al., 2005; Mikulincer, Shaver, Gillath, & Nitzberg, 2005). The consequence of receiving responsive and appropriate caregiving from one’s attachment figures is thought to promote both the intra and the intergenerational transmission of secure mental representations (i.e., low anxiety and avoidance) and good models of caregiving (Ainsworth, Blehar, Waters, & Wall, 1978; Mikulincer & Shaver, 2004). As such, people that receive responsive, sensitive and empathic support during times of need develop positive internal workings models. These models encompass feelings of self worth and competency, confidence and trust in others, and the capacity to assist others in times of distress while forgoing their personal needs.

The links between attachment and caregiving have been widely investigated demonstrating that insecure attachment impedes the optimal functioning of the caregiving system such that insecurely attached people, and especially avoidant people, provide less responsive, sensitive and supportive care to their close others when they are in need (Collins & Feeney, 2000; Feeney & Collins, 2001). More recently, it has been argued that the mental models associated with attachment security and with sensitive and responsive caregiving, are likely to influence beyond the realm of close romantic and familial relationships to contexts where people can exhibit compassion, altruism, and prosocial behaviour toward needy strangers.

In line with this reasoning, across various countries and diverse contexts, dispositional and experimentally manipulated attachment security was found to facilitate people’s prosocial feelings, tendencies, and behaviors such as empathic concern to unknown persons in need, philanthropic volunteerism, and caring for elderly parents (Gillath et al., 2005; Karantzas et al., 2007; Mikulincer et al., 2005). For example, Gillath et al. (2005) and Mikulincer et al. (2005) found that attachment security was positively associated with helping others in need; whereas, attachment avoidance was negatively associated with empathic reactions to others’ suffering. This association was explained due to avoidants’ discomfort with closeness and dependency, perceiving relationships as secondary, and their contempt towards other people’s needs and signals of vulnerability (Collins & Read, 1994; Feeney et al., 1994). Attachment

anxiety was not associated with helping itself, but rather with the reasons for helping. Thus, anxiously attached people tend to use their helping of others as means of reducing one's own worries around personal distress and as a way to maintain their excessive reassurance seeking (Gillath et al., 2005; Mikulincer et al., 2005). In a related line of research using the nested factor structure of attachment, Karantzas et al. (2007) found adult children's current and anticipated future caregiving to be negatively associated with discomfort with dependency; while the willingness to receive future care by older parents was associated with fear of rejection/abandonment. Thus, while some of our findings suggest that broad attachment avoidance and anxiety influence prosocial behavior, it seems reasonable that specific elements of attachment avoidance and anxiety may broaden our understanding of the factors underlying the inhibition/suppression of prosocial behavior. Importantly, the nested model may add to previous knowledge about the links between attachment and prosocial behaviour by identifying how distinct mental models of attachment avoidance and anxiety yield different underlying motives in people's willingness or reluctance to help others in need. To test this possibility, the aim of the present study was to examine the associations between the broad and facet components of attachment and the factors associated with prosocial behavior.

Method

Participants

A total of 380 participants (238 women, 142 men) from the University of California, Davis took part in the study. Participants ranged in age from 18 to 33 years ($M = 19.79$, $SD = 1.95$) and were ethnically diverse (39.2% Caucasian, 34.5% Asian-American, 10.8% Hispanic, 7.9% mixed background, 2.6% Pacific-Islander, 1.8% African American, 3.2% failed to list a cultural background). Over 45% of participants were currently in a romantic relationship.

Materials and Procedure

Attachment was assessed using the ECR (Brennan et al., 1998). The ECR consists of 36 statements rated on a 7-point Likert-scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The instrument is divided into two 18-item scales measuring the two major forms of attachment insecurity: anxiety and avoidance. The measure contains 10 reverse-scored items – nine pertaining to avoidance and one pertaining to attachment anxiety. Both scales, which were created by factor analysis of a large item pool, have consistently yielded high alpha reliability coefficients ($> .90$) in hundreds of studies (reviewed by Mikulincer & Shaver, 2007). In the present study, the two subscales yielded alphas above .90 and were moderately correlated $r = .35$.

Prosocial behavior was assessed with 30 items from the Penner Prosocial Personality Battery (PSB; Penner et al., 2005), which produce scores on seven factors: ascription of responsibility, empathic concern, perspective taking, mutual-concerns moral reasoning, other-oriented moral reasoning, personal distress, and altruism. The seven scales were reported by Penner et al. to load on two higher-order factors, helpfulness and other-oriented empathy. Personal distress and self-reported altruism loaded on helpfulness, and the remaining five factors loaded on other-oriented empathy. According to Penner et al. both higher-order factors have reliabilities in excess of .80. In the present study, these factors had reliabilities above .70. All items associated with the helpfulness factor are rated on a 5-point Likert-type scale ranging from 1 (*strongly agree*) to 5 (*strongly disagree*). All items associated with other-oriented empathy are rated on a 5-point scale ranging from 1 (*never*) to 5 (*very often*).

The self-report measures were administered to undergraduate students as a part of an on-line survey. Completion of the ECR, PSB, and demographics, took approximately 20 minutes.

Results

The data was examined for missing values, univariate and multivariate normality, outliers, homoscedasticity and multicollinearity. No variables violated tests of normality and multicollinearity was not detected ($rs' < .80$). Two structural equation models (SEM) were computed using AMOS 7.0 computer software and estimated using Maximum Likelihood Chi-Square Estimation (X^2_{ML}). The first SEM presented in Figure 1 examined the fit and associations between the two-factor model of attachment and prosocial personality. The second SEM examined the associations between the nested factor model of attachment and prosocial personality. Post-hoc respecifications were made by freely estimating parameters on the basis of Modification Indices and Expected Parameter Changes. Modifications to the models were supported by theoretical rationale. In order to evaluate model fit, Hu and Bentler's (1999) combination approach was adopted. Accordingly, models with incremental fit indices (CFI and TLI) $\geq .95$ and absolute fit indices (RMSEA and SRMR) $\leq .06$, were judged as having good fit.

Associations between the Two Factor Model of Attachment and Prosocial Personality

As illustrated in Figure 1, the broad attachment factors were regressed onto the two latent factors of PSB – other-oriented empathy and helpfulness. Furthermore, the model required that numerous correlations amongst the PSB components be freely estimated (see Figure 1). These post-hoc modifications to the model were expected as Penner et al. (2005) noted significant weak to moderate correlations between the PSB components. Specifically, significant correlations were found between ascription of responsibility and empathic concern ($r = .23$), empathic concern and perspective taking ($r = .21$), perspective taking and personal distress ($r = -.30$), and other-oriented moral reasoning and self-reported altruism ($r = .14$). The model also required that a cross-loading be imposed with self-reported altruism positively loading onto other-oriented empathy ($\lambda = .19$). The two latent variables of PSB were not found to correlate significantly. Avoidance was found to be negatively associated with both components of PSB, while a negative association was found between anxiety and helpfulness. Anxiety, however, was also found to be negatively associated with two specific empathy facets – ascription to social responsibility and perspective taking. Nevertheless, the final model resulted in poor fit $X^2(812, N = 380) = 2183.39, p < .05$; CFI = .85; TLI = .83; RMSEA = .07; SRMR = .07.

Associations between the Nested Factor Model of Attachment and Prosocial Personality

As illustrated in Figure 2, the broad attachment factors and all facets were regressed onto the two latent factors of PSB. As with the previous model, correlations between certain PSB components were freely estimated and were found to be of similar magnitude to the model involving the two factor attachment model (refer to Figures 1 and 2). Again, the PSB latent variables were not found to correlate significantly. The final model presented in Figure 2 resulted in reasonable fit $X^2(772, N = 380) = 1498.43, p < .05$; CFI = .92; TLI = .91, RMSEA = .05; SRMR = .06. In comparison to the two factor attachment model, the nested factor model explained a greater proportion of the variance in other-oriented empathy and helpfulness with the facets of discomfort with dependency, fear of rejection/abandonment and preoccupied making significant contributions. As a result, there was a significant improvement on the two factor model of attachment $\Delta X^2(40) = 684.96, p < .01$; $\Delta TLI = .08$. More specifically, avoidance and the discomfort with dependency facet were found to be significantly negatively related to other-oriented empathy, while avoidance was also negatively related to helpfulness. Discomfort with dependency was also found to have a negative relationship with the other-oriented empathy facet – empathic concern.

Broad anxiety and fear of abandonment/rejection were found to be negatively associated with helpfulness; however anxiety was also found to have negative relationships with two specific empathy facets – ascription to social responsibility and perspective taking. Whereas the preoccupied facet was not found to have any direct association with empathy or helpfulness, it was found to be positively related to personal distress (see Figure 2). Interestingly, the facets of discomfort with dependency and fear of rejection/abandonment were found to have higher associations with other oriented empathy and helpfulness than the broad factors of anxiety and avoidance.

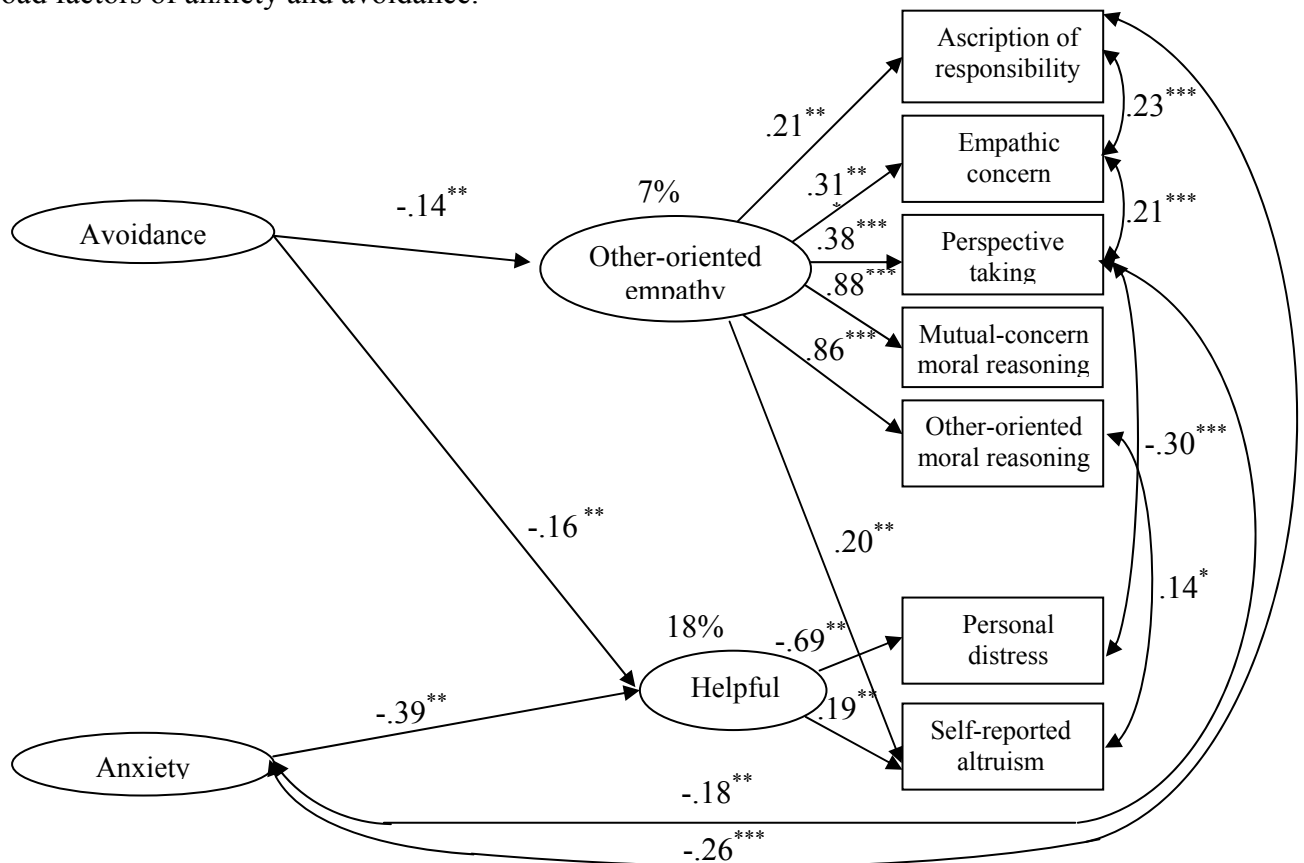


Figure 1. Model outlining significant relationships between the bi-factor model of adult attachment and prosocial behaviour.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Note. Items pertaining to the ECR, method factors, variances and error covariances have been omitted from the illustration for ease of interpretation.

Discussion

In this study we aimed to explore the relationships between the broad and facet attachment factors and prosocial tendencies. As expected, both the broad attachment factors and the more specific facets were found to make significant contributions in ways consistent with past literature on attachment and prosocial behaviour. However, the nested factors model of attachment provided a clearer picture of the links (i.e., less unexplained variance and better fit), and a fine-grained delineation of how aspects of attachment anxiety and avoidance are associated with prosocial behaviour not captured by the bi-factor model. The significant increase in the explained variance in prosocial behaviour between the nested attachment factor model and the broad bi-factor model suggests that the detailed structure of attachment has substantive as well as empirical value. The findings pertaining to the relationships

between the broad and facet components of attachment and prosocial behaviour are discussed in turn.

Attachment avoidance was found to be negatively associated with other-oriented empathy and helpfulness. This result supports past findings from our own laboratories and that of others (Gillath et al., 2005; Joireman, Needlham, & Cummings, 2001; Mikulincer et al., 2005; van IJzendoorn, 1997; Wayment, 2006), suggesting that empathy and helpfulness qualities including empathic concern, perspective taking, moral reasoning and altruism are not harbored by individuals high on attachment avoidance. More specifically, we suggest that there are three possible reasons as to why avoidant individuals are unlikely to possess prosocial tendencies. Firstly, avoidant individuals do not allocate attention to others and as a result do not perceive others' needs. Secondly, because avoidant individuals maintain negative models of others they perceive people in need as undeserving of help – and therefore use deactivating strategies to inhibit empathic and compassionate responses to others. Thirdly, avoidant people may in fact realize that another is in need but do not offer assistance due to their inability to take responsibility for others well-being.

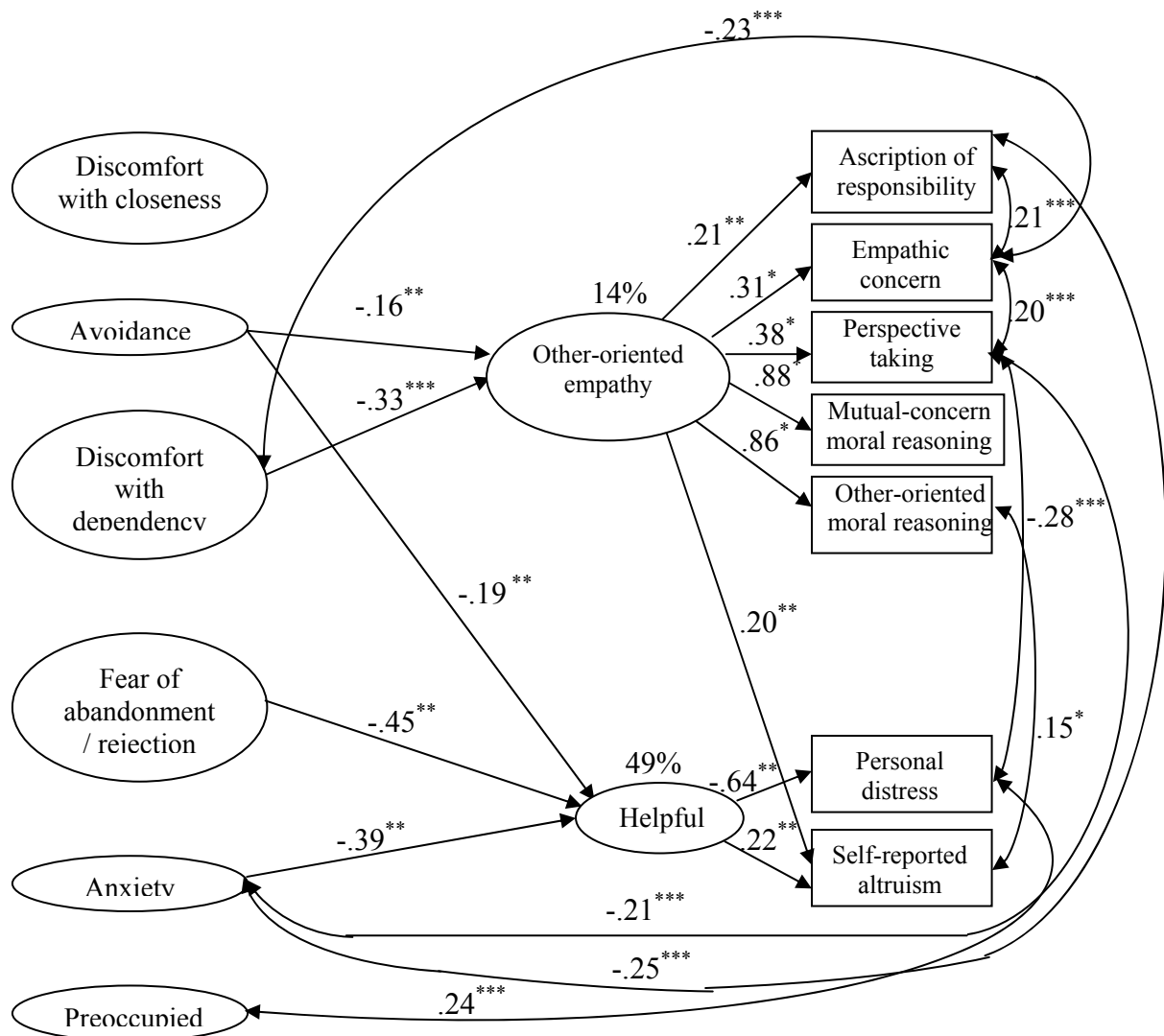


Figure 2. Model outlining significant relationships between the substantive dimensions of the nested factor model of adult attachment and prosocial behavior.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Note. Items pertaining to the ECR, method factors, variances and error covariances have been omitted from the illustration for ease of interpretation.

The nested factor attachment model revealed that the avoidance facet of discomfort with dependency has a greater negative association with other-oriented empathy than broad avoidance. This finding seems to suggest that discomfort with dependency is likely to be the most important attachment facet in determining the tendency to be empathic (or not). This finding is consistent with past research by Joireman et al. (2001, study 1) that found using Collins and Read's AAS that comfort with dependency (close, i.e., the inverse of discomfort with dependency) was positively associated with empathic concern.

However, this finding was further qualified by the negative covariance between discomfort with dependency and the empathic concern component of other-oriented empathy. Empathic concern has been previously identified as a key factor in people's engagement in prosocial and altruistic behaviour – people who experience concern and sympathy for others tend to help more (Batson, 1998; Davis, 1983). Therefore the link between discomfort with dependency and empathic concern suggests that individuals high on this attachment facet are not only reluctant to allow others to depend on them, but also do not experience empathy for others in need, and hence are less likely to help.

In relation to attachment anxiety, broad anxiety was inversely related to the helpful factor of prosocial behavior, but unrelated to other-oriented empathy. This is consistent with past research and theory suggesting that the engagement of hyperactivating strategies by individuals high on anxiety during distressful situations activates self-focused worries that mitigate against providing help and support (Britton & Fuendeling, 2005; Mikulincer & Horesh, 1999; Mikulincer & Shaver, 2007).

The facet of fear of *abandonment/rejection*, however, was found to have a stronger negative association with helpfulness compared to broad anxiety. This difference in effect implies that people's worries around abandonment and rejection are so dominant that these cognitions and associated emotions interfere in one's ability to engage in helpful behaviour (Westmas & Silver, 2001). This result suggests that people whose mental representations of anxiety encompass worries of rejection and abandonment may resist helping people in need out of fear of having their assistance rejected or judged negatively. This finding supports earlier theories of bystander intervention and cost-reward frameworks of helping behaviour whereby fears of negative evaluations by the needy other or bystanders can result in high negative emotional costs for the helper (Dovidio, Piliavin Gaertner, Schroeder & Clark, 1991; Latane & Darley, 1970). Consequently, the tendency to avoid these negative costs inhibits people's helping behaviour (Dovidio & Penner, 2001). Thus, individuals whose mental schemas of relationships are dominated by rejection and abandonment are particularly unlikely to offer assistance as they are more aware of these negative self-costs.

The positive association between the anxiety facet *preoccupation* and the personal distress component of the helpful factor was another finding elucidated by the nested factor attachment model. This positive relationship highlights that preoccupation seems to be the critical facet that impedes people's helping of needy others as they struggle to ameliorate their own distress (Batson, 1991; Gillath et al., 2005; Mikulincer & Horesh, 1999). As a consequence, while individuals high on preoccupation perceive other people's suffering they become emotionally overwhelmed by their own personal distress which interferes in their abilities to help others (e.g., Dovidio & Penner, 2001).

The findings related to the nested factor model of attachment and prosocial behaviour distinguish how distinct mental models of attachment avoidance and anxiety yield different underlying motives in people's reluctance to help others in need. For instance, while it is acknowledged that the egoistic tendencies of people high on broad anxiety are associated with drawing important resources away from attending to dependent others, it seems that the egoistic motives are different for individuals whose attachment mental models are dominated

by fear of rejection/abandonment versus those characterized by preoccupation. Mental schemas of fear or rejection/abandonment seem to mitigate against helping as they encompass fear of being evaluated or judged negatively or having assistance rejected, whereas preoccupation interferes with the ability to help, rather than the desire to help. Consequently, while the broad attachment factors contribute to our understanding of prosocial behaviour, the findings associated with the nested factor model of attachment yield new insights into the relationships between attachment processes and helping. These findings about reasons to help and ability to help, might also explain why in some studies (e.g., Gillath et al., 2005) attachment anxiety was only related with reasons to help (or not), and not with the tendency to help.

Despite the importance of our findings and their clear contribution, it is important to mention a psychometric and conceptual limitation associated with the use of the ECR. Using a measure that was constructed with a bi-factorial model in mind to measure facets might have biased some of our results, and our ability to identify further facets. Furthermore, in the preliminary development of the ECR, Brennan et al. (1998) reported a series of facets that resemble the facets represented in the nested factor model in the present study. However, Brennan et al. noted that a number of these facets exhibited high inter-correlations and associations with attachment avoidance and anxiety. Similarly, Fraley, Waller, and Brennan (2000) in their revision of the ECR (known as the ECR-R) found a total of 30 attachment clusters supporting the idea that the broad factors can be partitioned to yield multiple facets. However, in both cases the scale developers made a conscious decision to limit the factorability of these measures to a two factor solution due to its substantive and theoretical relevance to both Ainsworth et al.'s (1978) and Bartholomew and Horowitz's (1991) underlying dimensions that conceptualised attachment style in a two-dimensional space. Nevertheless, Fraley et al. (2000) note that the underlying multidimensional nature of attachment suggests no simple factor structure.

Therefore, the nested model presented here, can provide an appropriate compromise that moves beyond the bi-factor model without grossly over-complicating the structure of attachment. Moreover, it seems that in contexts such as prosocial behaviour it will be fruitful to delineate the attachment facets from the broad factors as they make meaningful and substantive contributions to our understanding of helping.

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