Psychological functioning in young adulthood:

The role of attachment, coping and stress.

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I certify that this thesis contains no material which has been accepted for a degree or diploma by the University or any other institution, except by way of background information and duly acknowledged in the thesis, and to the best of my knowledge and belief this thesis contains no material previously published or written by another person except where due acknowledgement is made in the text of the thesis.

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Abstract

The impact of negative life stress and coping on psychological functioning has been established by previous research. However, it is only more recently that attachment theory has been examined for both theoretical and clinical contributions to the field. Bartholomew and Horowitz (1991) combined the positive and negative model of self with the positive and negative model of others to form a four-group model of adult attachment. The establishment of links between those with a negative self model (i.e., high anxiety) and internalising psychopathology, and those with a negative model of others (i.e., high avoidance) and externalising psychopathology, would provide further support for this four-group model.

In this thesis, an original model is developed to examine the direct and moderated influence of attachment, coping and negative life stress on adaptive functioning, anger and psychopathology. Questionnaires were administered to 204 young adults (aged 18 -30 years) to assess their romantic attachment style, methods of coping, levels of negative life stress in the past 12 months and the impact of these independent variables on self-reported levels of adaptive functioning, anger and psychopathology. Adaptive functioning refers to relationships with friends, romantic partners and family, as well as academic and occupational functioning. The psychopathology measure included assessment of internalising and externalising symptoms, self harm, suicidality, alcohol and drug use, among other psychological symptoms.

The relationship between the independent and dependent variables was analysed by hierarchical multiple regressions. A negative model of self (high anxiety) was linked with an increased incidence of internalising disorders, however a

negative model of others (high avoidance) was not associated with externalising disorders, but with internalising disorders and to some areas of adaptive functioning. These results provide a further extension of Bartholomew's model, and with the additional psychopathology scales measured, highlight the negative model of self (high anxiety) as most relevant in the development of psychopathology and anger. Support was also found for the hypothesised model, with attachment linked to coping largely in accordance to predictions. The psychopathology results revealed the largely direct effect of negative life stress on psychopathology. The anger results provided support for both a main effects and moderator model, with negative life stress impacting on anger levels directly, and through an interaction with coping. These results represent a significant contribution to the theory and clinical practice, with implications for both future research and clinical intervention.

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Chapter 1

Overview of the Investigation

The purpose of this thesis is to investigate the role of attachment, coping and negative life stress in adaptive functioning, anger and psychological symptoms. The primary explanatory variable of interest is attachment. In this study, attachment is operationalised as the anxiety and avoidance attachment dimensions, as determined by a recent and well-validated self-report measure, the Experiences in Close Relationships Inventory (Brennan, Clark, & Shaver, 1998). The individual attachment dimensions of anxiety and avoidance and their interaction are examined separately to provide more information regarding the exact nature of the relationship between attachment and psychological functioning. Due to the previously established impact of coping style and negative life stress on psychological functioning, these variables are also included, allowing the original contribution of the attachment dimensions and their interaction to be highlighted. In addition, the incorporation of negative life stress and coping enables a more comprehensive investigation, with a focus on the direct and interactive effects of coping on negative life stress. Finally, the relationship between the attachment dimensions and their interaction to the individual coping strategies is examined.

All these relationships are investigated in relation to an original theoretical model. This model enables visual presentation of the hypothesised relationships between the independent and dependent variables, and is presented in Figure 1.

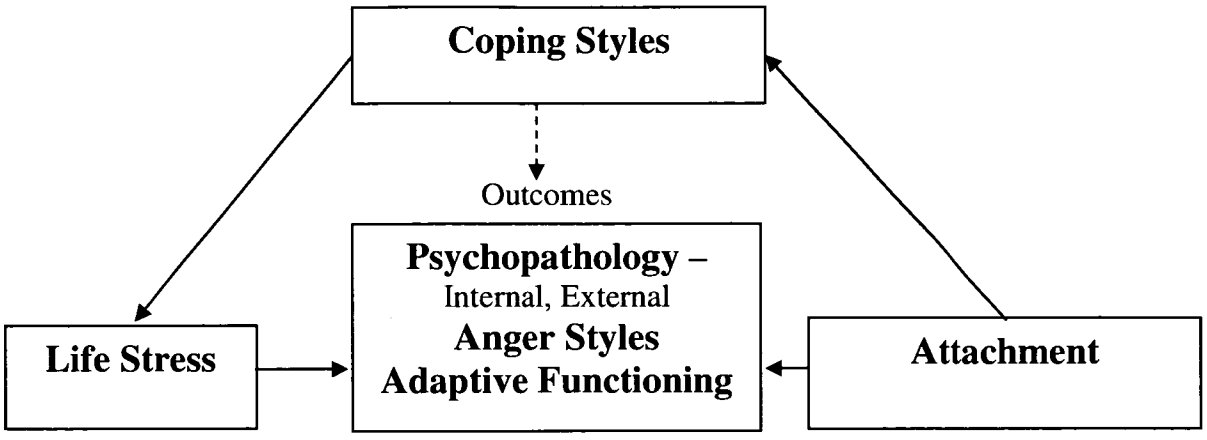


Figure 1. Theoretical model displaying the hypothesised relationships between attachment, coping, and negative life stress to psychological functioning.

The current study also utilises an influential model of adult attachment, that combines the two attachment dimensions into a four group model (Bartholomew & Horowitz, 1991). The authors refer to the anxiety attachment dimension as the model of self and the avoidance attachment dimension as the model of others. The current study extends this four group model by investigating hypothesised links between the negative model of self (i.e., high anxiety) and internalising symptoms, as well as the negative model of others (i.e., high avoidance) and externalising symptoms. This investigation has important implications for both attachment theory and clinical practice in the treatment of psychological symptoms.

Psychological functioning in the current study is represented by measures of adaptive functioning, anger and psychological symptoms (including self-harm, suicidality, alcohol and drug use). A broad range of psychological functioning measures are utilised to provide a bigger picture regarding the role of attachment, coping and negative life stress. Adaptive functioning is defined according to the Young Adult Self Report (Achenbach, 1997) and refers to relationships with friends, romantic partners and family, as well as functioning in education and employment

arenas. Although the primary focus of the current investigation is maladaptive functioning, it is important to include measures of functioning in close relationships, as well as academic and occupational areas, as these are often the initial indicators of problems that can develop into symptomatology. Recent research has referred to attachment as a theory of affective functioning; therefore it is important to examine this aspect of psychological functioning, as well as psychological symptoms. Anger was specifically chosen as a dependent variable due to its significance in Bowlby's early writings on attachment (see Bowlby, 1973/1998). A broad range of psychological symptoms are investigated, including internalising symptoms (such as anxiety and depression) and externalising symptoms (such as aggressive and delinquent behaviour) as designated by the Young Adult Self-Report.

Finally, the current study extends previous research by examining internalising and externalising symptoms in a young adult sample, whereas previous research has focused on these categories in younger populations. Young adulthood is an appropriate and important period to examine, given the number of developmental challenges associated with the transition from adolescence to adulthood, which increases the likelihood of psychological symptoms. Moreover, one of the developmental challenges of this period is the transition from parents as attachment figures to romantic partners, and as such, it is an opportune time to measure romantic attachment.

The literature review begins with an overview of attachment theory. Attachment theory originated with John Bowlby (1969/1997; 1973/1998; 1980/1998), who argued that the nature of the bond between mother and child had long-reaching implications for a child's well-being. Bowlby proposed that this drive was biologically determined and of equal importance to other instinctual drives, such as

hunger and sex. Ainsworth, Blehar, Waters and Wall (1978) developed an experimental procedure labelled the "strange situation" to experimentally observe attachment behaviour in infants. From the strange situation and observations made in the home of the interaction between mother and child, three types of attachment style were defined. These were secure, and two types of insecure attachment, anxious and avoidant.

More recently, attachment theory has been applied to adult romantic relationships, due to the similarities shared between infant attachment and adult romantic relationships. For example, a desire for the attachment figure when stressed, increased comfort in the presence of the attachment figure and anxiety when the attachment figure is unavailable are characteristics of both infant attachment and adult romantic relationships. Bartholomew and Horowitz (1991) developed an influential four group model of adult attachment. This model refers to two dimensions of attachment, the model of self (also known as anxiety) and the model of others (avoidant attachment), which combine to form four attachment styles. As well as reviewing the key concepts of attachment theory and Bartholomew's model, chapter 2 examines concepts relevant to theoretical constructs, such as the conceptualisation, measurement, and stability of attachment.

Chapter 3 begins the examination of attachment research and the dependent variables, starting with adaptive functioning. This review is continued in chapter 4, with an examination of attachment and anger both theoretically and with reference to experimental studies. In particular, the relationship between the anxiety and avoidance attachment dimensions and anger is highlighted, including discussion of the conflicting evidence as to which dimension is implicated most in anger reactions. Attachment and psychological symptoms are then examined in Chapter 5, with a

focus on internalising and externalising symptoms and the two attachment dimensions. Findings in this area indicate that the anxiety attachment dimension is associated with internalising symptoms, with the avoidance attachment dimension linked with externalising symptoms. However, the relationship between avoidant attachment and externalising symptoms is not as robust as the former, with some evidence indicating that the anxiety attachment dimension is also associated with externalising symptoms.

Chapter 6 provides an overview of the relationship between negative life stress, coping and psychopathology. This review highlights confusion in the literature regarding the nature of coping. That is, whether coping has a direct effect on psychopathology, or impacts psychological symptoms through the moderation of negative life stress. Finally, the empirical research examining attachment and individual coping strategies is presented. Chapter 7 provides the rationale for the current study and presents the original theoretical model that is to be investigated.

The dimensional approach utilised in this research allows for the differentiation of individuals with the same attachment pattern in terms of extremity or severity and more accurately captures the complexity of attachment patterns. Furthermore, the utilisation of attachment dimensions (as opposed to discrete categories) enhances the likelihood of identifying underlying causal mechanisms (Bartholomew, Kwong, & Hart, 2001). Thus, the dimensional approach has the advantage of revealing the information that is typically discarded when individuals are assigned into discrete groups. Additionally, this approach allows correlational analysis, that can be extended to multiple regression, to be conducted (Griffin & Bartholomew, 1994).

The aims of the current study are:

1. To investigate an original theoretical model which reflects the hypothesised relationships between attachment, coping and negative life stress to psychological functioning.
2. To examine the independent contribution of the attachment dimensions, anxiety and avoidance and their interaction, to psychological functioning, while controlling for the previously established impact of negative life stress.
3. To investigate a broad range of theoretically relevant psychological functioning measures to provide more information regarding the relationship between these and the individual attachment dimensions and their interaction.
4. To provide more information on the relationship between the individual attachment dimensions, their interaction, and anger.
5. To extend the research examining internalising and externalising symptoms in children and adolescents and focus on young adults.
6. To examine the hypothesised relationship between the anxiety attachment dimension and internalising symptoms, as well as the avoidant attachment dimension and externalising symptoms.
7. To investigate whether coping has a direct effect on psychological functioning, or operates indirectly through moderating the influence of negative life stress on psychological functioning, or both.
8. To examine the relationship between the anxiety and avoidance attachment dimensions, their interaction and individual coping strategies, and formulate some exploratory hypotheses.

Chapter 2

Attachment Theory

This chapter critically reviews the attachment literature, focusing in particular on the elements that are relevant to understanding the attachment system in adults. A theoretical background regarding infant attachment is given, as attachment theory originated largely from studies of infant behaviour. The research examining temperament as an alternative explanation for attachment behaviour is also briefly reviewed. The findings regarding individual differences in attachment are summarised, as they are fundamental to an understanding of attachment theory and are reflected in attachment relationships throughout life. The attachment system in adults is then discussed. Finally, as attachment is a theoretical concept, factors relevant to the conceptualisation, measurement, and stability of attachment are presented.

Infant Attachment

Attachment theory originated with the work of John Bowlby (1969/1997; 1973/1998; 1980/1998), who through his work with maladjusted children, became convinced of the detrimental effects on infants of early separation from their caregivers. Drawing from ethology, psychoanalysis, developmental and cognitive psychology, he developed the central tenets of attachment theory. Bowlby proposed that infants have a biologically motivated behavioural system, which operates to maintain proximity to their caregivers and hence promote their survival. Thus, Bowlby proposed that infants are biologically programmed to display behaviour such as crying and smiling, to elicit caregiving behaviours from their attachment figure. Similarly, he postulated that adults are biologically programmed to be drawn to this

behaviour, thereby maintaining the caregiver's proximity to the infant and maximising the chances of the infant's survival.

Bowlby (1969/1997) saw this behavioural system as being of equal importance to other instinctual drives such as hunger and sex, which operate to ensure species survival. Through Bowlby's elevation of the attachment drive, he challenged the commonly held social learning theory premise that infants develop close bonds to the primary caregiver (usually the mother) through the provision of primary reinforcers, such as food and warmth. Harlow's (1958) work with rhesus monkeys supported Bowlby's concept of an attachment system that operated independently. Monkey infants were placed in a cage with two wire surrogate mother figures, one that had a bottle attached to it, the other had a soft, terrycloth texture. In times of danger or stress, the monkey infants ran to the soft mother for contact comfort, not the one that dispensed food. There are many other animal models that support the concept of attachment theory as proposed by Bowlby, as well as examples of the negative effects that ensue if infants (both non-human and human primates) are separated from their mothers (e.g. Hinde & Spencer-Booth, 1967; Robertson, 1953).

These findings from animal models have been supported further by examination of the effects on children who were brought up in institutions, with very little, if any, emotional support from adults. Past research has reputed that despite receiving adequate nutrition and bodily care, these children became withdrawn, did not seek human comfort, had heightened levels of aggression and delinquency and the majority were developmentally delayed (Yarrow, 1961). There is some evidence that these negative effects can be reversed, at least to some extent (Skeels, 1966). In a study focusing on children who were removed from an overcrowded orphanage after 18 months and placed in an institution for intellectually disabled women.

Importantly, each child was adopted by one of the women patients or the staff, who formed a close bond to the child. When these children were examined years later, their intellectual and social development had improved considerably, while those of the children who had remained in the orphanage declined.

Although much of the previous attachment research has focused on children's attachment to their mothers, it is clear that children form a variety of attachments to adults who are consistently involved in their life. However, it does appear that it is the attachment to the primary caregiver (also referred to as the attachment figure) that is most important to the child and influential in their subsequent development, although a secure attachment to both parents is optimal (see Thompson, 1999, for a summary).

Ainsworth and colleagues (Ainsworth, Blehar, Waters, & Wall, 1978) and Bowlby (1988) further developed four central tenets of attachment theory. These are the concepts of *secure base, proximity seeking, separation protest* and *safe haven.* If a caregiver is responsive to his/her child's needs, a positive attachment relationship ensues. This, in turn, encourages a child to explore the world around them, all the time confident in the presence of their caregiver. In this way, the primary caregiver provides a *secure base* for the child, from which they can engage in non-attachment behaviour. The infant seeks to make contact and stay near the caregiver (*proximity seeking*) and resists being separated from them, becoming distressed when this occurs (*separation protest*). As a child develops, the acceptable distance from the primary caregiver is increased. However, if that distance is exceeded, then the attachment system is activated and the child engages in behaviours in an attempt to reduce the associated distress and regain proximity to their caregiver. As well as a secure base, the primary caregiver also acts as a *safe haven* for their child, so that under situations of perceived threat, the child is able to return to the caregiver for

comfort and support. Importantly, Bowlby (1973/1998) stressed the importance not only of the physical presence of the caregiver, but also the infant's belief (developed through experience) that the attachment figure will be available and responsive if needed. Differences in attachment security reflect an infant's confidence (or lack of) in their caregiver's availability and responsiveness. The concept of individual differences in attachment security is one of the key features of attachment theory, and as such deserves further elaboration.

Individual differences in attachment

Bowlby's (1969/1997; 1973/1998; 1980/1998) theory of attachment received empirical support from Ainsworth et al.'s (1978) construction of the strange situation paradigm. The strange situation is an experimental procedure where children are observed in periods of separation and reunion with their attachment figure. This paradigm allows for the assessment of individual differences in attachment behaviour, which are particularly evident in the balance between exploration of the environment and seeking proximity to the attachment figure when exploration becomes threatening (Weinfield, Sroufe, Egeland, & Carlson, 1999). Ainsworth's studies of mother-child interactions suggested that children responded to separations with different cognitive expectations about their caregiver's responsiveness in times of distress. This concept of internal working models is also central to attachment theory, and will be explored further shortly.

Ainsworth et al. (1978) identified three different types of attachment style; secure, anxious and avoidant. Mothers who were sensitive and responsive to their children's needs during the first three months of life tended to have children who were securely attached when assessed at 12 months of age in the strange situation. A child who was securely attached was comfortable exploring their environment and

confident of being able to return to their mother for comfort and reassurance if needed. A secure infant displayed appropriate distress if separated from his/her attachment figure, however was quickly calmed upon her return and resumed play accordingly.

In contrast, Ainsworth and colleagues (1978) found that mothers who were inconsistent or insensitive in their caregiving in the home had infants who reacted differently in the strange situation. These infants were deemed insecurely attached, reflecting a lack of confidence in caregiver responses. Inconsistent caregiving tended to result in an infant who was anxiously attached to their primary caregiver. These infants strongly resisted separation from their attachment figure, becoming clingy and very distressed. Upon reunion, they remained angry and were difficult to soothe. Caregivers who were insensitive were likely to have infants who were avoidant in their attachment style. Avoidant attachment is characterised by a lack of the normal separation distress. Following reunion, avoidant infants often ignore the caregiver and instead, focus on a play object or stranger in the room.

These individual differences in attachment are presented visually in Figure 2, adapted from Shaver and Clark (1988), Bartholomew, Kwong and Hart (2001) and Mikulincer, Shaver and Pereg (2003).

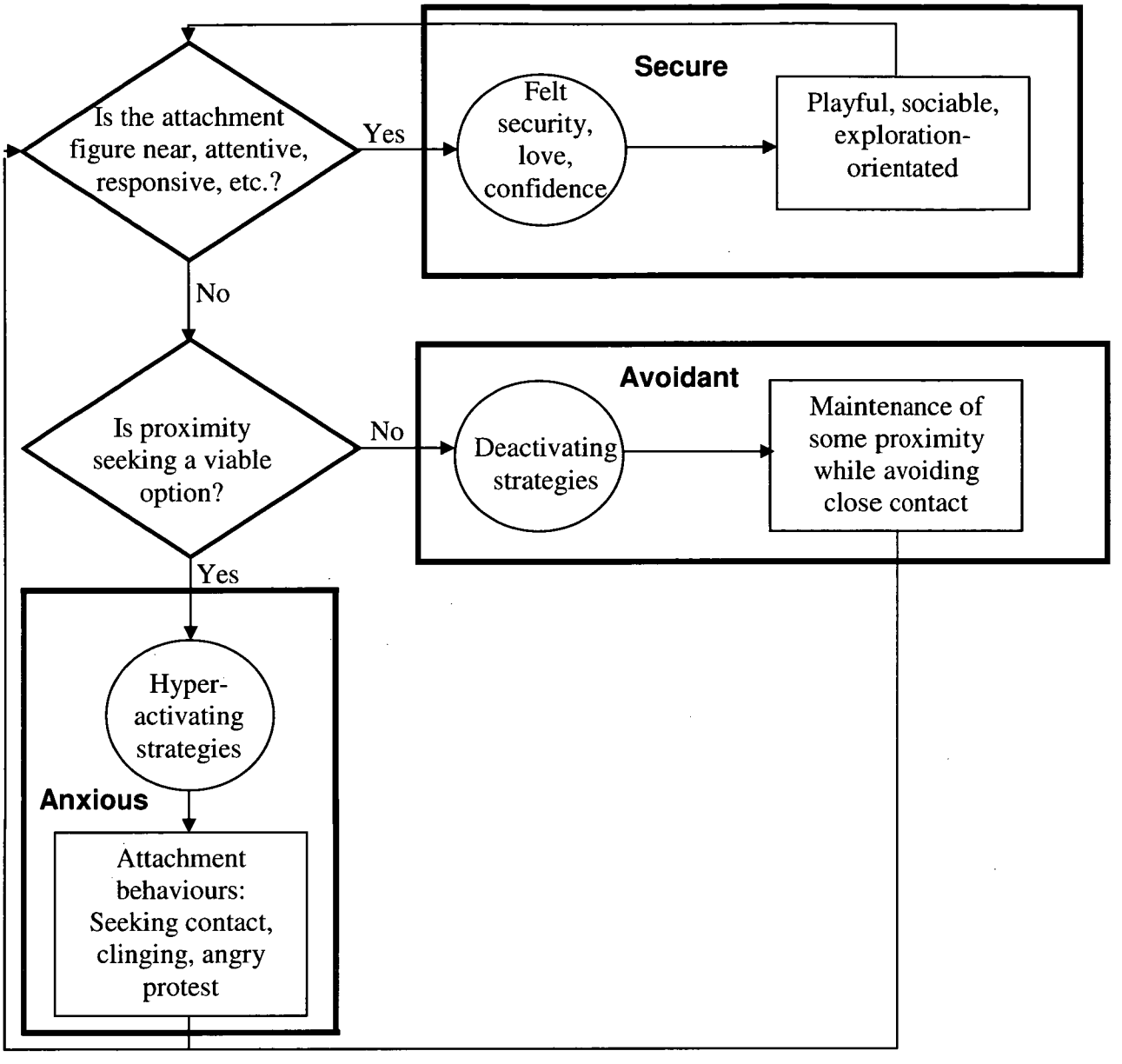


Figure 2: Individual differences in the attachment behavioural system in infancy. Diamonds represent a test, circles represent emotions and squares represent behaviours (Shaver et al., 1988).

More recently, researchers have identified a new insecure attachment pattern, disorganised/disorientated (Main & Solomon, 1986). This category was developed to describe some infants who did not fit reliably into the previously described attachment classifications. Instead, these infants did not possess a coherent strategy for responding to separation or reunion with their caregivers in the strange situation.

As the category title indicates, they were either overtly disorganised or disorientated with respect to the immediate environment. Behaviours displayed by infants with an insecure-disorganised/disorientated attachment style include: disordering of expected temporal sequences, simultaneous display of contradictory behaviour patterns, incomplete or undirected movements and expressions (including stereotypies), direct indices of confusion and of apprehension, and behaviour stilling (cessation of movement in postures suggestive of confusion or depression). Many children who have been maltreated by their parents are classified as insecure-disorganised/ disorientated in the strange situation.

Much research has corroborated a link between maternal sensitivity to infant's needs and attachment style (see De Wolff & van Ijzendoorn, 1997; Weinfield et al., 1999 for a summary). These studies have demonstrated that attachment classification is affected by the quality of care an infant receives. The more support and positive qualities caregivers' possess, the more likely their infant is classified as securely attached in the strange situation. In the same way, the more environmental and psychological difficulties caregivers experience, the more likely their infant will be classified as insecurely attached (Belsky, 1999). However, it has also been observed that infants' behaviour in the home predicted their attachment classification in the strange situation. This observation led to the suggestion that attachment style could be a result of temperamental characteristics of the infant, rather than a product of the relationship (Vaughn & Bost, 1999). Consequently temperament research deserves further examination to determine its validity as an alternative explanation for attachment behaviour.

Temperament and attachment

Temperament theorists postulate that it is the infant's temperament, in particular his or her susceptibility to distress, that directly affects the development of the attachment relationship through mother-child interaction. Furthermore, they contend that temperament is largely responsible for the classification of attachment style based on behaviour displayed in the strange situation (Belsky, 1999).

Temperament is assumed to be evident from early infancy (Vaughn & Bost, 1999) and as such, pre-dates attachment, which develops during the second half-year of life (Bowlby, 1973/1998). Therefore, conceptually, temperament could impact on the development of the attachment relationship. However, research investigating the relationship between attachment style and temperament has, in general, not found a direct link between the two concepts. Studies examining attachment to fathers as well as to mothers has revealed that children often display differing behaviour and attachments with various caregivers (Oppenheim, Sagi, & Lamb, 1988; Rothbaum, Rosen, Pott, & Beatty, 1995). However, a meta-analysis of 642 infants did find a statistically significant relationship between attachment to mothers and fathers (Fox, Kimmerly, & Schafer, 1991).

Further information is gleaned from studies that have examined more closely the relationship between temperament and attachment. For example, Crockenberg (1981) did not find a direct relationship between neonatal irritability and attachment style, although infant irritability was associated with insecurity when the mothers' level of social support was low. A more recent study provides further support for this result. Van den Boom (1994) conducted an intervention study with the mothers of infants who were classified as highly irritable. The intervention aimed to increase the mothers' ability to monitor, perceive and respond to infant signals attentively,

accurately, appropriately and contingently. The results indicate that the intervention was successful, with significantly more infants from the intervention group being classified as securely attached at its conclusion than the infants from the control group (matched on irritability). Furthermore, Shaver and Brennan (1992) found that attachment styles were related in predictable ways to the "Big Five" personality dimensions as assessed by the NEO Personality Inventory, but were not simply redundant with them.

Although the exact relationship between attachment and temperament requires further investigation, there is no evidence at this stage to indicate that attachment and temperament are redundant concepts. Rather, they appear to be independent or interactive contributors to personality and interpersonal development (Vaughn & Bost, 1999). There is some evidence to suggest that the role of temperament in attachment security is more indirect, where a difficult temperament could increase the risk of negative interactions and consequent insecurity, or act as an additional stressor for a parent (Kim Bartholomew et al., 2001). Therefore, as Vaughn and Bost (1999) conclude in their comprehensive review of research in this area, "temperament need not imply attachment destiny, even in at-risk groups" (p. 219).

Internal working models of attachment

Bowlby (1973/1998) argued that attachment relationships in childhood provide children with a template or internal working model for the way in which future relationships are viewed. Specifically, a person's attachment experiences as a child determine their expectations about their own role in relationships with others as well as the role of others. If an attachment figure has acknowledged an infant's simultaneous needs for comfort and protection, as well as independent exploration of

the environment, the infant becomes securely attached and sees him or herself as being worthy, valued and self-reliant (Bretherton, 1995a). Secure attachment also results in an internal working model in individuals that views others as trustworthy, loving and dependable. However if the attachment figure has repeatedly rejected the infant's bids for comfort or exploration, an individual is likely to become insecurely attached and therefore believe that he/she is worthless, incompetent and incapable of obtaining attention from others (who are seen as untrustworthy, uncaring and inaccessible). The beliefs, expectations, attitudes and experiences that result from early attachment relationships comprise the affective and cognitive components of the internal working model. Hence, not only does children's internal working model of relationships allow them to experience and learn the reciprocity of caregiving, but it also controls what incoming interpersonal information is received, how it is interpreted, which emotional responses are elicited and the direction of behaviour in relationships with significant others (Collins & Read, 1994).

In addition to cognitive models of attachment, Weinfield and colleagues (1999) summarise three hypothesised mechanisms for how infant attachment style impacts later development. They stress that it is likely that all of these explanations have a role in the on-going influence of attachment, and as such are not mutually exclusive. Firstly, infant attachment could possibly influence neuron development, resulting in long-lasting changes in the brain. Secondly, infant attachment may influence the development of affect regulation. Before an infant can self-regulate his or her emotions, caregivers fulfil this role through their response to the infant's distress. Hence, attachment style differences may lead to varying methods of affect regulation. The third explanation is that infant attachment impacts development through behavioural synchrony and regulation. The learning of social skills originates from the early attachment relationship, orientating the infant as to how to

behave in a relationship. If an attachment relationship is secure, children learn behavioural reciprocity and self-control, and can apply these skills to new relationships and environments. Thus, a secure attachment gives children a distinct advantage over others who were insecurely attached as infants, and further strengthens differences between them.

Individual differences in attachment security are viewed as important for both personality development and psychopathology, due to their influence on emotional regulation and exploration. These areas will be elaborated on in subsequent chapters. A central issue for attachment theory as a theory of personality development is what circumstances account for continuity and change. Thus, the relationship between infant attachment and attachment throughout life requires exploration.

Continuity and Change in Attachment

While Bowlby emphasises the primacy of the main caregiver's relationship with the child and posits that it is the nature of this relationship that influences all future relationships with others, attachment theory does not imply that these early relationships alone are destiny. In fact, Bowlby (1973/1998) advocated a pathway model where change is always possible, but it is at the same time constrained by prior history, experience and adaptation (Weinfield et al., 1999). Thus Bowlby saw internal working models of attachment as resistant, but not impervious to change. According to Bowlby (1980/1998), the stability of internal working models of attachment derives from the fact that with time, patterns of interacting become habitual and automatic, making them less accessible to conscious awareness. In addition, reciprocal expectancies mean dyadic patterns of relating in particular are more resistant to change than individual patterns (Bretherton, 1995b). Furthermore, internal working models may be self-fulfilling, in that they influence the

consequences of interpersonal experiences, which in turn reinforces the mental models of self and others (Feeney & Noller, 1996). For example, women who are high in anxious attachment have been demonstrated to act in ways during conflict with their romantic partner that brings forth the very rejection from their partners that they fear (Downey, Freitas, Michaelis, & Khouri, 1998).

There is substantial evidence in the literature that in the majority of cases, attachment relations with the primary carer remain stable from ages one to five (Main, Kaplan, & Cassidy, 1985; Wartner, Grossmann, Fremmer-Bombik, & Suess, 1994), to 10 (Grossmann & Grossmann, 1991; Urban, Carlson, Egeland, & Sroufe, 1991) to 16 (Elicker, Englund, & Sroufe, 1992; Hamilton, 2000) and 20 years later (Waters, Merrick, Treboux, Crowell, & Albersheim, 2000). This stability is evident despite the necessity of different attachment measures at different developmental stages. A review of several stability studies using Hazen and Shaver's (1987) categorical measure of attachment style, reported that approximately 30% of participants changed their attachment style over various time periods (Baldwin & Fehr, 1995). However Sroufe and colleagues (Sroufe, Carlson, & Shulman, 1993) have argued that such change is largely lawful, that is, events and factors relevant to attachment are likely to result in changes in attachment style. Both negative life stress and individual vulnerability factors have been implicated as playing a role in attachment style change.

Negative Life Stress

As mentioned previously, attachment theory predicts both stability and change in regards to working models of attachment. Adults may be able to modify their original childhood attachment style through new attachment relationships and the development of formal operational thought, allowing them to reflect on and

reinterpret the meaning of past and present experiences (Bowlby, 1973/1998; 1980/1998). Bowlby emphasised the role of experience in influencing working models of attachment, in particular experiences that impact on the parent-child relationship. Consequently, stressful life events, in particular those which impact directly or indirectly on the caregiver and child, are likely to modify original attachment models.

In support of this hypothesis, several studies have indicated that mothers' reports of a high number of stressful life events predicted a change from secure to insecure attachment, while a low number of stressful events, or positive life events, were associated with a change from insecure to secure attachment (Egeland & Sroufe, 1981; Vaughn, Egeland, Sroufe, & Waters, 1979). In addition, securely attached children who developed behavioural problems were shown to have mothers that had not coped with the demands of their growing children, while changes from insecure to secure attachment in children were associated with the development of caregiver skills in young, immature or incompetent mothers. In the Minneapolis poverty sample, researchers found that children's attachment security paralleled their mothers' economic and relationship security (Egeland, Kalkoske, Gottesman, & Erikson, 1990; Erikson, Sroufe, & Egeland, 1985; Sroufe et al., 1993). Longitudinal studies have also reported that changes in attachment are more likely in participants who have experienced negative life events (Hamilton, 2000; Waters et al., 2000).

Disruption of secure attachment relationships can be caused by a variety of events, such as death of a parent, adoption or child abuse, as well as the more subtle emotional unavailability of a primary caregiver, due to parental psychopathology or situational stressors (Alexander, 1992; Rothbard & Shaver, 1994). In contrast, a study by Scarfe and Bartholomew (1994), which established moderate stability for multiple methods of assessing attachment over an eight month period, revealed that

changes in attachment style were not consistently related to life events that had occurred in that time frame. However, it should be noted that a relatively high-functioning middle-class sample of established couples was utilised as the sample, for which negative life events have been demonstrated to be less common than disadvantaged samples. A longitudinal study that examined attachment style in a high-risk sample reported much lower rates of concordance between infant and adult attachment (Weinfield, Sroufe, & Egeland, 2000). Not surprisingly, this sample also experienced a very high rate of negative life events, such as maternal depression and child maltreatment, which meant adult attachment was no longer significantly predicted by infant attachment ratings. In a review of several studies examining attachment changes over time, Baldwin and Fehr (1995) concluded that psychologically meaningful variability seemed to be responsible for these changes, as opposed to problems with measurement reliability. Individual vulnerability factors that are relevant to attachment have also been examined in regards to attachment continuity.

Individual Factors

Studies by Davila and colleagues (Davila, Burge, & Hammen, 1997; Davila & Cobb, 2003) have highlighted that certain individuals' are more susceptible to change in their attachment style. The authors surmised that these changes were due to the individuals past history of adverse experiences. Specifically, individuals with a personal and family history of psychopathology, stable personality disturbances and non-intact families of origin were more likely to be insecurely attached or susceptible to attachment style fluctuations. There is some overlap in the debate, as the factors that the authors refer to as stable vulnerability factors, are also negative life events that have been demonstrated to impact on attachment style. However, the authors

make a distinction between these factors, which have often occurred in childhood, and more recent experiences of negative life stress in adulthood. Despite this distinction, these studies also found some evidence to suggest that recent negative life stress can impact on attachment style change. Further support for the individual difference model of attachment change came from Davila and Cobb's (2003) study, which reported that participants who lacked clarity about themselves and others were also more likely to demonstrate attachment changes over time. The researchers interpreted this as reflecting a lack of clarity about working models of attachment (due to previous vulnerability factors) and hence a susceptibility to fluctuations in attachment over time.

Moreover, patterns of stability or change in adult attachment styles have been associated with corresponding changes in distress, self-confidence and problem coping styles. Lopez and Gormley (2002) divided participants into four groups according to their attachment style scores, as assessed at the beginning and end of the first year of college. The *stable secure* group had significantly higher self-confidence scores, more adaptive coping, lower depression and fewer problems than the *attachment change* or *stable insecure* groups. The *secure to insecure change* group experienced increasing depression symptoms and personal problems over the course of the year, while the *insecure to secure change* group reported a drop for these measures relative to their initial scores. Overall, the *stable insecure* group exhibited the highest distress levels, most maladaptive coping and personal problems.

Taken together, the literature suggests that both past and recent negative life stress can cause discontinuity in attachment style over time. Individual vulnerability factors also increase the likelihood of change in attachment style, and these appear to be associated with unstable models of attachment. In particular the more traumatic events, as well as those that affect parent-child relations and occur early in the child's

life, are likely to be associated with changes in attachment. In addition to negative life events and individual factors, some change in attachment style over time is likely to be due to measurement error on the part of the measures used to assess attachment style at various ages. This issue will be covered in more detail in a later section examining the measurement of attachment. Overall, attachment theory allows for both continuity and change, with most change appearing to be associated with psychologically meaningful events or factors.

Adult Attachment

Regardless of the continuity between childhood and adult relationship patterns, attachment theory remains a useful framework for understanding adult relationships (Bartholomew, 1993). Although Bowlby (1969/1997; 1973/1998; 1980/1998; 1988) conceived attachment theory to encompass personality development across the life-span, it is only more recently that researchers have begun to examine the attachment in adults. Traditionally, research efforts have been divided into two separate streams, those examining adults' attachment to their parents through indirect methods such as the Adult Attachment Interview (AAI), and those looking at adult's current or recent romantic/peer attachment, where largely self-report methods have been utilised (Bartholomew & Shaver, 1998). Although the AAI will be explored further in the section examining the conceptualisation and measurement of adult attachment, adult romantic and peer attachment will be the focus of the following discussion as it is more pertinent to the current study.

Romantic Attachment

The research investigating adult romantic attachment has been largely influenced by Hazen and Shaver's (1987) seminal article conceptualising romantic

love as an attachment process (Feeney & Noller, 1996; Simpson & Rholes, 1998). Shaver and colleagues (Hazan & Shaver, 1987; Shaver et al., 1988) were among the first researchers to note similarities between infant attachment to caregivers and adult attachment to romantic partners and/or peers. In an adult relationship where there exists an attachment or bond, an adult shows desire for proximity to the attachment figure when stressed, increased comfort in the presence of the attachment figure and anxiety when the attachment figure is inaccessible.

Like Bowlby, Hazen and Shaver (1987) conceptualised romantic love as a biosocial process that evolved to ensure parents attachment to each other, and consequently to their young. Romantic love is theorised to be the integration of three behavioural systems; attachment, care giving and sexuality (Shaver et al., 1988). It is the impact of the care giving and sexuality behavioural systems that distinguishes adult romantic attachment from infant attachment, due to the reciprocal nature of care giving and the impact of sexual relations in adult romantic relationships (Crowell, Fraley, & Shaver, 1999). In general, three broad sources are thought to contribute to adult romantic attachment; 1) parent-child attachment relationships; 2) peer and romantic relationship experiences; 3) any current adult attachment relationship (Crowell et al., 1999).

In order to measure individual differences in adult attachment, Hazen and Shaver (1987) developed a forced-choice self-report measure which consisted of three short paragraphs, each corresponding to Ainsworth's infant attachment classifications. Respondents were asked to choose which of the attachment style descriptions most corresponded to their feelings in close relationships. A copy of these descriptions as they were presented to participants in Hazen and Shaver's (1987) research is presented in Table 1 (attachment style labels have been added).

Table 1

Hazen and Shaver's (1987) Measure of Attachment Style

Question: Which of the following best describes your feelings?
Secure: I find it relatively easy to get close to others and am comfortable depending on them and having them depend on me. I don't often worry about being abandoned or about someone getting too close to me.
Avoidant: I am somewhat uncomfortable being close to others; I find it difficult to trust them completely, difficult to allow myself to depend on them. I am nervous when anyone gets too close, and often, love partners want me to be more intimate than I feel comfortable being.
Anxious: I find that others are reluctant to get as close as I would like. I often worry that my partner doesn't really love me or won't want to stay with me. I want to merge completely with the other person, and this desire sometimes scares people away.

Hazen and Shaver (1987) reported that the percentages of adults nominating each of the attachment styles (secure: 56%; avoidant: 24%; anxious: 20%) were remarkably consistent with those found by Campos, Barrett, Lamb and Goldsmith (1983) in their summary of the infant attachment literature (secure: 62%; avoidant: 23%; anxious: 15%). Furthermore, the different attachment styles were associated with different kinds of love experiences, different working models of self and relationships, and different attachment histories. For example, those rated as securely attached reported warm relationships both with parents and between parents, had few self doubts, viewed others as well-intentioned, and described their most significant love experiences as happy and trusting. In comparison, the avoidantly attached adults tended to perceive their mothers as cold and rejecting, experienced short-term romantic love and feared intimacy. Finally, anxious attachment in adults was related to reports of fathers being unfair during childhood, feelings of being misunderstood and the tendency to be obsessive and jealous in significant love relationships (Hazan & Shaver, 1987).

Hazen and Shaver's (1987) research resulted in adult attachment becoming firmly entrenched in the field of social psychology. Researchers saw the potential explanatory power of attachment theory and began to enthusiastically conduct experiments incorporating attachment and various other variables. Initially, this research tended to focus on relationship variables, but was quickly extended to looking at attachment and emotion regulation, self-esteem and self-efficacy, psychopathology and even attachment to God (Cassidy & Shaver, 1999).

In general, researchers replicating and extending the work by Hazen and Shaver (1987) have revealed results consistent with those summarised above. For example, Cooper, Shaver, and Collins (1998) found that avoidant adolescents were less likely to have previous relationship experience, while, in contrast, anxious adolescents were more likely to report a romantic relationship history. The secure adolescents were no more or less likely to have experienced romantic relationships, with even numbers in both categories. Both insecure groups were more likely to have had sex with a stranger than the secure adolescents, and had engaged in higher rates of casual sex.

As research into adult attachment progressed, researchers became aware of the limitations of a forced-choice measure of attachment style such as Hazen and Shaver's (1987) measure. In particular, the forced choice format and number of themes represented in each of the attachment descriptions were likely to result in limited reliability. Therefore, researchers began to explore other means of assessing differences in attachment style. The subsequent question of how best to measure adult attachment has featured as one of the most prominent debates in the adult attachment literature in the past decade.

Conceptualisation and Measurement of Adult Attachment

Since Hazen and Shaver (1987) first demonstrated that adult attachment could be measured using a self-report method, there have been numerous modified versions that claim their derivative from this categorical measure. This has resulted in some confusion, in particular among new researchers, when choosing the most appropriate measure of attachment to utilise. An additional source of confusion is the relationship between various attachment measures, especially those which have been developed out of separate research traditions. In light of this, a number of prominent adult attachment researchers have reviewed the relative merits of various attachment measures and related conceptualisations of adult attachment (e.g. Bartholomew & Shaver, 1998; Brennan et al., 1998; Crowell et al., 1999; Feeney & Noller, 1996; Griffin & Bartholomew, 1994).

Adult Attachment Interview

Prior to the development of Hazen and Shaver's (1987) self-report measure, a semi-structured interview measure was developed to assess adult attachment by George and colleagues at the University of California in Berkeley (George, Kaplan, & Main, 1985). Known as the Adult Attachment Interview (AAI), retrospective reports of the participant's family of origin are obtained, in particular focusing on evaluations of childhood attachment relationships, loss of attachment figures and the effects of these experiences on the participant's development and personality. The language and discourse style of the interviewee is considered to reflect the "current state of mind with respect to attachment" (Main et al., 1985). Scripts of these one hour interviews are then analysed and the responses classified into four principle adult attachment classifications, each of which corresponds theoretically and empirically with the corresponding infant attachment category from the strange

situation. These are Secure-Autonomous (Secure), Dismissing (Avoidant), Preoccupied (Ambivalent) and Unresolved-Disorganised (Disorganised-Disorientated) (Crowell et al., 1999).

The coherency of the attachment interview is a defining variable in regards to distinguishing between secure and insecure transcripts. A secure transcript is characterised by a coherent and balanced account of attachment relationships, which are valued and seen as influential in the individual's development. The interviewee is open, direct and co-operative, even if the material is difficult to discuss (although often parenting behaviour is described as loving). In contrast, the insecure transcripts are incoherent accounts, where the interviewee's assessment of experience is incongruent with their descriptions of their parents' behaviour. A dismissing (avoidant) transcript is characterised by a denial of the impact of attachment relationships on development, where specific childhood experiences are difficult to recall or alternately idealised. The interviewee classified as dismissing appears uncomfortable with the topic of the interview, and often describes experiences of rejection by attachment figures (in the opinion of the interviewer). Alternatively, a preoccupied (anxious) transcript is identified by confusion or oscillation about attachment relationships, where parental relationships are often described as non-loving and infused with strong anger or passivity. Finally, an additional classification of unresolved may be given if the participant exhibits confusion and disorganisation when describing traumas of loss and/or abuse by attachment figures (Crowell et al., 1999).

The AAI scoring system was developed following the examination of transcripts of parents whose infants had been assessed with the strange situation and their attachment style determined. Differences were looked for that could distinguish between the transcripts of parents whose infants had differing attachment

classifications. Thus, the AAI was specifically designed to highlight differences that could be observed between infants in the strange situation and therefore the two measures are explicitly linked. However, the interview procedure has remained unpublished and requires substantial training to administer and score, thereby limiting its utility in widespread research (Crowell et al., 1999). The AAI is also limited by its focus on memories of childhood experiences as a means of classifying adult attachment. As Bartholomew (1990) highlights, in adulthood, it is expected that peer and romantic relationships would be at least as important as representations of family relationships in defining a current attachment style.

The continued popularity of Hazen and Shaver's (1987) self-report measure in the attachment literature reflects the advantages it holds over the AAI, namely efficiency and economy. The Hazen and Shaver measure is easily accessible, brief, and simple to administer. The categorical approach utilised by both measures has advantages, both in terms of statistical analysis (researchers can use analysis of variance to examine mean differences), and ease of communication between researchers (Griffin & Bartholomew, 1994). However, the categorical approach also has limitations, namely the assumption that attachment styles are discrete categories, which suggests that within-group variance is simply random error. Furthermore, the assumption of independent attachment categories precludes assessment of the degree to which each type is characteristic of an individual (Fraley & Waller, 1998). Finally, categorisation of attachment styles encourages the tendency to stereotype and oversimplify perceptions of group members (Griffin & Bartholomew, 1994).

In an attempt to address some of these limitations, researchers began to develop modified versions of Hazen and Shaver's categorical measure. For example, in a study by Levy and Davis (1988) participants rated the degree to which each attachment description reflected their general approach to relationships. This allowed

researchers to examine patterns of scores across the three styles. The next development was the construction of multi-item scales, such as those designed by Simpson (1990) and Collins and Read (1990), in which the three attachment descriptions were divided into single items that could be rated on a Likert scale by participants. While these developments addressed some of the limitations of the categorical approach, in reality these continuous scales were often used to validate or indirectly assign participants to categories (Fraley & Waller, 1998).

In a review of the adult attachment literature, Bartholomew (1990) examined both the AAI and Hazen and Shaver's attachment measure. She concluded that the two attachment measures were actually describing different forms of avoidant attachment. The dismissing (avoidant) individuals as assessed by the AAI denied subjective distress and downplayed attachment needs and relationships. Whereas the avoidant participants as determined by Hazen and Shaver's measure, described relatively high levels of subjective distress and an avoidance of close relationships due to a fear of rejection. Consequently, Bartholomew developed a new model that incorporates both of these avoidant attachment styles. As this model has been influential in the attachment literature, it will now be examined in more detail.

Bartholomew's four-category model of adult attachment

Bartholomew and Horowitz's (1991) four-category model of adult attachment was unique in several ways. Firstly, it took Bowlby's (1973) original concepts of internal working models of self and others, and combined the two levels of the model of the self (positive versus negative) with the two levels of the models of others (positive versus negative), to describe four forms of attachment. These are referred to as Secure, Preoccupied, Dismissing and Fearful. Secondly, it combined two different

types of avoidant attachment as identified by the most common attachment measures of the time. This four-group model of adult attachment is presented in Figure 3.

		MODEL OF SELF (Anxiety)	
		POSITIVE (Low)	NEGATIVE (High)
MODEL OF OTHERS (Avoidance)	POSITIVE (Low)	**SECURE**	**PREOCCUPIED**
	NEGATIVE (High)	**DISMISSING**	**FEARFUL**

Figure 3: Four-group model of adult attachment (Bartholmew & Horowitz, 1991).

Bartholomew and colleagues (Bartholomew & Horowitz, 1991; Griffin & Bartholomew, 1994) reported that the relationship between the prototypical categories and other measures varied in theoretically predictable ways, thus validating the model. For example, the securely attached individuals demonstrated the highest levels of self-esteem and self-efficacy and the lowest levels of subjective distress. Individuals with a dismissing attachment style had the next highest levels of self-esteem and self-efficacy, but with a higher level of subjective distress. Measures for individuals with preoccupied and fearful attachment styles followed this with similar patterns respectively. In regards to others, securely attached individuals rated highest on measures of sociability and warmth as rated by both themselves and their peers. These ratings gradually became lower across the categories of preoccupied, dismissing and fearful attachment styles respectively. Other research has supported and extended these findings (for example Diehl, Elnick, Bourbeau, & Labouvie-Vief, 1998; Man & Hamid, 1998).

In summary, Bartholomew and Horowitz's (1991) model posits that a person with the secure attachment type has both a positive view of themselves and others and is comfortable with intimacy and autonomy in close relationships. They see themselves as worthy of love and attention and view others as trustworthy, caring and accessible (Bartholomew & Horowitz, 1991). An individual with a dismissing attachment style has a similarly positive self-concept (although not to the same extent), however this is maintained by avoidance of interpersonal relationships in which they may be rejected. Therefore, the dismissing attachment style reflects a defensive denial of the need for intimate relationships and differs from that of securely attached individuals in their negative view and inherent distrust of others (Bartholomew, 1993). Individuals who are preoccupied or fearful contrast with the above two attachment styles in that they view themselves negatively. However, people with these attachment styles differ in their view of others and therefore in the amount of interpersonal contact in which they engage. Those with a preoccupied style have a positive view of others and so engage in relationships in an attempt to find self-validation and fulfilment. Consequently, they can become highly dependent on others. Those with fearful attachment however are characterised by a negative model of others and thus their desire for social contact is inhibited by fears of rejection and the perception of others as untrustworthy (Bartholomew, 1993).

Bartholomew and Horowitz's (1991) validation of this model in a general population sample of adults found that 47% were classified as secure in their attachment style, 14% as preoccupied, 18% as dismissing and 21% as fearful. Griffin and Bartholomew (1994) demonstrated that the model of self and others had convergent and discriminant validity using five different measures of attachment (self-reports, friend's reports, romantic partner reports, trained judges' ratings of peer and family attachment). Sex differences have also been found, with more females

classified as preoccupied, and more males classified as dismissing in their attachment style (Bartholomew and Horowitz, 1991).

Several measures have been developed to assess a participant's fit with each of the four types in Bartholomew's model. These include interview measures such as the *Peer Attachment Interview* (focusing on descriptions of friends, romantic partners and feelings about the significance of close relationships) and the *Family Attachment Interview* (focusing on perceptions of early family relationships). Self-report measures have also been developed such as the *Relationship Questionnaire* (four paragraph descriptions which are rated on a Likert scale) and the *Relationship Scales Questionnaire* (indirectly measures attachment style through 30 items).

The Dimensional Approach

The alternative to viewing adult attachment in terms of categories or types is to conceptualise the constructs underlying attachment as continuous dimensions along which people vary. In this way, there is no qualitative shift that occurs between groups, and individuals can only be described quantitatively. This allows for the differentiation of individuals with the same attachment pattern in terms of extremity or severity, and more accurately captures the complexity of attachment patterns. Furthermore, the utilisation of attachment dimensions as opposed to discrete categories enhances the likelihood of identifying underlying causal mechanisms (Kim Bartholomew et al., 2001). Thus, the dimensional approach has the advantage of maintaining the information typically discarded when individuals are assigned into discrete groups, whilst also allowing correlational analysis that can be extended to multiple regression and structural equation modelling (Griffin & Bartholomew, 1994).

In a review of self-report measures of attachment, Brennan and colleagues (1998) noted that Ainsworth's et al. (1978) three attachment categories could be conceptualised as regions in a two-dimensional space. A discriminant function analysis of 105 infants (who had been classified according to Ainsworth's scoring system in the strange situation), revealed two dimensions that discriminated well between the three attachment styles. Brennan et al. labelled these dimensions *Anxiety* (about abandonment) and *Avoidance* (discomfort with closeness and dependency). Furthermore, factor analysis of most of the existing self-report measures of adult attachment by Brennan and colleagues identified the same two dimensions underlying these measures.

As a result of Brennan's et al. (1998) work, they designed a new self-report measure consisting of those items that loaded the highest on the anxiety and avoidance dimensions. Known as the *Experiences in Close Relationships (ECR)* questionnaire, this measure has the advantage of comprising of two scales that appear essential for identifying individual differences in adult attachment, as well as displaying superior reliability and validity in comparison to the measures which were utilised in its design. When participants' scores on the anxiety and avoidance dimensions of the ECR questionnaire were clustered into four groups, these groups were conceptually consistent with Bartholomew's (1990) four attachment types. This provides further support for Bartholomew's conceptual model, as well as suggesting that the ECR has good construct validity. Recent taxometric work determined that the dimensional approach best accounted for adult attachment patterns when utilising self-report measures (Fraley & Waller, 1998).

Summary

In summarising the attachment literature, a caveat should be noted in regards to assessment. The need for studies to assess attachment at various stages of development has necessitated the use of different attachment measures at different ages (e.g., the strange situation versus the AAI). Additionally, there are a variety of measures to assess attachment even at the same developmental stage, particularly in adulthood. Different measures reflect differences in the operationalisation of attachment, both conceptually (three versus four category models) and methodologically (e.g., categorical versus dimensional measurement), and as such are likely to be at least partially responsible for conflicting research findings (Onishi, Gjerde, & Block, 2001). For example, two of the most common attachment measures in the literature differ in a number of important ways. The AAI examines retrospective memories of childhood attachment to parents using an interview method, whereas the Hazen and Shaver measure utilises a self-report questionnaire in relation to romantic attachment. In addition, the Hazen and Shaver measure, like other self-report measures, presumes some level of conscious awareness of attachment style, whereas the AAI does not. Furthermore, these measures conceptualise avoidant attachment differently, as was highlighted earlier. Finally, the Hazen and Shaver measure demands a forced choice response by participants between attachment categories, while the AAI allows individuals to be categorised as "unresolved" or "cannot classify", when they do not neatly fit another category (Bartholomew & Shaver, 1998).

For the above reasons, the review of attachment literature in relation to daily functioning, anger and psychological symptoms in the subsequent chapters will attempt to discuss results according to the method used to assess attachment. The

corresponding variety in the measures used unfortunately results in a reduction of consistency in empirical findings and is particularly problematic for the assessment of attachment continuity. However, Bartholomew and Shaver (1998) concluded that attachment measures converge to varying degrees, in particular when reliability and statistical power are high. Therefore a review of the literature can draw from the multitude of studies in this area to identify the constructs and correlates of attachment that have received empirical support.

Chapter 3

Attachment and Adaptive Functioning

While attachment is considered a normative process that nearly every child experiences (with the exception of children who have never experienced one consistent caregiver), individual differences in attachment style have been shown to impact on development (Cassidy, 1999). Bowlby concluded in his report to the World Health Organisation in 1951 that a warm, intimate and continuous relationship with a caregiver was essential for an infant's mental health. Any situation in which the child is deprived of this relationship may have far-reaching physical, intellectual, emotional, and social effects that may continue through adult life (Bowlby, 1951).

Secure attachment can have a two-fold effect in protecting against adverse outcomes. Firstly, secure attachment acts as a personal resource, through the development of individuals' ability to cope with difficulties, without affecting their sense of self-worth or trust in others. Attachment security can also act as a relationship resource, as it increases the likelihood of reliable social support in times of adversity (Kim Bartholomew et al., 2001). The presence of a close, confiding relationship has been found to be protective against stress in adults of all ages, as well as in children (Hazan & Shaver, 1994; Parkes, Stevenson-Hinde, & Marris, 1991). Children with secure attachment histories are more likely to return to adequate functioning following a period of challenging behaviour (Sroufe, Egeland, & Kreutzer, 1990) and are more resistant to stress (Pianta, Egeland, & Sroufe, 1990).

Although the primary focus of this dissertation is maladaptive functioning, it is important to also examine the impact of attachment and other variables relevant to adaptive functioning. In the current dissertation, adaptive functioning refers to relationships involving family, friends and defacto partners, as well as functioning in the education and employment arenas. These factors can act as either an additional source of support or stress, which then impacts on the development of any psychopathology (Belsky, 1999). Reduced performance academically and at work, and decreased satisfaction with personal relationships can be early warning signs of stress and impending psychological symptoms. As these areas reflect more subtle indications of difficulties which may act as precursors to psychological symptoms, this area is examined prior to affective functioning and psychopathology. It is also important to compare the results of the two attachment dimensions in a Tasmanian sample with the established body of findings that have been conducted in these areas of adaptive functioning both on the mainland and overseas.

Friends

A secure attachment history in children is associated with higher self-esteem and greater social skills when compared to insecure peers, as well as more confident and independent behaviour (Elicker et al., 1992; Kim & Cicchetti, 2004; McCormick & Kennedy, 1994; Sroufe, Fox, & Pancake, 1983). Research by Sroufe and colleagues found that children in preschool, who were assessed as secure with the strange situation in infancy, were rated by teachers and observers as more socially competent, they had more friends and displayed less negative affect and behaviour problems (Erikson et al., 1985; Sroufe, 1983). Preschoolers with insecure attachment histories, in particular

avoidant attachment, showed less empathetic distress than their secure counterparts (Kestenbaum, Farber, & Sroufe, 1989). Similarly, secure children were less likely to be victims or victimisers of bullying, while avoidant children were more likely to be victimisers and anxious children more likely to be victims (Troy & Sroufe, 1987). Other studies have found that secure infants were more willing than insecure infants to interact with a friendly stranger (Main & Weston, 1981) and as toddlers engaged in more affective sharing and were rated higher on peer competence (Waters, Wippman, & Sroufe, 1979).

In a self-report measure administered to pre-adolescents, those with a secure attachment to their mothers were more accepted by peers, less lonely and had more reciprocated friendships, than those who were insecure (Kerns, Klepac, & Cole, 1996). In regards to adolescents, those assessed by Hazen and Shaver's attachment measure to be avoidant reported the lowest levels of social competence, followed by anxious, and then secure adolescents (Cooper et al., 1998).

Research using Hazen and Shaver's attachment measure reported that those with insecure attachment styles had significantly less social supports and were less satisfied with the quality of social support they received, in comparison to college students who were securely attached (Priel & Shamai, 1995). Collins and Read (1990) used the Adult Attachment Questionnaire (AAQ) to determine that adults who scored low on avoidance and anxiety (i.e., secure in their attachment style) had higher levels of social confidence and expressiveness. Adults high in attachment anxiety on the AAQ had significantly lower levels of social confidence.

Research by Ognibene and Collins (1998) using the Relationship Scales Questionnaire (RSQ; Griffin & Bartholomew, 1994) reported that those with a more

positive model of self (low anxiety) and positive model of others (low avoidance) reported receiving greater social support from friends. These attachment dimensions explained 25% of the variance in ratings of support from friends in a hierarchical multiple regression analysis, however the interaction of the two attachment dimensions did not significantly add to the equation. Similarly, Bylsma, Cozzarelli, and Sumer (1997) reported that the negative model of self was associated with lower levels of competence in relating to others. The majority of research in adults has focused on romantic partners, and much of this is similar to the results found with friends. This research will now be examined.

Romantic Partners

In Hazen and Shaver's (1987) investigation into the romantic attachment styles of adults, they found that secure adults were more likely than their insecure counterparts to view their lovers as trustworthy friends. In contrast, avoidant adults were the least likely to accept their partners' faults. Feeney and Noller (1990) utilised the Attachment Style Questionnaire (ASQ) and revealed that university students in Australia with avoidant attachment were the most likely to express mistrust of others. Alternatively, students who were anxiously attached reported a lack of independence and a desire for deep commitment in relationships. Similarly, a high score on the anxious attachment dimension of the AAQ has been associated with an obsessive and dependent love style (Collins & Read, 1990). For women, a high anxious score also most influenced the evaluation of their romantic relationship. These women high in attachment anxiety viewed their romantic relationship more negatively, were less satisfied and felt less close to their partner. Furthermore, these women tended to have less faith and trust in their

partner and to feel he was less dependable, and that the relationship suffered from communication problems. Alternatively for men, the best predictor of their evaluation of their relationship was their score on the close scale of the AAQ (i.e., the extent to which they are comfortable with closeness). Men who scored high on the close scale were significantly more satisfied with their relationship, felt closer to their partner, liked her more and were more likely to perceive marriage in their future. Moreover, these men had more trust and faith in their partner, and rated her as more dependable, and the communication in their relationship higher (Collins & Read, 1990).

Brennan and Shaver (1995) also investigated relationship satisfaction in college students and found that participants were more likely to be satisfied with their romantic partner if their partner was securely attached. Attachment was determined by Brennan, Shaver, and Hazen's (1989) self-report multi-item measure. This study also completed hierarchical regressions to predict relationship satisfaction and found that both attachment dimensions (avoidance and anxiety) added to the prediction of each partner's level of relationship satisfaction, while controlling for the potentially biasing influence of the partner's own attachment style.

Furthermore, in Simpson's (1990) examination of relationship satisfaction, he discovered secure attachment was associated with greater relationship interdependence (as indicated in greater love for, dependency on and self-disclosure with the partner), commitment, trust and satisfaction than the insecure attachment styles. Attachment was assessed using a modified version of Hazen and Shaver's measure, where participants rated each of the separate statements contained in the three attachment category descriptions on a 7-point Likert scale, creating secure, avoidant and anxious attachment scales. Participants who scored higher on the avoidant scale reported that their

relationships were characterised by lesser amounts of interdependence, commitment, trust, and satisfaction. A high score on the anxious attachment index reflected involvement in a relationship with less trust and for men, less satisfaction and for women, less commitment. All participants were currently involved in a relationship, and these results remained significant after controlling for the duration of the relationship. In addition, Simpson (1990) examined the frequency of positive and negative emotions experienced in the relationship. Students with a high score on the secure index reported experiencing less negative emotions and more positive emotions in their relationship, while the reverse was true for those scoring high on the anxious and avoidant indexes. Finally, when participants were followed up six months later, men who scored higher on the avoidant index experienced less emotional distress following the termination of the relationship.

Later research by Simpson, Rholes, and Nelligan (1992) utilising the self-report Adult Attachment Questionnaire (AAQ) investigated how couples interact in stressful situations. They found that less avoidant women sought greater support from their partner, in particular as their anxiety level increased, whereas women high in avoidant attachment sought less support with heightening anxiety. In addition, avoidant women were more likely to try and distract themselves with magazines in the waiting room while awaiting a perceived stressful event. Despite this, avoidant women were reassured by their partners' supportive comments, but reacted negatively to physical support such as hugs. Men low in avoidance offered more support and reassurance as their partners' distress levels increased, while the opposite was observed for men high in avoidance, as they were less likely to be supportive, in particular if their partners were highly distressed. Collins and Feeney (2000) classified college students using the AAQ and RQ

and videotaped them disclosing a personal problem to their romantic partner. Those students high in avoidance were ineffective at seeking support from their romantic partner, whereas anxious attachment predicted poor caregiving.

Further information about the reactions of anxious participants during stressful interactions with their partners was discovered in another study by Simpson, Rholes, and Phillips (1996). Participants who were high in anxious attachment according to the AAQ reported experiencing more distress during a discussion with their partners of a problem in the relationship. In addition, the conversations of the anxious participants were rated to be of a lower quality and they displayed greater stress and anxiety. Finally, the anxious participants reported more negative perceptions of their partner or relationship following the discussion. The final area of close relationships that remains to be examined is family relationships. The research examining the impact of attachment on family relationships will now be summarised.

Family

Kobak and colleagues (1993) found that secure adolescents displayed superior communication skills, as they were able to successfully negotiate a potentially stressful and contentious attachment-related topic with their parents. When insecure adolescents attempted the same task, the conversation resulted in more conflict and a less constructive resolution.

Kobak and Sceery (1988) revealed that college students who were assessed as secure on the AAI reported significantly higher levels of support from their family than those students assessed as dismissing in their attachment style, but did not differ from the preoccupied group. Furthermore, the dismissing students in this study reported

experiencing more loneliness than the secure and preoccupied groups, while the preoccupied students rated themselves lower than the other two groups on perceived social competence.

Turning to research utilising self-report measures of attachment, Collins and Read (1990) found those low in anxiety and avoidance on the AAQ described their parents in general as warm and not rejecting. In contrast, those adults high on the anxiety dimension described their parents as cold or inconsistent in their care-taking behaviour. Similarly, Feeney and Noller's (1990) study revealed that securely attached undergraduates (assessed with the ASQ) reported relatively positive perceptions of their early family relationships. Avoidant students were most likely to report childhood separation from their mother, while anxious students were less likely than those with avoidant attachment to see their father as supportive.

Research using the Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991) revealed that higher ratings on the secure attachment style were associated with more positive evaluations of family (both current and family of origin), and a more positive family climate in the current family (Diehl et al., 1998). Ognibene and Collins (1998) established that those with a more positive model of self (low anxious attachment) as measured by the RSQ reported greater support from their family. However, the model of others (avoidance) and the interaction of the two attachment dimensions were not significantly related to family support. The two attachment dimensions together predicted a significant 8% of the variance in support from family in a hierarchical regression analysis.

The influence of attachment on functioning in education and employment arenas will now be examined, due to the impact of these areas on adaptive functioning.

Education

Research has demonstrated that children with secure attachments show greater problem solving ability in a tool task. When told they were losing at the task, secure children also had more confidence in their ability, and increased their efforts, while children with insecure attachments responded to this news by stopping their attempts all together (Matas, Arend, & Sroufe, 1978). Anxious adolescents, as assessed by Hazen and Shaver's attachment measure, reported the lowest levels of intellectual competence, followed by the avoidant and then secure adolescents (Cooper et al., 1998). The anxious adolescents in this study also received significantly lower grades and expressed lower educational aspirations than the avoidant or secure adolescents, who did not differ significantly from each other. Finally, the anxious adolescents had been held back at school significantly more than the secure adolescents, while the avoidant adolescents did not differ significantly from either group.

Adolescents who are classified as securely attached with the AAI also have more effective problem solving skills than their insecure peers (Kobak, Cole, Ferenz-Gillies, Fleming, & Gamble, 1993). Secure attachment has also been demonstrated to assist in buffering the negative effects of the experience of personal failure (Mikulincer, 1994). University students were asked to complete four learning tasks and received either failure feedback or no feedback regarding their performance. Immediately afterwards they were asked to complete a new task. It was found that those who were insecurely attached (according to Hazen and Shaver's measure) performed significantly worse after receiving failure feedback, however no such effect was observed for those who were securely attached. Furthermore, an increase in interfering thoughts during the new task

following failure feedback was observed for those participants classified as anxiously attached, but not for those who were avoidant or secure (Mikulincer, 1994).

Burge, Hammen, Davila, Daley, Paley, Herzberg et al. (1997) conducted a longitudinal study of women in senior high school using composite scales (i.e., assessed on a security/insecurity continuum) of the AAS and the Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987). Women who were more secure in their attachment orientation reported experiencing less school strain and stress (both chronic and specific academic events), fewer problems meeting deadlines and greater satisfaction with their school environment two years later. Academic performance was also significantly related to the IPPA after two years, even after controlling for socio-economic security. When psychological functioning was also controlled, the AAS was still significantly related to the number and total stress of academic-related events, school strain, satisfaction with school and problems meeting deadlines.

Employment

It has been suggested that adult work activity is the equivalent of exploration in the strange situation and if this is the case, then working characteristics should be related to attachment style (Hazan & Shaver, 1990). In Hazen and Shaver's (1990) investigation into the associations between attachment and working characteristics, they found a number of differences according to the self-reported type of attachment. A modified version of the Hazen and Shaver attachment measure was used so that it no longer referred exclusively to romantic relationships and provided clearer definition between the different attachment styles. Those participants with a secure attachment orientation were satisfied with job security, levels of learning at work, opportunities for challenge

and advancement. Secure participants also felt they were good workers and would be evaluated highly by co-workers. Participants who rated themselves lower on job performance and expected low ratings from co-workers were more likely to be avoidant, while those anxiously attached expected to be undervalued by co-workers. In addition, Hazen and Shaver (1990) also found differences in attitudes to work. Participants with a secure attachment were characterised by a positive approach to work and were the least likely to procrastinate at work, fail to complete tasks or fear failure or rejection by co-workers. In contrast, those with an avoidant attachment style were most likely to feel nervous when not working, to prefer working alone and to permit work to interfere with their health and relationships. Participants with an anxious attachment style preferred to work with others and yet felt misunderstood and underappreciated and were the most worried about rejection and motivated by approval from others. These interpersonal concerns interfered with work productivity of the anxious participants and they were found to earn less money on average than the other attachment styles, controlling for education and gender.

Burge et al. (1997) utilised a sample of late adolescent women and found those who were more secure on the AAS experienced significantly less work strain, performance anxiety and tendency to overcommit and were more satisfied with their work two years later. Furthermore, the AAS significantly contributed to the prediction of work strain, as well work-related performance anxiety, tendency to overcommit, and satisfaction two years later, after controlling for psychological functioning. A large survey of Internet respondents revealed only anxious attachment (as assessed with a shortened version of the ECR) was significantly associated with interference in school

and work functioning, following the dissolution of a romantic relationship (Davis, Shaver, & Vernon, 2003).

Summary

The above literature indicates that low avoidant and anxious attachment (i.e., secure) are associated with greater social competence and support (both given and received) from friends, family and romantic partners. Furthermore, secure attachment is more likely to result in positive evaluations of family climate. High scores on attachment avoidance and anxiety are linked with difficulties trusting others and a tendency to be more critical. Avoidant attachment is particularly associated with both the seeking and giving of less support to others. While the quality of support given by participants with high anxiety scores is usually poor, they also tend to be less independent and have difficulty discussing problems.

Low avoidant and anxious attachment is associated with better problem solving skills and more confidence in academic and career abilities. Secure attachment is also linked with less school and work stress and more satisfaction with these areas of their life. High anxious attachment has been associated with lower intellectual abilities and aspirations. Those with this style are more likely to suffer from performance anxiety, feel misunderstood and under appreciated by co-workers and to earn less money. High avoidant attachment in workers increases the desire to work alone and to allow employment to interfere with health and relationships.

Children with insecure attachments are more likely than their secure counterparts to experience conflict with their peers, and to engage in angry, aggressive and hostile behaviours (Ainsworth et al., 1978; Bowlby, 1973/1998; Bowlby, 1980/1998; Lyons-

Ruth, Alpern, & Repacholi, 1993; Troy & Sroufe, 1987). The research examining attachment and anger will be reviewed in greater detail in the following chapter.

Chapter 4

Attachment and Anger

Anger

Anger can be defined as "a psychobiological emotional state or condition that consists of feelings that vary in intensity from mild irritation or annoyance to intense fury and rage, accompanied by activation of neuroendocrine processes and arousal of the autonomic nervous system" (Spielberger, 1999, p. 19). As such, anger can be considered a fundamental emotional state. Individuals vary in the frequency, magnitude, and persistence of anger as an emotional state. This is defined as *trait anger* in the State-Trait Anger Inventory-2 (STAXI-2; Spielberger, 1999), (Spielberger)and reflects proneness to experience anger. Individuals also vary in their expression of anger. Angry feelings can be expressed in verbal or physical acts of aggression towards other people or objects in the environment. This is referred to as *anger expression out* in the STAXI-2. The suppression of anger and its redirection internally is labelled *anger expression in.* Finally, some individuals make more effort than others to control their angry feelings. This minimises the expression of anger in aggressive acts, as well as controlling anger directed internally by making an effort to calm down and reduce angry feelings (referred to in the STAXI-2 as *anger control out* and *anger control in* respectively).

Affective Functioning and Attachment

Bowlby (1973/1998) always envisioned emotional functioning to be inextricably linked with attachment. Through analysis of children who had experienced long-lasting

or permanent separation from their attachment figures, Bowlby developed the concepts of protest, despair and detachment to describe children's distress and pain when this type of separation occurs. When initially separated from attachment figures, infants will protest (through crying, clinging, following) with the intention of reunification, resulting in a restored sense of security. The dominant emotions infants experience in this stage are fear, anger and distress (Kobak, 1999). These emotions are considered functional during this stage, as they drive infants' behaviour and efforts towards reunion with their attachment figure and discourage future separations. However, in the case of an insecure attachment bond or more long-term separation, infants' efforts are not successful in engaging caregivers to respond to their needs, resulting in a constant state of anxiety. This can then lead to anger and aggression being directed towards the attachment figure and others, which can be extremely maladaptive (Weinfield et al., 1999).

When separation from an attachment figure is long-term or permanent, the infant begins to lose hope of his or her caregiver returning and enters a state of listless despair, which is likened to mourning, where the dominant emotions are of sadness and withdrawal (Bowlby, 1973/1998). The final stage is of detachment, in which the child begins to again interact with the environment and displays increased sociability. Rather than a genuine recovery from distress, this stage represents the child's attempt to suppress painful emotions through deactivation of the attachment system. This stage becomes most evident during reunion with the attachment figure, where the child surprisingly shows no joy, but instead the dominant emotion is of apathy (Kobak, 1999). The centrality of attachment to affect regulation is exemplified in the following quote by Bowlby:

> "Many of the most intense emotions arise during the formation, the maintenance, the disruption and the renewal of attachment relationships. The formation of a bond is described as falling in love, maintaining a bond as loving someone, and losing a partner as grieving over someone. Similarly, threat of loss arouses anxiety and actual loss gives rise to sorrow; while each of these situations is likely to arouse anger. The unchallenged maintenance of a bond is experienced as a source of security and the renewal of a bond as a source of joy. Because such emotions are usually a reflection of the state of a person's affectional bonds, the psychology and psychopathology of emotion is found to be in large part the psychology and psychopathology of affectional bonds" (Bowlby, 1980/1998, p. 40).

Anger and Attachment

Bowlby (1973/1998) saw anger resulting from disruptions in attachment relationships as being particularly vulnerable to distortion and likely to give rise to hostile and aggressive behaviour. Anger becomes dysfunctional when it is so intense and/or enduring that it alienates the attachment figure and thus weakens attachment bonds instead of strengthening them. An infant's "hot displeasure" at their caregiver's unavailability can quickly become the "malice" of hatred (Bowlby, 1973/1998, p. 288). This occurs in particular when separations are prolonged, frequent, or permanent, but also occurs from threats of abandonment, as well as more subtle forms of caregiver unavailability. Bowlby (1973/1998) draws on several studies where following prolonged separations infants displayed increased aggressive and hostile behaviours. These were directed towards parents and symbolic representations of parents (see Heinicke & Westheimer, 1966; as cited in Bowlby, 1973/1998), but can also be deflected onto others. Unlike secure infants, those with insecure attachments have not learned that distress is manageable and that external obstacles can be overcome.

Secure Attachment

Belsky, Spritz and Crnic (1996) found that secure attachment in infancy was associated at age three with a more accurate memory for positive events than negative events, despite being matched on attentional ability. This study provides some support for Bowlby's concept of working models and their implications for differential retention of memory for personal events (Thompson, 1999). Additional support for this concept is provided by Laible and Thompson (1998), who revealed that children assessed as securely attached (by a concurrent measure of attachment) exhibited greater competence in emotional understanding, a result that was largely driven by the secure children's superior understanding of negative emotions. Similar results have been found with adult samples. For example, Mikulincer and Orbach (1995) reported that anxious adults had the most efficient access to sad and anxious memories, followed by secures, with avoidant participants having the slowest access to these memories. Furthermore, avoidant adults demonstrated equal access to memories engendering positive or negative affect, but secure participants accessed memories associated with anxiety or happiness quickest. In contrast, anxious attachment meant memories associated with anxiety, sadness or anger were the easiest to recall, while happy memories showed the slowest recall.

Researchers have shown that secure children demonstrate more enthusiasm and positive affect (Matas et al., 1978), and exhibit greater emotional understanding, particularly of negative emotions (Laible & Thompson, 1998). These researchers argued that secure attachment enables understanding, rather than avoidance, of negative emotions and their consequences. Research with adolescents has demonstrated that secure adolescents display little dysfunctional anger (Kobak et al., 1993) and are less

hostile than those with insecure attachments (Cooper et al., 1998). In Mikulincer's (1998) investigation into attachment (assessed with Hazen and Shaver's measure) and anger, secure individuals reported more positive affect and less negative affect, than those with insecure attachment styles. Interestingly, secure individuals also scored higher on anger directed externally, than did those with anxious or avoidant attachment styles. However, participants secure in their attachment style were more likely to experience anger in a functional and instrumental manner, with anger expressed in a nonhostile way. Feeney (1999) reported a similar result, with security of attachment (as assessed with the ASQ; Feeney et al., 1994) associated with less control of both positive and negative emotions.

In contrast, insecure infants are more angry, aggressive and hostile towards their peers, as well as to others in general. Denham et al. (2001) reported that insecurely attached preschoolers were on average angrier and less positively responsive to other's emotions. In a series of studies conducted by Cassidy, Kirsh, Scolton, and Parke (1996), children assessed as insecure were more likely to attribute hostile intent to a story containing negative peer events with ambiguous intent, whereas secure children were more likely to interpret the same events with benign intent. Mikulincer (1998) has replicated these results with an adult sample using Hazen and Shaver's attachment measure. The research highlighting the associations between each of the insecure attachments styles, anxiety and avoidance, and anger, will now be examined in turn.

Avoidant Attachment

Children who are classified as avoidant, who usually have a history of parental rejection, and those labelled disorganised/disorientated, who are often conflicted in the

presence of frightened or frightening caregivers, are considered most likely to display angry, aggressive behaviours (Ainsworth et al., 1978; Bowlby, 1973/1998; Bowlby, 1980/1998; Lyons-Ruth et al., 1993). The deactivation of the attachment system by avoidant infants results in the minimisation of overt displays of distress and anger, in an attempt to avoid conflict with their caregiver (Cassidy & Kobak, 1988). However, this does not mean that the avoidant infants are not experiencing distress and anger, as exemplified by research including physiological measures. Studies of infants' heart rates in the strange situation have found that both secure and avoidant infants have equivalent increases in heart rate during the second separation, however secure infants are much more likely to display this distress (Spangler & Grossman, 1993). Additionally, while secure infants' heart rates decreased when they attended to play objects, the avoidant infants' heart rates remained elevated, despite appearing to be attending to play. Further support for the underlying distress of avoidant infants comes from the finding that avoidance is also associated with sudden outbursts of aggressive behaviour, as well as attacks and threats of attack toward the mother in the home (Main & Goldwyn, 1984). Similarly, Bowlby (1973/1998) described children who had experienced major separations from their mothers, and revealed that greater avoidance upon reunion was associated with more displays of anger and dependent behaviour toward the mother in the following weeks.

Sroufe (1983) discovered that avoidant children expressed hostile emotion inappropriately in social relationships. Furthermore, Burgess, Marshall, Rubin, and Fox (2003) found that children who had an avoidant attachment with their mothers as infants had more externalising problems (aggressive behaviours) at age four, than either securely or ambivalently attached children. Finally, Troy and Sroufe's (1987) research

has shown that children with avoidant histories were more likely to victimise their play partners, while those with ambivalent histories were more likely to be victimised if they were partnered with avoidant children. Secure children were neither victimisers nor victims.

Similar findings have been reported in the literature examining adult attachment and the expression of anger. Kobak and Sceery (1988) assessed college students with the AAI and found that those assessed as dismissing in their attachment style were rated by their peers as more hostile, in comparison to the secure and preoccupied groups. Other research conducted by Kobak et al. (1993) examined teenagers negotiating a potential conflict situation with their parent. Teenagers who utilised deactivating attachment strategies, as is common with avoidant or dismissing attachment, expressed more dysfunctional anger when problem solving with their parents, than teenagers with differing attachment strategies. Research utilising Hazan and Shaver's attachment measure has also reported that avoidant individuals are more hostile than those with secure attachments (Mikulincer, 1998). Furthermore, another study of this sample highlighted a discrepancy between avoidant individuals' low reported anger and physiological measures of anger arousal. Heart rate increases for avoidant individuals were similar to those of anxious participants during a scenario designed to illicit anger, despite the reporting of low levels of anger by avoidant individuals. However, anxious attachment is also associated with anger.

Anxious Attachment

In the strange situation, anxious/ambivalent infants often throw tantrums and seek contact with their caregiver, while simultaneously rejecting comfort attempts.

Following reunion with their attachment figure, they are frequently angry and difficult to soothe (Ainsworth et al., 1978). Studies by Sroufe and colleagues found that pre-schoolers with anxious attachment histories expressed more anger, negative affect, and aggression than children with secure histories (Sroufe, 1983; Sroufe, Schork, Motti, Lawroski, & LaFreniere, 1984).

Other research has revealed that anxious adults are more likely than those with secure and avoidant attachments to respond to relationship altercations with angry reactions (Simpson et al., 1996). Specifically, participants who scored high on anxious attachment according to the Adult Attachment Questionnaire (AAQ; Simpson et al., 1996) reported experiencing more distress, anger and hostility when discussing a relationship problem with their romantic partners. Feeney (1998) found that individuals high in attachment anxiety (as assessed with the ASQ) were more likely than others to experience extreme negative emotions, such as despair and anger, in response to physical separations from romantic partners. A later study by Feeney (1999) revealed that high anxious attachment was associated with more frequent and intense negative emotions, such as anger, sadness, and anxiety. Furthermore, anxious attachment (according to a shortened version of the ECR) was significantly associated with anger, hostility, and physical violence following the dissolution of a romantic relationship in a large sample of Internet respondents (Davis et al., 2003). Moreover, the level of anxious attachment was significantly higher among those who had been physically violent towards their ex-partner, when compared to those who had not been violent. In contrast, there were no significant associations between avoidant attachment and these hostile indices.

Adults who were assessed as preoccupied in their attachment style according to Bartholomew and Horowitz's (1991) four group model, displayed exaggerated attachment behaviours, both emotionally (in particular anger and anxiety) (Kim Bartholomew et al., 2001) and behaviourally, even to the extent of violence (Bartholomew, Henderson, & Dutton, 2001). High anxious attachment in men (assessed with the RSQ) has also been linked to angry and abusive behaviours toward romantic partners (Dutton, Saunders, Starzomski, & Bartholomew, 1994). Furthermore, adolescents assessed as anxious in their attachment style (according to Hazen and Shaver's measure) reported the highest levels of hostility, with avoidant adolescents reporting intermediate levels and the secure adolescents reporting the lowest hostility levels (Cooper et al., 1998). Mikulincer (1998) revealed that anxious individuals scored higher in trait anger and anger directed internally, than those assessed as secure with Hazen and Shaver's measure. Furthermore, anxious individuals exhibited significantly less anger control, and more displaced aggression, when compared to individuals with avoidant and secure attachments. In contrast, Feeney (1995) reported that high attachment anxiety (as assessed with the ASQ) was related to greater control of anger.

Summary

As the above review indicates, instances of distress can become associated with negative outcomes, and consequently, alternative modes of coping with distress develop which, in turn, regulate the attachment system. The tendency of anxious individuals to overreact to perceived threats and to ruminate on negative affect may lead to intense bouts of anger directed towards others. However, angry reactions may also be held back and redirected internally, due to the fear of separation and overly dependant behaviour in

anxious individuals (Feeney, 1999; Mikulincer & Shaver, 2005). For avoidant adults, the deactivation of the attachment system leads to the suppression of emotional reactions, including anger, as it is associated with threatening thoughts that can reactivate attachment needs. Thus, anger can only be expressed in an unconscious, unattended, or non-specific form (Mikulincer & Shaver, 2005). In contrast, secure individuals are confident of their attachment figures reliability, allowing them to trust and perceive few external threats. This gives a sense of security that allows confidence in the successful management of any environmental threats and an enhanced ability to process emotions in a fluid and non-defensive manner (Brennan & Shaver, 1998). Thus, secure attachments usually result in more effective emotion regulation skills (Kobak & Hazan, 1991).

It is clear from the literature that both high avoidant and anxious attachment are associated with angry, aggressive and hostile behaviours. The findings in research utilising children appears to single out avoidant attachment in relation to angry behaviour. However, this picture changes somewhat when adult samples are examined, with an increase in the association between anxious attachment and anger. Hence, more research is needed to further illuminate the precise relationships between the individual attachment dimensions and anger. Dysfunctional anger is implicated in the development of psychological symptoms, in particular externalising behaviour. The research examining attachment and psychopathology, including both internalising and externalising symptoms, is presented in the following chapter.

Chapter 5

Attachment and Psychopathology

Bowlby (1973/1998, 1980/1998, 1988) proposed that insecure parental attachment acts as a risk factor for the later development of psychopathology. According to Bowlby (1973), the family microculture holds equal, if not greater, importance than genetic inheritance in regards to mental health problems. Risk factors are defined as "those characteristics of a person or the environment that are associated with an increased probability of maladaptive developmental outcomes" (Compas, Hinden, & Gerhardt, 1995, p. 273). Causes of psychopathology are multiple and complex, and therefore insecure attachment alone is unlikely to result in a disorder (Sroufe, 1990). However, both correlational and longitudinal studies have revealed that insecure attachment is associated with several maladaptive outcomes (Greenberg, 1999).

Despite the inclusion of attachment disorders in the major diagnostic manuals for the classification of mental illness, insecure attachment is not analogous to the clinical attachment disorder (Zeanah, 1996). Instead, attachment disorder is only diagnosed in cases where extremely impaired attachment relations exist, most often because of maladaptive (to the point of negligent) parenting. As Sroufe (1988) emphasises, insecure infant attachment is not indicative of psychopathology, but a risk factor for psychopathology. In Zeanah's (1996) review of this issue, he concludes that children with attachment disorders will be insecurely attached or not attached at all, while insecure attachments are likely to be pathological only at the extremes of each type.

The majority of research conducted on the role of attachment in the development of psychopathology has utilised child and adolescent samples (Muller, Lemieux, & Sicoli, 2001). Preschoolers who were insecurely attached as infants had more behavioural problems than those who had been assessed as securely attached in the strange situation in infancy (Erikson et al., 1985). Lewis, Feiring, McGuffog, and Jaskir (1984) found a similar result with six year old boys, as those with a history of secure attachment in infancy displayed significantly less psychopathology than those with insecure histories. More specifically, a history of avoidant attachment was associated with a significantly higher score on the Schizoid scale of the Child Behavior Profile (Achenbach, 1978). Furthermore, both insecure groups scored higher on the Somatic Complaints scale than their secure counterparts. However, no relationship between females' attachment history and later psychopathology was observed.

Insecure attachment in adults has been associated with personality disorders, in particular preoccupied, fearful or unresolved attachment with borderline personality disorders (e.g., Agrawal, Gunderson, Holmes, & Lyons-Ruth, 2004; Brennan & Shaver, 1998; Patrick, Hobson, Castle, Howard, & Maughan, 1994) and eating disorders (Brennan & Shaver, 1995; Cole-Detke & Kobak, 1996). However, this review will focus on psychological disorders that can be considered internalising and externalising in particular, due to theoretical interest in linking these types of symptoms with different types of attachment in the current study. Before examining the specific research linking anxious and avoidant attachment with internalising and externalising symptoms, a brief overview of attachment styles in general and psychopathology will be given to create a broader picture.

A study by Allen, Hauser, and Borman-Spurrell (1996) focused on the attachment style of adolescents who were psychiatrically hospitalised at age 14 (excluding those diagnosed with thought or organic disorders). The participants were followed up 11 years later and compared to a high school group of similar socio-economic status. Allen and his co-workers reported that when assessed at age 25 with the AAI, almost all of the previously hospitalised participants were insecure in their attachment style, in contrast to a more typical mix of security and insecurity in the control sample. Rosenstein and Horowitz (1996) found similar high levels of insecurity in a sample of 60 psychiatrically hospitalised adolescents assessed with the AAI.

Women in late adolescence who were insecurely attached according to a self-report measure (the AAS; Collins & Read, 1990) reported significantly more depressive and anxiety symptoms in a clinical interview (Burge, Hammen, Davila, Daley, Paley, Lindberg, et al., 1997). Upon follow up 12 months later, women high in anxious attachment reported significantly more depressive and anxiety symptoms, while those who had difficulty depending on others (high avoidance) reported more anxiety symptoms only. The authors also conducted hierarchical multiple regressions to control for initial levels of psychological symptoms and any interaction with attachment in predicting prospective psychological functioning, thus providing a more stringent test of the associations. The results of the study showed the interaction between anxious attachment and previous depressive symptomatology significantly predicted 4% of the variance of depressive symptomatology 12 months later. The depend scale of the AAS (assessing how comfortable people are depending on others) also significantly interacted with previous depression symptoms to predict 5% of the variance in depressive symptoms at follow up. Plotting of the interaction effects revealed that women who

exhibited depressive symptoms at the initial interview and scored high on anxious attachment and/or low on the ability to depend on others (high avoidance) were more likely to display depressive symptoms 12 months later. This provides more conclusive evidence of attachment insecurity acting as a vulnerability factor in the development of depressive symptoms. However, there were no main or interaction effects observed for the prediction of anxiety symptoms.

Carlson (1998) administered the Schedule for Affective Disorders and Schizophrenia for Adolescents to 17 year olds whose attachment security had been assessed at 12 and 18 months of age. She found that the avoidant and disorganised infant attachment styles accounted for 16% of the variance on this measure of psychopathology. This was increased to 30% when other measures regarding parenting were included and attachment remained significant after the inclusion of other relevant variables, while alternative hypotheses such as infant temperament did not explain a significant amount of variance. However, a longitudinal study by Feiring and Lewis (1996) found no association between infant attachment status and psychopathology at 13 years of age. A few caveats to this finding should be noted, as the researchers utilised a modified version of the strange situation that did not allow for the classification of disorganised/unresolved attachment. Also, the sample in Feiring and Lewis's study was at least a third smaller than Carlson's research (92 versus 157), thereby reducing statistical power and the likelihood of discovering genuine effects.

Weinfield and colleagues (1999) outline several possible pathways through which insecure attachment may lead to an increased risk of psychopathology. Firstly, those with a history of anxious attachment are more likely to suffer anxiety and have a low frustration tolerance, leading to susceptibility to anxiety disorders, while those with

avoidant histories tend to experience alienation, lack of empathy and hostile anger, increasing the chances of conduct and personality disorders. The tendency towards passivity and helplessness in anxious attachment and alienation and aloneness in avoidant attachment, means that both styles are vulnerable to developing depression. Finally, deficiencies in social skills and managing relationships can impact by both exacerbating developmental problems and limiting social support. Social support has been identified as an effective coping mechanism for dealing with stress (Weinfield et al., 1999). Research indicating that individuals display differential vulnerability to psychopathology based on the type of insecure attachment provides empirical support for these theorised pathways of development (Allen & Land, 1999). This research will now be examined.

Internalising Symptoms and Attachment

In general, anxious or preoccupied attachment has been associated with an increased vulnerability to internalising symptoms (such as anxiety). Pre-schoolers with anxious attachment histories are more withdrawn and less dominant (LaFreniere & Sroufe, 1985), fearful and dependent (Sroufe, 1983), and are more likely to be victims to the aggression of their peers, when compared to children with secure histories (Troy & Sroufe, 1987). In keeping with these findings, anxious attachment history in preschoolers is also associated with less confidence and assertiveness, and less social skills (Erikson et al., 1985). Renken, Egeland, Marvinney, Mangelsdorf, and Sroufe (1989) examined children in Grades one to three at primary school and found that boys who were anxiously attached at 18 months of age were highly over represented in a passive-withdrawal group that also had low aggression scores. Finally, Lewis et al.,

(1984) observed that boys with an anxious attachment history in infancy tended to display significantly more internalising behaviour (both depression and social withdrawal) at six years of age than their same sex peers.

Kobak and Sceery (1988) reported that college students assessed as preoccupied with the AAI were rated by their peers as the most highly anxious out of the three attachment styles. This was in concordance with the preoccupied group's self-reported high levels of psychological symptoms and distress, which were significantly greater than the other attachment styles. Similarly, Pianta, Egeland and Adam (1996) utilised the AAI in a high-risk sample of women and revealed that those classified as preoccupied reported the highest levels of psychopathology and distress. This finding has been substantiated by a number of studies (Dozier, 1990; Dozier & Lee, 1995; Kemp & Neimeyer, 1999). Similar results have also been established using the Hazen and Shaver attachment measure, where the anxious adolescents were the worst adjusted group, relative to the other attachment styles (Cooper et al., 1998). Furthermore, research utilising the RSQ has reported the negative model of self (anxiety) to be significantly associated with all types of psychopathology measured, whereas the negative model of others (avoidance) and the interaction between the two attachment dimensions was not significantly associated with any (Muller et al., 2001). Finally, an Internet study revealed that anxious attachment (as assessed by a shortened version of the ECR) was associated with the greatest physical and emotional distress following the dissolution of a romantic relationship (Davis et al., 2003).

Warren, Huston, Egeland, and Sroufe (1997) conducted a longitudinal study of a high risk sample, examining the link between anxious attachment in infancy (assessed at one year of age) and reported anxiety disorders 16 years later. This study was

particularly comprehensive as it also took into account several temperament ratings taken in infancy and maternal self-reports of anxiety symptoms. Anxious attachment in infancy (as assessed by the strange situation) still explained a significant amount of variance in anxiety disorders 16 years later, after controlling for infant temperament measures and maternal self-reported anxiety. Two of the five temperament measures utilised were no longer significantly related to later anxiety disorders following the addition of infant attachment, which indicates that at least part of the relationship between temperament and anxiety disorders results from shared variance with attachment. One weakness of this study is that the results for infants assessed as secure and avoidant were combined in the regression analysis, thus preventing an analysis of any link between avoidant attachment and later anxiety disorders. However, the authors did present a chi-square analysis, which indicated that significantly more children with anxiety disorders were classified as anxiously attached as infants and more children with other disorders were classified as avoidant. The risk of developing a later anxiety disorder increased twofold for those who were assessed as anxiously attached by the strange situation in infancy. Overall, this study provides strong evidence for anxious attachment acting as a risk factor for the later development of anxiety disorders.

Research utilising the AAI has revealed that adolescents who were assessed as preoccupied in their attachment style reported a higher number of depressive symptoms in comparison to the secure or dismissing groups (Allen, Moore, Kuperminc, & Bell, 1998; Kobak & Cole, 1994; Kobak, Sudler, & Gamble, 1991; Rosenstein & Horowitz, 1996). Likewise, Cole-Detke and Kobak (1996) found that in a sample of college women in the US, those reporting the highest depression symptoms were preoccupied according to the AAI. In research utilising the Reciprocal Attachment Questionnaire

(West, Sheldon, & Reiffer, 1987), clinically depressed adults were more likely to display a high level of anxious attachment.

In a large sample of adolescents, those assessed by Hazen and Shaver's measure as anxiously attached reported the highest levels of depression, with the avoidant adolescents reporting intermediate levels and the secure adolescents reporting lowest levels (Cooper et al., 1998). All groups differed significantly from each other, however the two insecure groups did not differ on general anxiety. In a study that utilised an early version of the Experiences in Close Relationships Questionnaire (ECR), college women scoring high on anxious attachment were more likely to be depressed (Carnelley, Pietromonaco, & Jaffe, 1994).

Research using Hazen and Shaver's measure with college students reported those who were anxiously attached had significantly higher anxiety levels than the avoidant and secure attachment styles (Priel & Shamai, 1995). However, there were no significant differences between the two insecure attachment styles in self-reported depression scores, although those securely attached reported significantly lower depression levels overall. A multi-item version of Hazen and Shaver's measure was used with Israel college students following the Gulf War (Mikulincer, Florian, & Weller, 1993). This study reported that anxiously attached students experienced the highest levels of post-traumatic stress disorder, while the avoidant students appeared to have suppressed anxiety and depression scores, and were more likely to express distress indirectly through higher somatisation and hostility. In one of the few published studies that used the ECR in relation to psychopathology, only the anxiety attachment dimension was significantly positively correlated with a measure of state and trait anxiety (Lopez, Mauricio, Gormley, Simko, & Berger, 2001). The attachment dimensions together

predicted 23% of a composite measure of anxiety and depression in a hierarchical multiple regression analysis, however the anxiety attachment dimension alone was significantly related to internalising symptoms.

At the time of writing, Muller et al. (2001) was the only published study found that had examined attachment and the Young Adult Self-Report measure (Achenbach, 1997), which has empirically established internalising and externalising syndromes. Muller et al.'s study reported that the negative model of self (according to the RSQ) was positively associated with both internalising and externalising symptoms, whereas the model of others was not significantly associated with either. The authors also completed a categorical analysis based on the four attachment styles according to Bartholomew's model. Again, the results were significant along dimensional lines, with a main effect of the model of self, but no significant results reported for the model of others or the interaction between the two attachment dimensions. However, this study was limited by the small sample size (66 participants) and utilised a high-risk sample of adult survivors of childhood abuse. Furthermore, the Young Adult Self-Report is only validated for use with adults aged 18-30 years, and the Muller et al. study utilised an adult sample with a mean age of 33 years and a standard deviation of 13.8 years. Therefore it remains to be established as to whether these results generalise to larger, non-clinical samples.

Externalising Symptoms and Attachment

The evidence linking externalising symptoms with attachment has not been as consistent, despite Bowlby's theory of attachment originating from his study of externalising behaviour in 44 juvenile thieves (Bowlby, 1944). Bowlby identified separation from their mother in childhood and the "affectionless" character these

separations induced as important aetiological factors in the development of anti-social behaviour. Insecure children may be vulnerable to developing behaviour problems in childhood due to feelings of rejection and/or neglect from their attachment figure and, consequently, more likely to engage in conduct problems as a means of attracting parental attention (Greenberg & Speltz, 1988). Research has found that aggressive, antisocial behaviour in childhood is a strong predictor of a number of problems in adulthood, including criminality, alcoholism and psychological symptoms (e.g., Robins, 1978; West, 1982).

Insecure parental attachment has been associated with psychopathic traits and antisocial behaviour (Kosson, Cyterski, Steuerwald, Neumann, & Walker-Matthews, 2002). However, the conclusions that can be drawn from this study are limited as the authors utilised the Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987) as the measure of attachment, which only assesses attachment in terms of security and insecurity and not the individual dimensions. Research by Allen et al. (1996) found insecurity of attachment as assessed with the AAI was linked with higher levels of criminal behaviour.

While some researchers have identified a link between avoidant or dismissing attachment and externalising problems (such as aggression and delinquency), others have found anxious or preoccupied attachment leads to an increased incidence of externalising symptoms (Allen et al., 1998; Pianta et al., 1996). As highlighted in the chapter examining anger and attachment, early research revealed that avoidant and disorganised attachment was associated most strongly with angry and aggressive behaviours (Ainsworth et al., 1978; Bowlby, 1973/1998; Bowlby, 1980/1998; Egeland & Sroufe, 1981; Erikson et al., 1985; Lyons-Ruth et al., 1993; Sroufe, 1983). Although

avoidant attachment results in the least overt displays of anger and aggression in the strange situation, researchers have found that it is also associated with unexpected outbursts of hostility, as well as increased aggressive behaviour directed toward the mother in the home (Bowlby, 1973/1998; Main & Goldwyn, 1984).

Pre-school children with avoidant attachment histories as infants are more likely to exhibit more aggressive behaviours (Burgess et al., 2003) and to be victimisers of their peers, in comparison to either securely or anxiously attached children (Troy & Sroufe, 1987). Similarly, in a German sample of pre-school children, those with avoidant attachment histories displayed greater levels of hostility and scapegoating of their peers, than did the children with secure histories (Suess, Grossman, & Sroufe, 1992). Furthermore, boys in primary school grades one to three with an avoidant attachment history were rated by teachers on the Child Behavior Checklist as more aggressive than boys with secure or anxious attachment histories (Renken et al., 1989).

Disorganised attachment and aggressive behaviour has only been focused on in the more recent literature. When teachers rated the problems of 62 five year olds from low-income families, 71% of the hostile children had a history of disorganised attachment in infancy (Lyons-Ruth et al., 1993). Disorganised attachment was a stronger predictor of aggression when compared to the mother-infant interaction, infant cognitive development and maternal psychosocial problems. Additionally, maternal psychosocial problems, in particular maternal depression, were also important predictors of aggression. However, Shaw and Vondra (1995) failed to replicate this finding with their study of 100 toddlers from low-income families, although insecure attachment in general (including disorganisation) was linked with externalising behaviour problems, in particular in boys. Possibly the link between disorganised attachment and externalising

problems is limited to more severe clinical cases, as according to the norms on the Child Behaviour Checklist the results for this sample were not in the clinical range. This interpretation is supported by findings from two cross-sectional studies that examined the attachment patterns of children referred to a clinic for disruptive behaviour (Greenberg, Speltz, Deklyen, & Endriga, 1991; Speltz, Greenberg, & Deklyen, 1990). The clinic children were significantly more likely to be insecurely attached than the control group and the majority of the clinic children were assessed as controlling-disorganised in their attachment style, which is the preschool analogue of the disorganised attachment pattern in infancy. Interestingly, teachers rated the children with disruptive behaviour problems higher on both internalising and externalising behaviour on the Child Behaviour Checklist. Other studies have also revealed that disorganised attachment is associated with high internalising and externalising scores, as rated by both parents and teachers (Lyons-Ruth, Easterbrooks, & Cibelli, 1997; Moss, Rousseau, Parent, St-Laurent, & Saintong, 1998; Solomon, George, & de Jong, 1995). Whereas a prospective study following low-income children from birth to adolescence found that infants with a history of disorganised attachment displayed higher levels of internalising problems on the Child Behaviour Checklist in primary school, both internalising and total problems in secondary school and elevated levels of psychopathology at 17 years of age (Carlson, 1998).

It may also be the case that avoidant attachment in infancy may only be a risk factor for later aggressive behaviour in high-risk family settings. Research examining more economically advantaged populations have not consistently reported links between avoidant attachment and aggressive behaviours at a clinically significant level (Bates, Bayles, Bennett, Ridge, & Brown, 1991; Fagot & Kavanagh, 1990; Fagot & Leve, 1998;

Goldberg, Perotta, Minde, & Corter, 1986). Studies of both low and middle-income families have found an association between avoidant attachment and internalising, rather than externalising, problems (Goldberg, Gotowiec, & Simmons, 1995; Hubbs-Tait, Osofsky, Hann, & Culp, 1994; Lyons-Ruth et al., 1997; Moss, Parent, Gosselin, Rousseau, & St-Laurent, 1996). Therefore, it is difficult to conclusively link attachment styles to specific disorders. It is likely that endogenous and intervening variables interact with life stress in the development of specific types of psychopathology.

A study examining attachment with the AAI in a sample of psychiatrically hospitalised adolescents identified those with dismissing attachment as significantly more likely to be diagnosed with substance abuse problems and in particular, conduct disorder (including oppositional defiant disorder) (Rosenstein & Horowitz, 1996). Furthermore, adolescents with a comorbid diagnosis of a conduct and an affective disorder, were also more likely to have a dismissing attachment classification. When the same sample were assessed with the Millon Clinical Multiaxial Inventory (MCMI), the dismissing adolescents had significantly more antisocial, narcissistic and paranoid personality traits, with a trend for drug use, in comparison to the preoccupied adolescents (Rosenstein & Horowitz, 1996).

Allen et al. (1996) found dismissing attachment (as assessed by the AAI), was associated with significantly more criminal behaviour than for those adults assessed as secure in their attachment style. Criminal behaviour was also associated with a lack of resolution of previous trauma. In addition, participants whose transcripts could not be classified reported higher levels of criminal behaviour, as well as psychopathology, psychological distress and lower levels of self-worth than adults with secure transcripts. However, a study examining "mentally disturbed" male criminal offenders who had

committed serious crimes such as murder and rape, did not find any significant associations between attachment style (as assessed by the AAI) and personality disorders or violence of offence (van IJzendoorn et al., 1997).

The peers of college students assessed as dismissing on the AAI rated them as higher on hostility and anxiety (Kobak & Sceery, 1988). Interestingly, despite these ratings by their peers, the students assessed as dismissing in their attachment style did not differ from the secure group on self-report measures of perceived social competence and distress. Kobak and Sceery (1988) tentatively concluded that the dismissing group was biased towards not acknowledging negative affect. Later research by Dozier and Kobak (1992) provided further support for this interpretation. Participants who were dismissing on the AAI showed high levels of physiological arousal when questioned about attachment experiences, despite overtly denying that attachment experiences were a source of concern or distress. Furthermore, Pianta and colleagues (1996) found that participants who were dismissing (as measured by the AAI), reported the lowest levels of psychopathology as assessed by the Minnesota Multiphasic Personality Inventory-2 (Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989; Butcher & Williams, 1992).

Alternatively, other studies have revealed an association between aggressive behaviour and anxious attachment. For example, two year olds with anxious histories displayed more aggressive behaviour towards their mothers in a tool use task than children with secure histories (Matas et al., 1978). This finding has been replicated more recently (Frankel & Bates, 1990). Sroufe and colleagues discovered that anxious attachment in infancy was associated with more negative affect, anger and aggression at pre-school, when compared to children with secure attachment histories (Sroufe, 1983; Sroufe et al., 1984).

Cooper, Shaver and Collins (1998) identified anxious adolescents as reporting the highest levels of hostility, with avoidant adolescents reporting intermediate levels and the secure adolescents reporting the lowest hostility levels. Attachment style was determined by Hazen and Shaver's measure. Furthermore, Cooper et al examined delinquent behaviour in the large community sample of adolescents. The results indicated that anxious participants had been involved in significantly higher levels of property offences and truancy than the avoidant or secure adolescents. However, the authors did not find any attachment style differences in regards to violent behaviour.

In Pianta's et al. (1996) study of women from a high-risk sample, preoccupied attachment (as assessed with the AAI) was linked to higher scores on the psychopathic deviation scale from the MMPI-2. Similarly, Allen et al. (1998) reported an association between preoccupied attachment and increased levels of externalising and deviant behaviour, but only in the presence of additional risk factors, such as low socio-economic status and male gender.

Research focussing on men who were in treatment for domestic violence revealed a significantly higher level of anxious attachment (specifically fearful and preoccupied attachment on the RSQ) in comparison to a control group of men recruited from the community (Dutton, 1999). Both fearful and preoccupied attachment styles were also positively associated with men's use of psychological abuse. Similarly, Roberts and Noller (1998) reported that high levels of anxious attachment (as assessed by the RSQ) increased the likelihood of using violence against romantic partners for both women and men. However, another study utilising Hazen and Shaver's measure of attachment in a nationally representative sample, revealed that both attachment anxiety

and avoidance were associated with antisocial disorder (Mickelson, Kessler, & Shaver, 1997).

Interestingly, in the Pianta et al. (1996) study, the dismissing women reported the lowest levels of psychopathology and distress out of the three attachment styles (assessed by the AAI). In fact, their mean score on the hysteria scale from the MMPI-2 was seven points below that of the norming sample, even though the women were from a high-risk sample. The authors interpreted this result as providing further evidence for the tendency of dismissing individuals to deny psychological symptoms and the associated distress.

Some of these conflicting results may be due to the difficulty making the distinction between the two types of symptoms. That is, internalising symptoms are not usually displayed to the exclusion of any externalising symptoms, and externalising behaviour commonly entails some internalising symptoms. This overlap in presentation of symptoms was demonstrated in Renken's et al. (1989) study into the early childhood antecedents of aggression and passive-withdrawal. When trying to obtain a sample of children who demonstrated passive-withdrawal symptoms, it was found that a substantial number of the children scoring in the top 20% of their sex on passive-withdrawal, also scored in the top 20% for aggression. Consequently, the authors decided that those who scored in the top 30% of their sex on passive-withdrawal and fell in the bottom 50% in regards to aggression would constitute the passive-withdrawal group, as they were interested in the antecedents of the differing symptoms. The conclusions that can be drawn regarding the relationship between the two types of symptoms are limited, as the passive-withdrawal/aggressive group were not investigated in its own right. This would be an interesting direction for future research, as there is

some evidence to suggest that avoidant attachment in infancy may lead to this combination of passive-withdrawal and aggression.

Overall, it can be concluded that insecurity of attachment is associated with externalising tendencies, with the evidence suggesting that avoidant attachment is most strongly related to externalising symptoms. Obviously the development of psychological symptoms is multi-faceted, with insecure attachment one of multiple factors implicated. It is likely these extraneous factors, both endogenous and exogenous may interact, resulting in the specific type of symptom displayed. Consequently, it is vital to examine other pertinent factors that are relevant to the development of psychopathology when attempting to further elucidate the specific role of attachment. Therefore the following chapter examines the roles of negative life stress and coping in the development of psychopathology, as well as the relationship between coping and attachment. However, before concluding the discussion of psychopathology, it is important to investigate related areas that may have an impact on psychopathology and functioning, such as self-harm, suicidal ideation, and the use of alcohol and other drugs.

Self-harm and suicidal ideation

In his examination of completed suicides, Bowlby (1970) observed a common history of disrupted bonds of attachment in childhood. Other researchers have made similar observations (Adam, 1973, 1982; Adam, Keller, & West, 1995). For example, a study investigating the interpersonal circumstances of patients admitted to hospital following a suicide attempt, reported 60% had experienced an early family life that was unstable to chaotic (Adam et al., 1978). Furthermore, over 80% of patients had experienced serious difficulties in their current primary relationship, and in 75% of

cases, the actual or threatened disruption of this relationship was a precipitating factor in the suicide attempt. A later study by Adam, Bouckoms, and Streiner (1982) reported an interaction between loss and family instability, suggesting that families of suicide attempters respond to the crisis of loss with further instability. Research by de Wilde, Kienhorst, Diekstra, and Wolters (1992) provides support for this result, as they also examined suicide attempters but controlled for the influence of depression symptoms. Adolescents who had attempted suicide were found to differ from depressed and non-depressed adolescents in the amount of turmoil in their families, which began in childhood and did not stabilise in adolescence. Additionally, they were more likely to have a history of sexually abuse and to have experienced further social instability (such as moving house or repeating a class) in the year prior to their suicide attempt. Thus, it was largely events relating to family instability, which discriminated between adolescents who had attempted suicide from those who were depressed.

Adam (1994) conceptualised the role of early attachment experience as producing a vulnerability to suicidal behaviour, along with mediating factors. He presents a complex developmental model, originating with factors contributing to parenting style, which result in either secure or insecure attachment in the infant. This is then developed into an internal structuring of experiences according to the attachment style, resulting in either a vulnerability or resilience to suicidal behaviour. This vulnerability or resilience to suicidal behaviour is then moderated by precipitating and contributing factors (Adam, 1994).

De Jong (1992) argues "the heightened vulnerability to suicide in adolescence should be understood in the context of absence of parents as emotionally available attachment figures at a time when such availability is crucial" (p.370). Her study (1992)

compared undergraduate students with a history of suicidal behaviour, to those who were currently depressed but had no history of suicidal behaviour, and a control group. Those who had attempted suicide or experienced serious suicidal ideation had the lowest security of parental attachment (as assessed by the IPPA), although this was only significantly different to the control group. There were no significant differences between the three groups on peer attachment. However, adolescents with a history of suicidal behaviour scored significantly higher than the depressed and control groups on parental unavailability in childhood.

A study by Fergusson, Woodward, and Horwood (2000) found that insecure parental attachment at age 15 (as measured by the IPPA) was associated with increased levels of suicidal ideation and likelihood of a suicide attempt in a New Zealand sample aged between 15 and 21 years. Adam, Sheldon-Keller, and West (1996) examined a clinical sample of adolescents and compared those with and without a history of suicidal ideation and attempts. The results revealed insecurely attached adolescents experienced the highest sensitivity to loss, disappointment and rejection, with a significantly higher incidence of preoccupied attachment (in interaction with unresolved-disorganised attachment, as assessed by the AAI) in the suicidal group. An unresolved attachment is considered to result from an inability to integrate responses to trauma or loss regarding attachment figures in childhood (Rosenstein & Horowitz, 1996). Both externalising and internalising behaviours as assessed by the Youth Self Report (YSR; Achenbach, 1991) were associated with a history of suicidal behaviour, leading Adam et al. to argue that suicidal behaviours cannot be attributed to any single form of psychopathology.

Martin and Waite (1994) utilised an earlier version of the YSR (Achenbach & Edelbrock, 1987) with an Australian sample of high school students. They found that

adolescents whose parents were low on care and high on control on the Parental Bonding Instrument (Parker, Tupling, & Brown, 1979) had double the relative risk for suicidal ideation, and a 3-fold increase in the relative risk for deliberate self-harm.

Alcohol and other drugs

The use of alcohol and other drugs as a means of self-medication for individuals suffering from psychopathology is common (Bukstein, 1995; Kidorf, Brooner, King, Stoller, & Wertz, 1998). Even without severe psychological symptoms, alcohol and other drugs when used often or in binge sessions are considered a pathological means of dealing with stress and negative affective states (Brennan & Shaver, 1995; McNally, Palfai, Levine, & Moore, 2003).

Brennan and Shaver (1995) investigated the drinking behaviour of college students and attachment as assessed by both Hazen and Shaver's measure and Brennan, Shaver, and Hazen's (1989) self-report multi-item measure. The results revealed that insecurity of attachment was positively correlated with drinking as a means of coping with stress. Security of attachment according to Hazen and Shaver's measure was negatively correlated with the Drinking to Cope scale. Overall, the insecure students drank more than the secure subjects and this effect was particularly pronounced for those who were high on the avoidant attachment dimension. A similar result was reported by Davis et al. (2003) using a shortened version of the ECR, with both attachment anxiety and avoidance associated with the use of alcohol and drugs following the break up of a romantic relationship.

Cooper, et al. (1998) did not discover any individual attachment style differences in terms of the frequency of heavy drinking in a large adolescent community sample,

using Hazen and Shaver's attachment measure. However, the anxious attachment style in adolescents was associated with the most drinking-related problems (such as unwanted pregnancy, sexually transmitted diseases and so on). Likewise, McNally and colleagues (2003) found a positive relationship between a negative model of self (high anxious attachment) and drinking problems in a college sample. In this study, "drinking problems" were defined as the experience of more drinking-related consequences (whilst controlling for amount of alcohol consumed) and the RQ was used to assess attachment. The negative model of self was also associated with a greater likelihood of drinking to cope with negative affect. The model of others (high avoidant attachment) and the self-other interaction were not significantly related to drinking problems or motives.

In Cooper's et al. (1998) research, avoidant adolescents were less likely to be involved in substance abuse, when compared to those who were anxious or secure in their attachment style. However, of those adolescents who did report the use of drugs, both insecure attachment groups reported a significantly higher level of drug involvement. Specifically, the anxious adolescents reported using marijuana significantly more often than the secure adolescents. Research by Allen and his colleagues (1996) revealed that insecurity of attachment (as assessed with the AAI) was associated with the use of hard drugs. However, Burge et al. (1997) did not find any significant correlations between the AAS and substance abuse as established by the structured clinical interview for the Diagnostic and Statistical Manual – III-R (Spitzer, Williams, Gibbon, & First, 1990). A different picture emerged however when Burge and colleagues conducted hierarchical multiple regression analysis on their sample of late adolescent women. Results were that the interaction of the close scale of the AAS and substance abuse symptoms measured 12 months previously significantly predicted 3%

of the variance in substance abuse symptoms. That is, women who found it difficult to get close to others and had previously reported substance abuse problems were significantly more likely to report substance abuse symptoms 12 months later. Although this is a relatively small amount, the impact of previously measured substance abuse problems was controlled earlier in the analysis, thereby strengthening the significance of the finding.

This concludes the review of the research examining psychopathology and attachment. As mentioned earlier, the final part of the literature review will focus on negative life stress and coping in the development of psychological functioning. The relationship between coping and attachment will also be examined, leading to the rational for the current study.

Chapter 6

Attachment, Stress and Coping

Stress and Psychopathology

It is well established that negative life stress is associated with increased levels of both psychological and physical symptoms (Holmes & Rahe, 1967; Paykel, 1979). In an early study regarding this issue, Holmes and Rahe (1967) found that the experience of stressful events increased the chances of developing tuberculosis and determined that the intensity of events was also relevant. In response to these findings, the authors developed a stressful life events model, which postulated that both positive and negative events impact on the stress response, as major positive events can also be experienced as stressful. Stressful life events are also assumed to have a cumulative effect, with a greater number of stressful events corresponding with an increased stress response.

Holmes and Rahe's (1967) work presents the development of the Schedule of Recent Experience (SRE), which was utilised in early research concerning life event stress. The SRE assigns weighted scores for events experienced in the past year and assumes that all the events listed are stressful. However, this approach has been broadly criticised, as the experience of events as stressful is largely subjective (Rabkin & Struening, 1976). For example, moving house is often stressful, however for a young adult moving out of the parental home for the first time, it is likely to be a more positive experience. In this way, the SRE does not distinguish between desirable and undesirable events, although it is likely that the death of a close family member has a very different effect on an individual than an outstanding personal achievement (Sarason, Johnson, &

Siegel, 1978). A study by Vinokur and Selzer (1975) addressed this issue by summing positive and negative life change separately in a modified version of the SRE and compared the results to measures of depression, anxiety, tension, aggression, paranoia and suicidal tendencies. They reported no association between positive change and the personality variables, however negative life change was associated with several of the measures. Therefore, it appears that the desirability of an event is another factor that determines the ultimate impact life stress has on functioning. More recent research has supported this conclusion, with only measures of negative life stress (as assessed by the Life Experiences Survey) associated with maladaptive psychological functioning (Higgins & Endler, 1995; Kale & Stenmark, 1983; Pretorius, 1998; Zuckerman, Oliver, Hollingsworth, & Austrin, 1986).

The Life Experiences Survey (Sarason et al.) was developed to address these concerns. Individuals were asked which of the potentially stressful events had occurred over the last 12 months. Additionally, participants assessed the impact of these events, using a seven point rating scale from extremely negative (-3) to extremely positive (+3). The negative and positive ratings are combined separately, to provide a negative and positive change score. This can also be combined to form a total change score, however the authors did not find that this total score was more predictive of psychological distress than the negative change score alone. Sarason et al. (1978) also established that the LES negative change score had a significantly greater association with scores on the Beck Depression Inventory than the life change unit score as weighted by the SRE. Thus, this measure allowed for the frequency, intensity and subjective experience of stressful events to be taken into account.

A comparison of four life event scales including the LES and SRE, demonstrated that the Life Events Questionnaire (Horowitz, Schaefer, Hiroto, Wilner, & Levin) was a significantly better predictor of adjustment (as assessed by the General Symptomatic Index of the SCL-90) than the other three measures (Kale & Stenmark, 1983). However, when the individual subjective ratings were used to score the LES (as opposed to using the frequency score alone), it predicted the SCL-90 at the same level as the LEQ. Also, the authors did not specify whether the negative life stress or total life stress scoring methods were used for the LES, which could have influenced the results, given the research demonstrating that the negative life stress score is most predictive of psychological symptoms.

A more recent study compared the LES and SRE and their association with depression, anxiety, and social support in a South African sample of university students (Pretorius, 1998). It was revealed that the negative stress score for the LES was the only significant predictor of depression scores and interacted significantly with all the measures of social support in predicting depression. In contrast, the SRE only significantly interacted with support from family and number of supports in its prediction of depression. Neither measure was significantly associated with anxiety symptoms. The negative stress score for the LES was also able to discriminate between rural and urban students and between students whose first language was African and Afrikaans/English (the former of both groups had significantly higher negative life stress scores).

A potential confounding factor in the reporting of stressful life events is the effect of memory distortion (Rabkin & Struening, 1976). There is some evidence to support this concern, as the results of prospective studies are less robust than those from

retrospective research. However, this influence is minimised if events in the recent past are examined (such as in the last 12 months) (Clements & Turpin, 1996).

A related issue is the extent to which any psychological symptoms may influence the reporting of life events and their impact. A study by Siegel, Johnson, and Sarason (1979) attempted to address this issue by inducing different moods in subjects who had previously completed the LES, then having them complete the LES again and comparing their results. They found that the induction of an elated, depressed or neutral mood did not impact on the number of life changes reported or any of the LES scores. Although this does not rule out the potential confounding effects of clinical levels of psychopathology, it does indicate that the LES is not overly susceptible to mood changes. However, the possibility still exists that those individuals suffering from psychopathology may genuinely experience more life stress as a result of their condition (Sarason et al., 1978). Obviously, more complex, longitudinal studies are required to resolve this issue. However, it is likely that bidirectionality exists, in that negative life stress may increase the chance of developing clinical psychopathology, which in turn exacerbates both the perceived impact and number of negative life events experienced.

Many factors influence the ultimate effect stressful events have on functioning. These include both variables such as gender and attachment, as well as environment factors, such as the amount of social support available, the nature of the event itself, and the impact of additional stressful events experienced previously. In regards to the latter, the experience of stressful events in the 12 months prior to involvement in Operation Desert Storm, predicted the development of anxiety, depression and post-traumatic stress among female health care personnel (Slusarcick, Ursano, Fullerton, & Dinneen, 1999). One variable, which has been consistently identified in the literature as modifying

the impact of stressful life events, is coping. Therefore, the research that examines coping requires further examination.

Coping

As the research reporting on the impact of stress has progressed, it has become increasingly apparent that, although a consistent relationship exists between negative life stress and adjustment, this association is low to moderate (see Johnson & Sarason, 1978; Rabkin & Struening, 1976 for reviews). Therefore, other variables are likely to be responsible for modifying the effect of negative life stress on psychological adjustment, with coping identified as one of the most important (Aldwin & Revenson, 1987). Coping is defined as "all efforts to manage taxing demands, without regard to their efficacy or inherent value" (Lazarus & Folkman, 1984, p.138). Consequently, coping does not automatically imply a positive outcome. For example, the coping strategy of denial can have either positive or negative outcomes, depending on the context. On one hand, denial has been shown to be adaptive immediately following the experience of a traumatic event (Dreman, Orr, & Aldor, 1990; Horowitz, 1976). However, the long-term use of denial as a coping strategy may lead to the numbing of emotions, distressing intrusions, a lack of comprehension of the link between threatening stimuli and psychological or somatic symptoms and a breakdown in functioning if denial is broached (Dreman et al., 1990; Roth & Cohen, 1986; Weinberger, 1990).

If coping cannot be defined in terms of the impact that it has, researchers have tended to define coping in terms of the effort it involves. A common distinction is made between problem and emotion-focused coping (Lazarus & Folkman, 1984). Problem-focused coping refers to the cognitive and behavioural strategies used to manage a

stressful situation per se, while emotion-focused coping involves efforts to manage the negative emotions engendered from the experience of stress. Further examination of problem and emotion-focused coping will be provided in this chapter, however detail regarding the nature of coping in general is required to give a context for this discussion.

There is debate in the coping literature as to whether coping should be conceptualised as fixed across all contexts, or a flexible and context-based process. Lazarus and Folkman (1984) argue against coping being viewed as a personality trait that is fixed across contexts, and contend that reactions to stressful events are context dependant and coping processes have multidimensional qualities. However, they deduce that despite this, people do have preferred modes of coping across time. In Kessler and colleagues (1985) review, they identified little evidence of consistency of coping styles across situations, and the choice of coping style appeared to be more dependent on other factors, such as an individual's appraisal of the situation. Further support comes from Nelson's (1989) investigation into the coping strategies of divorcing couples. This study found emotion-focused strategies were most effective for those who were experiencing great distress, while problem-focused strategies were more beneficial when distress levels were lower. In this way coping is conceptualised as flexible and context-dependent.

Direct and Interactive Effects of Coping on Psychopathology

A further extension of this debate is how coping actually operates in regards to stress and psychopathology. There are two major models proposed to explain these relationships; the direct or main effects model and the moderator model (Aldwin & Revenson, 1987; Wilkinson, Walford, & Espenes, 2000). The main effects model posits

that coping has a direct and uniform effect on mental health, irrespective of the nature or intensity of the adversity experienced. The moderator model proposes that coping operates in a more complicated and interactive manner, by providing a buffer or protective function against the negative effects of stress, in particular when stress levels are high. Aldwin and Revenson (1987) found evidence to support the operation of both models, with emotion-focused coping having direct effects on psychological symptoms, and problem-focused coping having interactive effects. They concluded that emotion-focused coping may reflect more stable personality features, while problem-focused coping may be influenced more by situational constraints (although emotion-focused coping is also influenced by environmental constraints, such as the use of social support while incarcerated). A similar result was reported by Parkes (1990), who found direct effects of emotion-focused coping, while problem-focused coping strategies moderated the relationship between work stress and psychological symptoms.

Furthermore, Higgins and Endler (1995) discovered both direct and interaction effects for coping strategies as assessed by the Coping Inventory for Stressful Situations (Endler & Parker). However, in contrast to the previously mentioned research, direct effects of problem-focused coping were found, with direct and interactive effects reported for emotion-focused coping. Specifically, emotion-focused coping interacted with negative life stress (as assessed by the LES), to explain a significant amount of variance in somatic symptoms for men. At high levels of stress, the use of emotion-engagement at a high level led to the greatest somatic symptoms in men. Distraction, an example of a disengagement coping strategy, interacted with negative life stress to predict psychiatric distress and depression scores for women. The use of distraction as a coping strategy to a high level was associated with more psychiatric and depression

symptoms in women as life stress increased. Alternatively, a study by Wilkinson and colleagues (2000) did not find buffer effects for either problem or emotion-focused coping, but did report direct effects for both coping styles in relation to an Australian sample of adolescents' psychological health.

A problem when examining the influence of coping on psychopathology is the extent to which each impacts on the other. For example, an avoidant coping style is associated with depression (Aldwin & Revenson, 1987), however as many studies have been correlational in nature, the direction of causality is unable to be determined. Therefore, it is unclear whether an avoidant coping style contributes to depressive symptoms, or alternatively, depression symptoms encourage an avoidant coping style. It is likely that a mutually reinforcing causal cycle exists, with an avoidant coping style increasing the chances of developing depression, and then depression symptoms further exacerbating this coping mechanism. It is clear that individuals suffering from mental illness and emotional distress are more likely to engage in coping strategies that have been associated with negative outcomes (Coffey, Leitenberg, Henning, Turner, & Bennett, 1996; Johnson & Kenkel, 1991; Leitenberg, Greenwald, & Cado, 1992).

A longitudinal study of a community sample of adults reported that bidirectionality existed between coping and psychological symptoms (Aldwin & Revenson, 1987). That is, the experience of greater stress and psychological symptoms were associated with the use of less adaptive coping strategies, such as escapism and self-blame (examples of emotion-focused disengagement). However, coping was still shown to have an independent influence on mental health, while controlling for prior psychological symptoms and stress levels. Ultimately, more carefully designed longitudinal studies such as this one are required to fully resolve this issue.

Effectiveness of Different Coping Strategies

Attempts have been made to identify the coping mechanisms that are most effective in ameliorating the negative effects of stress on psychopathology. The results of these efforts have been equivocal at best (Aldwin & Revenson, 1987). Overall, a problem-focused approach to coping with stress is associated with less reported psychological symptoms (Folkman & Lazarus, 1981; Folkman, Lazarus, Gruen, & DeLongis, 1986; Moos & Billings, 1982). Higgins and Endler (1995) also found that problem-focused coping was negatively related to distress, however this result was only significant for males. In contrast, other research has not revealed a relationship between problem-focused coping and psychological distress (Hovanitz, 1986; Nowack, 1989).

Emotion-focused coping is associated with psychological distress (Endler & Parker, 1999; Felton & Revenson, 1984; Higgins & Endler, 1995), depression (Billings & Moos, 1981), anxiety (Dusenberg & Albee, 1988) and somatisation (Endler & Parker, 1999). However, there is also evidence for the beneficial effects of emotion-focused coping. For example, the use of emotion coping in the workplace has been associated with decreased levels of depression, anxiety and somatic symptoms (Greenglass & Burke, 1991). In addition, Violanti (1992) reported that both emotion and problem-focused coping were associated with lower levels of psychological distress.

A potential explanation for these discrepant findings is that people vary their coping efforts according to their situational appraisal of control (Folkman & Lazarus, 1988). Problem-focused coping is used more in situations where the outcome is assessed as changeable, while emotion-focused coping is utilised more when the situation is assessed as not amenable to change (Folkman & Lazarus, 1981, 1985). Similarly, Folkman and Lazarus (1981) found that coping varied according to the type of situation,

with problem-focused coping utilised more in work-related situations, and emotion-focused coping used more in health-related situations. However, these findings represent tendencies rather than absolutes, as people commonly use both problem and emotion-focused coping in nearly every stressful situation they encounter (Folkman & Lazarus, 1981).

If coping is considered in terms of approach and avoidance (or engagement and disengagement), it becomes easier to distinguish between helpful and unhelpful strategies. Although no single coping strategy can be characterised as adaptive or maladaptive in all situations (Mosley et al., 1994), general tendencies have been noted where approach or engagement strategies are associated with decreased distress, while avoidance or disengagement strategies are linked with increased psychological symptoms (Tobin, Holroyd, Reynolds, & Wigal, 1989).

Disengagement coping strategies (combining both problem and emotion disengagement) as assessed by the Coping Strategies Inventory (Tobin, Holroyd, & Reynolds) were associated with the highest levels of psychological distress in two separate samples of women (Coffey et al., 1996; Griffing, 1998). Emotion-focused disengagement (as assessed by the CSI) has been associated with increasing levels of depression and anxiety (Willert, 1996). A study by Compas, Malcarne, and Fondacaro (1988) of older children and adolescents found that avoidant or disengagement coping strategies were associated with increased levels of depression, anxiety, acting out and psychological adjustment. Furthermore, the disengagement coping strategies (consisting of emotion-focused disengagement and a form of problem-focused disengagement, problem avoidance), were significantly associated with depression symptoms in a positive direction in a study by Mosley et al. (1994). Again, a similar result was found

by Tobin and Griffing (1995) in their sample for both of the disengagement coping strategies. In addition, the problem-focused disengagement strategy of wishful thinking was significantly and positively associated with somatic complaints, while controlling for negative life stress (Mosley et al., 1994).

Further support comes from research conducted by Higgins and Endler (1995), who examined two types of avoidance coping, distraction and social diversion, as assessed by the CISS. Distraction was defined as activities that are sought out with the intention of distracting the individual from the source of stress, while social diversion involves engaging in social support and distracting oneself through social means. Distraction, in this case analogous with disengagement coping strategies, was positively associated with psychological distress, including somatisation.

Research examining the coping strategies of prisoners who self-mutilate, reported that this group used problem avoidance (part of the problem-focused disengagement scale), to a greater degree than prisoners who did not have a history of self-mutilation and to the non-prisoner control group (Haines & Williams, 1997). However, this finding was not statistically significant and therefore only represents a trend. Despite this, other research has found a significant association between avoidant coping and suicide risk (Josepho & Plutchik, 1994). Moreover, Wilkinson et al. (2000) reported avoidant coping was associated with increased distress and decreased psychological well-being. A study of patients at a substance abuse treatment centre found that the coping style of social withdrawal (a form of emotion-focused disengagement) was positively associated with drug problem severity (Rebelo, 1999). Research examining an Australian sample reported emotion-focused strategies to be ineffective and avoidance strategies harmful (Headey & Wearing, 1990).

In contrast, approach or engagement strategies have been linked with positive mental health outcomes (Compas et al., 1988). Likewise, Chen, David, Thompson, Smith, Lea, and Fahy (1996) reported engagement strategies (both problem and emotion-focused) were associated with lower levels of psychological distress. Similarly, engagement coping strategies (specifically problem-focused engagement and social support, a form of emotion-focused engagement) were inversely associated with depression scores, when the impact of negative life stress was controlled (Mosley et al., 1994). That is, the more these coping strategies were utilised, the lower the reported level of depression. Tobin and Griffing (1995) reported a similar trend for a clinical sample of depressed women with comorbid bulimia. Other research has established that increasing the use of cognitive restructuring (a form of problem-focused engagement) and social support (a form of emotion-focused engagement) predicted decreasing levels of depression (Willert, 1996). Conversely, social diversion, which is similar to emotion-focused engagement as assessed by the CSI, has been negatively associated with depression (Higgins & Endler, 1995). Thus, engaging in social activities and utilising social support, helped to alleviate symptoms of depression.

A study examining the coping strategies (as assessed by the CSI) of individuals at a substance abuse treatment centre found that problem solving (a form of problem-focused engagement) was negatively associated with alcohol and drug problem severity (Rebelo, 1999). Finally, problem-focused strategies have been demonstrated to be the most effective in dealing with adversity in an Australian sample (Headey & Wearing, 1990).

Summary

In summary, the research examining negative life stress, coping and psychopathology provides somewhat mixed findings. There is debate as to how coping should be operationalised and how it actually works as a mechanism. It seems likely that coping directly influences psychopathology, as well as interacting with negative life stress, and thus both main and moderator effects models are relevant. Few studies have managed to isolate the direction of causality, with the correlational nature of the majority of the research in this area. However, it appears that bidirectionality exists between both negative life stress and coping individually, and psychological symptoms.

There also is conflicting evidence regarding the most helpful or effective coping strategies, although it is likely that several factors impact on the effectiveness of strategies. Overall, disengagement strategies appear to be the least helpful, and there is some evidence indicating that emotion-focused coping is also unhelpful at times, however this literature is difficult to interpret with studies frequently combining emotion and disengagement strategies into the same category. Given this background, further detail regarding the relationship between coping and attachment is required to determine the role of attachment with these factors.

Coping and Attachment

Attachment theory originated in an attempt to explain human and animal reactions to major life stressors, such as loss and separation (Mikulincer & Florian, 1998). Bowlby (1969/1997) argued that expectations regulating the experience of negative emotions and preferred style of coping with these emotions are internalised as working models of attachment, therefore attachment, emotion regulation and coping are

inextricably linked from an early age. Bowlby (Bowlby, 1980/1998) saw secure attachment as leading to the development of effective coping skills and a sense of self-efficacy and self-worth (Cooper et al., 1998).

The impact of attachment on coping is particularly evident in the stressful scenario that occurs in the strange situation laboratory procedure. If a child's working model of the attachment figure forecasts rejection, the coping strategy chosen to deal with this stressful situation is to deactivate the attachment system, thereby minimising potential conflict with the attachment figure (Mikulincer et al., 2003). An infant's avoidant behaviour towards a caregiver in the strange situation is indicative of a deactivating strategy. In contrast, if an infant's working model predicts inconsistency from their attachment figure, then is it likely that a hyperactivating strategy will be chosen. Hyperactivation of the attachment system is associated with decreased exploration and contact-seeking alternating with anger toward the caregiver in the strange situation (Kobak et al., 1993). A secure attachment results in activation of the attachment system in the strange situation in a more functional way, as secure working models of attachment allow infants to have confidence in getting their needs met by their caregivers in situations of stress.

To translate this into coping terms, a child is classified as avoidantly attached largely due to his or her tendency to choose distancing withdrawal (disengagement) strategies to cope with stressful situations (based on prior experience with their attachment figure). Alternatively anxious attachment reflects a tendency to utilise emotional strategies in response to stress. In this way, instances of distress may become associated with negative outcomes, and consequently alternative modes of coping with distress and regulating the attachment system develop (Kobak & Sceery, 1988). Finally,

secure attachments are thought to engender engagement coping strategies in a focused and adaptive manner, thereby further increasing the likelihood that the secure child will get his or her needs met by the caregiver. Secure individuals are confident in their own ability to reduce distress and that the acknowledgement and display of distress will elicit support from others (Mikulincer et al., 2003). In this way, an infant's working model of attachment is believed to directly impact the development of coping strategies utilised.

Coping and Attachment Research

Zimmerman and Grossmann (1996) examined coping strategies used by 10 year old children when stressed. They found that those children who had been assessed as securely attached in infancy, were more likely to seek out attachment figures when they felt sad, anxious or angry at age 10. In contrast, children assessed as avoidant in infancy, used avoidant strategies when stressed or distressed at age 10, perceived their mother as less available and avoided everyday problems in school.

Research with adolescents has also provided empirical support for these theorised interrelationships (Kobak et al., 1993). Adolescents were observed discussing a stressful issue with their mothers. The teenagers who were securely attached were more able to directly problem solve the issue at hand, without dysfunctional anger or hostility interfering with the process. The mothers of secure adolescents also responded more positively and reinforced their children's sense of autonomy. In contrast, the problem solving of teenagers who were avoidantly attached was characterised by maternal dominance and dysfunctional anger.

An examination of the coping strategies of civilians who had experienced missile attacks during the Gulf War found that those assessed as securely attached by Hazen and

Shaver's attachment measure utilised more support-seeking strategies. Participants who were anxiously attached engaged in more emotion-focused coping, while avoidant attachment led to the use of more distancing coping strategies. There were no differences between the different attachment styles and problem-focused coping (Mikulincer et al., 1993). Other studies have reported similar findings linking anxious attachment to emotion-focused strategies (Alexander, Feeney, Hohaus, & Noller, 2001; Lopez et al., 2001; Mikulincer & Florian, 1995). Greenberger and McLaughlin (1998) also found that secure attachment in college students (assessed by a self-report measure) engendered more support seeking as well as active problem solving, in comparison to the other attachment styles. In contrast, Davis et al. (2003) reported that anxious attachment (as measured by a shortened version of the ECR) was positively associated with the use of social support coping. However, this study replicated other research with avoidant attachment inversely associated with social coping, and positively associated with self-reliant coping strategies, in their large sample of Internet respondents.

A recent study by Howard and Medway (2004) examined adolescents' coping strategies and their attachment style according to Bartholomew's model. They reported that those with a negative view of self (high anxious attachment) and those with a negative view of others (high avoidant attachment) engaged in more negative avoidance coping, such as drinking and smoking to avoid thinking about the problem. A positive view of self and others (i.e., low anxiety and avoidance) on the other hand, was linked with an increased use of family communication and a decreased use of negative avoidance. A positive view of others (i.e., low avoidance) was also positively correlated with the use of positive avoidance as a coping strategy, which involved the engagement in beneficial activities, such as exercise and relaxation, to distract from the problem at

hand. Interestingly, the use of anger as a coping strategy was not significantly correlated with any of the attachment styles.

Ognibene and Collins (1998) reported similar findings in their examination of the associations between attachment styles, as assessed by the Relationship Scales Questionnaire (Griffin & Bartholomew, 1994) and coping strategies. For example, college students with a more positive model of others (low avoidance) were more likely to seek support from others in response to stress. A hierarchical multiple regression revealed that the two attachment dimensions explained a significant 13% of the variance in support seeking. Confrontive coping was more likely to be utilised by those with a positive model of others (low avoidance). Interestingly, neither of the attachment dimensions or their interaction significantly predicted distancing coping. The two attachment dimensions explained a significant 12% of the variance in escape avoidance coping. However, in contrast to the previously mentioned studies, it was those students with a negative model of self (high anxious attachment) that were more likely to use escape-avoidance coping (e.g., "tried to make myself feel better by eating, drinking, smoking, using drugs etc.") in response to stress. Moreover, McNally, Palfai, Levine, and Moore (2003) reported a similar result, as participants with a negative model of self (i.e., high anxious attachment) were more likely to drink to cope with negative affect. The use of alcohol and drugs as a coping mechanism has traditionally been considered an avoidance or escapism coping strategy (Aldwin & Revenson, 1987).

Birnbaum and colleagues (Birnbaum, Orr, Mikulincer, & Florian, 1997) examined divorcing couples and found coping mediated the association between attachment and mental health during this stressful situation. Similarly, the use of reactive and suppressive coping strategies by insecure college students mediated the significant

interrelationships between insecure adult attachment and psychological distress (Lopez et al., 2001).

Summary

While in general both insecure attachment dimensions are associated with unhelpful disengagement coping strategies, it appears avoidant attachment is linked most strongly to disengagement strategies, and anxious attachment to emotional strategies. Individuals with high avoidant attachment, in particular, are unlikely to utilise social support in times of stress. Low avoidant and anxious attachment (i.e., secure attachment) appears to act as an inner resource to assist coping with stressful life events and facilitating psychological well-being (Mikulincer & Florian, 1998).

As the review of the literature examining attachment, coping and negative life stress in relation to adaptive functioning, anger and psychological symptoms is now complete, the stage has been set for the rationale for the current study. Thus, the overview of the current study is presented in the following chapter.

Chapter 7

The Current Study

Attachment, negative emotions, coping and stress are all inextricably linked in the theory of attachment. For example, the strange situation is designed to elicit stress and negative emotions in infants. The way in which infants cope with this specific type of stressful situation and the consequent negative emotions (such as anger) that it induces is referred to as their attachment style. All these factors are implicated in the later development of psychological symptoms. Consequently, the current study examines adjustment in young adulthood, with a specific focus on the role of attachment, coping and stress in the development of adaptive functioning, anger, and psychological symptoms. The examination of adjustment across a broad range of outcomes is important as it enables an understanding of the generality and breadth of attachment effects and provides an exploration of potential moderators of these effects (Cooper et al., 1998).

The transition to adulthood from adolescence is an important developmental period requiring a number of changes and adjustments as the individual matures. These include a number of developmentally appropriate, but stressful, events such as moving away from the family of origin, the formation, loss and change of significant peer and romantic relationships, as well as the specific challenges of higher education and employment. In addition to this, there is the possibility of becoming a parent and forming a new family unit. These developmental challenges and the resulting stress enhance the likelihood of psychological symptoms (Aseltine & Gore, 1993; Burke,

Burke, Regier, & Rae, 1990; Hammen et al., 1995). One of these changes is the transition of the primary attachment figure from parents to peers, and in particular romantic partners, and as such, young adulthood is an opportune time to examine romantic attachments and psychological functioning. Furthermore, young adulthood provides an ideal opportunity to implement change before maladaptive personality traits become more ingrained and resistant to change. In order to instigate change therapeutically, as much information as possible is needed regarding the development and maintenance of psychological symptoms and maladaptive functioning.

It is also only recently that the adult attachment literature has begun to examine the two underlying dimensions of attachment, anxiety and avoidance, separately rather than utilising a categorical approach to the measurement of attachment. Consequently, research is needed on the individual dimensions and any potential interaction effects. Furthermore, additional research is required that is conducted with more reliable and valid self-report measures, such as the Experiences in Close Relationships Inventory (Brennan et al., 1998). Few studies have examined in detail the role of attachment dimensions and the expression and control of anger. Given the relevance of anger to Bowlby's original theorising about attachment, this is an area that requires further elucidation, both in general and in regard to Bartholomew's model, with anger expression and control directed internally and externally.

Much of the previous research on attachment and psychopathology has been focused on children and adolescents and to a lesser extent, adults. Among the studies examining the links between attachment and psychopathology in adults, most have utilised the AAI. The romantic attachment literature on the other hand, has most commonly utilised self-report methodology, and focused attention on associations

between attachment and relationship and personality variables, and to a lesser extent, emotion regulation. Some work has been done examining the links between attachment and low self-esteem, anxiety, and depression.

Researchers in developmental psychology refer to internalising and externalising disorders in reference to children, however these categories are rarely applied in adulthood. Therefore, the current study provides a much needed extension of the studies conducted on internalising and externalising symptoms and other psychological syndromes in child and adolescent samples. Furthermore, the current study utilises an empirically established measure to determine what constitutes internalising and externalising symptoms in young adults, the Young Adult Self-Report (Achenbach). This measure of psychological functioning is an extension of two of the commonly used assessment instruments focusing on internalising and externalising symptoms in children and adolescents (the Child Behaviour Checklist and Youth Self-Report by Achenbach). Thus, the use of the YASR enhances the continuity of the research conducted on children and adolescents and enables the comparison of results from these samples to adults. Additionally, it is useful to have a measure that examines symptoms rather than disorders, as it is more likely to result in the identification of underlying causal mechanisms (Bartholomew et al., 2001). Of the few studies that have investigated internalising and externalising symptoms in adults, only one has used an early version of the YASR (Muller et al., 2001). However, this study utilised a small clinical sample of former abuse survivors (66), and it remains to be seen if these results generalise to larger, non-clinical samples.

Bartholomew's four-group model of adult attachment has been extremely influential in the romantic attachment literature. Logically, and there is some research to

support this, it may be expected that those with a negative view of self according to Bartholomew's model (i.e., high anxious attachment) would be more susceptible to internalising disorders, such as anxiety and depression. Those with a negative view of others (i.e., high avoidant attachment) on the other hand, may be more likely to develop externalising disorders, such as antisocial and aggressive behaviour. If this were indeed the case, it would help provide further support, extension and applicability for Bartholomew's model, and be of clinical relevance in the prevention and treatment of psychological symptoms. However, despite other researchers hypothesising along these lines (e.g., Rubin, Hymel, Mills, & Rose-Krasnor, 1991), the research has not consistently found this to be the case, as both attachment dimensions have been associated with angry or aggressive behaviour. As concluded by Greenberg (1999) in his review of this topic, there is not yet clear evidence of specific links between the insecure attachment dimensions and particular disorders. Clearly more research is needed to help resolve this issue.

To some extent, attachment can be viewed as a way of coping with the negative emotions that are induced by a stressful situation. In this way, insecure attachment styles reflect coping strategies that have been developed to deal with inconsistent or inappropriate caregiving. When these strategies become entrenched in an individual's working models of self and others and are applied to situations that do not involve the primary caregiver, their maladaptive nature becomes particularly apparent. In general, engagement coping strategies are considered helpful in managing stress, while disengagement strategies are deemed unhelpful. However, there is some debate in the coping literature regarding the efficacy of emotion-focused engagement coping strategies. The independent contribution of each of the anxiety and avoidance

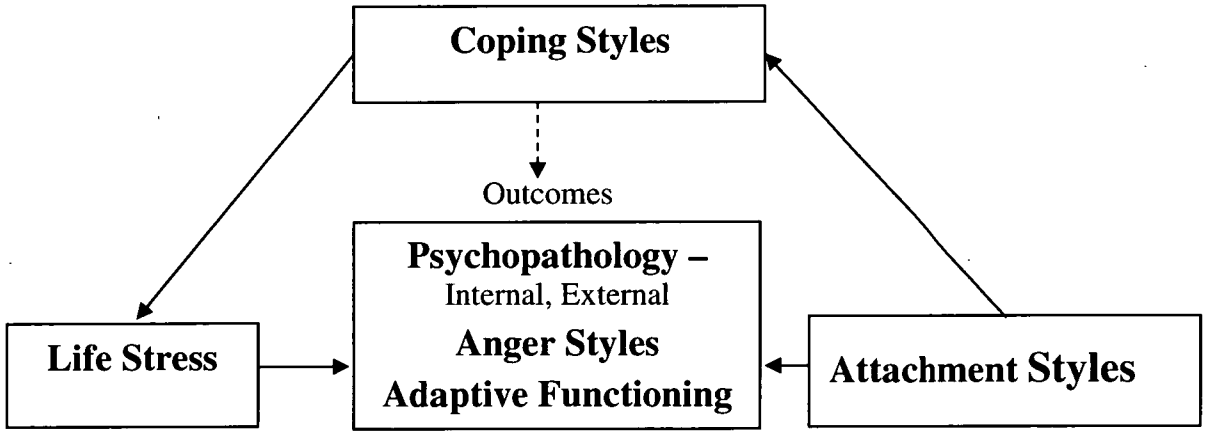
attachment dimensions and their interaction to the *individual* coping scales is considered to provide the most informative data regarding the relationship between the attachment and coping. These coping scales are labelled problem solving and cognitive restructuring (problem engagement), social support and express emotions (emotion engagement), problem avoidance and wishful thinking (problem disengagement), social withdrawal and self-criticism (emotion disengagement).

Thus, the aims of the current study are:

1. To investigate an original, theoretical model that reflects the hypothesised relationships between attachment, coping and negative life stress to psychological functioning.
2. To examine the independent contribution of the attachment dimensions, anxiety and avoidance and their interaction, to psychological functioning, while controlling for the previously established impact of negative life stress.
3. To investigate a broad range of theoretically relevant psychological functioning measures to provide more information regarding the relationship between these and the individual attachment dimensions and their interaction.
4. To provide more information on the relationship between the individual attachment dimensions, their interaction, and anger.
5. To extend the research examining internalising and externalising symptoms in children and adolescents and focus on young adults.

6. To examine the hypothesised relationship between the anxiety attachment dimension and internalising symptoms, as well as the avoidant attachment dimension and externalising symptoms.
7. To investigate whether coping has a direct effect on psychological functioning, or operates indirectly through moderating the influence of negative life stress on psychological functioning, or both.
8. To examine the relationship between the anxiety and avoidance attachment dimensions, their interaction and individual coping strategies, and formulate some exploratory hypotheses.

A theoretical model has been developed hypothesising the nature and direction of relationships between attachment, coping, and negative life stress in regards to adaptive functioning, anger and psychopathology. This model is presented below:



As the model shows, attachment is assumed to moderate the influence of coping on the development of psychopathology, anger and adaptive functioning, as well as having a direct effect. Coping, in turn, moderates in the impact of negative life stress on

psychopathology, in addition to the independent effects of the coping strategies. The consideration of both the process of mediation and moderation in particular is important as the impact of one source of influence is likely to be highly contingent on the other. Therefore, the current model examines potential underlying mechanisms, as well as the additive versus buffering effects of coping (Aldwin & Revenson, 1987).

As the inclusion of the interaction between the two attachment dimensions is largely exploratory, specific hypotheses of expected findings will not be made. The research on adaptive functioning seems to indicate largely equivocal negative effects of both attachment dimensions, with variation in the specific type of negative impact. Therefore, it is predicted that a high score on either the anxiety or avoidance dimensions will lead to decreased satisfaction in relationships with friends, romantic partners and family. However, there is some evidence to suggest that anxious attachment may be more of a hindrance in relation to achievement areas, such as education and employment. Thus, it is hypothesised that the anxiety attachment dimension will have a stronger negative impact on education and employment, than the avoidance attachment dimension.

Given that adults high in anxious attachment have difficulty modulating their emotions and tend to overreact to stress and become overwhelmed with emotion, it is expected that high anxious attachment will be associated with anger directed both internally and externally. This is because anxious attachment is associated with a negative model of self, and consequently it is expected the experience of angry feelings will be directed internally. However simultaneously, anxious attachment is also associated with a tendency to lash out at attachment figures when they do not provide the quality or extent of support demanded, and therefore anger is also directed

externally. In contrast, high avoidant attachment is characterised by an under reaction to stress and the suppression of distressing emotions. The literature suggests that avoidant individuals perfect the suppression of distressing emotions as they age (Fraley, Davis, & Shaver, 1998). So rather than pretending to not be distressed in a stressful situation as infants (e.g., Sroufe & Waters, 1977), the suppression of attachment related distress (and distress in general) becomes perfected to the extent that avoidant individuals do not experience this distress on an affective or physical level in adulthood (e.g., Fraley & Shaver, 1997). This suppression is by no means absolute (see Dozier & Kobak, 1992; Mikulincer, 1998), and there is substantial evidence linking avoidant attachment to angry or aggressive behaviour in childhood, in particular. Therefore the examination of the relationship between the individual attachment dimensions and anger will be largely exploratory in the current study.

In addition, specific hypotheses will not be made in regards to the other psychological symptom scales that are examined in the YASR, as previous conflicting findings make it difficult to do so. It is expected that high anxious attachment (a negative model of self) will be associated with the total number and intensity of psychological symptoms overall.

Negative life stress in the previous 12 months is expected to have a significant positive relationship with psychological symptoms and anger, and an inverse relationship with adaptive functioning. Problem engagement is hypothesised to be the most helpful coping strategy overall, with a high use associated with lower reported angry behaviour and psychological symptoms. Conversely, emotion disengagement is expected to be the least helpful coping strategy, as it is linked with higher levels of reported anger and psychological symptoms. It is predicted that coping in general will

moderate the influence of negative life stress on the dependent variables, as well as having a direct effect. However, due to limited research that has been conducted on coping and stress interaction terms, in particular with the coping measure that was utilised in the current study, no further specific hypotheses will be made.

It is expected that the two attachment dimensions will be associated with the propensity to utilise certain coping strategies. Both attachment dimensions are predicted to be inversely associated with the use of more effective coping strategies, such as problem solving and cognitive restructuring. Conversely, they are expected to be associated in a positive direction with the disengagement coping strategies. In regards to individual effects, it is hypothesised that the anxiety attachment scale will be related in a positive direction to express emotions, wishful thinking and self-criticism, in particular. The avoidant attachment scale is predicted to be positively related to problem avoidance and social withdrawal, with an inverse relationship to social support. No specific hypotheses will be made in regards to the product variable and the individual coping scales.

This concludes the overview of the relevant literature and rationale for the current study. The subsequent chapter outlines how the aims of the current study were implemented.

Chapter 8

Method

Participants

Participants were 205 first year psychology students at the University of Tasmania. However, following screening of the data for outliers, one participant was removed from the analyses, as a number of that participant's scores were considered outliers ($z \geq 3.89$, $p \leq .0001$). Although Tabachnick and Fidell (2001) recommend a criterion for outliers of $z \geq 3.29$, a more conservative criterion was considered appropriate due to the large sample size and number of scales included in this study. Therefore, all following results reported are based on the remaining 204 participants. The mean age of participants was 20.4 years, with a range of 18-30 years of age. The majority of participants were women (n = 162), while the remaining 42 participants were men (79% and 21% of the sample respectively).

Recruitment of Participants

Data were collected in two separate periods, in second semester 2001 and first semester 2002. Therefore two separate groups of first year students were accessed. During first-year psychology tutorials, students received an outline of the nature of the study and the questionnaires they would be asked to complete. Students who were aged 18 to 30 years were asked to leave their name, gender and a contact number if they were interested in participating in the study, for which they would receive one hour course credit. This information was kept separately from any questionnaire data, which was coded to ensure participants' anonymity.

Design

This study employed a cross-sectional and correlational design. The independent variables were attachment style, coping style, and negative life event stress, while the dependent variables were adaptive functioning, anger, and psychological symptoms (including suicidality and substance use). Data analyses consisted of a series of hierarchical multiple regressions.

Measures

Life Experiences Survey

The Life Experiences Survey (LES; Sarason et al., 1978) is a 57 item self-report measure that assesses the type and extent of impact of life events for individuals over the past year. The LES includes a section specifically for students to assess changes associated with academic studies (10 items), as well as three blank spaces for the respondents to include other relevant life events that are not listed. Sample items are: *serious illness of self or family member, change of residence, reconciliation with spouse/partner* and *failing a subject.* Minor changes in wording were made to the LES in the current study and three items deleted to make the scale more applicable to an Australian population (e.g., "Joining a fraternity/sorority"). A copy of the LES that was used in the current study is in Appendix A.

Respondents are asked to rate the type of event and the extent of impact the event had for them at the time it occurred. Responses are rated on a 7-point Likert scale, ranging from *Extremely Negative Impact* (-3) to *Extremely Positive Impact* (+3), with a rating of *No Impact* (0) in between. The positive impact ratings are summed to produce the *positive change score*, likewise the negative impact ratings combine to form the

negative change score. These two values when added produce a *total change score*, reflecting the total amount of positive and negative changes the respondent has experienced in the past year.

The authors of the LES chose items that represented life changes that commonly occur. These were drawn from existing life stress measures, in particular the Schedule of Recent Experiences (SRE; Holmes & Rahe, 1967; as cited in Sarason et al., 1978) from which 34 items were taken. However some items from the SRE were modified slightly to make them more specific, while new items were written to reflect life changes that occur frequently and may impact significantly on those that experience them (for example abortion). Norms are provided based on a sample of college students (n = 345).

Pearson product-moment correlations were computed to determine test-retest reliability over a six-week period. These were for the *positive change score* .53, *negative change score* .88 and *total change score* .64. These results indicate the LES is a moderately reliable instrument for assessing life change, particularly in regards to negative life change. However, as with the coping research, it is difficult to obtain accurate reports of life event stress as it changes over time, as can respondents' perspective on the impact of events on their lives, in particular with a test-retest period of six weeks. Therefore, it is likely that these results reflect an underestimation of the reliability of the LES.

Studies have found significant positive correlations between the negative life change score and measures of anxiety and depression. The negative change score is also able to differentiate between students referred for counselling and those not (Sarason et al., 1978). However, the positive life change score did not appear to ameliorate the effects of negative life change and was not significantly related to clinical variables.

This resulted in the total life change score being less predictive of stress-related variables than the negative change score alone. Therefore, the authors recommend the use of the negative change score if researchers are interested in psychological distress. More recent studies have also found the negative change score of the LES to be associated with higher levels of psychological symptoms (Lopez, Mitchell, & Gormley, 2002; Pretorius, 1998; Zuckerman et al., 1986).

Experiences in Close Relationships Inventory

The Experiences in Close Relationships Inventory (ECR; Brennan et al., 1998) is a 36-item self-report measure examining two attachment-related dimensions, *avoidance* and *anxiety*, in relation to romantic relationships in adults. A copy of the ECR is in Appendix B. The scale was developed following a thorough search of self-report attachment measures in the literature. Similar items were reduced to one if two out of the three authors agreed that the items were redundant. This reduced the item pool from 482 items to 323, from which 60 sub-scales were computed. A factor analysis of the sub-scales revealed two essentially independent factors that correlated to the anxiety and avoidance dimensions, which had been identified in previous attachment research, including Ainsworth's original infant typology (Ainsworth et al., 1978). The items with the highest absolute-value correlations with one of the two higher-order factors of anxiety and avoidance were used to create two 18-item scales, where respondents are asked to rate how much they agree with each statement on a 7-point scale. An example item from the anxiety scale is "I worry about being abandoned", while a sample item from the avoidance scale is "I prefer not to show a partner how I feel deep down".

As mentioned previously, Bartholomew at times refers to the model of self as anxiety and the model of others as avoidance (Kim Bartholomew et al., 2001). This implies that a negative model of self is associated with anxiety about abandonment, while a negative model of others is associated with avoidant behaviour. Indeed, when participants are clustered into four groups based on their scores on the anxiety and avoidance scales, the groups correspond conceptually to Bartholomew's four-group model of attachment. Brennan et al. (1998) outline how to calculate Bartholomew's four attachment categories if so desired.

Although consistent with the Relationship Questionnaire (Bartholomew & Horowitz, 1991), Brennan et al. (1998) found the ECR was more conservative in classifying people as secure, most likely due to the increased sensitivity of the new measure in discriminating among people with different degrees of insecurity. The authors found that this increased sensitivity generally leads to statistically stronger results. Brennan et al. also found the ECR was more strongly related to theoretically appropriate target values such as touch and sex in romantic relationships than the Relationship Questionnaire. This confirms the conclusions of other authors (Fraley & Waller, 1998) that dimensions are more precise than categories, and some power and precision are lost when categories are used to classify people's attachment styles.

The two scales of anxiety and avoidance are almost uncorrelated, $r = .11$, thus they are measuring two separate constructs underlying attachment, while both scales were highly correlated with their parent factor ($r = .95$ in both cases). Thus, the ECR was considered both a reliable and valid self-report measure of attachment style.

Coping Strategies Inventory

The Coping Strategies Inventory (CSI; Tobin et al., 1984) is a 72 item self-report inventory that assesses the coping thoughts and behaviours associated with a stressful event. Appendix C contains a copy of the CSI. The instructions for the CSI vary according to the user's requirements. Participants are either asked to describe the circumstances of a stressful event in a paragraph or two, or a specific stressful event of interest can be used (for example, a car accident). This format is based on the Folkman & Lazarus (1981) Ways of Coping Questionnaire. In the current study, participants were not asked to describe the specific stressor, but they were asked to base their responses in regards to a stressor that had occurred in the last month. This was to reduce the chances of response distortion that can occur with longer periods of elapsed time since the stressor. Participants were then asked to rate the extent to which each item was utilised in response to this stressor on a 5-point scale, ranging from *None* (1) to *Very much* (5).

The CSI consists of eight primary subscales, which combine to produce four secondary scales and two tertiary scales. The primary subscales, which all have nine items are: *Problem Solving, Cognitive Restructuring* (which combine to form the *Problem-Focused Engagement* scale), *Social Support, Express Emotions* (which constitute the *Emotion-Focused Engagement* scale), *Problem Avoidance, Wishful Thinking* (which make up the *Problem-Focused Disengagement* scale), *Social Withdrawal* and *Self-Criticism* (which aggregated become the *Emotion-Focused Disengagement* scale). The final two tertiary scales consist of the *Engagement* and *Disengagement* strategies.

The *Problem Solving* scale consists of items designed to assess behavioural and cognitive strategies that aim to reduce the source of stress by changing the stressful

situation. The *Cognitive Restructuring* scale assesses the individual's attempt to alter the meaning of the stressful situation so it can be viewed more positively. The *Social Support* scale refers to the seeking of emotional support from others, while the *Express Emotions* scale refers to the specific act of releasing and expressing emotions. These scales combine to form the *Engagement* scale and reflect positive attempts by the individual to actively manage the stressful situation.

The *Problem Avoidance* scale includes items that assess the denial of problems and the avoidance of cognitions and behaviours about the stressor. The *Wishful Thinking* scale examines the extent to which an individual is reluctant or unable to cognitively reframe the situation, and therefore engages in hopeful or wishful thinking that things could be better. The *Social Withdrawal* scale measures the extent to which the individual withdraws from his or her social supports, in particular in regards to his or her emotional reaction to the stressful situation. The *Self-Criticism* scale assesses the extent to which the individual criticises and/or blames his/herself for the situation. These scales when aggregated form the *Disengagement* scale, which due to the avoidance of the stressor, are not constructive coping strategies.

The subscales were constructed following a review of the coping assessment literature (Tobin et al., 1984 1982). Some items were taken from the Ways of Coping Questionnaire (23) (Folkman & Lazarus, 1981), while the hypothesised subscales provided the impetus for 49 new items that were written. Hierarchical factor analysis was used to determine the primary, secondary and tertiary scales. Norms are provided for a sample of college students (n = 879).

The Chronbach's alpha coefficients for the CSI range from .71 to .94, with a mean of .83. Test-retest reliability is notoriously difficult with coping assessment

measures, as natural stressors tend to change over time, thereby requiring different coping strategies (Tobin et al., 1984). When participants completed the CSI in response to the same stressor, two week test-retest Pearson correlation coefficients ranged from .67 to .83 with a mean of .73 (Tobin et al., 1989). These results indicate that the CSI is a reliable measure of coping processes.

Scores on the CSI have been used to distinguish clinical and non-clinical samples, establishing criterion validity. Evidence of the CSI's construct validity is provided by studies that have found that the CSI is predictive of depressive symptoms in respondents under high levels of stress (Tobin, Holroyd & Reynolds, 1983; as cited in Tobin et al., 1984) and respondents with high self-efficacy utilise more problem solving and less problem avoidance than those with lower self-efficacy (Tobin, Reynolds, Garske, Holroyd & Wigal, 1984; as cited in Tobin et al., 1984). The CSI has also been found to be useful in more recent clinical studies (Coffey et al., 1996; Haines & Williams, 1997; Hodges, Craven, & Littlefield, 1995; Hovanitz, 1986; Hovanitz & Kozora, 1989; Mosley et al., 1994; Tobin & Griffing, 1995).

Young Adult Self-Report

The Young Adult Self-Report (YASR; Achenbach, 1997) is an extension of the Youth Self-Report (Achenbach, 1991), which is widely used in the assessment of psychopathology in adolescents. While the Youth Self-Report is designed for 11-18 year olds, the YASR caters for young adults aged 18-30 years of age. It has 119 items that assess a wide range of problems and socially desirable characteristics that are scored *0 = not true, 1 = somewhat or sometimes true* and *2 = very true or often true*, about the participant over the last six months. Occasionally participants are asked to describe in

further detail their responses in order to aid scoring or if it was deemed clinically useful. For example item 6; *"I use drugs (other than alcohol) for non-medical purposes (describe)"*. Participants are also asked to complete how many times a day they used tobacco and how many days they were drunk or used drugs (for non-medical purposes) in the past six months.

In addition, there are items asking about family, friends, employment, study and spouses, referred to as the *Adaptive Functioning Items*. Participants only respond to items that are relevant to them. For example in the current study, only those who had been employed in the past six months responded to the job section, and only participants who had lived with a romantic partner in the past six months answered the spouse section. As the current sample consisted of students studying at university, the education section was completed by everyone, as were the family and friends sections. Each section had 3-8 items and commonly included how well the participant got along with family, friends, fellow students and co-workers, and how satisfied they were with various areas of their life, among other things.

Item development for the YASR consisted of items selected and modified for assessment of young adults from the Child Behaviour Checklist (CBCL; 1991), Teacher's Report Form (TRF; 1991) and the YSR (1991), all designed by Achenbach (as cited in Achenbach, 1997). Research literature and diagnostic criteria were also searched and mental health professionals canvassed to identify any areas not already covered. Draft versions were given to young adults for their review and comment and as a result of this process new items were added, while redundant items were removed.

Syndromes of problems that tend to occur together were identified by principal components analyses of the YASR results for 1455 participants. The sample consisted of

those referred to mental health services or had higher total problem scores than the mean of the national sample (in order to better identify clinically important syndromes) and were drawn from six states in the US and Sydney, Australia. The syndromes identified form the different scales of the YASR. These are labelled: *Anxious/Depressed; Withdrawn* (which together constitute the *Internalising* scale); *Intrusive; Aggressive Behaviour; Delinquent Behaviour* (which make up the *Externalising* scale)*; Somatic Complaints; Thought Problems;* and *Attention Problems.* There is also a scale labelled *Other Problems*, for those items that did not load highly enough on the previous syndromes. The results of all scales combined gives the *Total Problems* score.

The normative sample consisted of 1,362 participants who had not received mental health, alcohol or drug abuse services, or been incarcerated during the preceding 12 months. Separate norms and *T* scores are provided for males (n = 484) and females (n = 575), as well as guidelines for normal, borderline and clinical ranges. The YASR takes approximately 15-20 minutes to complete.

Over a one-week interval, the mean test-retest reliability correlations of the YASR were .84. The YASR also has good content validity, due to the time taken to devise the individual items. All the items were able to discriminate between demographically- matched clinic-referred and non-referred adolescents, with the exception of item 83, which refers to storing up unneeded things. For this reason the item was modified to *"I store up **too many** things I don't need (describe)".* Clinical cut-off points on all scales, except the alcohol scale, also discriminated significantly between demographically matched referred and non-referred adults. Achenbach (1997) also found significant associations between YASR scales and the DSM-III-R Global

Assessment of Functioning scale and DSM-III-R diagnoses in American and Dutch samples.

State-Trait Anger Expression Inventory-2 (Spielberger)

The State-Trait Anger Expression Inventory-2 (STAXI-2; Spielberger, 1999) is a 57 item self-report inventory that assesses the experience, expression, and control of anger, in adolescents and adults. The experience of anger is considered by the STAXI-2 to consist of state and trait anger. Spielberger (1999) defines state anger as "a psychobiological emotional state or condition marked by subjective feelings that vary in intensity from mild irritation or annoyance to intense fury and rage" (p.1). Several factors can influence the intensity of state anger, such as being attacked, or treated unfairly by others, perceived injustice or barriers preventing the achievement of goals. The state anger scale consists of 15 items and three subscales (five items each) that assess the different components of the intensity of anger as an emotional state. These are *Feeling Angry, Feel Like Expressing Anger Verbally,* and *Feel Like Expressing Anger Physically.* Respondents are asked to rate the intensity of anger they feel "right now" on a 4-point scale ranging from *Not at all* (1) to *Very much so* (4). However, the results from the state anger scale were not used in the current study.

Trait anger refers to individual differences in the disposition to experience various situations as annoying or irritating and the tendency to consequently respond with elevations in state anger. A high trait anger score would indicate an individual who experiences state anger more often and more intensely than those who score low in trait anger. The trait anger scale consists of 10 items and two subscales, *Angry Temperament* and *Angry Reaction* (four items each) that assess different aspects of trait anger. The

Angry Temperament scale assesses the disposition to experience anger without specific provocation, where as the *Angry Reaction* scale measures the frequency with which angry feelings are experienced in situations that involve frustration and/or negative evaluations. The respondent is asked to rate how they "generally" feel on a 4-point frequency scale, ranging from *Almost never* (1) to *Almost always* (4).

Anger expression is assessed by the STAXI-2 by the following scales; *Anger Expression-Out* and *Anger Expression-In* (eight items each). *Anger Expression-Out* measures how often angry feelings are expressed verbally or physically toward other persons or objects in the environment, while *Anger Expression-In* assesses how often angry feelings are experienced but then not expressed (i.e., suppressed). The control of anger is also assessed in the *Anger Control-Out* and *Anger Control-In* scales (eight items each). *Anger Control-Out* measures to what extent an individual attempts to control the outward expression of angry feelings, while *Anger Control-In* assesses how often an individual attempts to control angry feelings by calming down. The respondent is asked to rate these four scales based on how often they generally react or behave in certain ways when they feel angry, using a 4-point frequency scale which ranges from *Almost never* (1) to *Almost always* (4). Finally, a measure of total anger expression is assessed by the *Anger Expression Index,* which is calculated by subtracting the combined anger control scales (i.e., anger control out and in) from the anger expression scales (i.e., anger expression out and in), plus a constant of 48, which eliminates negative numbers.

The STAXI-2 provides norms (i.e., percentiles and *T* scores) for males and females in the following age groups: 16-19 years, 20-29 years and 30 years and above (n = 1,644), as well as norms based on males and females drawn from an in-patient psychiatric sample (n = 276). Internal consistency of the scales as measured by alpha

coefficients were reasonably high; *State Anger* .94, *Trait Anger* .86, *Anger Expression* .77, *Anger Control* .88 and were not influenced by gender or psychopathology (Spielberger, 1999).

Two research areas have influenced the development of the STAXI over the past 20 years. Originally it was research involving the examination and development of psychometric measures to assess anger that resulted in the distinction between state and trait anger, as well as the concepts of anger, hostility, and aggression. Later research on the aetiology of medical disorders identified the expression and control of anger as important variables to be distinguished from the experience of angry feelings. The final set of 57 items comprising the STAXI-2 was included based on the strength of factor loadings as a result of factor analyses of 69 items (the 44 original STAXI items, plus 25 new items). The content validity and clarity of meaning of each item as related to the conceptual definition of the scales for which it was intended also influenced the decision as to which items were included. Items that were conceptually ambiguous or redundant were eliminated. This resulted in the inclusion of 42 of the original STAXI's 44 items, along with 15 new items.

The *Trait Anger* scale's concurrent validity was established through significant correlations between it, the Buss-Durkee Hostility Inventory (Buss & Durkee, 1957; as cited in Spielberger, 1999) and the Hostility (Cook & Medley, 1954; as cited in Spielberger, 1999) and Overt Hostility (Schultz, 1954; as cited in Spielberger, 1999) scales of the Minnesota Multiphasic Personality Inventory (Hathaway & McKinley, 1967; as cited in Spielberger, 1999). Significant positive correlations were also found between the *Anger Expression-In* scale and measures of blood pressure (Johnson, 1984; as cited in Spielberger, 1999). These correlations remained after partialling out the

influence of other variables such as height, weight, dietary factors, racial differences and family history of hypertension and cardiovascular disease, and multiple regression analyses found the *Anger Expression-In* scores to be better predictors of blood pressure than the other variables. The convergent and divergent validity of the *Anger Expression* scales was established through correlations with other anger and personality measures (Spielberger, Johnson, Russel, Crane, Jacobs & Worden, 1985; as cited in Spielberger, 1999). The STAXI has been utilised extensively in behavioural medicine and health psychology and has been found to distinguish between clinical and non-clinical groups, such as Post-Traumatic Stress Disorder (Bridewell & Chang, 1997; Duckro, Chibnall, & RTomazic, 1995; Lawler et al., 1998; Whatley, Foreman, & Richards, 1998).

Procedure

Participants completed the questionnaires in groups in the School of Psychology at the University of Tasmania, Hobart campus. The number of participants in each group varied from 1 to 15, with a mean number of 5. Group sessions were held both in the morning and afternoon at various times. As well as the measures previously outlined, questionnaire packages included a background questionnaire, participant information sheet and participant consent form (see Appendices D, E, and F respectively for copies of these forms). The background questionnaire asked about age, sex, relationship status, children and current means of income support. In the second data collection period an additional question was included regarding the number of previous relationships the participant had been involved in, with a minimum of one month duration.

The participant information sheet outlined the study, including confidentiality, the voluntary nature of participation and contact details for the author, supervisors,

counselling service and ethics committee should they be required. Participants retained this sheet for their own reference at the completion of the study. Participants signed the consent form, which was then retained by the researcher. The measures were coded and no identifying information was included on the questionnaires. Participants' names, identifying numbers and consent forms were kept separately from their questionnaire data. The questionnaire packages were counterbalanced to control for fatigue & order effects. The questionnaires were completed under the supervision of the author, so that any queries participants had could be addressed and ensuring participants' responses were their own and not influenced by others.

Chapter 9

Results

Adaptive Functioning

A correlation matrix for all the variables used in the multiple regression analyses is presented in Appendix G. A series of hierarchical multiple regressions were conducted to determine the relationship between attachment style, negative life stress experienced in the last 12 months and coping style on the adaptive functioning scales from the Young Adult Self-Report (Achenbach, 1997). Preliminary analyses did not find any significant effect of age, gender or previous relationship status (i.e., those with and without previous relationship experience) as predictors of the dependent variables, therefore subsequent analyses did not include these variables.

Negative life stress consisted of the summed negative impact ratings for life events that had occurred in the last 12 months. This was entered as the first step due to previous research having identified negative life stress as a factor influencing the development of psychological functioning. This means the influence of negative life stress on the dependent variables is controlled for, thereby revealing any additional contribution attachment makes in predicting adaptive functioning. This is consistent with the recommendation made by Stevens (1996), that predictor variables previously identified in the literature should be entered first as control variables, allowing for the determination of any incremental validity in the untested predictors.

The independent variable of attachment style consisted of the anxiety and avoidance scales (models of self and others). In order to examine the interaction

between the two attachment scales, the anxiety and avoidance scales were first centered and then multiplied together (this also approximates the concept of Bartholomew's four attachment styles). These two attachment variables and their product were entered as the second step in the analyses, as they are the primary variables of interest in this research.

Coping styles consisted of problem-focused engagement (problem solving and cognitive restructuring) and emotion-focused engagement (social support and express emotions), as well as problem-focused disengagement (problem avoidance and wishful thinking) and emotion-focused disengagement (social withdrawal and self-criticism). These four coping styles were entered as the third step to determine the additional contribution of coping on the dependent variables, after controlling for negative life stress and attachment style.

In the final step, the products of negative life stress and the four coping scales were also included to examine whether coping style moderated the effect of negative life stress on adaptive functioning. To do this, the variables were first centered and then multiplied together, and then entered as a product term (Aiken & West, 1991), after controlling for the other independent variables.

The adaptive functioning scales from the Young Adult Self-Report were; friends, education, job, family, spouse and a mean score from all of the scales combined (referred to as mean adaptive functioning). Participants only responded to items that were relevant to them, therefore only those who had been in paid employment in the past six months responded to the job section, and only those who had cohabited with a romantic partner in the past six months answered the spouse section. Consequently, the number of participants' results included in these analyses did vary. A higher score

reflects better adaptive functioning, which takes into account both participants' self-ratings of performance and satisfaction in the various areas of their life. A summary table is presented at the end of the chapter to provide a visual guide to all these analyses simultaneously.

The predictor variables are provided here in summary (forced entry was used at each step):

- Step 1 - Negative Life Event Stress – the summed total of negative impact ratings for life events experienced in the last 12 months
- Step 2 - Attachment scales – avoidance, anxiety and the product of the two scales
- Step 3 - Coping Scales – problem and emotion-focused engagement and problem and emotion-focused disengagement
- Step 4 - Products of negative life event stress and the four coping styles

In order to minimise the Type 1 error rate, the individual variables' significance level was not examined unless the overall step was significant at $p < .05$ (Cohen & Cohen, 1983).

Adaptive Functioning Scales

Friends

Regarding the friends scale, negative life stress in the last 12 months and the attachment scales accounted for a significant 3% and 5% respectively. The avoidant attachment scale and negative life stress were both significantly and inversely related to the friends scale. The coping styles and the products of negative life stress and coping contributed a further 2% and 4% respectively, which were not significant. There was a trend for the product of problem engagement and negative life stress to be inversely related to the friends scale, however as the overall step was not significant, this result can only be considered tentatively. The final model, which accounted for 14% of variance in the friends scale, is displayed in Table 2.

Table 2

Summary of Hierarchical Regression Analysis for Variables Predicting Friends

(N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.025*
Negative Life Stress (last 12 months)	-.033	.015	-.157*	
Step 2				.051**
Negative Life Stress (last 12 months)	-.031	.015	-.150*	
Avoidance	-.299	.106	-.198**	
Anxiety	-.073	.113	-.047	
Avoidance x Anxiety	-.163	.120	-.094	
Step 3				.023
Negative Life Stress (last 12 months)	-.029	.016	-.138	
Avoidance	-.204	.118	-.135	
Anxiety	-.0958	.122	-.062	
Avoidance x Anxiety	-.136	.121	-.078	
Problem Engagement	.002	.010	.017	
Emotion Engagement	.016	.011	.122	
Problem Disengagement	.005	.013	.038	
Emotion Disengagement	-.008	.010	-.084	
Step 4				.040
Negative Life Stress (last 12 months)	-.020	.017	-.096	
Avoidance	-.203	.120	-.134	
Anxiety	-.057	.123	-.037	
Avoidance x Anxiety	-.077	.122	-.044	
Problem Engagement	.010	.010	.074	
Emotion Engagement	.011	.011	.082	
Problem Disengagement	.008	.013	.055	
Emotion Disengagement	-.012	.010	-.117	
Prob engage x neg life stress	-.003	.001	-.162(*)	
Emot engage x neg life stress	.000	.001	.055	
Prob disengage x neg life stress	-.003	.002	-.134	
Emot disengage x neg life stress	-.000	.001	-.006	
Total variance explained				13.9%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$.
*$p < .05$; **$p < .01$.

Spouse

In regards to spousal satisfaction, negative life stress accounted for a significant 9% of variance, as can be seen in Table 3. However, this relationship no longer remained following the addition of the attachment scales, which accounted for a further significant 26% of variance. The avoidant attachment scale was inversely and significantly related to spousal satisfaction. The coping styles contributed another 7%, which was not significant. The products of negative life stress and the coping styles explained a further significant 14% of variance, with the products of negative life stress and problem and emotion engagement both significantly and inversely related to spousal satisfaction. The final model explained 57% of variance regarding the spouse scale.

Further indication of the exact nature of the significant inverse relationship between the products of negative life stress and problem and emotion engagement, and the spouse scale is gained from graphing predicted scores on the dependant variable. This was done in accordance with Aiken and West's (1991) recommendations, where three regression equations are generated for when the moderating variable is equal to the mean and one standard deviation above and below the mean. To enable these calculations, the hierarchical regression was run again, however this time all the predictor variables were centered before being entered into the analysis. The unstandardised beta values and corresponding constant terms were then used to calculate the regression equations for when problem and emotion engagement were equal to and one standard deviation above and below the mean, and for high and low levels of negative life stress. The regression equations in relation to the product of problem engagement and negative life stress, and the spouse scale, are presented in Figure 4 (using the uncentred values for ease of interpretation).

Table 3

Summary of Hierarchical Regression Analysis for Variables Predicting Spouse

(N = 54)

Variable	B	SE B	β	ΔR^2
Step 1				.092*
Negative Life Stress (last 12 months)	-.086	.037	-.303*	
Step 2				.264***
Negative Life Stress (last 12 months)	-.058	.034	-.206	
Avoidance	-1.349	.377	-.480***	
Anxiety	-.132	.329	-.056	
Avoidance x Anxiety	-.218	.340	-.077	
Step 3				.074
Negative Life Stress (last 12 months)	-.079	.037	-.280(*)	
Avoidance	-1.511	.423	.538(***)	
Anxiety	.146	.389	.061	
Avoidance x Anxiety	-.340	.354	-.120	
Problem Engagement	.020	.032	.078	
Emotion Engagement	-.037	.035	-.144	
Problem Disengagement	-.070	.035	-.302	
Emotion Disengagement	.039	.030	.213	
Step 4				.143*
Negative Life Stress (last 12 months)	-.065	.037	-.229	
Avoidance	-1.388	.407	-.494***	
Anxiety	.505	.379	.213	
Avoidance x Anxiety	-.080	.369	-.028	
Problem Engagement	.070	.036	.270	
Emotion Engagement	-.047	.034	-.181	
Problem Disengagement	-.064	.035	-.277	
Emotion Disengagement	.033	.030	.183	
Prob engage x neg life stress	-.007	.003	-.396**	
Emot engage x neg life stress	-.007	.003	-.296**	
Prob disengage x neg life stress	-.003	.003	-.138	
Emot disengage x neg life stress	.002	.002	.100	
Total variance explained				57.3%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$.
*$p < .05$; **$p < .01$; ***$p < .001$.

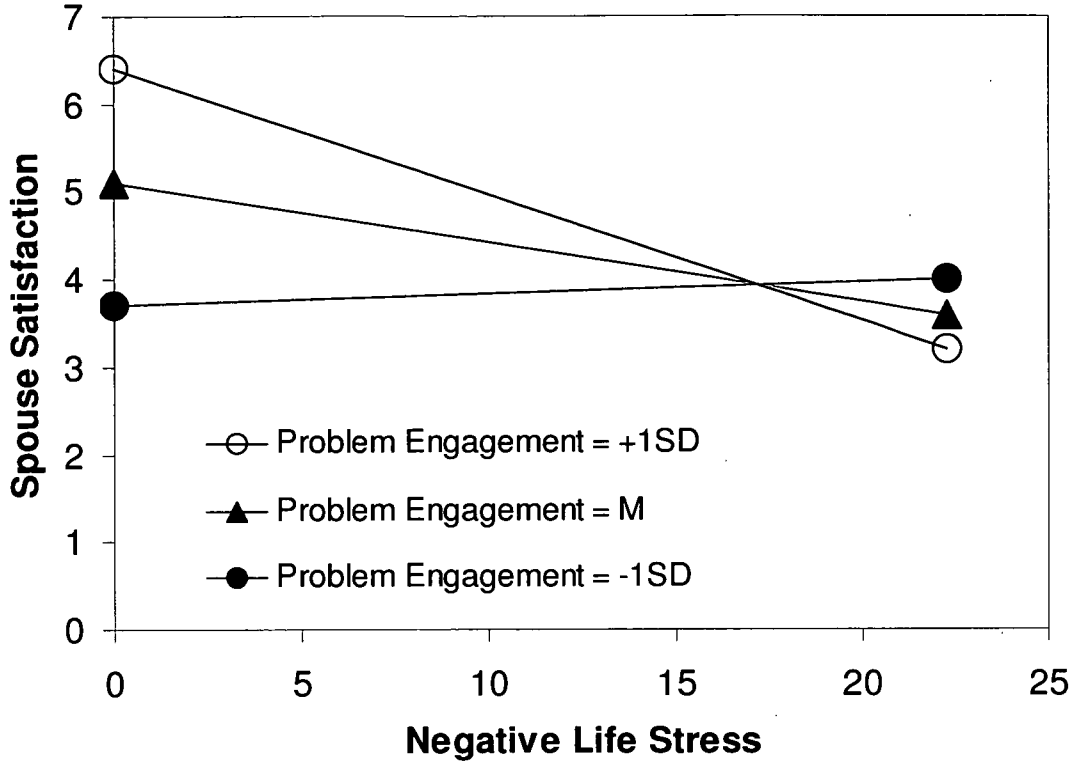


Figure 4: The influence of negative life stress on the spouse scale at various levels of problem engagement (SD = Standard Deviation, M = Mean).

As Figure 4 shows, the level of problem-focused engagement used as a coping strategy does not modify the effect of negative life stress on the spouse scale when negative life stress is high. However, when negative life stress is low, an above average use of problem engagement leads to greater satisfaction in regards to spousal relations, while the less problem engagement is utilised, the less satisfaction that is experienced.

The regression equations in relation to the product of emotion engagement and negative life stress, and the spouse scale, are presented in Figure 5. To ease interpretation the uncentered values have been plotted in the regression equations displayed in Figure 5. This figure demonstrates that when negative life stress is low, the level of emotion-focused engagement does not moderate the effect of negative life stress on spousal satisfaction. However, when negative life stress is high, a below average use of emotion engagement as a coping strategy results in the greatest spousal satisfaction. While those who utilised emotion engagement to an above average extent reported the least satisfaction in regards to spousal relations.

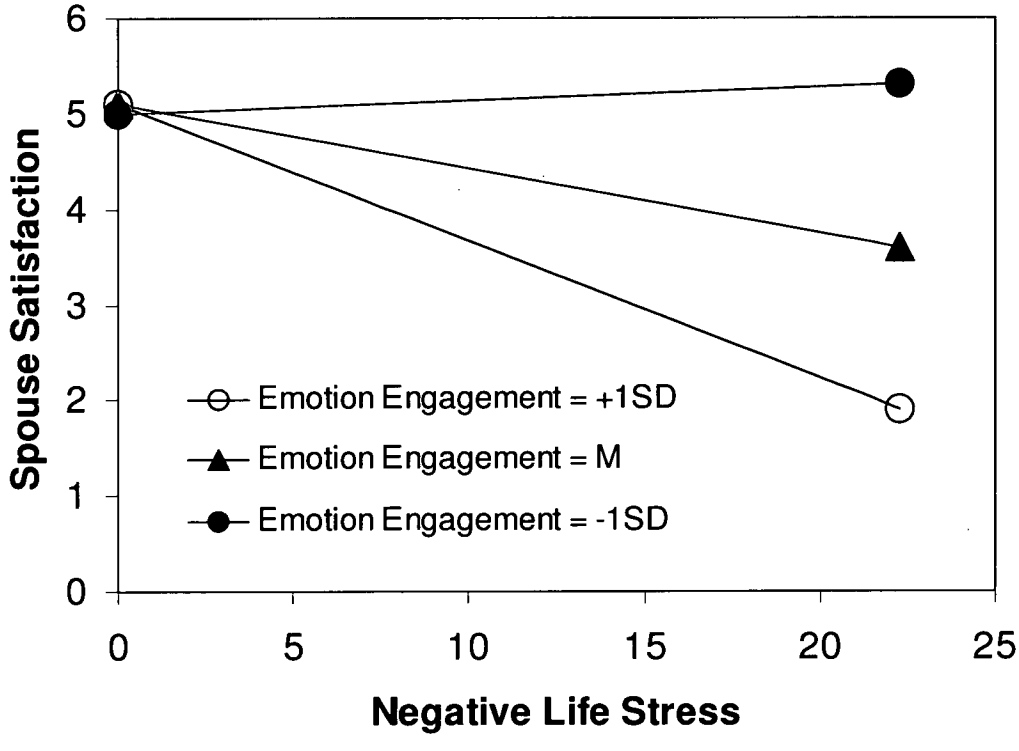


Figure 5: The influence of negative life stress on the spouse scale at various levels of emotion engagement (SD = Standard Deviation, M = Mean).

Family

Negative life stress and the attachment scales accounted for 1% and 2% of variance in the family scale, both of which were not significant. The coping styles contributed an additional significant 5%, with problem and emotion engagement significantly related to family functioning (the latter inversely). The products of negative life stress and the coping strategies explained a further 4% of variance, which was not significant. Therefore the significant relationships at step 4 of negative life stress, problem engagement and the product of emotion disengagement and negative life stress in explaining the family scale can only be considered tentatively. The final model that is presented in Table 4, accounted for 12% of family functioning.

Education

Negative life stress accounted for a significant 9% of educational functioning and satisfaction (this was an inverse relationship). The attachment and coping scales contributed a further significant 11% and 7% respectively, with the avoidant attachment scale inversely and problem engagement positively related to the education scale. The anxiety attachment scale was also inversely and significantly related to the education scale, however this relationship no longer endured after the addition of the coping styles, as can be seen from Table 5. The product of the coping styles and negative life stress explained another 3% of variance, which was not significant. However, there was a trend for the product of emotion disengagement and negative life stress to be inversely related to the education scale. The final model accounted for 29% of variance in regards to the education scale.

Table 4

Summary of Hierarchical Regression Analysis for Variables Predicting Family

(N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.013
Negative Life Stress (last 12 months)	-.007	.004	-.114	
Step 2				.015
Negative Life Stress (last 12 months)	-.007	.005	-.118	
Avoidance	-.035	.033	-.076	
Anxiety	-.005	.035	-.010	
Avoidance x Anxiety	.046	.037	.088	
Step 3				.054*
Negative Life Stress (last 12 months)	-.007	.005	-.111	
Avoidance	-.047	.036	-.103	
Anxiety	.012	.038	.025	
Avoidance x Anxiety	.041	.037	.077	
Problem Engagement	.009	.003	.219**	
Emotion Engagement	-.007	.003	-.169*	
Problem Disengagement	.005	.004	.121	
Emotion Disengagement	-.002	.003	-.078	
Step 4				.035
Negative Life Stress (last 12 months)	-.012	.005	-.195(*)	
Avoidance	-.036	.037	-.079	
Anxiety	-.003	.038	-.007	
Avoidance x Anxiety	.039	.038	.075	
Problem Engagement	.008	.003	.191(**)	
Emotion Engagement	-.0060	.003	-.152	
Problem Disengagement	.007	.004	.150	
Emotion Disengagement	-.003	.003	-.115	
Prob engage x neg life stress	.0006	.000	.126	
Emot engage x neg life stress	.000	.000	.037	
Prob disengage x neg life stress	-.000	.000	-.032	
Emot disengage x neg life stress	.000	.000	.190(*)	
Total variance explained				11.6%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$.
*$p < .05$; **$p < .01$.

Table 5

Summary of Hierarchical Regression Analysis for Variables Predicting Education

(N = 197)

Variable	B	SE B	β	ΔR^2
Step 1				.085***
Negative Life Stress (last 12 months)	-.087	.021	-.291***	
Step 2				.110***
Negative Life Stress (last 12 months)	-.077	.020	-.257***	
Avoidance	-.524	.152	-.232***	
Anxiety	-.426	.157	-.191**	
Avoidance x Anxiety	.050	.174	.019	
Step 3				.067**
Negative Life Stress (last 12 months)	-.062	.021	-.207**	
Avoidance	-.322	.162	-.142*	
Anxiety	-.280	.167	-.125	
Avoidance x Anxiety	.033	.171	.013	
Problem Engagement	.030	.014	.152*	
Emotion Engagement	.003	.014	.018	
Problem Disengagement	-.014	.017	-.066	
Emotion Disengagement	-.023	.013	-.171	
Step 4				.031
Negative Life Stress (last 12 months)	-.051	.023	-.170(*)	
Avoidance	-.390	.165	-.173(*)	
Anxiety	-.245	.168	-.110	
Avoidance x Anxiety	.008	.173	.003	
Problem Engagement	.033	.014	.163(*)	
Emotion Engagement	.004	.015	.022	
Problem Disengagement	-.020	.017	-.093	
Emotion Disengagement	-.017	.014	-.119	
Prob engage x neg life stress	-.001	.002	-.058	
Emot engage x neg life stress	.001	.002	.045	
Prob disengage x neg life stress	.003	.002	.120	
Emot disengage x neg life stress	-.003	.001	-.187(*)	
Total variance explained				29.4%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$.
*$p < .05$; **$p < .01$; ***$p < .001$.

Employment

None of the individual or combined predictor variables made a significant contribution in explaining the job scale. The only predictor variable which even approached significance were the attachment dimensions, which contributed a non-significant 5% of variance in predicting work functioning and satisfaction. This trend appeared to be largely due to the avoidance attachment dimension, which was inversely related to satisfaction and functioning at work. The final model accounted for a total of 14% of job functioning and satisfaction and is presented in Table 6.

Mean Adaptive Functioning

Negative life event stress explained a significant 3% of the mean adaptive functioning score (this was an inverse relationship). The attachment scales accounted for a further significant 22%, with the avoidant scale significantly and inversely related to mean adaptive functioning. The addition of the coping strategies explained another significant 4%, while the products of negative life event stress and the coping styles contributed a further 2% of variance, which was not significant. As can be seen from Table 7, there was a trend for problem engagement to be positively related to mean adaptive functioning, however this result is tentative as the final step was not significant. The combined predictors accounted for 32% of the variance in mean adaptive functioning.

Table 6

Summary of Hierarchical Regression Analysis for Variables Predicting Employment

(N = 144)

Variable	B	SE B	β	ΔR^2
Step 1				.023
Negative Life Stress (last 12 months)	-.033	.019	-.150	
Step 2				.047
Negative Life Stress (last 12 months)	-.029	.019	-.130	
Avoidance	-.283	.150	-.161	
Anxiety	-.123	.155	-.071	
Avoidance x Anxiety	.180	.165	.092	
Step 3				.027
Negative Life Stress (last 12 months)	-.021	.021	-.093	
Avoidance	-.153	.164	-.087	
Anxiety	-.044	.169	-.026	
Avoidance x Anxiety	.171	.169	.087	
Problem Engagement	.008	.013	.055	
Emotion Engagement	.008	.014	.053	
Problem Disengagement	-.016	.017	-.093	
Emotion Disengagement	-.009	.013	-.086	
Step 4				.039
Negative Life Stress (last 12 months)	-.015	.024	-.069	
Avoidance	-.192	.166	-.109	
Anxiety	.010	.172	.006	
Avoidance x Anxiety	.262	.174	.133	
Problem Engagement	.012	.014	.080	
Emotion Engagement	.012	.015	.082	
Problem Disengagement	-.018	.017	-.107	
Emotion Disengagement	-.008	.013	-.072	
Prob engage x neg life stress	.000	.002	.027	
Emot engage x neg life stress	.002	.002	.101	
Prob disengage x neg life stress	-.004	.002	-.183	
Emot disengage x neg life stress	-.000	.001	-.066	
Total variance explained				13.5%

Table 7

Summary of Hierarchical Regression Analysis for Variables Predicting Mean Adaptive Functioning (N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.030**
Negative Life Stress (last 12 months)	-.025	.010	-.174**	
Step 2				.224***
Negative Life Stress (last 12 months)	-.027	.009	-.187**	
Avoidance	-.465	.065	-.453***	
Anxiety	-.043	.069	-.041	
Avoidance x Anxiety	.089	.073	.075	
Step 3				.042*
Negative Life Stress (last 12 months)	-.022	.009	-.159*	
Avoidance	-.381	.071	-.371***	
Anxiety	-.012	.073	-.012	
Avoidance x Anxiety	.089	.073	.075	
Problem Engagement	.011	.006	.116	
Emotion Engagement	.007	.006	.076	
Problem Disengagement	-.005	.008	-.050	
Emotion Disengagement	-.007	.006	-.101	
Step 4				.018
Negative Life Stress (last 12 months)	-.018	.010	-.126	
Avoidance	-.382	.073	.372(***)	
Anxiety	.008	.075	.008	
Avoidance x Anxiety	.115	.074	.098	
Problem Engagement	.014	.006	.151(*)	
Emotion Engagement	.004	.007	.050	
Problem Disengagement	-.004	.008	-.043	
Emotion Disengagement	-.008	.006	-.120	
Prob engage x neg life stress	-.001	.001	-.101	
Emot engage x neg life stress	.000	.001	.020	
Prob disengage x neg life stress	-.001	.001	-.096	
Emot disengage x neg life stress	-.000	.001	-.014	
Total variance explained				31.5%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$.
*$p < .05$; **$p < .01$; ***$p < .001$.

Summary

A summary of these results is presented in Table 8. Inspection of this table reveals that negative life stress was a significant predictor of the friends, education, spouse and mean adaptive functioning scales, but not of the family scale. These were inverse relationships in all cases, in that negative life stress leads to a decrease in adaptive functioning, with the exception of the family scale. The inclusion of the coping strategies resulted in negative life stress no longer being a significant predictor variable for the friends scale. Only a tentative relationship remained for the spouse scale (as step 3 did not provide significant additional variance) and the significance of step 4 for this scale revealed negative life stress was no longer related to the spouse scale. Therefore, in the final significant step for each scale, negative life stress was inversely related to the education and mean adaptive scales only. Interestingly, a relationship between negative life stress and the family scale emerged in step 4, however this step did not provide significant additional variance, so this result should be considered tentative.

Avoidant attachment was a significant predictor of the friends, education, spouse and mean adaptive functioning scales. These were again inverse relationships, in that an increase in avoidant attachment leads to a decrease in adaptive functioning (apart from the family scale). The significant relationship between avoidant attachment and the friends scale did not remain following the addition of the coping strategies at step 3. Anxious attachment meanwhile was inversely related to the education scale, such that an increase in anxious attachment leads to a decrease in educational functioning. However at step 3, this relationship no longer existed.

Table 8

Summary of Hierarchical Regression Analyses for Variables Predicting Adaptive Functioning (N = 204)

Variable	Friends	Education	Family	Spouse	M Adaptive
Step 1	S	S	NS	S	S
Negative Life Stress	-	-		-	-
Step 2	S	S	NS	S	S
Negative Life Stress	-	-			-
Avoidance	-	-		-	-
Anxiety		-			
Avoidance x Anxiety					
Step 3	NS	S	S	NS	S
Negative Life Stress		-		(-)	-
Avoidance		-		(-)	-
Anxiety					
Avoidance x Anxiety					
Problem Engagement		+	+		
Emotion Engagement			-		
Problem Disengagement					
Emotion Disengagement					
Step 4	NS	NS	NS	S	NS
Negative Life Stress		(-)	(-)		
Avoidance		(-)		-	(-)
Anxiety					
Avoidance x Anxiety					
Problem Engagement		(+)	(+)		(+)
Emotion Engagement					
Problem Disengagement					
Emotion Disengagement					
Prob engage x NLS	(-)			-	
Emot engage x NLS				-	
Prob disengage x NLS					
Emot disengage x NLS		(-)	(+)		
Total variance (%)	10 (14)	26 (29)	8 (12)	57 (57)	30 (32)

Note. Results enclosed in parentheses are not considered significant as the relevant step was not significant, $p > .05$. NLS = Negative Life Stress; M Adaptive = Mean Adaptive

Functioning Score; S = significant, $p < .05$; NS = not significant, $p > .05$; + = significant positive effect, $p < .05$; - = significant inverse effect, $p < .05$.

Problem-focused engagement was significantly related to the education and family scales. Thus, an increase in problem engagement as a coping strategy results in an increase in adaptive functioning in the areas of education and family. The use of emotion-focused engagement was inversely related to family functioning, consequently it was not a helpful coping strategy in regards to this scale. Problem and emotion-focused disengagement were not significantly related to any of the adaptive functioning scales.

The products of negative life stress and the coping strategies at step 4 only resulted in significant additional variance being explained for the spouse scale. The products of problem engagement and negative life stress, and emotion engagement and negative life stress, were both inversely related to spousal functioning. Thus, both engagement coping strategies moderate the effect of negative life stress on spousal satisfaction. Further investigation of the relationship of these product terms to the spouse scale was provided in Figures 1 and 2. Figure 1 revealed that the level of problem engagement only had a moderating effect when negative life stress was low, in which case an above average use of problem engagement resulted in the greatest spousal satisfaction. On the other hand, Figure 2 demonstrated that emotion engagement did not have a moderating effect when negative life stress was low. However when negative life stress was high, a below average use of emotion-focused engagement eventuated in the highest level of satisfaction with spousal relations.

There were several tentative results for the other coping and negative life stress product terms. Following is a summary of these results, keeping in mind they are

tentative as step 4 was not significant in these cases. The product of problem engagement and negative life stress was inversely related to the friends scale; and the emotion disengagement and negative life stress product was inversely related to the education scale and positively related to the family scale.

Chapter 10

Results

Anger

Hierarchical multiple regressions were also used to examine the relationship between attachment style, negative life stress experienced in the last 12 months and coping style on the expression of anger. The anger scales consisted of trait anger, which was separated into trait anger reaction and trait anger temperament; anger expression in and out; and anger control in and out (the extent to which an individual controls the inward and outward expression of anger). Anger expression out and in and anger control out and in, were combined to form an overall anger expression index. A final table is provided summarising the results of these analyses.

The independent variables are listed below in the order they were entered into the analyses, with forced entry at each step.

- Step 1 - Negative Life Event Stress – the summed total of negative impact ratings for life events experienced in the last 12 months
- Step 2 - Attachment scales – avoidance, anxiety and the product of the two scales
- Step 3 - Coping Scales – problem and emotion-focused engagement and problem and emotion-focused disengagement
- Step 4 - Products of negative life stress and the four coping styles

In order to minimise the Type 1 error rate, the individual variables' significance level was not examined unless the overall step was significant at $p < .05$ (Cohen & Cohen, 1983).

Anger Scales

Trait Anger Temperament

As can be seen in Table 9, negative life stress in the last 12 months accounted for a significant 8% of the variance in trait anger temperament. A further 1% and 4% were accounted for by the attachment and coping scales respectively, both of which were not significant. The final model explained 17% of the variance, with the coping and negative life stress product terms accounting for a significant 5%. Negative life stress, emotion engagement, emotion disengagement and the product of problem engagement and negative life stress were all positively related to trait anger temperament, while problem engagement was inversely related.

The significant relationship between trait anger temperament and the product of problem engagement and negative life stress was explored further to determine the exact nature of this effect. This was done in accordance with Aiken and West's (1991) recommendations, where three regression equations are generated for when the moderating variable is equal to the mean and one standard deviation above and below the mean. To enable these calculations, the hierarchical regression was run again, however this time all the predictor variables were centered before being entered into the analysis. The unstandardised beta values and corresponding constant terms were then used to calculate the regression equations for when problem engagement was average and one standard deviation above and below the mean, and for high and low levels of negative life stress. For ease of interpretation the uncentered values are plotted in the regression equations presented in Figure 6.

Table 9

Summary of Hierarchical Regression Analysis for Variables Predicting Trait Anger Temperament (N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.075***
Negative Life Stress (last 12 months)	.082	.020	.274***	
Step 2				.009
Negative Life Stress (last 12 months)	.074	.021	.248(***)	
Avoidance	-.023	.153	-.011	
Anxiety	.217	.162	.098	
Avoidance x Anxiety	-.018	.172	-.007	
Step 3				.039
Negative Life Stress (last 12 months)	.057	.022	.189(**)	
Avoidance	-.097	.167	-.044	
Anxiety	.051	.174	.023	
Avoidance x Anxiety	.006	.172	.002	
Problem Engagement	-.018	.014	-.092	
Emotion Engagement	.022	.015	.118	
Problem Disengagement	-.007	.018	-.032	
Emotion Disengagement	.031	.014	.218(*)	
Step 4				.045*
Negative Life Stress (last 12 months)	.050	.024	.167*	
Avoidance	-.107	.170	-.049	
Anxiety	.014	.174	.006	
Avoidance x Anxiety	-.082	.173	-.033	
Problem Engagement	-.031	.015	-.157*	
Emotion Engagement	.031	.015	.163*	
Problem Disengagement	-.013	.018	-.064	
Emotion Disengagement	.037	.014	.263**	
Prob engage x neg life stress	.004	.002	.185**	
Emot engage x neg life stress	-.003	.002	-.114	
Prob disengage x neg life stress	.003	.002	.106	
Emot disengage x neg life stress	-.000	.001	-.018	
Total variance explained				16.8%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$.
*$p < .05$; **$p < .01$; ***$p < .001$.

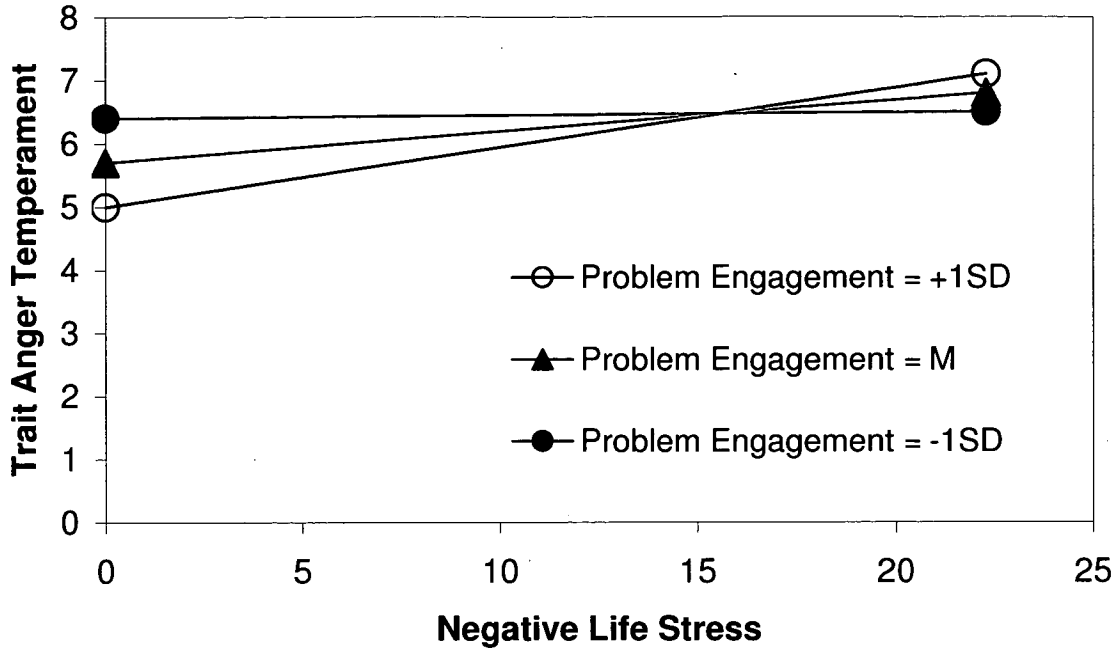


Figure 6: The influence of negative life stress on trait anger temperament at various levels of problem engagement (SD = Standard Deviation, M = Mean).

As Figure 6 shows, when negative life stress is high, the level of problem engagement used does not affect trait anger temperament. However, when negative life stress is low, a higher than average level of problem engagement lessens the impact of negative life stress, resulting in lower scores on trait anger temperament. While a low use of problem engagement as a coping strategy results in the highest scores on trait anger temperament when negative life stress is low.

Trait Anger Reaction

Negative life event stress in the last 12 months accounted for a significant 4% of trait anger reaction. However, following the addition of the attachment scales (which contributed a further significant 8% of variance), negative life stress was no longer significantly related to trait anger reaction. The anxiety attachment scale and problem disengagement were both significantly and positively related to trait anger reaction, with the combined coping scales explaining a further significant 5% of variance. The final model presented in Table 10 accounted for 19% of variance in trait anger reaction, with the products of negative life stress and the coping strategies contributing a further non-significant 2% of variance.

Anger Expression Out

Regarding the outward expression of anger, negative life stress accounted for a significant 5%, while the attachment and coping scales only explained a further 1% respectively, which were not significant. These results are presented in Table 11. However, the products of negative life stress and the coping styles contributed a significant 5%, with the product of problem engagement and negative life stress significantly related to anger expression out. This means that when problem engagement is average, it moderates the impact of negative life stress on the outward expression of anger. Consult Figure 6 for a more detailed examination of the effect of negative life stress on the outward expression of anger when problem engagement is greater than, equal to and less than average (the same technique was applied as for the previous figures, see the section on trait anger temperament for more details).

Table 10

Summary of Hierarchical Regression Analysis for Variables Predicting Trait Anger Reaction (N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.042**
Negative Life Stress (last 12 months)	.060	.020	.204**	
Step 2				.077***
Negative Life Stress (last 12 months)	.038	.021	.129	
Avoidance	-.051	.147	-.024	
Anxiety	.625	.156	.287***	
Avoidance x Anxiety	-.070	.166	-.028	
Step 3				.047*
Negative Life Stress (last 12 months)	.026	.021	.088	
Avoidance	-.209	.160	-.098	
Anxiety	.524	.166	.240**	
Avoidance x Anxiety	-.050	.165	-.020	
Problem Engagement	.015	.014	.076	
Emotion Engagement	-.016	.015	-.084	
Problem Disengagement	.041	.017	.200*	
Emotion Disengagement	.008	.013	.058	
Step 4				.022
Negative Life Stress (last 12 months)	.023	.023	.077	
Avoidance	-.243	.165	-.113	
Anxiety	.517	.169	.237(**)	
Avoidance x Anxiety	-.104	.168	-.042	
Problem Engagement	.006	.014	.031	
Emotion Engagement	-.009	.015	-.048	
Problem Disengagement	.034	.018	.166	
Emotion Disengagement	.014	.014	.103	
Prob engage x neg life stress	.003	.002	.136	
Emot engage x neg life stress	-.002	.002	-.064	
Prob disengage x neg life stress	.002	.002	.063	
Emot disengage x neg life stress	-.000	.001	-.053	
Total variance explained				18.8%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$.
*$p < .05$; **$p < .01$; ***$p < .001$.

Table 11

Summary of Hierarchical Regression Analysis for Variables Predicting Anger Expression Out (N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.052***
Negative Life Stress (last 12 months)	.102	.031	.228***	
Step 2				.014
Negative Life Stress (last 12 months)	.088	.032	.196(**)	
Avoidance	-.238	.230	-.073	
Anxiety	.372	.244	.112	
Avoidance x Anxiety	-.078	.259	-.021	
Step 3				.010
Negative Life Stress (last 12 months)	.073	.034	.163(*)	
Avoidance	-.278	.255	-.086	
Anxiety	.237	.266	.071	
Avoidance x Anxiety	-.058	.263	-.016	
Problem Engagement	-.003	.022	-.010	
Emotion Engagement	.019	.023	.068	
Problem Disengagement	-.003	.027	-.009	
Emotion Disengagement	.025	.021	.116	
Step 4				.046*
Negative Life Stress (last 12 months)	.051	.037	.114	
Avoidance	-.349	.260	-.107	
Anxiety	.195	.267	.059	
Avoidance x Anxiety	-.165	.265	-.044	
Problem Engagement	-.021	.023	-.072	
Emotion Engagement	.034	.024	.122	
Problem Disengagement	-.014	.028	-.044	
Emotion Disengagement	.036	.021	.171	
Prob engage x neg life stress	.007	.003	.209**	
Emot engage x neg life stress	-.000	.003	-.020	
Prob disengage x neg life stress	.004	.003	.094	
Emot disengage x neg life stress	-.000	.002	-.034	
Total variance explained				12.3%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$.
*$p < .05$; **$p < .01$; ***$p < .001$.

As can be seen from Table 11, in the final step negative life stress was no longer significantly related to the outward expression of anger, however it continued to contribute through an interaction with problem engagement coping. The final model accounted for 12% of variance in trait anger reactions.

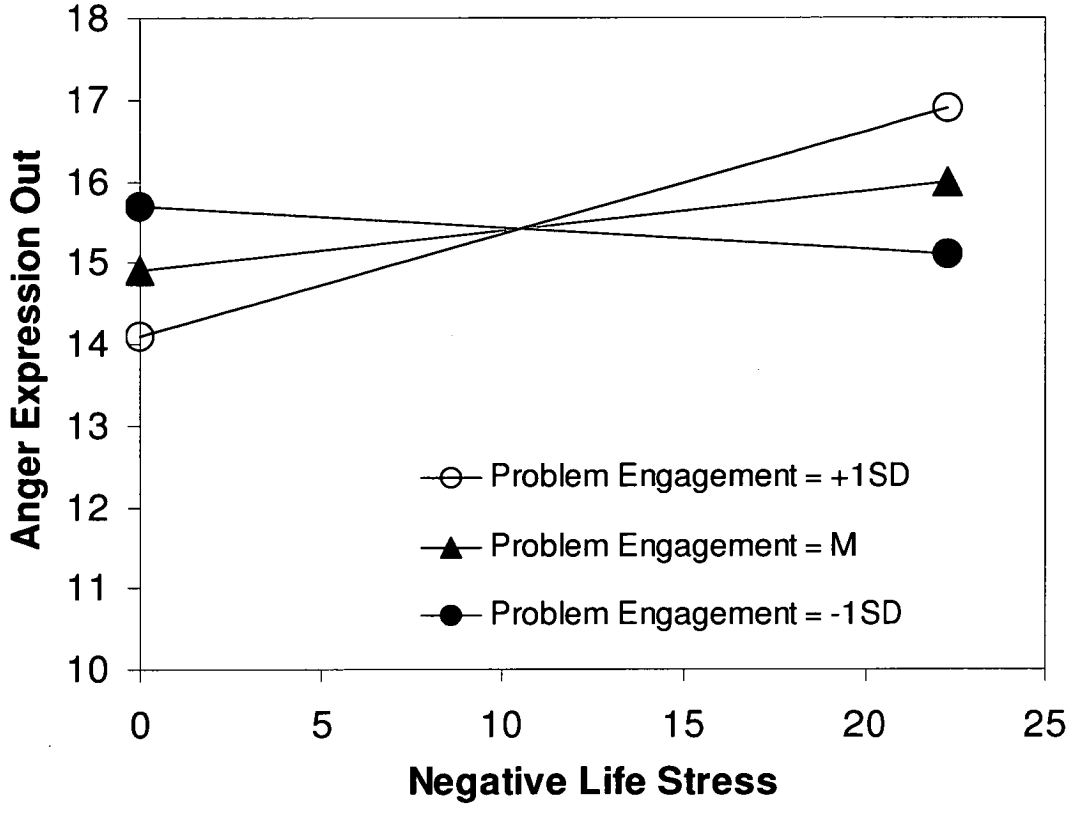


Figure 7: The influence of negative life stress on the outward expression of anger at various levels of problem engagement (SD = Standard Deviation, M = Mean).

As Figure 7 demonstrates, when negative life stress is low, the above average use of problem engagement results in less expression of anger externally, as compared to when the use of problem engagement is average or below average. When negative life

stress is high, the level of problem-focused engagement does not appear to impact much on the external expression of anger.

Anger Expression In

Table 12 reveals that negative life stress explained a significant 9% of the inward expression of anger. A further significant 13% was accounted for by the attachment scales, with the avoidant and anxiety attachment scales significantly related to anger expression in. The coping styles contributed an additional significant 20%, with emotion engagement inversely and emotion disengagement positively related to the inward expression of anger. The combination of all factors explained 42% of the variance in regards to the internal expression of anger, with the products of negative life stress and coping contributing a non-significant 1% of variance.

Anger Control Out

Negative life event stress and the attachment scales explained 1% and 2% respectively in regards to control over the outward expression of anger, which were not significant. There was a trend for the anxiety attachment scale to be inversely related to anger control out, however as Table 13 shows the overall step was not significant, this result can only be considered tentatively. The addition of the coping styles explained a further significant 11% of variance, with problem engagement positively and emotion engagement inversely related to the control of external anger. The products of negative life stress and the coping styles contributed an additional significant 7%. The products of negative life stress with the coping strategies problem and emotion engagement were both significantly related to controlling the outward expression of anger (the former inversely). The final model accounts for 21% of the variance in anger control out.

Table 12

Summary of Hierarchical Regression Analysis for Variables Predicting Anger Expression In (N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.093***
Negative Life Stress (last 12 months)	.192	.042	.305***	
Step 2				.129***
Negative Life Stress (last 12 months)	.158	.041	.250***	
Avoidance	.981	.295	.214***	
Anxiety	1.171	.314	.251***	
Avoidance x Anxiety	-.028	.333	-.005	
Step 3				.195***
Negative Life Stress (last 12 months)	.090	.038	.143*	
Avoidance	.046	.286	.010	
Anxiety	.854	.297	.183**	
Avoidance x Anxiety	-.117	.294	-.022	
Problem Engagement	-.012	.025	-.028	
Emotion Engagement	-.080	.026	-.200**	
Problem Disengagement	.019	.031	.043	
Emotion Disengagement	.120	.023	.400***	
Step 4				.006
Negative Life Stress (last 12 months)	.098	.042	.156(*)	
Avoidance	.099	.297	.022	
Anxiety	.822	.305	.176(**)	
Avoidance x Anxiety	-.172	.302	-.033	
Problem Engagement	-.017	.026	-.040	
Emotion Engagement	-.080	.027	-.200(**)	
Problem Disengagement	.018	.032	.042	
Emotion Disengagement	.119	.025	.399(***)	
Prob engage x neg life stress	.000	.003	.008	
Emot engage x neg life stress	-.004	.003	-.078	
Prob disengage x neg life stress	.002	.004	.033	
Emot disengage x neg life stress	.000	.003	.009	
Total variance explained				42.3%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$.
*$p < .05$; **$p < .01$; ***$p < .001$.

Table 13

Summary of Hierarchical Regression Analysis for Variables Predicting Anger Control Out (N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.012
Negative Life Stress (last 12 months)	-.072	.046	-.110	
Step 2				.020
Negative Life Stress (last 12 months)	-.046	.048	-.070	
Avoidance	.131	.342	.028	
Anxiety	-.718	.364	-.148(*)	
Avoidance x Anxiety	.034	.385	.006	
Step 3				.112***
Negative Life Stress (last 12 months)	-.048	.048	-.074	
Avoidance	-.018	.359	-.004	
Anxiety	-.414	.374	-.086	
Avoidance x Anxiety	-.129	.370	-.024	
Problem Engagement	.152	.031	.351***	
Emotion Engagement	-.090	.033	-.218**	
Problem Disengagement	.005	.039	.012	
Emotion Disengagement	.022	.029	.007	
Step 4				.068**
Negative Life Stress (last 12 months)	-.083	.051	-.127	
Avoidance	.144	.360	.030	
Anxiety	-.536	.370	-.111	
Avoidance x Anxiety	-.007	.367	-.001	
Problem Engagement	.175	.031	.406***	
Emotion Engagement	-.106	.033	-.257***	
Problem Disengagement	.039	.039	.087	
Emotion Disengagement	-.023	.030	-.075	
Prob engage x neg life stress	-.007	.004	-.146*	
Emot engage x neg life stress	.010	.004	.189**	
Prob disengage x neg life stress	-.000	.005	-.016	
Emot disengage x neg life stress	.006	.003	.172	
Total variance explained				21.2%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$.
*$p < .05$; **$p < .01$; ***$p < .001$.

Regression equations were calculated (in accordance with Aiken & West's recommendations, 1991) for when the coping styles were greater than, equal to and less than average, in order to further explore the significant relationships between the product variables and the control of outward anger. Figure 8 shows the influence of negative life stress on the control of anger out when problem engagement is greater than, equal to and less than average.

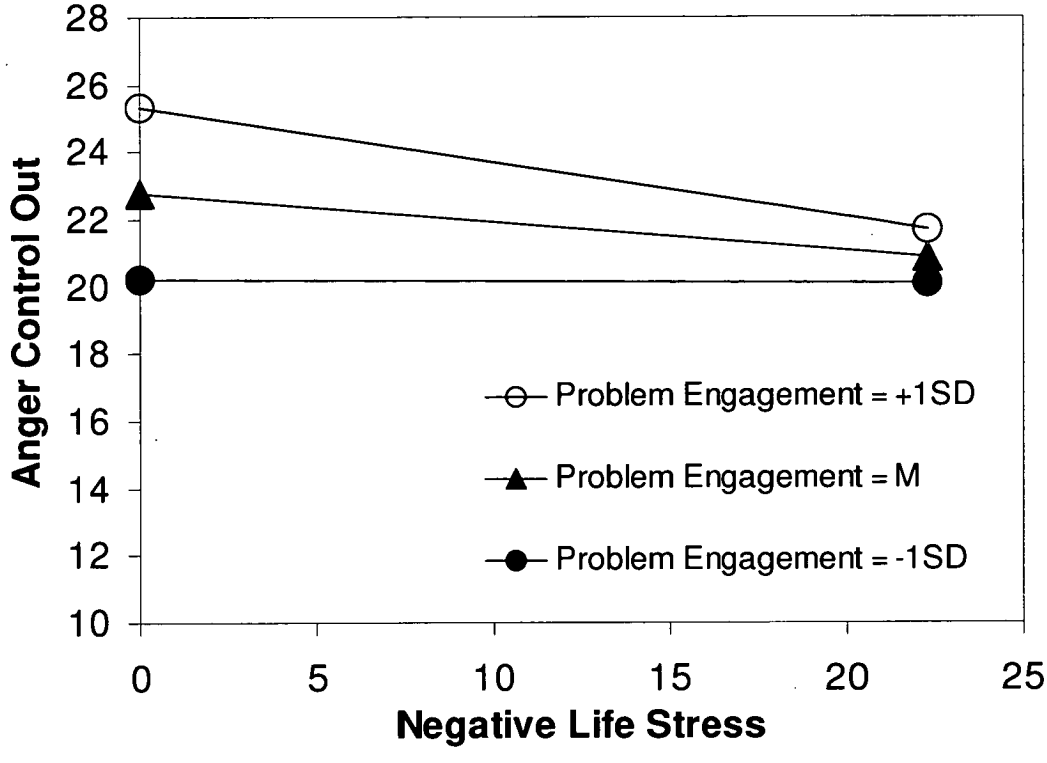


Figure 8: The influence of negative life stress on the control of external anger at various levels of problem engagement (SD = Standard Deviation, M = Mean).

As Figure 8 reveals, the above average use of problem engagement as a coping strategy leads to a greater ability to control the outward expression of anger. This applies regardless of the level of negative life stress, however the effect is greater when negative life stress is low. Whereas, a below average utilisation of problem-focused engagement

results in the least ability to control anger directed externally, regardless of the level of negative life stress.

Figure 9 displays the influence of negative life stress on the control of anger when emotion engagement is greater than, equal to and less than average.

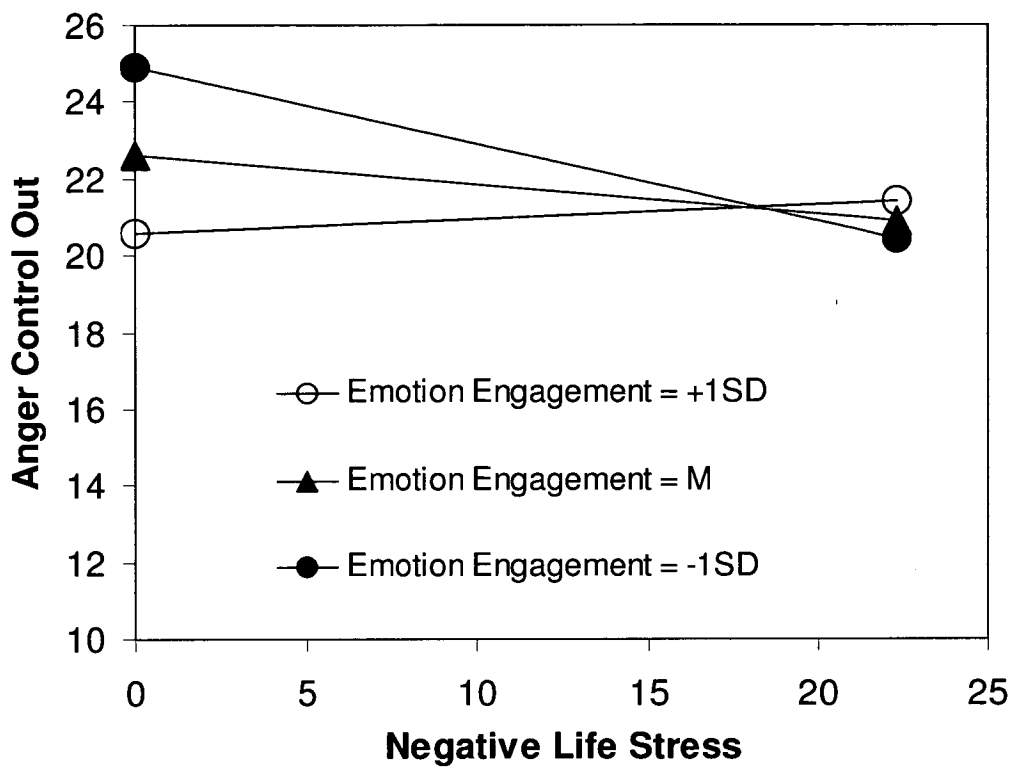


Figure 9: The influence of negative life stress on anger control out at various levels of emotion engagement (SD = Standard Deviation, M = Mean).

As Figure 9 demonstrates, when negative life stress is low, an above average use of emotion engagement as a coping strategy results in the least control over external anger. When emotion-focused engagement is below average and negative life stress is low, the most control over anger directed externally is achieved. However, when

negative life stress is high, emotion-focused engagement does not impact on the amount of control exerted over anger directed towards others, regardless of the level used. Therefore, a below average use of emotion engagement as a coping strategy results in the most control over external anger when negative life stress is low.

Anger Control In

Only 1% and 2% respectively of the control of the inward expression of anger was explained by negative life stress and the attachment scales, which were not significant. However, the coping styles accounted for a significant 23% of variance, with problem engagement significantly related to the control of internal anger. An additional 3% of variance was accounted for by the products of the coping styles and negative life stress, which was not significant. There was a trend for the product of emotion engagement and negative life stress to be positively related to the control of anger directed internally. In total, the factors explained 28% of variance, as can be seen in Table 14.

Table 14

Summary of Hierarchical Regression Analysis for Variables Predicting Anger Control In (N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.010
Negative Life Stress (last 12 months)	-.070	.050	-.099	
Step 2				.018
Negative Life Stress (last 12 months)	-.053	.052	-.075	
Avoidance	-.144	.373	-.028	
Anxiety	-.559	.397	-.106	
Avoidance x Anxiety	.362	.421	.061	
Step 3				.228***
Negative Life Stress (last 12 months)	-.037	.049	-.052	
Avoidance	.180	.365	.035	
Anxiety	-.174	.380	-.033	
Avoidance x Anxiety	.247	.376	.042	
Problem Engagement	.228	.032	.483***	
Emotion Engagement	-.047	.034	-.105	
Problem Disengagement	.019	.039	.039	
Emotion Disengagement	-.044	.030	-.130	
Step 4				.029
Negative Life Stress (last 12 months)	-.083	.053	-.116	
Avoidance	.239	.374	.046	
Anxiety	-.274	.384	-.052	
Avoidance x Anxiety	.313	.381	.053	
Problem Engagement	.235	.033	.500(***)	
Emotion Engagement	-.050	.034	-.111	
Problem Disengagement	.038	.040	.078	
Emotion Disengagement	-.057	.031	-.169	
Prob engage x neg life stress	-.000	.004	-.012	
Emot engage x neg life stress	.009	.004	.152(*)	
Prob disengage x neg life stress	-.000	.005	-.010	
Emot disengage x neg life stress	.005	.003	.117	
Total variance explained				28.4%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$.
*$p < .05$; **$p < .01$; ***$p < .001$.

Anger Expression Index

Table 15 reveals that negative life event stress accounts for a significant 7% of the overall anger expression index. The attachment scales contributed a further significant 6% of variance, with the anxiety attachment scale significantly related to the anger expression index. The coping strategies explained a significant 17%, with problem engagement inversely and emotion disengagement positively related to the overall expression of anger. An additional significant 4% was explained by the products of the coping styles and negative life stress, with the product of emotion engagement and negative life stress significantly and inversely related to anger expression. The combined predictor variables accounted for 34% of the variance in the anger expression index.

The influence of negative life stress on the anger expression index when emotion engagement is greater than, equal to and less than average is presented in Figure 10. As shown in Figure 10, the overall expression of anger is lowest with an above average use of the coping strategy emotion engagement, regardless of the level of negative life stress. A below average use of emotion-focused engagement eventuates in the most anger expression, in particular with high levels of negative life stress. Therefore, the more emotion-focused engagement is utilised as a coping strategy, the less anger is expressed, and this effect is greatest when negative life stress is high.

Table 15

Summary of Hierarchical Regression Analysis for Variables Predicting the Anger Expression Index (N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.067***
Negative Life Stress (last 12 months)	.437	.115	.260***	
Step 2				.061**
Negative Life Stress (last 12 months)	.345	.117	.205**	
Avoidance	.757	.834	.062	
Anxiety	2.820	.886	.227**	
Avoidance x Anxiety	-.502	.939	-.036	
Step 3				.167***
Negative Life Stress (last 12 months)	.248	.112	.147*	
Avoidance	-.395	.838	-.032	
Anxiety	1.678	.872	.135	
Avoidance x Anxiety	-.294	.863	-.021	
Problem Engagement	-.394	.073	-.355***	
Emotion Engagement	.077	.077	.073	
Problem Disengagement	-.008	.090	-.007	
Emotion Disengagement	.186	.068	.233**	
Step 4				.044*
Negative Life Stress (last 12 months)	.315	.120	.187**	
Avoidance	-.633	.848	-.052	
Anxiety	1.827	.870	.147*	
Avoidance x Anxiety	-.643	.863	-.046	
Problem Engagement	-.448	.074	-.404***	
Emotion Engagement	.111	.077	.105	
Problem Disengagement	-.073	.091	-.063	
Emotion Disengagement	.236	.070	.295***	
Prob engage x neg life stress	.016	.008	.121	
Emot engage x neg life stress	-.024	.009	-.172**	
Prob disengage x neg life stress	.007	.011	.048	
Emot disengage x neg life stress	-.012	.007	-.122	
Total variance explained				34.0%

*p < .05; **p < .01; ***p < .001.

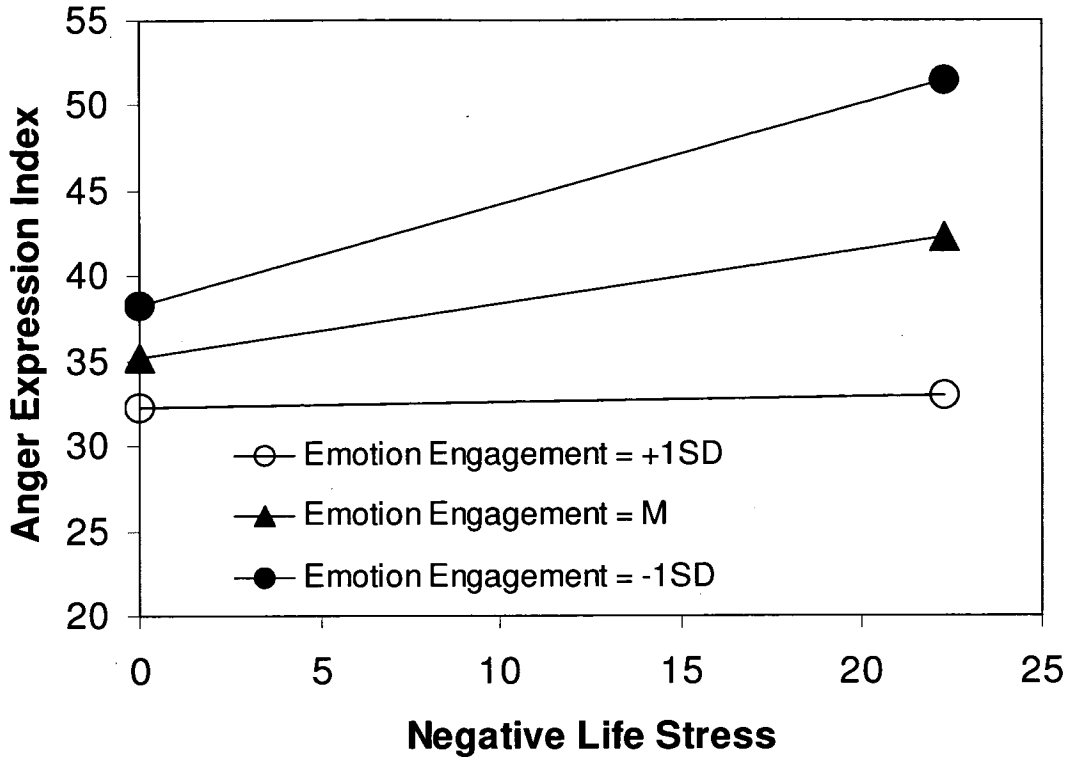


Figure 10: The influence of negative life stress on the anger expression index at various levels of emotion engagement (SD = Standard Deviation, M = Mean).

Summary

A summary is provided of these results in Table 16. As this visual display demonstrates, negative life stress was a significant predictor variable for most of the anger scales, with the exception of anger control out and anger control in. The inclusion of the attachment scales at step 2 resulted in negative life stress no longer being a significant predictor of trait anger reaction. However, negative life stress remained significantly related to trait anger temperament, anger expression out, anger expression in and the anger expression index for both steps 2 and 3. Following the addition of the products of the coping styles and negative life stress at the final step, negative life stress was still a significant predictor of these variables, excluding anger expression out.

Table 16

Summary of Hierarchical Regression Analyses for Variables Predicting Anger (N =204)

Variable	TAT	TAR	AXO	AXI	ACO	ACI	AXIn
Step 1	S	S	S	S	NS	NS	S
Negative Life Stress	+	+	+	+			+
Step 2	NS	S	NS	S	NS	NS	S
Negative Life Stress	(+)		(+)	+			+
Avoidance				+			
Anxiety		+		+	(-)		+
Avoidance x Anxiety							
Step 3	NS	S	NS	S	S	S	S
Negative Life Stress	(+)		(+)	+			+
Avoidance							
Anxiety		+		+			
Avoidance x Anxiety							
Problem Engagement					+	+	-
Emotion Engagement				-	-		
Problem Disengagement		+					
Emotion Disengagement	(+)			+			+
Step 4	S	NS	S	NS	S	NS	S
Negative Life Stress	+			(+)			+
Avoidance							
Anxiety		(+)		(+)			+
Avoidance x Anxiety							
Problem Engagement	-				+	(+)	-
Emotion Engagement	+			(-)	-		
Problem Disengagement							
Emotion Disengagement	+			(+)			+
Prob engage x NLS	+		+		-		
Emot engage x NLS					+	(+)	-
Prob disengage x NLS							
Emot disengage x NLS							
Total variance (%)	17 (17)	17 (19)	12 (12)	42 (42)	21 (21)	26 (28)	34 (34)

Note. Results enclosed in parentheses are not considered significant as the relevant step was not significant, $p > .05$. NLS = Negative Life Stress; TAT = Trait Anger Temperament; TAR = Trait Anger Reaction; AXO = Anger Expression Out; AXI = Anger Expression In; ACO = Anger Control Out; ACI = Anger Control In; AXIn =

Anger Expression Index; S = significant, $p < .05$; NS = not significant, $p > .05$; + = significant positive effect, $p < .05$, - = significant inverse effect, $p < .05$.

The avoidant attachment scale was a significant predictor of anger expression in at step 2. Unfortunately this relationship did not retain significance in the next steps. The anxiety attachment scale was significantly related to trait anger reaction, anger expression in and the anger expression index. The product of the avoidance and anxiety attachment scales was not a significant predictor of any of the anger scales at any step.

Problem engagement was positively related to anger control out and anger control in, and inversely related to the anger expression index. Therefore the more problem-focused engagement was utilised as a coping strategy, the more participants were able to control the outward and inward expression of anger. As the control of anger is considered desirable, problem engagement is acting as a protective factor in this case. However, problem engagement was also inversely related to the anger expression index, which is a combination of anger expression (out and in) and anger control (out and in). It appears in this case that problem engagement results in an overall reduction in the expression and control of anger.

The coping strategy emotion-focused engagement was inversely related to anger expression in and anger control out. Consequently, the use of emotion engagement results in a reduction in the inward expression of anger, and how much the outward expression of anger is controlled. Presumably participants that utilise emotion engagement strategies express their emotions and interact with others as a means to cope, which also results in a greater ability to prevent anger being directed internally, but as a consequence they have less control over the outward expression of anger.

Problem-focused disengagement was a significant predictor of trait anger reaction. Accordingly, the tendency to react angrily in certain ways is increased when problem disengagement is used as a coping strategy. Emotion-focused disengagement significantly predicted trait anger temperament, anger expression in and the anger expression index. Hence, the utilisation of emotion disengagement to cope corresponds to an increase in trait anger temperament, and the inward and overall expression of anger.

The inclusion of the products of negative life stress and the coping strategies at step 4 resulted in significant additional variance being explained for trait anger temperament, anger expression out, anger control out and the anger expression index. The product of problem engagement and negative life stress was significantly related to trait anger temperament, anger expression out and inversely related to anger control out. Therefore, problem engagement moderates the effect of negative life stress on trait anger temperament and the external expression of anger when negative life stress is low. The use of problem-focused engagement as a coping strategy also moderates the effect of negative life stress on the control of anger, regardless of the level of negative life stress. However, this effect is greatest when problem engagement is used to an above average level and negative life stress is low.

The product of negative life stress and emotion-focused engagement was significantly related to anger control out, and inversely related to the anger expression index (with a tentative positive relationship to anger control in, however the overall step was not significant). Consequently, emotion engagement moderates the effect of negative life stress on the control of anger directed externally. This effect applies when the level of negative life stress is low, in which case a below average use of emotion

engagement results in the most control over external anger. However, if negative life stress is high, the level of emotion engagement does not moderate the effect of negative life stress on anger directed externally. Emotion-focused engagement was also found to moderate the effect of negative life stress on the overall expression of anger, regardless of the level of negative life stress. However, this effect was greatest when the use of emotion-focused engagement was above average and negative life stress was high.

Chapter 11

Results

Psychopathology

The dependent variables consisted of the psychopathology scales drawn from the Young Adult Self-Report (Achenbach, 1997). The nine individual psychopathology scales were anxious/depressed, withdrawn, somatic complaints, thought problems, attention problems, intrusive symptoms, aggressive behaviour, delinquent behaviour and other problems. The anxious/depressed and withdrawn scales combine to form the internalising psychopathology scale, while the intrusive, aggressive and delinquent behaviour scales combine to form the externalising psychopathology scale. Finally, all scales combine to form the total problems scale, an overall measure of psychopathology.

The means and standard deviations for each of the problem scales are presented in Appendix H. The table in Appendix H reveals that, as expected, all the results of the current sample were in the non-clinical range. The following scale means were significantly higher for the current sample when compared to the non-clinical norms from the YASR ($p < .05$); anxious/depressed, withdrawn, somatic complaints (females only), attention problems, delinquent behaviour (females only), internalising symptoms, externalising symptoms (females only), total problems (females only). Part of this difference may be due to the exclusion of any participants who had been referred for counselling in the YASR non-clinical norms. Thus, despite the fact that the current sample of young adults were drawn from a university population, the results are in the

non-clinical range, but with more pathology observed on the majority of the problem scales, when compared to the non-clinical norms of the YASR.

For the hierarchical multiple regression analyses, the independent variables (IVs) were analysed with forced entry at each step in the following order:

- Step 1 - Negative Life Event Stress – the summed total of negative impact ratings for life events experienced in the last 12 months (one measure)
- Step 2 - Attachment scales – avoidance, anxiety and the product of the two scales (three measures)
- Step 3 - Coping Scales – problem and emotion-focused engagement and problem and emotion-focused disengagement (four measures)
- Step 4 - Products of negative life event stress and the four coping styles (four measures)

Each of these individual results will be considered in turn, finishing with a summary table that provides a visual overview of the analyses. In order to minimise the Type 1 error rate, the individual variables' significance level was not examined unless the overall step was significant at $p < .05$ (Cohen & Cohen, 1983).

Individual Psychopathology Scales

Anxious/Depressed

Negative life event stress accounted for 16% of the variance in anxious/depressed symptoms, which was significant. When the attachment measures were included, they contributed an additional 21%, which was also significant. Examination of Table 17 indicates that it was the avoidance and anxiety attachment scales that were significantly related to anxious/depressed symptoms, but the product of these two scales was not. However, when the coping variables were included at step 3, only the anxiety attachment scale remained significant, along with negative life stress, and the coping strategies problem-focused engagement and emotion-focused disengagement. All of these variables, with the exception of the problem engagement coping style, were positively related to anxious/depressed symptoms. That is, an increase in anxious attachment, recent negative life stress and emotion disengagement as a coping style, will result in an increase in anxious/depressed symptoms. Problem engagement is inversely related to anxious/depressed symptoms, such that a decrease in problem engagement as a coping strategy will lead to an increase in anxious/depressed symptoms. These predictor variables combined to explain an additional 15% of the variance, which was again significant at $p<.001$. The products of negative life stress and the coping styles only contributed a further 1% of the variance, which was not significant. Overall, the independent variables accounted for 53% of the variance in predicting anxious/depressed symptoms.

Table 17

Summary of Hierarchical Regression Analysis for Variables Predicting Anxious/Depressed Symptoms (N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.162***
Negative Life Stress (last 12 months)	.372	.060	.402***	
Step 2				.205***
Negative Life Stress (last 12 months)	.287	.055	.310***	
Avoidance	1.296	.392	.193**	
Anxiety	2.623	.416	.383***	
Avoidance x Anxiety	.180	.441	.023	
Step 3				.152***
Negative Life Stress (last 12 months)	.198	.051	.214***	
Avoidance	.517	.381	.077	
Anxiety	1.874	.397	.274***	
Avoidance x Anxiety	.231	.393	.030	
Problem Engagement	-.138	.093	-.226***	
Emotion Engagement	.042	.095	.072	
Problem Disengagement	-.029	.041	-.045	
Emotion Disengagement	.168	.031	.381***	
Step 4				.010
Negative Life Stress (last 12 months)	.228	.056	.246(***)	
Avoidance	.517	.394	.077	
Anxiety	1.922	.405	.280(***)	
Avoidance x Anxiety	.251	.402	.033	
Problem Engagement	-.123	.034	-.202(***)	
Emotion Engagement	.032	.036	.054	
Problem Disengagement	-.026	.042	-.041	
Emotion Disengagement	.167	.033	.379(***)	
Prob engage x neg life stress	-.007	.004	-.099	
Emot engage x neg life stress	.000	.004	.008	
Prob disengage x neg life stress	.003	.005	.031	
Emot disengage x neg life stress	-.003	.003	-.052	
Total variance explained				52.8%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$
**$p < .01$, ***$p < .001$.

Withdrawn

In predicting withdrawn symptoms, negative life stress accounted for 5% of the variance, which was significant. The attachment measures accounted for an additional significant 19%. This effect was due largely to the avoidance attachment scale, as revealed in Table 18. The addition of the coping styles accounted for a further significant 11%, after which negative life stress was no longer significantly related to withdrawn symptoms. The final model accounted for 34% of the variance in withdrawn symptoms, with the avoidant attachment scale and emotion-focused disengagement both significantly and positively related to withdrawn symptoms.

Somatic Complaints

Negative life stress accounted for a significant 13% of somatic complaints. The attachment measures only contributed an additional 1%, which was not significant. The coping strategies contributed a further 5% of the variance in predicting somatic complaints, which was significant. Finally, the addition of the product terms for negative life stress and each of the four coping strategies contributed another 7%, which was also significant. The final model accounted for 26% of the variance in somatic symptoms. The significant predictors in the final model were negative life stress in the last 12 months, emotion-focused disengagement and the product of negative life stress and emotion-focused engagement. Both negative life stress and emotion-focused disengagement were positively related to somatic complaints, while the product of negative life stress and emotion-focused engagement was inversely related to somatic symptoms. These results are presented in Table 19.

Table 18

Summary of Hierarchical Regression Analysis for Variables Predicting Withdrawn Symptoms (N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.045**
Negative Life Stress (last 12 months)	.074	.024	.211***	
Step 2				.189***
Negative Life Stress (last 12 months)	.072	.023	.310***	
Avoidance	1.031	.162	.193**	
Anxiety	.223	.172	.383***	
Avoidance x Anxiety	.144	.182	.023	
Step 3				.107***
Negative Life Stress (last 12 months)	.037	.022	.105	
Avoidance	.706	.168	.280***	
Anxiety	.023	.174	.009	
Avoidance x Anxiety	.119	.173	.041	
Problem Engagement	-.004	.015	-.017	
Emotion Engagement	-.008	.015	-.038	
Problem Disengagement	-.007	.018	-.031	
Emotion Disengagement	.064	.014	.385***	
Step 4				.001
Negative Life Stress (last 12 months)	.042	.025	.122	
Avoidance	.699	.175	.277(***)	
Anxiety	.036	.179	.014	
Avoidance x Anxiety	.115	.178	.040	
Problem Engagement	-.004	.015	-.017	
Emotion Engagement	-.009	.016	-.039	
Problem Disengagement	-.009	.019	-.038	
Emotion Disengagement	.065	.014	.393(***)	
Prob engage x neg life stress	-.000	.002	-.008	
Emot engage x neg life stress	-.000	.002	-.028	
Prob disengage x neg life stress	.000	.002	.002	
Emot disengage x neg life stress	-.000	.001	-.029	
Total variance explained				34.2%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$.
$^{**}p < .01$, $^{***}p < .001$.

Table 19

Summary of Hierarchical Regression Analysis for Variables Predicting Somatic Complaints (N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.127***
Negative Life Stress (last 12 months)	.190	.035	.356***	
Step 2				.009
Negative Life Stress (last 12 months)	.180	.037	.337(***)	
Avoidance	.150	.264	.039	
Anxiety	.319	.281	.081	
Avoidance x Anxiety	.026	.297	.006	
Step 3				.052*
Negative Life Stress (last 12 months)	.147	.038	.275***	
Avoidance	-.187	.286	-.048	
Anxiety	.100	.298	.025	
Avoidance x Anxiety	.016	.295	.004	
Problem Engagement	-.028	.025	-.079	
Emotion Engagement	-.005	.026	-.014	
Problem Disengagement	-.006	.031	-.017	
Emotion Disengagement	.061	.023	.241**	
Step 4				.067**
Negative Life Stress (last 12 months)	.164	.041	.307***	
Avoidance	-.045	.286	-.012	
Anxiety	.075	.294	.019	
Avoidance x Anxiety	.001	.291	.000	
Problem Engagement	-.037	.025	-.104	
Emotion Engagement	-.007	.026	-.022	
Problem Disengagement	-.006	.031	-.016	
Emotion Disengagement	.054	.024	.211*	
Prob engage x neg life stress	.002	.003	.041	
Emot engage x neg life stress	-.010	.003	-.222**	
Prob disengage x neg life stress	-.005	.004	-.095	
Emot disengage x neg life stress	.003	.002	.105	
Total variance explained				25.5%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$
*$p < .05$; **$p < .01$; ***$p < .001$.

Further indication of the exact nature of the significant inverse relationship between the product of negative life stress and emotion-focused engagement, and somatic complaints is gained from graphing predicted scores on the dependant variable, somatic complaints. This was done in accordance with Aiken and West's (1991) recommendations, where three regression equations are generated for when the moderating variable is equal to the mean and one standard deviation above and below the mean. To enable these calculations, the hierarchical regression was run again, however this time all the predictor variables were centered before being entered into the analysis. The unstandardised beta values and corresponding constant terms were then used to calculate the regression equations for when emotion engagement was average and one standard deviation above and below the mean, for low and high levels negative life stress. For ease of interpretation, the uncentered values are plotted in the regression equations presented in Figure 11 below.

As Figure 11 shows, when negative life stress is high, greater than average use of emotion engagement as a coping strategy moderates the impact of negative life stress on somatic complaints. However this is not the case when negative life stress is less than average, in which case, the use of a high level of emotion engagement results in the highest amount of somatic complaints, as opposed to when the use of emotion engagement is average or less than average. It can be concluded therefore that the above average use of emotion engagement as a coping strategy moderates the impact of negative life stress on somatic symptoms when negative life stress is high. In this case emotion engagement is a helpful coping strategy, however if negative life stress is low, than it is better to not utilise emotion engagement as a coping strategy to a high level, as this results in the expression of more somatic complaints.

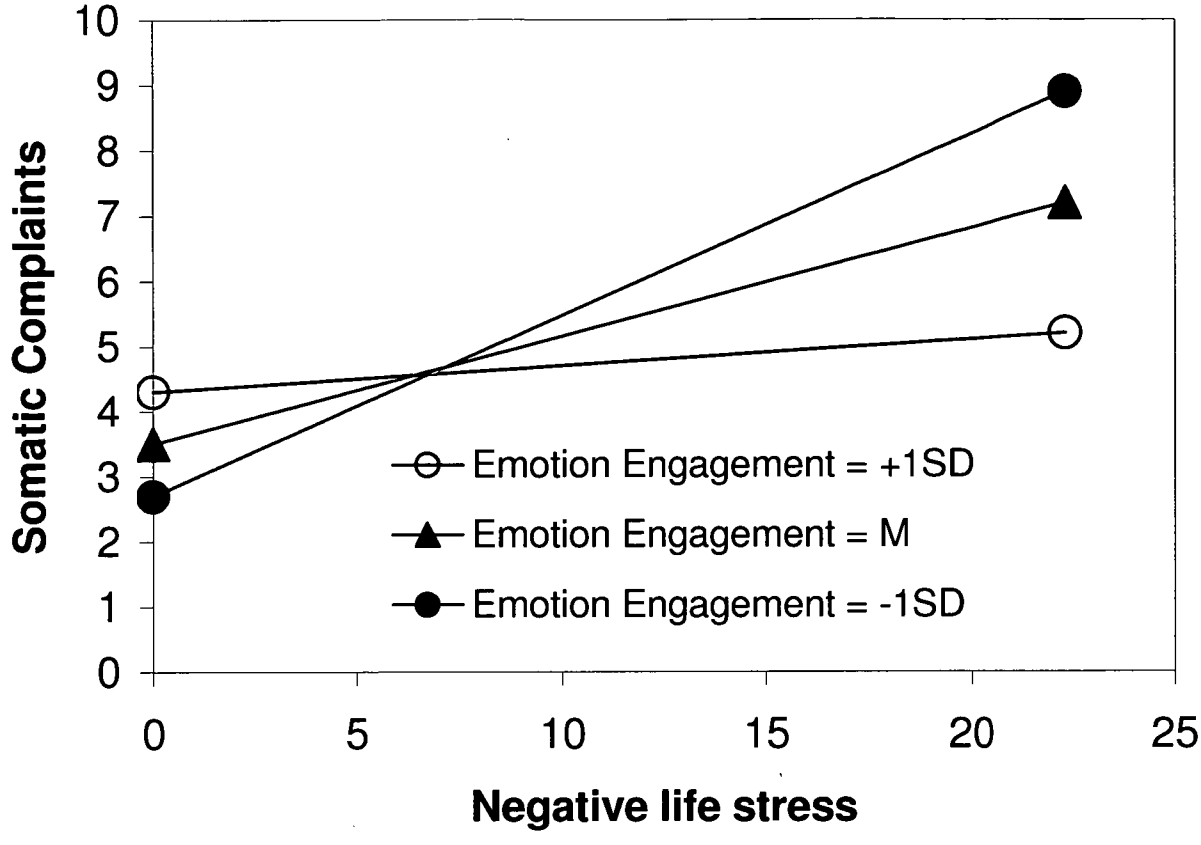


Figure 11: The influence of negative life stress on somatic complaints at various levels of emotion engagement (SD = Standard Deviation, M = Mean).

Thought Problems

In predicting thought problems, negative life stress accounted for 2% of the variance, which was not significant. The addition of the attachment measures accounted for an additional 9%, which was significant. Table 20 reveals that it is the avoidance attachment scale that is significantly related to thought problems. While avoidant attachment was no longer significant after the addition of the coping styles (which accounted for a further significant 15% of variance), it was again significantly related to thought problems in the final model, as was the coping strategy emotion-focused

disengagement. Both predictors were positively related to thought problems, such that an increase in avoidant attachment and emotion-focused disengagement as a coping strategy leads to an increase in thought problems. The total variance accounted for in predicting thought problems in the final model was 18%.

Attention Problems

Negative life stress accounted for a significant 9% of the variance in predicting attention problems. Once the attachment measures were added, they contributed a further 15% of the variance, which was also significant. Both the attachment scales of anxiety and avoidance were significantly related to attention problems, however the product of these scales was not, as is demonstrated in Table 21. With the addition of the coping styles, only the anxiety attachment scale remained significantly related to attention problems, as well as negative life stress and problem and emotion disengagement as coping strategies. The coping strategies contributed a significant 11% of additional variance, while the final model with the coping and negative life stress products contributed a further 0.6%, which was not significant. In total the independent variables accounted for 36% of the variance in predicting attention problems. Negative life stress, the anxiety attachment scale and emotion-focused disengagement were all significantly related to attention problems in a positive direction.

Table 20

Summary of Hierarchical Regression Analysis for Variables Predicting Thought Problems (N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.018
Negative Life Stress (last 12 months)	.015	.008	.135	
Step 2				.071**
Negative Life Stress (last 12 months)	.013	.008	.117	
Avoidance	.178	.056	.223**	
Anxiety	.089	.059	.109	
Avoidance x Anxiety	.003	.063	.004	
Step 3				.056*
Negative Life Stress (last 12 months)	.005	.008	.044	
Avoidance	.108	.061	.135	
Anxiety	.047	.063	.058	
Avoidance x Anxiety	-.005	.062	-.006	
Problem Engagement	-.001	.005	-.014	
Emotion Engagement	-.001	.006	-.018	
Problem Disengagement	-.005	.007	-.064	
Emotion Disengagement	.015	.005	.295**	
Step 4				.030
Negative Life Stress (last 12 months)	.003	.009	.026	
Avoidance	.140	.062	.175(*)	
Anxiety	.019	.064	.023	
Avoidance x Anxiety	-.026	.063	-.029	
Problem Engagement	-.003	.005	-.037	
Emotion Engagement	-.001	.006	-.019	
Problem Disengagement	-.003	.007	-.039	
Emotion Disengagement	.014	.005	.267(**)	
Prob engage x neg life stress	.0001	.001	.025	
Emot engage x neg life stress	-.001	.001	-.093	
Prob disengage x neg life stress	.001	.001	.097	
Emot disengage x neg life stress	.001	.001	.111	
Total variance explained				17.5%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$
$^*p < .05$; $^{**}p < .01$.

Table 21

Summary of Hierarchical Regression Analysis for Variables Predicting Attention Problems (N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.092***
Negative Life Stress (last 12 months)	.099	.022	.304***	
Step 2				.150***
Negative Life Stress (last 12 months)	.072	.021	.222***	
Avoidance	.329	.150	.139*	
Anxiety	.815	.160	.339***	
Avoidance x Anxiety	-.046	.169	-.017	
Step 3				.111***
Negative Life Stress (last 12 months)	.046	.021	.141*	
Avoidance	.013	.155	.006	
Anxiety	.588	.162	.244***	
Avoidance x Anxiety	-.012	.160	-.007	
Problem Engagement	-.021	.013	-.098	
Emotion Engagement	-.011	.014	-.051	
Problem Disengagement	.034	.017	.150*	
Emotion Disengagement	.037	.013	.241**	
Step 4				.006
Negative Life Stress (last 12 months)	.046	.023	.142(*)	
Avoidance	.044	.161	.018	
Anxiety	.568	.166	.236(***)	
Avoidance x Anxiety	-.038	.164	-.014	
Problem Engagement	-.024	.014	-.112	
Emotion Engagement	-.010	.015	-.049	
Problem Disengagement	.034	.017	.151	
Emotion Disengagement	.036	.013	.235(**)	
Prob engage x neg life stress	.001	.002	.028	
Emot engage x neg life stress	-.002	.002	-.066	
Prob disengage x neg life stress	.000	.002	.007	
Emot disengage x neg life stress	.001	.001	.036	
Total variance explained				35.8%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$
*$p < .05$; **$p < .01$; ***$p < .001$.

Intrusive Symptoms

In regards to intrusive symptoms, negative life stress accounted for 0.4% of the variance, which was not significant. The attachment measures were also not significantly related to intrusive symptoms, only contributing a further 2%. However the coping measures contributed an additional significant 7%, in particular problem-focused disengagement, which was positively related to intrusive symptoms. The addition of the coping and negative life stress products could only account for another 1%, which was not significant. The final model therefore explained 9% of the variance in intrusive symptoms, with problem engagement the only significant predictor variable. This regression analysis is summarised in Table 22.

Aggressive Behaviour

Negative life stress contributed a significant 16% of the variance in predicting aggressive behaviour. The attachment measures contributed a further 19% of variance, with the anxiety attachment scale significantly related to aggressive behaviour. The coping scales added another significant 9% of variance, however this resulted in only negative life stress and the coping strategies of problem engagement and emotion disengagement being significantly related to aggressive behaviour, as can be seen in Table 23. The final model accounted for 29% of the variance in predicting aggressive actions, however the addition of the negative life stress and coping styles products only contributed a further 1% of this total, which was not significant. Both negative life stress and emotion-focused disengagement were positively related to aggressive behaviour, however the inverse of this relationship existed between problem-focused engagement and behaving aggressively.

Table 22

Summary of Hierarchical Regression Analysis for Variables Predicting Intrusive Symptoms (N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.004
Negative Life Stress (last 12 months)	.020	.022	.064	
Step 2				.017
Negative Life Stress (last 12 months)	.009	.023	.028	
Avoidance	-.176	.162	-.079	
Anxiety	.283	.172	.124	
Avoidance x Anxiety	-.045	.182	-.018	
Step 3				.052*
Negative Life Stress (last 12 months)	.010	.023	.032	
Avoidance	-.178	.176	-.080	
Anxiety	.242	.183	.106	
Avoidance x Anxiety	-.002	.181	-.001	
Problem Engagement	.025	.015	.122	
Emotion Engagement	-.008	.016	-.041	
Problem Disengagement	.053	.019	.248**	
Emotion Disengagement	-.020	.014	-.139	
Step 4				.012
Negative Life Stress (last 12 months)	.012	.026	.039	
Avoidance	-.201	.183	-.090	
Anxiety	.244	.187	.107	
Avoidance x Anxiety	-.044	.186	-.017	
Problem Engagement	.018	.016	.090	
Emotion Engagement	-.004	.017	-.018	
Problem Disengagement	.047	.020	.220(*)	
Emotion Disengagement	-.015	.015	-.105	
Prob engage x neg life stress	.002	.002	.087	
Emot engage x neg life stress	-.002	.002	-.077	
Prob disengage x neg life stress	.001	.002	.043	
Emot disengage x neg life stress	-.001	.002	-.052	
Total variance explained				8.6%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$
*$p < .05$; **$p < .01$.

Table 23

Summary of Hierarchical Regression Analysis for Variables Predicting Aggressive Behaviour (N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.160***
Negative Life Stress (last 12 months)	.151	.024	.399***	
Step 2				.027
Negative Life Stress (last 12 months)	.136	.025	.359(***)	
Avoidance	.091	.181	.033	
Anxiety	.449	.193	.160(*)	
Avoidance x Anxiety	.047	.204	.015	
Step 3				.090***
Negative Life Stress (last 12 months)	.103	.026	.273***	
Avoidance	-.126	.191	-.046	
Anxiety	.162	.199	.058	
Avoidance x Anxiety	.079	.197	.025	
Problem Engagement	-.036	.017	-.144*	
Emotion Engagement	.025	.018	.104	
Problem Disengagement	-.005	.021	-.020	
Emotion Disengagement	.057	.016	.318***	
Step 4				.010
Negative Life Stress (last 12 months)	.109	.028	.287(***)	
Avoidance	-.132	.198	-.048	
Anxiety	.157	.203	.056	
Avoidance x Anxiety	.027	.202	.008	
Problem Engagement	-.042	.017	-.170(*)	
Emotion Engagement	.028	.018	.118	
Problem Disengagement	-.011	.021	-.040	
Emotion Disengagement	.062	.016	.343(***)	
Prob engage x neg life stress	.002	.002	.056	
Emot engage x neg life stress	-.003	.002	-.091	
Prob disengage x neg life stress	.002	.003	.050	
Emot disengage x neg life stress	-.001	.002	-.041	
Total variance explained				28.6%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$.
*$p < .05$; ***$p < .001$.

Delinquent Behaviour

Nine percent of the variance in delinquent behaviour could be explained by negative life stress experienced in the last 12 months, which was significant. An additional 4% was accounted for by the attachment scales, with avoidant attachment being significantly related to delinquent behaviour. However the addition of the coping strategies meant that this relationship between avoidant attachment and delinquent behaviour no longer remained, with only negative life stress remaining significant and a further 4% of variance added (which was not significant). The products of the coping styles and negative life stress contributed another 4%, which was also not significant. There was a trend for the product of negative life stress and problem-focused engagement to be positively related to delinquent behaviour, however as the final step was not significant, this result can only be considered tentative. In conclusion, Table 24 demonstrates that 21% of the variance in delinquent behaviour was accounted for by these predictor variables.

Other Problems

In regards to other problems, negative life stress accounted for a significant 20% of the variance. The attachment scales accounted for a further 16% of variance, with both the anxiety and avoidance scales significantly related to other problems, unlike the product of these two scales. The addition of the coping styles accounted for another 10% of variance, with emotion engagement and emotion disengagement both significantly related to other problems. The life events and coping styles product terms only contributed a further 1%, which was not significant. The final model accounted for 45% of the variance in predicting other problems, as is demonstrated in Table 25.

Table 24

Summary of Hierarchical Regression Analysis for Variables Predicting Delinquent Behaviour (N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.095***
Negative Life Stress (last 12 months)	.092	.020	.307***	
Step 2				.044*
Negative Life Stress (last 12 months)	.089	.021	.296***	
Avoidance	.347	.148	.159*	
Anxiety	.181	.158	.081	
Avoidance x Anxiety	-.167	.167	-.066	
Step 3				.096
Negative Life Stress (last 12 months)	.082	.022	.271(***)	
Avoidance	.230	.162	.105	
Anxiety	.140	.169	.063	
Avoidance x Anxiety	-.163	.167	-.065	
Problem Engagement	.025	.014	.127	
Emotion Engagement	-.020	.015	-.104	
Problem Disengagement	.033	.017	.160	
Emotion Disengagement	.003	.013	.018	
Step 4				.038
Negative Life Stress (last 12 months)	.074	.024	.246(**)	
Avoidance	.262	.166	.120	
Anxiety	.087	.170	.039	
Avoidance x Anxiety	-.235	.169	-.094	
Problem Engagement	.014	.014	.071	
Emotion Engagement	-.014	.015	-.074	
Problem Disengagement	.031	.018	.149	
Emotion Disengagement	.004	.014	.031	
Prob engage x neg life stress	.004	.002	.151(*)	
Emot engage x neg life stress	-.003	.002	-.127	
Prob disengage x neg life stress	.002	.002	.069	
Emot disengage x neg life stress	.001	.001	.056	
Total variance explained				21.2%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$.
*$p < .05$; **$p < .01$; $p < .001$.

Table 25

Summary of Hierarchical Regression Analysis for Variables Predicting Other Problems

(N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.195***
Negative Life Stress (last 12 months)	.451	.065	.442***	
Step 2				.159***
Negative Life Stress (last 12 months)	.391	.061	.383***	
Avoidance	1.756	.436	.237***	
Anxiety	2.070	.463	.274***	
Avoidance x Anxiety	-.284	.491	-.033	
Step 3				.095***
Negative Life Stress (last 12 months)	.292	.060	.286***	
Avoidance	1.299	.450	.175**	
Anxiety	1.168	.469	.155*	
Avoidance x Anxiety	-.161	.464	-.019	
Problem Engagement	-.074	.039	-.110	
Emotion Engagement	.107	.041	.166*	
Problem Disengagement	-.018	.048	-.025	
Emotion Disengagement	.169	.037	.348***	
Step 4				.005
Negative Life Stress (last 12 months)	.288	.066	.282(***)	
Avoidance	1.410	.468	.190(**)	
Anxiety	1.137	.480	.150(*)	
Avoidance x Anxiety	-.104	.477	-.012	
Problem Engagement	-.072	.041	-.107	
Emotion Engagement	.101	.043	.157(*)	
Problem Disengagement	-.008	.050	-.011	
Emotion Disengagement	.157	.039	.323(***)	
Prob engage x neg life stress	-.000	.005	-.004	
Emot engage x neg life stress	-.002	.005	-.023	
Prob disengage x neg life stress	-.005	.006	-.056	
Emot disengage x neg life stress	.004	.004	.070	
Total variance explained				45.4%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$.
*$p < .05$; **$p < .01$; ***$p < .001$.

Combined Psychopathology Scales

Internalising Symptoms (Depressed/Anxious and Withdrawn Scales)

Negative life stress accounted for 14% of the variance of internalising symptoms, which was significant. The attachment scales accounted for an additional significant 21%, however the product of the anxiety and avoidance scales was not significantly related to internalising symptoms. These significant relationships remained after the addition of the coping styles, which contributed a further 16% of variance, which was also significant. In particular the problem engagement and emotion disengagement coping styles were responsible for this result, with problem engagement inversely related to internalising symptoms. The coping and negative life stress product terms only contributed a non-significant 1%, however the final model accounted for 52% of the variance in internalising symptoms, as can be seen in Table 26.

Externalising Symptoms (Intrusive, Aggressive and Delinquent Behaviour)

In regards to externalising symptoms, negative life stress in the last 12 months accounted for 14% of the variance, which was significant. The anxiety attachment scale was significantly related to externalising symptoms, with the combined influence of the attachment scales contributing a further significant 4%. However, this relationship no longer remained after the addition of the coping styles, with problem disengagement significantly related to externalising symptoms and the coping styles combined accounting for a further significant 5% of variance. The negative stress and coping product terms explained another 3%, however this was not significant. There was a trend for the product of emotion engagement and negative life stress to be inversely related to

externalising symptoms, however the overall step was not significant so this result can only be considered tentatively. The final model accounted for 25% of the variance and is displayed in Table 27.

Total Problems (all psychopathology scales combined)

When all the psychopathology scales were combined, negative life stress from the last 12 months accounted for a significant 22% of the variance. The attachment scales explained a significant additional 17%, with the two attachment scales significantly related to total problems, but the product term between them was not. The addition of the coping styles resulted in a further significant 13% of variance, with problem engagement and emotion disengagement significantly related to total problems. However following the addition of the coping strategies, avoidant attachment was no longer significantly related to total problems. Although this relationship returned in the final model, this step was not significant, therefore the relationship between avoidant attachment and total problems can only be considered a trend. The final model is presented in Table 28, which shows the predictor variables accounted for 53% of the variance.

Table 26

Summary of Hierarchical Regression Analysis for Variables Predicting Internalising Symptoms (N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.145***
Negative Life Stress (last 12 months)	.446	.076	.381***	
Step 2				.214***
Negative Life Stress (last 12 months)	.359	.070	.307***	
Avoidance	2.327	.498	.274***	
Anxiety	2.846	.529	.329***	
Avoidance x Anxiety	.323	.561	.033	
Step 3				.157***
Negative Life Stress (last 12 months)	.235	.065	.200***	
Avoidance	1.222	.484	.144*	
Anxiety	1.897	.503	.219***	
Avoidance x Anxiety	.350	.498	.036	
Problem Engagement	-.142	.042	-.184**	
Emotion Engagement	.034	.045	.046	
Problem Disengagement	-.036	.052	-.044	
Emotion Disengagement	.231	.039	.416***	
Step 4				.007
Negative Life Stress (last 12 months)	.270	.071	.231(***)	
Avoidance	1.216	.502	.143(*)	
Anxiety	1.957	.515	.226(***)	
Avoidance x Anxiety	.367	.511	.038	
Problem Engagement	-.127	.044	-.165(**)	
Emotion Engagement	.023	.046	.031	
Problem Disengagement	-.035	.054	-.044	
Emotion Disengagement	.232	.041	.417(***)	
Prob engage x neg life stress	-.007	.005	-.081	
Emot engage x neg life stress	-.000	.005	-.002	
Prob disengage x neg life stress	.003	.006	.025	
Emot disengage x neg life stress	-.003	.004	-.050	
Total variance explained				52.2%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$.
*$p < .05$; **$p < .01$; ***$p < .001$.*

Table 27

Summary of Hierarchical Regression Analysis for Variables Predicting Externalising Symptoms (N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.140***
Negative Life Stress (last 12 months)	.263	.046	.374***	
Step 2				.037*
Negative Life Stress (last 12 months)	.233	.047	.331***	
Avoidance	.263	.339	.051	
Anxiety	.913	.361	.175*	
Avoidance x Anxiety	-.165	.382	-.028	
Step 3				.046*
Negative Life Stress (last 12 months)	.195	.049	.276***	
Avoidance	-.075	.369	-.015	
Anxiety	.544	.384	.104	
Avoidance x Anxiety	-.087	.380	-.015	
Problem Engagement	.014	.032	.030	
Emotion Engagement	-.003	.034	-.007	
Problem Disengagement	.081	.040	.166*	
Emotion Disengagement	.039	.030	.118	
Step 4				.031
Negative Life Stress (last 12 months)	.195	.054	.277(***)	
Avoidance	-.071	.377	-.014	
Anxiety	.488	.387	.094	
Avoidance x Anxiety	-.253	.384	-.043	
Problem Engagement	-.010	.033	-.022	
Emotion Engagement	.011	.034	.024	
Problem Disengagement	.067	.041	.138	
Emotion Disengagement	.051	.031	.152	
Prob engage x neg life stress	.007	.004	.132	
Emot engage x neg life stress	-.008	.004	-.137(*)	
Prob disengage x neg life stress	.005	.005	.075	
Emot disengage x neg life stress	-.001	.003	-.021	
Total variance explained				25.4%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$.
*$p < .05$. ***$p < .001$.

Table 28

Summary of Hierarchical Regression Analysis for Variables Predicting Total Problems

(N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.224***
Negative Life Stress (last 12 months)	1.465	.192	.474***	
Step 2				.170***
Negative Life Stress (last 12 months)	1.249	.179	.404***	
Avoidance	5.003	1.279	.223***	
Anxiety	7.053	1.359	.308***	
Avoidance x Anxiety	-.142	1.440	-.006	
Step 3				.127***
Negative Life Stress (last 12 months)	.919	.170	.297***	
Avoidance	2.380	1.271	.106	
Anxiety	4.344	1.323	.190**	
Avoidance x Anxiety	.095	1.309	.004	
Problem Engagement	-.252	.110	-.123*	
Emotion Engagement	.121	.117	.062	
Problem Disengagement	.050	.137	.023	
Emotion Disengagement	.553	.103	.377***	
Step 4				.008
Negative Life Stress (last 12 months)	.966	.187	.312(***)	
Avoidance	2.694	1.316	.120(*)	
Anxiety	4.244	1.350	.186(**)	
Avoidance x Anxiety	-.054	1.340	-.002	
Problem Engagement	-.273	.115	-.134(*)	
Emotion Engagement	.116	.120	.059	
Problem Disengagement	.049	.142	.023	
Emotion Disengagement	.543	.109	.370(***)	
Prob engage x neg life stress	.002	.013	.009	
Emot engage x neg life stress	-.023	.014	-.088	
Prob disengage x neg life stress	-.001	.017	-.004	
Emot disengage x neg life stress	.005	.011	.025	
Total variance explained				52.9%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$.
*$p < .05$; **$p < .01$; ***$p < .001$.

Summary

Table 29 provides a visual summary of the results for the individual and combined psychopathology scales. As can be seen from this table, negative life stress is a significant variable in predicting most types of psychopathology, with the exception of thought problems and intrusive symptoms. The significance of negative life stress remained after the addition of the attachment styles, however after the inclusion of the coping strategies, it was no longer a significant predictor of withdrawn symptoms. It remained a significant predictor of the following psychopathology scales in the final significant step; anxious/depressed, somatic complaints, attention problems, aggressive behaviour, other problems, internalising symptoms, externalising symptoms and total problems (as well as a tentative result for delinquent behaviour, as step 3 was not significant for this scale).

The addition of the attachment styles at step 2 revealed avoidant attachment to be a significant predictor of the majority of the psychopathology scales, with the exception of somatic complaints, intrusive symptoms, aggressive behaviour and externalising symptoms. However following the addition of the coping styles at step 3, avoidant attachment remained a significant predictor of withdrawn symptoms, other problems and internalising symptoms.

The anxiety attachment scale was also a significant predictor of the majority of psychological symptoms at step 2, with the exception of somatic complaints, intrusive symptoms, thought problems and delinquent behaviour. The significant relationships that remained after the addition of the coping styles were anxious/depressed symptoms, attention problems, internalising symptoms, other and total problems. Interestingly, the

product of the two attachment scales anxiety and avoidance, was not a significant predictor of any of the psychopathology scales at any step.

The coping strategy of problem engagement was inversely related to anxious/depressed symptoms, aggressive behaviour, internalising symptoms and total problems. Consequently, problem engagement appears to provide a buffer against the development of these psychopathologies. That is, the more problem engagement was utilised as a coping strategy, the more anxiety/depression, aggressive behaviour, internalising symptoms and total problems were reduced.

Emotion engagement was a significant predictor of other problems, in that the more emotion engagement was utilised as a coping strategy, the more other problems were experienced. Problem disengagement was significantly related to attention problems and externalising symptoms. That is the more problem disengagement was used as a coping style, the more attention problems and externalising symptoms were displayed.

The most unhelpful coping strategy was emotion disengagement, which was a significant predictor of all the psychopathology scales apart from intrusive symptoms, delinquent behaviour and externalising symptoms. Therefore, the more emotion disengagement was utilised as a coping style, the more anxious/depressed, withdrawn, somatic, and internalising symptoms were experienced, as well as thought, attention, other and total problems.

The products of negative life stress and the coping strategies at step 4 resulted in a significant increase in explained variance in regards to somatic complaints. The product of emotion engagement and negative life stress was inversely related to somatic symptoms. Therefore, emotion engagement as a coping style moderates the effect of

negative life stress on somatic symptoms. Further analysis of this interaction was examined in Figure 8, which revealed that emotion engagement lessens the impact of negative life stress on somatic complaints when negative life stress is high, however it has the opposite effect when negative life stress is low.

Table 29

Summary of Hierarchical Regression Analyses for Variables Predicting Psychopathology (N = 204)

Variable	A	W	S	T	At	I	Ag	D	O	In	E	To
Step 1	S	S	S	NS	S	NS	S	S	S	S	S	S
Negative Life Stress	+	+	+		+		+	+	+	+	+	+
Step 2	S	S	NS	S	S	NS	NS	S	S	S	S	S
Negative Life Stress	+	+	(+)		+		(+)	+	+	+	+	+
Avoidance	+	+		+	+			+	+	+		+
Anxiety	+	+			+		(+)		+	+	+	+
Avoidance x Anxiety												
Step 3	S	S	S	S	S	S	S	NS	S	S	S	S
Negative Life Stress	+		+		+		+	(+)	+	+	+	+
Avoidance		+							+	+		
Anxiety	+				+				+	+		+
Avoidance x Anxiety												
Problem Engagement	-						-			-		-
Emotion Engagement									+			
Problem					+	+					+	
Disengagement	+	+	+	+	+		+		+	+		+
Emotion Disengagement												
Step 4	NS	NS	S	NS	NS	NS	NS	NS	NS	NS	NS	NS
Negative Life Stress	(+)		+		(+)		(+)	(+)	(+)	(+)	(+)	(+)
Avoidance		(+)		(+)					(+)	(+)		(+)
Anxiety	(+)				(+)				(+)	(+)		(+)
Avoidance x Anxiety												
Prob Engagement	(-)						(-)			(-)		(-)
Emot Engagement									(+)			
Prob Disengagement						(+)						
Emot Disengagement	(+)	(+)	+	(+)	(+)		(+)		(+)	(+)		(+)
Prob engage x NLS								(+)				
Emot engage x NLS			-								(-)	
Prob disengage x NLS												
Emot disengage x NLS												
Total variance (%)	52 (53)	34 (34)	26 (26)	15 (18)	35 (36)	7 (9)	28 (29)	17 (21)	45 (45)	52 (52)	22 (25)	52 (53)

Note. Results enclosed in parentheses are not considered significant as the relevant step was not significant, p > .05. NLS = Negative Life Stress; A = Anxious/ Depressed; W = Withdrawn; S = Somatic Complaints; T = Thought Problems; At = Attention Problems; I = Intrusive Symptoms;

Ag = Aggressive Behaviour; D = Delinquent Behaviour; O = Other Problems; In = Internalising Symptoms; E = Externalising Symptoms; To = Total Problems; S = significant, $p < .05$; NS = not significant, $p > .05$; + = significant positive effect, $p < .05$; - = significant inverse effect, $p < .05$.

Suicidality and Substance Use

Given the rise in attempted and completed suicide among young people, it was considered of importance to examine particular items that explored this issue. Therefore the Young Adult Self-Report items that asked about suicidal ideation and deliberate self-harm and/or suicide attempts were also included in the hierarchical multiple regression analyses. These were "I deliberately try to hurt or kill myself" and "I think about killing myself", to which participants had to respond one of the following; *Not true, Somewhat or sometimes true,* or *Very true or Often true.*

As it is common for young people suffering from psychopathology to self-medicate with drugs and alcohol, these scales were also examined with a series of hierarchical multiple regressions. Participants had to estimate how many days they were drunk or used drugs for non-medical purposes in the past six months. The predictor variables were the same as for the psychopathology analyses and were inserted in the same order with forced entry at each step. That is:

- Step 1 - Negative Life Event Stress – the summed total of negative impact ratings for life events experienced in the last 12 months
- Step 2 - Attachment scales – avoidance, anxiety and the product of the two scales
- Step 3 - Coping Scales – problem and emotion-focused engagement and problem and emotion-focused disengagement
- Step 4 - Products of negative life event stress and the four coping styles

In order to minimise the Type 1 error rate, the individual variables' significance level was not examined unless the overall step was significant at $p < .05$ (Cohen & Cohen, 1983). Finally, to provide an overview of individual results, a summary table is provided.

Suicidality

"I think about killing myself"

Negative life stress in the last 12 months accounted for 2% of the variance in regards to the question "I think about killing myself", which was significant. A further significant 8% was explained once the attachment scales were included, with avoidant attachment significantly related to suicidal ideation. As Table 30 indicates, the coping styles contributed an additional 7% of variance, which was also significant. The total variance explained was 20%, with the avoidant attachment scale and the coping strategy emotion disengagement both significantly related to suicidal thoughts.

"I deliberately try to hurt or kill myself"

In regards to deliberate self-harm and/or suicidal behaviour, negative life stress only explained 1% of the variance, which was not significant. While the attachment scales explained a further 3%, this was also not significant. However with the addition of the coping styles, which contributed an further significant 9% of variance, the anxiety attachment scale was significantly inversely related to deliberate self-harm and/or suicidal behaviour, as was problem engagement, while emotion engagement and disengagement were positively related. The final model presented in Table 31 accounts for 15% of the variance in response to the statement "I deliberately try to hurt or kill myself".

Table 30

Summary of Hierarchical Regression Analysis for Variables Predicting Suicidal Ideation (N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.020*
Negative Life Stress (last 12 months)	.007	.004	.141*	
Step 2				.082**
Negative Life Stress (last 12 months)	.007	.004	.129	
Avoidance	.096	.026	.255***	
Anxiety	.034	.028	.089	
Avoidance x Anxiety	.006	.029	.013	
Step 3				.066**
Negative Life Stress (last 12 months)	.003	.004	.066	
Avoidance	.062	.028	.164*	
Anxiety	.023	.029	.059	
Avoidance x Anxiety	-.002	.029	-.004	
Problem Engagement	-.002	.002	-.047	
Emotion Engagement	-.001	.003	-.046	
Problem Disengagement	-.005	.003	-.133	
Emotion Disengagement	.007	.002	.302**	
Step 4				.028
Negative Life Stress (last 12 months)	.007	.004	.130	
Avoidance	.068	.029	.182(*)	
Anxiety	.021	.029	.055	
Avoidance x Anxiety	-.010	.029	-.024	
Problem Engagement	-.001	.003	-.039	
Emotion Engagement	-.002	.003	-.066	
Problem Disengagement	-.005	.003	-.134	
Emotion Disengagement	.008	.002	.306(**)	
Prob engage x neg life stress	-.000	.000	-.107	
Emot engage x neg life stress	-.000	.000	-.123	
Prob disengage x neg life stress	.000	.000	.129	
Emot disengage x neg life stress	-.000	.000	-.070	
Total variance explained				19.5%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$.
*$p < .05$; **$p < .01$; ***$p < .001$.

Table 31

Summary of Hierarchical Regression Analysis for Variables Predicting Self-Harm and/orSuicidal Behaviour (N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.005
Negative Life Stress (last 12 months)	.002	.002	.072	
Step 2				.032
Negative Life Stress (last 12 months)	.003	.002	.104	
Avoidance	.029	.017	.121	
Anxiety	-.020	.018	-.082	
Avoidance x Anxiety	-.036	.019	-.132	
Step 3				.092**
Negative Life Stress (last 12 months)	.001	.002	.026	
Avoidance	.021	.018	.089	
Anxiety	-.049	.019	-.202**	
Avoidance x Anxiety	-.030	.019	-.109	
Problem Engagement	-.004	.002	-.183**	
Emotion Engagement	.004	.002	.218**	
Problem Disengagement	-.000	.002	-.016	
Emotion Disengagement	.004	.001	.273**	
Step 4				.016
Negative Life Stress (last 12 months)	.000	.003	.003	
Avoidance	.024	.019	.103	
Anxiety	-.051	.019	-.213(**)	
Avoidance x Anxiety	-.027	.019	-.100	
Problem Engagement	-.003	.002	-.157(*)	
Emotion Engagement	.004	.002	.200(*)	
Problem Disengagement	.000	.002	.018	
Emotion Disengagement	.004	.002	.239(*)	
Prob engage x neg life stress	-.000	.000	-.075	
Emot engage x neg life stress	.000	.000	.095	
Prob disengage x neg life stress	.000	.000	.009	
Emot disengage x neg life stress	.000	.000	.067	
Total variance explained				14.6%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$.
*$p < .05$; **$p < .01$.

Substance Use Scales

Alcohol

Negative life stress and the attachment scales explained 1% and 3% of the variance in alcohol use in the past six months, both of which were non-significant. There were trends for the anxiety attachment scale to be significantly related to alcohol use in a positive direction, and emotion engagement inversely related to alcohol use, as can be seen in Table 32. The combined coping styles accounted for a further 4%, while the coping and negative life event product terms explained another 2%, which were both again non-significant. A total of 9% of variance was explained by the factors in regards to alcohol use (number of days drunk) in the past six months.

Drugs

Table 33 reveals that negative life stress and the attachment scales combined only explained a non-significant 1% of the variance in the non-medical use of drugs over the past six months. However the coping styles contributed an additional significant 8%, with problem disengagement and emotion engagement both significantly related to non-medical drug use (the latter was an inverse relationship). The final model explained 9% of the variance in drug use for non-medical purposes (number of days drugs were used) over the past six months.

Table 32

Summary of Hierarchical Regression Analysis for Variables Predicting Alcohol Use

(N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.006
Negative Life Stress (last 12 months)	.137	.127	.076	
Step 2				.025
Negative Life Stress (last 12 months)	.071	.132	.039	
Avoidance	.092	.930	.007	
Anxiety	2.024	.993	.154(*)	
Avoidance x Anxiety	-.488	1.050	-.033	
Step 3				.040
Negative Life Stress (last 12 months)	.140	.137	.078	
Avoidance	-.208	1.019	-.016	
Anxiety	2.912	1.064	.221(**)	
Avoidance x Anxiety	-.696	1.051	-.047	
Problem Engagement	.125	.088	.107	
Emotion Engagement	-.236	.094	-.211(**)	
Problem Disengagement	.096	.110	.078	
Emotion Disengagement	-.135	.083	-.160	
Step 4				.023
Negative Life Stress (last 12 months)	.230	.151	.128	
Avoidance	-.306	1.052	-.024	
Anxiety	3.181	1.081	.242(**)	
Avoidance x Anxiety	-.676	1.071	-.046	
Problem Engagement	.123	.092	.106	
Emotion Engagement	-.237	.096	-.213(**)	
Problem Disengagement	.060	.114	.049	
Emotion Disengagement	-.118	.087	-.140	
Prob engage x neg life stress	-.001	.010	-.010	
Emot engage x neg life stress	-.016	.011	-.107	
Prob disengage x neg life stress	-.010	.014	-.060	
Emot disengage x neg life stress	-.007	.009	-.069	
Total variance explained				9.3%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$.
*$p < .05$; **$p < .01$.

Table 33

Summary of Hierarchical Regression Analysis for Variables Predicting Drug Use

(N = 204)

Variable	B	SE B	β	ΔR^2
Step 1				.004
Negative Life Stress (last 12 months)	.134	.158	.060	
Step 2				.007
Negative Life Stress (last 12 months)	.126	.165	.057	
Avoidance	.326	1.166	.021	
Anxiety	.462	1.250	.028	
Avoidance x Anxiety	-1.336	1.320	-.073	
Step 3				.075**
Negative Life Stress (last 12 months)	.148	.169	.067	
Avoidance	-.857	1.255	-.054	
Anxiety	.518	1.313	.032	
Avoidance x Anxiety	-1.176	1.298	-.064	
Problem Engagement	.154	.108	.107	
Emotion Engagement	-.291	.115	-.211**	
Problem Disengagement	.463	.136	.302***	
Emotion Disengagement	-.145	.102	-.139	
Step 4				.007
Negative Life Stress (last 12 months)	.198	.188	.089	
Avoidance	-.811	1.306	-.051	
Anxiety	.434	1.348	.027	
Avoidance x Anxiety	-1.508	1.337	-.082	
Problem Engagement	.134	.114	.093	
Emotion Engagement	-.283	.119	-.205(*)	
Problem Disengagement	.449	.142	.293(**)	
Emotion Disengagement	-.126	.108	-.121	
Prob engage x neg life stress	.000	.013	.003	
Emot engage x neg life stress	-.012	.014	-.066	
Prob disengage x neg life stress	.019	.018	.089	
Emot disengage x neg life stress	-.006	.011	-.049	
Total variance explained				9.4%

Note. Results marked with asterisks in parentheses are not considered significant as the relevant step was not significant, $p > .05$.
*$p < .05$; **$p < .01$; ***$p < .001$.

Summary

A visual summary of these results is presented in Table 34. Examination of Table 34 reveals that negative life stress was only a significant predictor of suicidal ideation, and not of self-harm or suicide attempts, alcohol or drug use. Following the addition of the attachment styles, it was the avoidant attachment style that was significantly related to suicidal ideation, while negative life stress was no longer significant. Although step 2 was not significant for alcohol use, the results suggest tentatively that anxious attachment may play a role. The attachment scales avoidance and anxiety were not significantly related to any other of the dependent variables, and again the product of these scales was not a significant predictor variable.

The inclusion of the coping strategies at step 3 resulted in an additional significant amount of variance being explained for all variables with the exception of alcohol use, which was not significant at any step. The problem engagement coping style was inversely related to self-harm and suicidal behaviour, therefore these types of behaviours are reduced if problem engagement is utilised as a coping strategy.

Emotion-focused engagement was significantly related to self-harm and suicidal behaviour in a positive direction, so in this case it is not a buffering factor. However, emotion engagement was a protective factor in regards to drug use, and there is a trend for this to be the case also for alcohol use. Problem disengagement was a significant predictor of drug use, suggesting it is an unhelpful coping strategy in regards to the taking of illicit drugs. In regards to emotion disengagement, it was a significant predictor of both suicidal ideation and self-harm and suicide attempts. However, it was not significantly related to the use of alcohol or illicit drugs. The addition of the negative life stress and coping strategies products at step 4 did not contribute any significant

additional variance in regards to the prediction of suicidal ideation, self-harm and suicide attempts or the use of alcohol and drugs.

It should be noted that the data was also analysed categorically according to Bartholomew's four attachment styles, to determine if the results differed depending on the type of avoidant attachment, dismissing or fearful. These results confirmed the findings of the current study, that is the negative model of self (preoccupied and fearful attachment styles) was associated with the greatest number and intensity of psychological symptoms. Consequently it was decided to not present the results here given they did not add to the current findings.

Table 34

Summary of Hierarchical Regression Analyses for Variables Predicting Suicidality, Alcohol and Drug Use (N = 204)

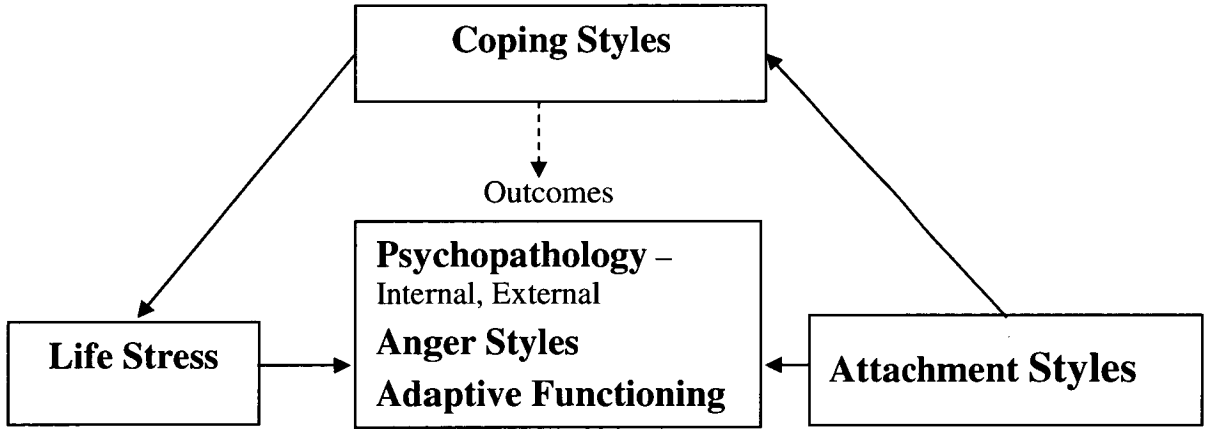
Variable	SI	SH/SA	Alcohol Use	Drug Use
Step 1	S	NS	NS	NS
Negative Life Stress	+			
Step 2	S	NS	NS	NS
Negative Life Stress				
Avoidance	+			
Anxiety			(+)	
Avoidance x Anxiety				
Step 3	S	S	NS	S
Negative Life Stress				
Avoidance	+			
Anxiety		-	(+)	
Avoidance x Anxiety				
Problem Engagement		-		
Emotion Engagement		+	(-)	-
Problem Disengagement				+
Emotion Disengagement	+	+		
Step 4	NS	NS	NS	NS
Negative Life Stress				
Avoidance	(+)			
Anxiety		(-)	(+)	
Avoidance x Anxiety				
Problem Engagement		(-)		
Emotion Engagement		(+)	(-)	(-)
Problem Disengagement				(+)
Emotion Disengagement	(+)	(+)		
Prob engage x NLS				
Emot engage x NLS				
Prob disengage x NLS				
Emot disengage x NLS				
Total variance (%)	17 (20)	13 (15)	7 (9)	9 (9)

Chapter 12

Results

Coping and Attachment

The analyses conducted so far have focused on the different aspects of the model proposed in Chapter 7, which presented visually the assumed mechanisms of operation of the variables examined. To refresh the reader's memory, this model is again presented below.



The hierarchical regressions conducted have examined the independent variables' impact on the dependent variables, as well as looking closer at the relationship between negative life stress and coping strategies (through the product variables entered at step 4). To complete our examination of this model, we need to examine further the relationship between attachment and coping. As displayed in the above model, theoretically attachment is assumed to have an independent effect on the dependent variables, as well as on coping. As there was some overlap in the variance explained by both attachment and coping in the regression analyses conducted so far, further elucidation of the relationship between the two was of

interest. Moreover, there have been conflicting findings in the coping literature regarding the efficacy of emotion-focused engagement coping. In the previous results, emotion engagement coping has been shown to interact with negative life stress in its influence on some of the dependent variables examined. Thus, the independent contribution of each of the anxiety and avoidance attachment dimensions and their interaction to the *individual* coping scales was considered to provide the most informative data regarding the relationship between the two sets of variables. These coping scales are problem solving and cognitive restructuring (problem engagement), social support and express emotions (emotion engagement), problem avoidance and wishful thinking (problem disengagement), social withdrawal and self-criticism (emotion disengagement).

A series of multiple regressions were conducted, this time with forced entry of the attachment variables, anxiety, avoidance and their product, as the only step. The individual coping scales listed above were the dependent variables. It was considered likely that the attachment dimensions would have differing relationships with the individual coping subscales that would not be able to be determined from a more global analysis. In summary, it was predicted that the attachment dimensions would be associated most strongly with the disengagement coping strategies. However, in regards to individual effects, it was hypothesised that the anxiety attachment scale would be related in a positive direction to express emotions, wishful thinking and self-criticism in particular. The avoidant attachment scale was predicted to be positively related to problem avoidance and social withdrawal, with an inverse relationship to social support. Given the lack of significant findings regarding the product of anxiety and avoidance and previous dependent variables, no specific predictions were made in regards to the product variable and the individual coping scales.

Attachment and Coping Correlation Analysis

The correlation matrix examining the attachment and individual coping variables is presented in Table 35 below.

Table 35

Correlation Matrix for the Attachment and Individual Coping Scales

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Anxiety	-	**.21**	*-.12*	-.06	-.09	.11	**.17**	**.17**	**.40**	**.27**	**.38**
2. Avoidance		-	-.04	**-.20**	-.09	**-.30**	**-.19**	**.20**	**.21**	**.26**	**.37**
3. Anxiety x Avoidance			-	.02	.05	-.02	**-.17**	*-.12*	-.10	-.05	.00
4. Problem Solving				-	**.60**	**.25**	**.20**	-.02	-.10	-.12	-.04
5. Cognitive Restructuring					-	**.39**	**.16**	.12	**-.17**	**-.26**	**-.25**
6. Social Support						-	**.44**	.03	-.01	**-.47**	**-.22**
7. Express Emotions							-	.08	**.20**	.02	.08
8. Problem Avoidance								-	**.44**	**.37**	**.20**
9. Wishful Thinking									-	**.49**	**.57**
10. Social Withdrawal										-	**.55**
11. Self-Criticism											-

Note. Italic coefficients = $p < .05$, bold coefficients = $p < .01$

As is shown in Table 35, the anxiety attachment scale had significant, low, positive correlations with the avoidant attachment scale, express emotions and problem avoidance and moderate, positive correlations with wishful thinking, social withdrawal and self-criticism. Therefore, high anxious attachment is associated with the use of disengagement coping strategies and the emotion engagement coping scale express emotions. The avoidant attachment scale had significant, low, inverse correlations with problem solving and express emotions, and a moderate inverse correlation with social support. There were significant, positive correlations between avoidant attachment and problem avoidance, wishful thinking, social withdrawal and self-criticism. Thus, high avoidant attachment is associated with the use of disengagement coping strategies, while engagement strategies are less likely to be utilised, in particular problem solving and the emotion engagement coping strategies, social support and express emotions. The product of the anxiety and avoidant attachment scales had significant, low, inverse correlations with express emotions and the problem avoidance coping scales.

Attachment and Coping Regression Analyses

The multiple regressions for the individual engagement coping scales are summarised in Table 36.

Table 36

Summary of Regression Analyses for Attachment Variables Predicting the Engagement Coping Scales (N = 204)

Variable	B	SE B	β	ΔR^2
Problem Solving				.04*
Avoidance	-1.08	.40	-.19**	
Anxiety	-.12	.41	-.02	
Avoidance x Anxiety	.07	.45	.01	
Cognitive Restructuring				.01
Avoidance	-.46	.48	-.07	
Anxiety	-.48	.49	-.07	
Avoidance x Anxiety	.29	.54	.04	
Social Support				.13***
Avoidance	-2.50	.49	-.34***	
Anxiety	1.37	.51	.18**	
Avoidance x Anxiety	-.13	.56	-.02	
Express Emotions				.11***
Avoidance	-1.5	.43	-.24***	
Anxiety	1.27	.44	.20**	
Avoidance x Anxiety	-1.11	-49	-.15*	

*p < .05; **p < .01; ***p < .001.

Engagement Coping Scales and Attachment

As can be seen from Table 36, the attachment variables accounted for 4% of the problem solving coping scale, which was significant. Avoidant attachment was largely responsible for this result, with a significant inverse relationship to problem solving coping. Attachment only explained a non-significant 1% of cognitive restructuring, with none of the individual attachment variables significant. Attachment was much more relevant in the prediction of the social support coping scale, explaining a significant 13% of variance. A significant inverse relationship between avoidant attachment and social support coping was observed, while the relationship between anxious attachment and social support was significant in a positive direction. Attachment was also relevant in the prediction of the express emotions coping scale, with a significant 11% of variance explained. All three of the attachment variables were significantly related to the express emotions scale. For anxious attachment this relationship was positive, while inverse relationships existed for both avoidant attachment and the product.

The significant relationship between the express emotions coping scale and the product of attachment avoidance and anxiety was explored further to determine the exact nature of this effect. This was done in accordance with Aiken and West's (1991) recommendations and the previous significant interactions, where three regression equations are generated for when the moderating variable is equal to the mean and one standard deviation above and below the mean. To enable these calculations, the regression was run again, however this time all the predictor variables were centered before being entered into the analysis. The unstandardised beta values and corresponding constant terms were then used to calculate the regression equations for when attachment avoidance was average and one standard

deviation above and below the mean, and for high and low levels of attachment anxiety. However the uncentered regression equation terms were plotted in Figure 12 to ease interpretation.

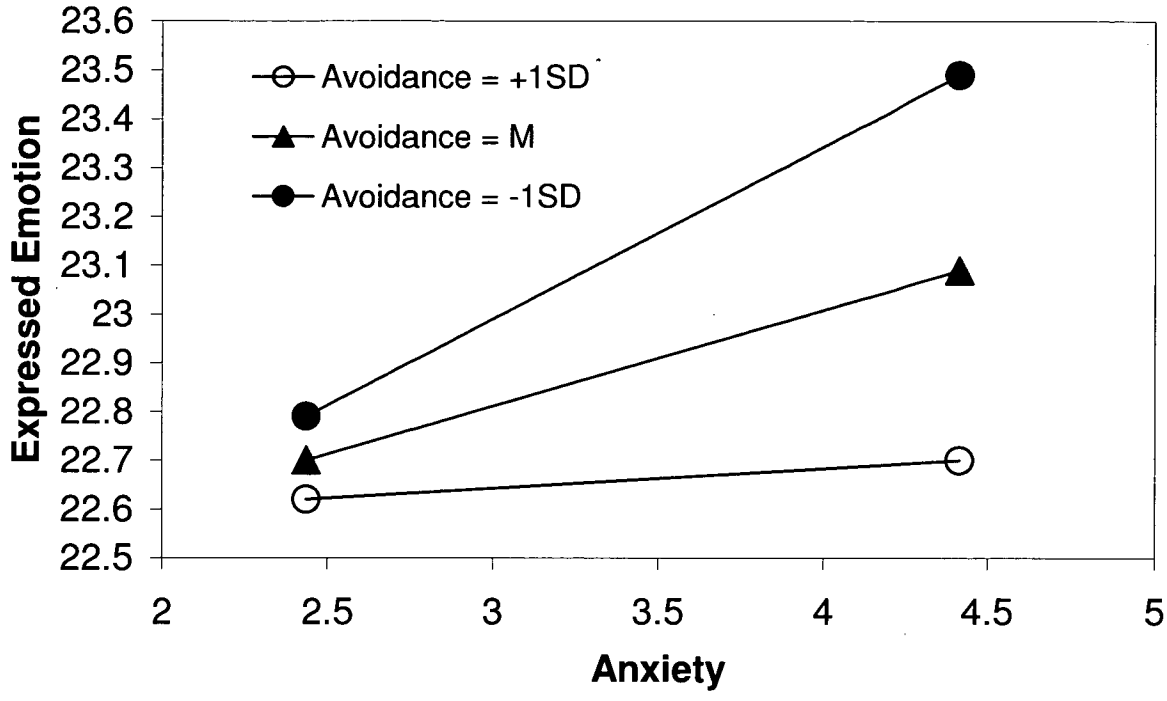


Figure 12: The influence of.attachment anxiety on express emotions coping at various levels of attachment avoidance (SD = Standard Deviation, M = Mean).

As displayed in Figure 12, when attachment anxiety is low, attachment avoidance has little effect on the coping strategy express emotions. Attachment anxiety is associated with an increase in express emotions coping only when there is average or lower than average avoidant attachment, but not when there is high avoidance. Overall, it is the combination of high anxiety and low avoidance (preoccupied attachment in Bartholomew's model) that is linked with the greatest increase in the use of the express emotions coping strategy.

Disengagement Coping Scales and Attachment

The multiple regressions for the individual disengagement coping scales are summarised in Table 37.

Table 37

Summary of Regression Analyses for Attachment Variables Predicting the Disengagement Coping Scales (N = 204)

Variable	B	SE B	β	ΔR^2
Problem Avoidance				.07**
Avoidance	.88	.35	.17**	
Anxiety	.63	.36	.12	
Avoidance x Anxiety	-.58	.40	-.10	
Wishful Thinking				.18***
Avoidance	.98	.48	.13*	
Anxiety	2.71	.49	.37***	
Avoidance x Anxiety	-.43	.54	-.05	
Social Withdrawal				.18***
Avoidance	2.50	.50	.33***	
Anxiety	1.55	.51	.20**	
Avoidance x Anxiety	-.07	.56	-.01	
Self-Criticism				.18***
Avoidance	1.84	.64	.19**	
Anxiety	3.44	.65	.35***	
Avoidance x Anxiety	.54	.72	.05	

*p < .05; **p < .01; ***p < .001.

As Table 37 shows, the attachment variables explained a significant 7% of problem avoidance. Avoidant attachment was significantly related to problem avoidance in a positive direction, however no significant relationships existed between anxious attachment or the product variable and problem avoidance. Attachment accounted for 18% of the variance in wishful thinking, which was significant. Both attachment avoidance and anxiety were significantly related to wishful thinking in a positive direction, however the product was not significantly related to wishful thinking as a coping strategy. The attachment variables also explained a significant 18% of the variance in coping strategies social withdrawal and self-criticism respectively. Again, both avoidant and anxious attachment were significantly, positively related to social withdrawal and self-criticism as coping strategies, but the product variable was not.

Summary

From the above results, it is evident that avoidant attachment is significantly inversely associated with problem solving, social support and express emotions out of the engagement coping strategies. Conversely, anxious attachment is significantly positively associated with the emotion engagement strategies social support and express emotions, with no significant relationships with the problem engagement strategies problem solving and cognitive restructuring. The product of avoidant and anxious attachment was significantly inversely linked with the express emotions coping scale. A graph of this interaction revealed that when anxious attachment is low, the level of avoidant attachment does not impact on the use of emotional expression to cope. However, when anxious attachment is high and avoidant attachment is low (preoccupied attachment), there is an increase in the use of expressing emotions as a means of coping. When the disengagement coping

strategies are considered, both attachment avoidance and anxiety were significantly positively linked with wishful thinking, social withdrawal and self-criticism. However, only attachment avoidance was significantly positively associated with problem avoidance. The product of avoidance and anxiety was not significantly associated with any of the disengagement strategies.

Chapter 13

Discussion

To provide a more complete overview of the model, the results are presented to demonstrate the impact of the independent variables on each of the dependent variables in turn. The independent variables are discussed in the same order as the steps in the hierarchical multiple regression analyses. In reporting these results, some degree of causality is assumed, based on previous longitudinal research examining the effect of attachment styles, coping styles, and negative life stress on adaptive functioning, anger and psychopathology. However, as the analyses conducted were cross-sectional and correlational in nature, causality cannot directly be determined from these results.

Negative Life Stress

Overall, recent negative life stress explained a significant amount of variance in regards to adaptive functioning. This finding is in accordance with predictions. The only exceptions to this were the family and employment scales (no significant results were found for any of the independent variables for the latter). Consequently, results indicate recent negative life stress significantly influences the evaluation of friend and spouse supports, and educational functioning, but not family relationships or employment. It may be that family relationships are relatively stable and influenced more by past events, rather than recently experienced negative stress.

The absence of any significant findings on the employment scale was not in accordance with predictions or previous research. This may have been due to the nature of the student population's employment opportunities, which are largely restricted to

casual or part-time, menial work in retail or hospitality industries. Additionally, the current study differs from previous research examining this issue, as a limited number of questions were asked in regards to attitudes to work and job satisfaction.

In regards to anger, negative life stress predicted a significant amount of variance as expected, with the exception of anger control. It makes intuitive sense that the control of anger negates somewhat the impact of recent negative life stress, although it is assumed that higher levels of stress would be associated with greater difficult controlling the expression of anger. This assumption is examined to some extent in the interaction between the coping variables and negative life stress, which will be elaborated on later.

Negative life stress was no longer a significant predictor of trait anger reaction after step 1, indicating shared variance between attachment (which was entered at step 2) and negative life stress. Therefore, once the impact of attachment was taken into account in regards to trait anger reaction, negative life stress did not make an additional contribution. However, for anger in general, negative life stress was a significant predictive factor.

As hypothesised, negative life stress in the last 12 months was a significant factor in the overall development of psychopathology. This finding has been previously established in the literature (e.g., Higgins & Endler, 1995; Kale & Stenmark, 1983; Pretorius, 1998; Zuckerman et al., 1986). The only psychopathology scales where negative life stress did not contribute significantly to the variance explained were thought problems and intrusive symptoms. Thought problems in the YASR refer to psychotic symptoms, with the exception of self-harm and destroying own things. Psychotic symptoms in general are more influenced by genetic vulnerabilities, rather than external events, however it has been established that stress can bring on or

exacerbate a psychotic episode (McGorry & Singh, 1995). Intrusive symptoms in the YASR refers to externalising type behaviour, such as talks too much, brags, shows off, is loud and demands attention. As these behaviours are associated more with personality traits rather than psychopathology, it is possible that recent negative life stress does not have as much of an impact on them.

In general, negative life stress is a significant factor in the development of psychopathology and, consequently, should be included in any investigation examining this issue. This is because it is important to evaluate the impact of other potentially relevant factors independent of the established link between negative life stress and psychopathology.

Negative life stress in the last 12 months was a significant factor in the development of suicidal ideation, however it did not explain a significant amount of variance in self-harm and/or suicide attempts, or alcohol and drug use. This is an unexpected result, as in general, past research indicates that recent negative events do impact on individual's decision to self-harm or attempt suicide (Adam et al., 1996; Fergusson & Lynskey, 1995; Fergusson et al., 2000), or self-medicate with alcohol and other drugs (Bukstein, 1995; Weinberg, Rahdert, Colliver, & Glantz, 1998). In regards to self-harm and suicidality, it is possible that not enough of this behaviour was observed for a significant relationship to be found. Only one participant stated that it was 'always true' that they deliberately tried to hurt or kill themselves, while an additional eight participants stated that this behaviour was 'sometimes true' about them (out of a total of 204 participants). Consequently, this should be kept in mind when interpreting the self-harm and suicidality results.

In conclusion, negative life stress was a significant predictor variable for the development of psychopathology, anger and adaptive functioning, however was not found to be relevant in regards to suicide attempts, self-harm and substance use.

Avoidant Attachment

When adaptive functioning is considered, avoidant attachment was a significant predictor of educational functioning, relationship with spouse and overall mean adaptive functioning. These were inverse relationships, where an increase in avoidant attachment was associated with a decrease in educational, spousal and mean adaptive functioning. Consequently, the only adaptive scales where avoidant attachment was not relevant were friends, family and employment. However, trends were noted for the avoidant attachment dimension to be inversely related to friends and employment. For the friends scale, avoidant attachment was significant at step 2, however due to shared variance with the coping styles, this was no longer significant after their addition at step 3, and consequently is only discussed as a trend. This being said, this trend was in the same direction as the significant findings and was in accordance to predictions, as well as previous research (Cooper et al., 1998).

The only predictor that approached significance for employment was attachment, due to the inverse relationship between avoidant attachment and job satisfaction. This result was contrary to the hypothesis that the anxiety attachment dimension would have a stronger negative impact on achievement domains, such as employment and education. However, this was not completely unexpected, as both avoidant and anxious attachment dimensions have been associated with decreased satisfaction and performance at work

(Burge, et al., 1997; Hazan & Shaver, 1990). Therefore, in general, avoidant attachment was a significant factor in the prediction of adaptive functioning.

Avoidant attachment was not a significant predictor variable for anger. It did explain a significant amount of anger expressed internally at step 2, however this relationship no longer remained after the addition of the coping styles in step 3. Consequently, in the current study, avoidant attachment does not seem to be relevant in the expression and control of anger. This finding is in contrast to previous research (Kobak et al., 1993). However, it is possible that no significant relationships were found between avoidant attachment and anger as self-report measures were used. Individuals high on avoidant attachment, (such as the dismissing group), have also been found in past research to underestimate or minimise any feelings of distress. Avoidant infants in the strange situation have been shown to have elevated heart rates that take longer than other infants to return to base level, despite outwardly not expressing distress (Sroufe & Waters, 1977). A study utilising Hazan and Shaver's attachment measure has also revealed avoidant participants displayed similar heart rate increases in response to a scenario designed to illicit anger, despite reporting lower anger levels than anxious individuals. Similarly with an adult sample assessed with the AAI, dismissing participants displayed increased skin conductance when asked about childhood separations and negative interactions with parents, despite verbally denying distress and the impact of these events on their personality development (Dozier & Kobak, 1992). Moreover, Kobak and Sceery (1988) found a discrepancy between the reports by peers and the college students classified as dismissing with the AAI. While peers of the dismissing students rated them as higher on hostility and anxiety and lower on ego resilience, the dismissing group rated themselves the same as the secure students on

measures of social competence and distress. The authors tentatively interpreted this as an indication of dismissing individuals' refusal to acknowledge negative affect. Consequently, multiple measures are needed (including self-report and physiological measures as well as reports by others) in order to clarify the exact nature of the relationship between avoidant attachment and the expression of anger.

Turning to psychological symptoms, avoidant attachment was a significant predictor of withdrawn symptoms, other problems and internalising symptoms. Avoidant attachment also had a significant positive relationship with anxious/depressed symptoms, delinquent behaviour, attention and thought problems, however due to shared variance with the coping scales, was no longer significant after step 2 in these cases. Furthermore, there was a strong positive trend between avoidant attachment and total problems. High avoidant attachment reflects an over-reliance on autonomy and a reluctance to depend on romantic partners, which often extends to close relationships in general (Fraley et al., 1998). Hence, there is substantial similarity between avoidant attachment and withdrawn symptoms, explaining the positive relationship between them.

The other problems scale refers to 35 eclectic symptoms that did not load significantly on any syndrome during the statistical development of the YASR. It includes items such as thinks about suicide, overeats, sets fires, picks skin, and speech problems. The larger number of items included in this scale may have assisted in revealing existing relationships between avoidant attachment and these various problems.

It was not hypothesised that the avoidant attachment scale would be significantly related to internalising symptoms. However, the internalising scale of the YASR consists of both the anxious/depressed and withdrawn scales. As avoidant attachment was found

to be a significant predictor of withdrawn symptoms but not anxious/depressed symptoms, it is assumed that it is largely this relationship that determined the result. This relationship between avoidant attachment and withdrawn symptoms is consistent with both theoretical and empirical findings and is also consistent with the results found in the current study between the attachment dimensions and coping strategies. However, other researchers have reported evidence of the protective role of low avoidant attachment in developing post-partum depression (Besser, Priel, & Wiznitzer, 2002).

The predicted relationship between avoidant attachment and externalising symptoms was not found. Despite this, there was a trend towards a positive relationship between avoidant attachment and delinquent behaviour, however this relationship did not remain following the addition of the coping styles. It is likely that with the university students sampled, externalising behaviour such as aggression and delinquency is not as common as it would be in higher risk samples (that for various reasons, such as lower socio-economic status, are less likely to attend university). This assumption is supported by the data, as the scores for the externalising scales were considerably lower than those for the internalising scales. A study by Crijnen, Achenbach and Verhulst (1997) found that rates of externalising behaviour declined with age from 6 to 17 years in samples from a number of countries. Furthermore, results from the Australian sample studied were significantly lower than some of the other cultures examined for both internalising and externalising scores. However, a significant relationship was found between anxious attachment and externalising symptoms (as will be discussed further shortly). Therefore, the relationship between attachment and psychopathology is not simple, or linear, with each dimension associated with a separate outcome. Following the addition of the coping strategies at step 3, anxious attachment was no longer significantly related to

externalising symptoms, indicating that the relationship between attachment and externalising symptoms was moderated by coping.

Furthermore, a significant relationship between avoidant attachment and externalising symptoms may have been masked to some extent by comorbidity and gender differences. A study by Renken, Egeland, Marvinney, Mangelsdorf, & Sroufe (1989) examined the early childhood antecedents of both aggression and passive-withdrawal. They found that a number of children had high teacher ratings of both aggression and passive-withdrawal, suggesting these are not two distinct and mutually exclusive categories. In order to distinguish between the two categories of symptoms, the criteria for inclusion in the passive-withdrawal group involved both a high score on the passive-withdrawal measures and a score below the mean for the aggression measures. Despite this, the aggression predictors produced a significant level of prediction for symptoms of passive-withdrawal, and in the case of girls, provided a better level of prediction than the passive-withdrawal predictors did for this behaviour. The hypothesised relationships between avoidant attachment in infancy and aggression, and anxious attachment and passive-withdrawal, were confirmed for boys but not for girls. Renken et al. (1989) interpreted this result as possibly reflecting cultural influences, where girls are more likely to express distress in terms of internalising symptoms, and boys in terms of externalising behaviours. These gender differences have been established in previous research, where males participate in more delinquent behaviour and females report higher levels of anxiety and depression (Allen et al., 1996; Crijnen et al., 1997; Licitra-Kleckler & Waas, 1993). This is a relevant finding, as the current sample did have a higher proportion of women than men (although sex differences were not found).

Avoidant attachment did not explain a significant amount of variance in the majority of psychopathology, following the addition of previously established factors such as negative life stress and coping. However, it was still a relevant factor in regards to several syndromes, which is a result not to be underestimated. That is, romantic attachment can have an independent contribution to the development of certain types of psychopathology, beyond what can be explained by established predictive factors. This is a significant result given adult romantic attachment measures do not refer to or incorporate any phenomena relevant to individual adaptation.

Avoidant attachment explained a significant amount of variance in the prediction of suicidal ideation, however it was not relevant in the prediction of self-harm and suicide attempts, or alcohol and drug use. This could be interpreted, as those with high avoidant attachment may be at a higher risk of suicidal ideation, but are not as likely to express this feeling through to self-harm or suicide attempts.

In conclusion, avoidant attachment plays has a small, but significant role in the development of psychopathology (including suicidal ideation). Based on the findings of the current study, it is not relevant in regards to anger and substance abuse, and plays a larger significant role in the prediction of adaptive functioning.

Anxious Attachment

The anxiety attachment scale was not significantly related to any of the individual or mean adaptive functioning scales. This was not in accordance with predictions or previous research. For example, Collins and Read (1990) found that adults who scored high in anxiety on the Adult Attachment Questionnaire (AAQ) had significantly lower levels of social confidence and described their parents as having been

cold or inconsistent in their care-taking behaviour. Furthermore, women high in attachment anxiety on the AAQ viewed their romantic relationship more negatively, were less satisfied and were less likely to feel close to their partner. In addition, these women tended to have less faith and trust in their partner and to feel he was less dependable, and that the relationship suffered from communication problems.

Brennan and Shaver (1995) also investigated relationship satisfaction in college students using an early version of the ECR (Brennan et al., 1989). These authors conducted multiple regressions and revealed that both attachment dimensions (avoidance and anxiety) added to the prediction of students' level of relationship satisfaction. Ognibene and Collins (1998) used the RSQ and reported that the two attachment dimensions predicted a significant 8% of the variance in support from family in a hierarchical regression analysis.

Moreover, past studies have provided evidence that anxious attachment interferes with functioning in the education and employment arenas. For example, Cooper et al. (1998) found that anxious adolescents (as assessed by Hazen and Shaver's attachment measure) reported the lowest levels of intellectual competence, reflected in significantly lower grades, lower educational aspirations and being held back at school. Hazen and Shaver's (1990) investigation into attachment and work revealed that adults with an anxious attachment style felt misunderstood and under appreciated by co-workers and were the most worried about rejection and motivated by approval from others. These interpersonal concerns interfered with work productivity of the anxious participants and they earned less money on average than the other attachment styles, controlling for education and gender. Moreover, anxious attachment (assessed with a shortened version of the ECR) was associated with greater interference with school and work following the

break up of a romantic relationship (Davis et al., 2003). Finally, Burge et al. (1997) found that insecure attachment on the AAS significantly contributed to the prediction of work strain, as well as work-related performance anxiety, tendency to over commit and job satisfaction two years later, after controlling for psychological functioning. Given the consistency of these findings in the area of adaptive functioning, it is difficult to explain the lack of a significant relationship between anxious attachment and occupational functioning in the current study. Examination of the zero order correlations in Appendix G indicate significant, low, inverse correlations between anxious attachment and both education and employment functioning. Furthermore, the previously cited studies did not control for the impact of negative life stress, which has been established to influence occupational functioning (Greenglass & Burke, 1991). Individuals high in anxious attachment are thought to be more reactive to stress (Feeney & Kirkpatrick, 1996). Therefore, given the shared variance between anxious attachment and negative life stress (in particular in these adaptive functioning areas), the underlying relationship between anxious attachment and occupational functioning may have been obscured.

Anxious attachment explained a significant amount of variance in the prediction of trait anger reactions, the inward expression of anger and the total anger expression corresponding to an increase in these scales. Therefore, anxious attachment impacts on the development of general anger responses, and also increases the likelihood that anger will be directed internally. This latter relationship is assumed to be particularly robust, as the anger expression in scale is one of four scales that determine the anger expression index, and it assumed that it is largely this relationship that is responsible for the positive relationship between these two scales. However, anxious attachment does not appear to

be relevant to anger directed externally, the control of anger or trait anger temperament. Therefore, the current study indicates that in young adulthood the anxiety attachment dimension is more relevant than the avoidance dimension to the prediction of anger reactions. This finding is in accordance to previous research conducted with adult samples (Cooper et al., 1998; Davis et al., 2003; Dutton et al., 1994; Feeney, 1998, 1999; Mikulincer, 1998; Simpson et al., 1996).

In terms of psychological symptoms, anxious attachment was a significant predictor of anxious/depressed symptoms, attention problems, other problems, internalising symptoms and total problems. In addition, trends were noted in the same direction between anxious attachment, aggressive behaviour and externalising symptoms, however following the addition of the coping styles these relationships were no longer significant. These results represent a significant proportion of the psychopathology assessed. Therefore, an individual high in anxious romantic attachment is also likely to suffer from anxiety and depression symptoms, difficulty concentrating and paying attention and other problems. As the anxious/depressed and withdrawn scales constitute the internalising scale, it is assumed that the positive relationship between anxious attachment and internalising symptoms is largely due to anxious attachment being a significant predictor of anxious/depressed symptoms.

The strength of anxious attachment in the prediction of psychopathology is reflected in the significant positive relationship with total problems, which reflects all the psychopathology scales combined. These results are consistent with the hypotheses made in the current study as well as with recent research, which has identified the anxious attachment scale (rather than avoidant) as being the most related to the development of psychopathology. For example, Cooper et al. (1998) found that anxious

adolescents (as determined by Hazen and Shaver's attachment measure) were the most poorly adjusted overall, reporting the highest levels of psychological symptoms such as anxiety and depression, as well as externalising behaviour such as delinquency. An investigation by the authors of potential mediators revealed that part of the reason the anxious adolescents engaged in externalising behaviours was due to the high levels of negative affect they experienced. Research by Feeney and Kirkpatrick (1996) has established that adults high in anxious attachment are significantly more reactive to stress. Thus, it may be that as children who are anxiously attached enter the stressful developmental stage of adolescence, they become more overwhelmed with negative affect, and begin to express this through their peer relationships in externalising behaviour, as well as self-medicating with alcohol and other drugs. This interpretation is supported by Cooper et al.'s finding that anxious adolescents reported experiencing more psychological distress and symptoms at a significantly earlier (and potentially more vulnerable) age than adolescents subscribing to the other two attachment styles. This may then continue to make anxious adolescents vulnerable to distressing emotions and psychological symptoms throughout their lifetime, a result that has been confirmed by several studies conducted in adulthood (Dozier, 1990; Dozier & Lee, 1995; Kemp & Neimeyer, 1999; Lopez et al., 2002; Muller et al., 2001; Pianta et al., 1996).

In contrast, it appears that as avoidant children age, they learn to better suppress feelings of anger, hostility and aggressive behaviours, choosing instead to withdraw further from peers and consequently being less likely to engage in peer-mediated activities such as delinquency. This interpretation is supported by the findings of the current study as well as Cooper et al.'s (1998) finding that avoidant adolescents are less

likely to engage in substance use and risky behaviours due to their lower levels of social skills.

It is interesting to observe that, with the exception of other problems and internalising symptoms, the attachment scales had completely different relationships with the various psychopathology scales. Note that the positive relationship between the two attachment scales and internalising symptoms has already been assumed to be due to their separate contributions to the two scales that constitute internalising symptoms. As the attachment scales' individual contributions appear to be largely independent of each other, it reinforces the importance of examining these scales separately to reflect these differences. This conclusion is emphasised by the lack of significant findings regarding the relationship of the product of the two attachment scales (avoidance x anxiety) and the vast majority of dependent variables examined. The only exception to this is the significant relationship between the attachment product and the express emotions coping strategy, which will be discussed later in this chapter. Given the consistency of this finding, it is not recommended that future research examine such a combined variable in regards to attachment and psychological functioning. Nonetheless, it is an important finding providing further evidence for the independence of the two attachment scales.

There was a significant negative relationship between anxious attachment and self-harm/suicide attempts item in the YASR. This means that an increase in anxious attachment is associated with less self-harm and suicidal behaviour. This result is contrary to previous research (Adam et al., 1996; de Jong, 1992; Fergusson et al., 2000) and common sense. However, there were only nine participants who responded positively to the statement "I deliberately try to hurt or kill myself", which is a very small sample that may have somehow lead to a spurious result. Also, the analysis was

completed on a single item, rather than a scale with multiple items that would provide more stable results, and this may have influenced the finding. The anxiety attachment scale was not significantly related to suicidal ideation or drug use.

There was a significant relationship in the predicted direction between anxious attachment and alcohol use. However, as none of the steps were significant in the multiple regression analysis on alcohol use, this result can only be discussed as a trend. Cooper, Shaver, and Collins (1998) also did not discover any individual attachment style differences in the frequency of heavy drinking in an adolescent sample. However, the anxious attachment dimension was associated with the most drinking-related problems (such as unwanted pregnancy, sexually transmitted diseases etc). McNally et al. (2003) also found a positive relationship between a negative model of self (high anxious attachment) and drinking problems in a college sample, where drinking problems were defined as experiencing more drinking-related consequences (whilst controlling for amount of alcohol consumed). Therefore, anxious attachment may not be associated so much with higher quantities of alcohol consumed, but there does appear to be a greater incidence of drinking-related problems for those who are anxiously attached. The current study only asked about quantity of alcohol consumed on average in the last six months, and as, such is not able to determine any more detail on attachment differences in regards to drinking-related consequences. Future research focusing on this issue should take this into account when assessing the relationship between attachment and the consumption of alcohol.

Therefore, it appears that the avoidant attachment style is much more relevant for daily functioning, whereas the anxiety attachment scale impacts more on the

development of more severe problems like psychological symptoms, and to a lesser extent, anger.

Problem Engagement

The findings on adaptive functioning indicated that problem engagement was associated with enhanced educational and family functioning. However, no significant relationships were found between problem engagement and the friends, spouse, employment or mean adaptive functioning scales. The product of problem engagement and negative life stress was inversely related to the spouse scale. The graphing of predicted scores at various levels of problem engagement and negative life stress revealed that the level of problem engagement used did not modify the effect of negative life stress on the spouse scale when negative life stress was high. However, when negative life stress was low, an above average use of problem engagement led to greater satisfaction in regards to spousal relations, while the less problem engagement was utilised, the less satisfaction that was experienced. Hence, problem engagement moderates the impact of negative life stress on spousal satisfaction when negative life stress was low. It is likely that as negative life stress increases, it is more difficult to ameliorate the adverse effects of recent stress.

There was a trend for an inverse relationship between the product of problem engagement and negative life stress with the friends scale, however as this was only a trend it was not examined further. The problem engagement and negative life stress product variable was not significantly related to any of the other adaptive functioning scales.

Problem engagement was also found to assist in the control of anger. That is, the more problem engagement was used as a coping strategy, the more internal and external expressions of anger could be controlled. The total anger expression index was also reduced the more problem engagement was utilised. It appears overall that in accordance with predictions, problem engagement is a positive coping strategy to use.

There was a significant positive relationship between the product of problem engagement and negative life stress, and the anger scale trait anger temperament. Further examination of this relationship (through graphing predicted scores) revealed that when negative life stress is high, the level of problem engagement used does not affect trait anger temperament. However, when negative life stress is low, a higher than average level of problem engagement reduces the impact of negative life stress, resulting in lower scores on trait anger temperament. A low use of problem engagement as a coping strategy results in the highest scores on trait anger temperament when negative life stress is low. Therefore, problem engagement is particularly useful in moderating the effect of negative life stress on trait anger temperament at low levels of stress and overall is a helpful coping strategy.

There was also a positive relationship between the product of problem engagement and negative life stress, and the anger expression out scale. The graphing of predicted scores at different levels of negative life stress demonstrated that when negative life stress is low, the above average use of problem engagement results in less external expression of anger. When negative life stress is high, the level of problem-focused engagement does not appear to impact on anger directed outwardly. It can be concluded that problem engagement is a helpful coping strategy in modifying the impact

of negative life stress on external anger, in particular at lower levels of negative life stress.

There was a significant inverse relationship between the product of problem engagement and negative life stress, and the control of external anger. The graphing of predicted scores allowed further examination of the nature of this relationship. This figure indicated that the above average use of problem engagement as a coping strategy leads to a greater ability to control the outward expression of anger. This applied regardless of the level of negative life stress, however the effect was greater when negative life stress was low. Whereas, a below average utilisation of problem-focused engagement resulted in the least ability to control anger directed externally, regardless of the level of negative life stress. Consequently, problem-focused engagement is a helpful coping strategy in moderating the effect of negative life stress on the control of external anger.

Problem engagement was identified as the most helpful coping strategy overall, with significant negative relationships with anxious/depressed symptoms, aggressive behaviour, internalising symptoms and total problems. Consequently, the more problem engagement is utilised as a coping strategy, the less anxious/depressed symptoms, aggressive behaviour, internalising symptoms and total problems are experienced. This finding is in accordance with previous research (Chen et al., 1996; Folkman et al., 1986; Higgins & Endler, 1995; Mosley et al., 1994). Training in problem engagement skills, such as cognitive restructuring and problem solving, for both clinical patients and as a means of building resilience in the general population, is recommended.

There was a trend for the product of problem engagement and negative life stress to be significantly related to delinquent behaviour. However, as the final step was not

significant statistically, this result can only be discussed as a trend. The product of problem engagement and negative life stress was not significantly related to any of the psychopathology scales. In accordance with the findings of the current study, previous research has also found problem-focused engagement only has a direct effect on psychopathology (Higgins & Endler, 1995; Wilkinson et al., 2000). However, other studies have reported evidence of problem-focused engagement acting as a buffer against the effects of negative life stress on psychopathology (Aldwin & Revenson, 1987; Parkes, 1990). Obviously more research is needed to resolve this issue.

There was also a significant inverse relationship between problem engagement and self-harm/suicide attempts. This finding further reinforces the validity of problem engagement as an important and effective coping strategy. However, no significant relationships were found between problem engagement and suicidal thoughts or substance abuse. None of the coping and negative life stress product terms were significantly related to the suicidal items (ideation, attempts and self-harm) or substance use items.

In conclusion, problem engagement is the most helpful coping strategy in general, as it assists in the reduction of psychopathology, self-harm and suicidal behaviour and anger, while enhancing aspects of adaptive functioning, both directly and indirectly.

Emotion Engagement

Emotion engagement was significantly inversely related to the family scale, but was not significantly related to any of the other adaptive functioning scales. Therefore, the use of emotion engagement as a coping style reduced the evaluation of family

functioning. It could be concluded from this result that emotion engagement is an unhelpful coping strategy in regards to family relations. However, it is also possible that participants who are unhappy with their family would be more likely to utilise social supports and express their emotions, the two coping scales that determine emotion engagement. As all these analyses are correlational, the direction of the relationship cannot be determined.

There was a significant inverse relationship between the product of emotion engagement and negative life stress, and the spouse scale. It was revealed that when negative life stress is low, the level of emotion-focused engagement does not moderate the effect of negative life stress on spousal satisfaction. However, when negative life stress is high, a below average use of emotion engagement as a coping strategy results in the greatest spousal satisfaction. Those who utilised emotion engagement to an above average extent reported the least satisfaction in regards to spousal relations when negative life stress is high. Thus, more research is needed regarding the efficacy of emotion engagement coping with family and spousal relationships.

In relation to the anger scales, emotion engagement was significantly inversely related to anger expressed internally and the control of anger directed externally. Therefore, emotion engagement as a coping strategy reduces the amount of anger directed internally, but it also reduces the *control* of anger directed externally. It appears the use of emotion engagement functions as a tension reliever, so that anger directed internally is reduced, but is redirected towards others. In this way emotion engagement can paradoxically be seen as both a helpful and unhelpful coping strategy in anger reactions.

The product of emotion engagement and negative life stress explained a significant amount of variance in the control of anger directed externally. The nature of this positive relationship was further elucidated through the graphing of predicted scores at various levels of emotion engagement and negative life stress. This revealed that at low levels of negative life stress, an above average use of emotion engagement as a coping strategy results in the least control over external anger. When emotion-focused engagement is below average and negative life stress is low, the highest level of control over anger directed externally is achieved. However, when negative life stress is high, emotion-focused engagement does not impact on the amount of control exerted over anger directed towards others, regardless of the level used. Therefore, a below average use of emotion engagement as a coping strategy results in the most control over external anger when negative life stress is low. In this case, emotion engagement is not helpful in moderating the effect of negative life stress on the control of outward anger and thus is not a helpful coping strategy to use. This result makes logical sense as emotion engagement involves the expression of emotions and seeking social support, hence anger is more likely to be expressed than controlled. However, it is possible that this could be done in a more controlled manner. This finding requires further research to fully elucidate the relationship between emotion engagement, negative life stress and the control of external anger.

There was a trend for a significant positive relationship between the emotion engagement and negative life stress product variable and the control of internal anger, however this was not examined further. There was a significant inverse relationship between the product of emotion engagement and negative life stress, and the anger expression index. Graphing of predicted scores revealed that the overall expression of

anger is lowest with an above average use of the coping strategy emotion engagement, regardless of the level of negative life stress. A below average use of emotion-focused engagement eventuates in the highest level of anger expression, in particular when negative life stress is high. Therefore, the greater utilisation of emotion-focused engagement as a coping strategy is associated with less anger expression, and this effect is greatest when negative life stress is high. Consequently, in regards to the anger expression index, emotion engagement can be seen as a helpful coping strategy.

Emotion engagement was only significantly related to other problems, out of the psychopathology scales. This was a positive relationship, such that the utilisation of emotion engagement as a coping strategy led to an increase in other problems. It appears emotion engagement coping does not have a significant effect on the majority of psychopathology but potentially increases the incidence of other problems. There is some research that supports the finding that emotion-focused coping strategies can actually be unhelpful at times (Higgins and Endler, 1995). However, Tobin and Griffing (1995) found that women who suffered from mild to moderate depression symptoms, engaged in more social support (an emotion-focused engagement coping strategy), than did those women who were severely depressed or not depressed at all. Similarly, the use of emotion-focused engagement was associated with lower levels of psychological distress in Chen et al.'s research (1996). Obviously more research is needed to resolve this issue, in particular to determine the direction of causality and to identify other relevant moderating variable/s that may be responsible for these discrepant results.

The product of emotion engagement and negative life stress was significantly related to somatic symptoms. This inverse relationship was examined in more detail through the graphing of predicted scores at various levels of emotion engagement and

negative life stress. This revealed that when negative life stress is high, greater than average use of emotion engagement as a coping strategy moderates the impact of negative life stress on somatic complaints. However, this is not the case when negative life stress is low, in which case, the use of a high level of emotion engagement results in the highest amount of somatic complaints, as opposed to when the use of emotion engagement is average or less than average. It can be concluded that the above average use of emotion engagement as a coping strategy moderates the impact of negative life stress on somatic symptoms when negative life stress is high. In this case emotion engagement is a helpful coping strategy, however if negative life stress is low, then it is better not to utilise emotion engagement as a coping strategy to a high level, as this results in the expression of more somatic complaints.

A study by Higgens and Endler (1995) also found that emotion-focused engagement moderated the impact of negative life stress on somatic symptoms. However, they reported that when emotion engagement was utilised to a higher than average extent, it resulted in more somatic symptoms being reported as life stress increased for males. As there were a majority of females in the current study, it is possible that emotion-focused engagement operates differently for males and females in regards to somatic complaints. Other research has also found that emotion-focused coping increases the risk of somatisation (Solomon, Mikulincer, & Habershaim, 1990). It is possible that this discrepancy in findings is due in part to the different coping measure utilised (Higgins and Endler used the Coping Inventory for Stressful Situations) and the conceptualisation of emotion-focused coping. The Coping Strategies Inventory (CSI) combines expressing emotions with seeking social support for the emotion-focused engagement category, while other measures separate these into two different

types of coping, and have found varying effects of these coping measures. Specifically, social support has been found to be associated with more beneficial effects than expressing emotions (Birnbaum et al., 1997). This was also the case in the current study, with expressing emotions positively correlated with several of the measures of psychological distress, while seeking social support was associated with adaptive functioning and lower levels of distress (see Appendices I to M for correlation matrices). Therefore, despite the two emotion-focused engagement strategies being moderately correlated, future research utilising the CSI could benefit from examining the two emotion-focused engagement scales separately.

There was also a trend for an inverse relationship between the product of emotion engagement and negative life stress, and externalising symptoms, however this was not significant and therefore was not explored further.

Emotion engagement resulted in an increase in self-harm/suicidal behaviour, although the previously mentioned problems of small sample size and the single item analysed limit the conclusions that can be drawn. However, there was significant inverse relationship between emotion engagement and drug use, where the use of emotion engagement as a coping strategy was associated with a decrease in the consumption of illicit drugs. A similar relationship was found between emotion engagement and alcohol consumption, but as previously mentioned, none of the steps were significant in the alcohol use analysis, so this result can only be considered a trend.

In conclusion, emotion engagement is possibly a useful coping strategy at times (in particular in regards to reducing anger directed internally and drug use), however in certain situations it may be an unhelpful strategy. It is likely that examining the two coping scales that determine emotion engagement (express emotions and social support)

separately may help elucidate this issue. It was beyond the scope of the current study to investigate these coping strategies in greater detail, however clearly more research (in particular longitudinal) is required to resolve this issue.

Problem Disengagement

Problem disengagement was not significantly related to any of the adaptive functioning scales. The product of problem disengagement and negative life stress was not significantly related to any of the adaptive functioning, anger, psychopathology, suicidal, or substance abuse scales. From this it can be concluded that problem disengagement does not moderate the impact of negative life stress in the last 12 months on the dependent variables examined.

In relation to the anger scales, problem disengagement explained a significant amount of variance in trait anger reaction. That is, the use of problem disengagement as a coping strategy increases the tendency to respond to situations angrily. There were no other significant results in regards to problem disengagement and the other anger scales.

Problem disengagement was significantly related to attention problems, intrusive symptoms and externalising symptoms. All these relationships were positive, where an increase in problem disengagement as a coping strategy was associated with an increase in these psychopathology scales. Consequently, problem avoidance and wishful thinking (which combine to form the problem disengagement scale) were particularly unhelpful coping strategies in regards to attention problems, intrusive symptoms and externalising symptoms. As intrusive symptoms are part of the externalising symptoms scale, it is assumed that this relationship is largely responsible for the significant relationship between problem disengagement and externalising symptoms. Intuitively it makes sense

that problem avoidance and wishful thinking would impact on attention problems, such as daydreaming, poor school or job performance, and ability to concentrate and complete tasks.

Other research has also found that problem-focused disengagement as a coping strategy is associated with higher levels of psychological symptoms. For example, Coffey and colleagues (1996) reported that the disengagement coping strategies (combining both problem and emotion disengagement) as assessed by the CSI were associated with the highest levels of psychological distress in a large community sample of women. Mosley and colleagues (1994) found problem avoidance was associated with higher depression scores, while wishful thinking was associated with increased levels of somatic complaints, after controlling for the influence of negative life stress. Tobin and Griffing (1995) reported a greater use of problem-focused disengagement coping as depressive symptoms increased in a sample of women diagnosed with bulimia.

There was a significant positive relationship between problem disengagement and drug use. That is, problem avoidance and wishful thinking increase the likelihood of illicit drug use. Johnson and Kenkel (1991) reported a similar association between wishful thinking and drug and alcohol use in a sample of adolescent incest survivors. This type of coping was also associated with greater psychological distress. However, the results of the current study differ in that a significant link between problem disengagement and alcohol use was not established. Problem disengagement was also not significantly related to the suicidality items. A study by Haines and Williams (1997) examined the coping strategies of prisoners who had a history of self-mutilation, with prisoners who did not have this history, and non-prisoner controls (all male). They reported a trend for prisoners who self-mutilate to use more problem avoidance. It is

likely that the current sample differs significantly from this group, with substantially less self-harming behaviour observed. Therefore, it is not surprising that a similar result was not found in the current study.

In summary, problem disengagement is unhelpful in regards to certain types of psychopathology, illicit drug use and the tendency to respond angrily to situations.

Emotion Disengagement

Emotion disengagement was not significantly related to any of the adaptive functioning scales. There were trends for the product of emotion engagement and negative life stress to be positively related to the family scale and inversely related to the education scale. However, in both these cases the final step was not statistically significant, therefore these relationships can be discussed as trends only.

There were significant positive relationships between emotion disengagement and trait anger temperament, anger directed internally and the anger expression index. It makes intuitive sense that self-criticism (part of emotion disengagement) would enhance anger directed internally. It is assumed that this result was also responsible for the positive relationship between emotion disengagement and the anger expression index, as the internal expression of anger is one of the four scales that constitute the anger expression index.

Emotion disengagement was significantly related to the majority of psychopathology, with the exception of intrusive symptoms, delinquent behaviour and externalising symptoms. Therefore, social withdrawal and self-criticism (which determine the emotion disengagement scale) are associated with an increase in most psychological symptoms. Overall, emotion disengagement was the most unhelpful

coping strategy in regards to psychopathology, a result that is in accordance to predictions and supported by previous research (Aldwin & Revenson, 1987; Leitenberg et al., 1992; Mosley et al., 1994). Tobin and Griffing (1995) also found that self-criticism was associated with greater symptoms of depression.

Emotion disengagement was significantly related to suicidal ideation and self-harm/suicide attempts. Consequently, social withdrawal and self-criticism increase the likelihood of suicidal cognitions and self-harm or suicide attempts. These results support the findings of past research (Benjaminsen, Krarup, & Lauritsen, 1990; Shaffer et al., 1996). Emotion disengagement was not significantly related to alcohol or drug use.

The product of emotion disengagement and negative life stress was not significantly related to any of the anger, psychopathology, suicidal, or substance use scales. Distraction, a form of disengagement coping (as assessed by the CISS), has been found to interact with life stress in regards to psychiatric symptoms in a sample of women (Higgens & Endler, 1995). As life stress increased, a higher than average use of distraction resulted in greater reporting of psychiatric and depression symptoms. If the two disengagement coping strategies had been combined, more interactive effects may have been noted. However, it is also possible that the same result was not observed in the current study due to the different coping measure utilised.

In conclusion, emotion disengagement was particularly unhelpful in regards to psychopathology, suicidality and to a lesser extent anger, while it was not relevant in adaptive functioning.

Attachment and Coping

Hierarchical multiple regressions examined the relationship between the individual attachment dimensions and their product with the individual coping strategies. This meant the independent influence of the two attachment scales to coping could be examined. The avoidant attachment scale was inversely associated with problem solving as predicted, however contrary to predictions anxious attachment was not (although an inverse relationship was observed, it was not significant). Previous research has been somewhat conflicting on the relationship between attachment and problem solving coping. For example, Kobak et al. (1993) found that adolescents who were secure in their attachment (i.e., low in avoidance and anxiety) were more able to problem solve a stressful issue with their mothers than those teenagers high in attachment avoidance or anxiety. However, Kobak et al.'s study utilised a Q sort version of the AAI, which may have impacted on the results found. Evidence against this interpretation comes from Greenberger and McLaughlin's (1998) study which reported similar results to Kobak et al.'s with a self-report measure of attachment used with college students, with secure attachment associated with more active problem solving than the insecure styles. On the other hand, Mikulincer, Florian, and Weller (1993) did not find any differences between the attachment styles as assessed by Hazen and Shaver's measure and problem-focused coping. Evidently more research is required to shed further light on this issue, as well as the non-significant inverse relationship between the attachment dimensions and cognitive restructuring. Previous research has not examined this coping scale in relation to attachment.

Both insecure attachment dimensions resulted in the use of disengagement coping strategies such as wishful thinking, social withdrawal and self-criticism to cope

with stress. This result was largely in support of predictions, as the insecure attachment dimensions were expected to be associated with the disengagement coping strategies. Although, specifically, it was hypothesised that avoidant attachment would be associated with social withdrawal and anxious attachment with wishful thinking and self-criticism in regards to individual effects, these were the strongest relationships observed. In other words, despite both attachment dimensions being significantly associated with the unhelpful disengagement coping strategies, the most highly significant results were in the expected direction.

Other researchers have reported that high anxious attachment was associated with disengagement coping strategies such as wishful thinking, denial and self-criticism (Alexander et al., 2001). High anxious attachment (negative model of self) has also been associated with escape-avoidance coping strategies, such as eating or using alcohol and drugs (Davis et al., 2003; Howard & Medway, 2004; McNally et al., 2003; Ognibene & Collins, 1998).

The hypothesised association between avoidant attachment and problem avoidance coping was supported by the results of the current study. Similarly, Howard and Medway (2004) found those with a negative model of others (high avoidant attachment) utilised negative avoidance coping, such as drinking or smoking to avoid thinking about a problem. Avoidant attachment was also associated with the use of alcohol and drugs following the break up of a romantic relationship (Davis et al., 2003). Additionally, the hypothesised inverse relationship between avoidant attachment and social support coping was supported in the current study. This result has been replicated in the literature. A negative model of others (high avoidant attachment) in adolescents was inversely correlated with family communication (how much they talked and did

activities with parents) as a coping strategy (Howard & Medway, 2004). Davis et al. (Davis et al., 2003) also reported that avoidant attachment was negatively associated with social support coping, and positively linked with the use of self-reliant coping strategies. The inverse relationship observed in the current study between avoidant attachment and the expression of emotions to cope was not predicted. However this result is not entirely unexpected, as those with high avoidant attachment find it difficult to rely on others for support and tend to be very private, preferring to keep their feelings to themselves (Alexander et al., 2001; Bartholomew, Cobb, & Poole, 1997; Mikulincer et al., 1993; Zimmermann & Grossmann, 1996).

It was not predicted that anxious attachment would be positively related to social support coping, as this is usually associated with individuals who are low in both attachment anxiety and avoidance (i.e., secure) (Greenberger & McLaughlin, 1998; Mikulincer et al., 1993; Ognibene & Collins, 1998; Zimmermann & Grossmann, 1996). However, the positive association between anxious attachment and social support coping in the current study replicates that found by Davis et al. (2003). The authors interpreted this result as a consequence of the higher levels of distress reported by anxious participants, which leads them to try harder to alleviate this in a manner compatible with their attachment style. Given the inverse association between avoidant attachment and social support in the current study, this result is most likely driven by those participants who scored high on attachment anxiety but low on attachment avoidance (i.e., preoccupied in Bartholomew's model). There is some evidence to suggest those high in anxious attachment utilise more emotion-focused strategies (Alexander et al., 2001; Lopez et al., 2001; Mikulincer & Florian, 1995; Mikulincer et al., 1993). This process may then lead the increased use of social supports to enable the expression of feelings.

Both the current study and research by Ognibene and Collins (1998) found that the attachment dimensions explained 13% of social support coping, providing strong support for this result. Ognibene and Collins utilised the two attachment dimensions underlying the Relationship Scales Questionnaire (i.e., the model of self and others) and a different coping measure to the current study. The authors reported these two attachment dimensions explained a significant 12% of escape avoidance coping, which is not too dissimilar to the significant 7% of variance explained in problem avoidance coping in the current study.

The efficacy of emotion engagement as a coping strategy is a complex issue to resolve. The analysis of the individual contribution of the attachment scales revealed significant relationships in opposing directions for the emotion engagement coping strategies of social support and express emotions. Avoidant attachment was inversely associated with the use of these emotion engagement strategies, however anxious attachment was *positively* related to them. This result provides an explanation for the conflicting findings in the literature regarding the efficacy of emotion engagement as a coping strategy. It is possible that individuals low in attachment avoidance and anxiety (i.e., secure) utilise engagement coping strategies in a qualitatively different manner to those who are low in avoidance and high in attachment anxiety (i.e., preoccupied). This hypothesis was supported in the current study, as the product of attachment avoidance and anxiety was inversely related to the expression of emotions to cope. Further examination of this interaction revealed that individuals who were low in attachment avoidance and anxiety did not utilise emotional expression to a high extent, unlike those low in avoidance and high in anxious attachment (preoccupied). It appears excess use of expressing emotions to cope can be unhelpful, perhaps exacerbating and/or perpetuating

distress. The tendency of preoccupied individuals to utilise the expression of emotions in this histrionic manner has been observed in previous studies (Alexander et al., 2001; Lopez et al., 2001; Mikulincer & Florian, 1995; Mikulincer et al., 1993).

As the coping measure utilised in the current study asked participants to nominate a recent stressful event, there was much variety in the types of events reported. Previous research has shown that the type of coping strategy utilised varies according to the specific demands of the stressful situation and the context in which it takes place (Lazarus & Folkman, 1984; Ognibene & Collins, 1998). Accordingly, participants in the current study nominated a number of different coping strategies in response to their particular stressful problem. Despite this, the results of the current study indicate that the different attachment dimensions are associated with the tendency to cope with stress in particular ways. It is likely that over time, these differences may have far-reaching consequences for adjustment to stressful life experiences and may act as vulnerability factors for poor functioning, including psychopathology. Individuals with greater numbers of coping strategies are likely to be more flexible and adaptable in the face of negative life stress. Furthermore, the type of coping strategy implemented is also implicated in adjustment. For example, disengagement strategies have been consistently associated with poorer adjustment and negative outcomes (Coffey et al., 1996; Compas et al., 1988; Griffing, 1998; Higgins & Endler, 1995; Josepho & Plutchik, 1994; Mosley et al., 1994; Ognibene & Collins, 1998; Rebelo, 1999; Tobin & Griffing, 1995; Tobin et al., 1989; Wilkinson et al., 2000; Willert, 1996). In contrast, engagement strategies such as problem solving and social support have been linked with positive mental health outcomes (Chen et al., 1996; Compas et al., 1988; Headey & Wearing, 1990; Mosley et al., 1994; Rebelo, 1999; Tobin & Griffing, 1995; Willert, 1996).

Limitations

The design of the current study is cross-sectional, therefore causation cannot be assumed in the relationships observed among variables. It is also not possible to exclude conclusively the influence of another relevant variable on the observed results. However, due to the large number of intervening and mediating variables, Thompson (1999) argues that attachment is likely to have a stronger contemporaneous, rather than predictive, relation to subsequent personality, emotion regulation and psychopathological symptoms. Theory and, to some extent, longitudinal data support the assumption that attachment style dimensions are formed prior to and subsequently exert influence on coping, affective functioning and psychopathology (Alexander et al., 2001). However, cross-sectional designs are unable to test this assumption. Consequently, prospective, longitudinal designs are needed to address these methodological limitations and provide important information regarding causal direction and temporal sequencing when examining the mechanisms linking attachment, coping and negative life stress with psychological functioning. Research conducted by Sroufe and colleagues with the Minnesota poverty sample is starting to address this problem. The majority of studies of infant attachment were conducted in the 70's, limiting current long-term studies to around 30 years duration at present. It is also inherently difficult and costly to conduct such long-term research, and hence beyond the scope of the current study.

The current study was limited due to the homogeneous sample, in terms of age and culture. Therefore, further research needs to be conducted to establish if these results for largely Caucasian, undergraduate students generalise to broader and more ethnically diverse populations. In addition, the study utilised a non-clinical sample, hence it remains to be established if similar results would be obtained with a clinical sample.

Similar studies that have been conducted so far seem to suggest so, with anxious attachment more often associated with psychopathology, rather than avoidant attachment (Cooper et al., 1998; Lopez et al., 2002; Muller et al., 2001). Furthermore, if psychopathology is viewed as a continuum, rather than categorical in nature, then these results should generalise to clinical populations. In fact, the current results suggest the importance of examining individual symptoms rather than overriding diagnoses or broader categories, as each of the attachment dimensions commonly had unique relationships with certain symptoms that would not have been elucidated if the individual scales had not been examined.

Although the attachment dimensions were not associated with internalising and externalising symptoms in accordance with Bartholomew's model, the current study provided a limited test of specificity. This is because of the comorbidity of psychological symptoms observed in the current sample, with many of those participants endorsing externalising behaviour also reporting internalising symptoms. This means the multiple regression analyses of internalising and externalising symptoms were not independent. Thus, as eluded to earlier in this discussion, difficulties distinguishing symptom patterns could have masked anxiety and avoidance attachment associations between "pure" internalising symptoms and externalising behaviour, respectively.

The current study was limited by the use of self-report measures, as it is possible that defensive participants may have responded in a manner consistent with a social desirability bias, although the large number of significant results suggests otherwise. However, there is some evidence to indicate that participants high in avoidant attachment in particular are not always overtly aware of any feelings of negative affect. For example, in the strange situation, the heart rate of avoidant infants is elevated to a

similar level to the anxious and secure infants during separation, however they overtly display few signs of distress (Sroufe & Waters, 1977). Furthermore, the heart rate of avoidant infants remains elevated for much longer than the secure infants following reunion with their mother. Adults high in avoidance also appear to lack insight. For example, Kobak and Sceery (1988) found that college students rated as dismissing on the AAI did not differ from secure students on self-report measures of social competence and distress. However, the peers of the dismissing students rated them as significantly higher on measures of anxiety and hostility. Moreover, there is evidence to suggest that, as avoidant infants grow into adults, they become more successful in suppressing distressing attachment related affect (Fraley & Shaver, 1997). However this ability is not foolproof, as Dozier and Kobak (1992) demonstrated that adults assessed as dismissing on the AAI displayed higher physiological arousal when questioned about attachment experiences, despite overtly denying these experiences were a source of concern or distress. Consequently, despite the demonstrated reliability and validity of the self-report measures utilised in the current study, it is acknowledged that other methodologies, such as interviews and other relevant peoples' perspective, are useful in supplementing self-reports. Future research should examine the associations between attachment and psychopathology with both clinical interviews and self-report measures in the same sample.

Some of the observed differences are small for the attachment effects. However as argued by Cooper et al. (1998), small should not be equated with unimportant, as a relatively low ceiling (e.g., an *r* of .45) exists on the maximum effect size that can be observed between any single predictor and a dependant outcome, when that outcome is determined by even a few (e.g., four) factors (Ahadi & Diener, 1989; as cited in Cooper

et al., 1998). This makes moderator effects extremely difficult to find in clinical research (McClelland & Judd, 1993). Given that many of the dependant variables are determined by numerous factors, it may be unreasonable to expect more than small effects. This may be particularly pertinent to the product variables, due to the number of predictors that were added before step 4 when the stress and coping interaction terms were included. Both this and the fact that the main effects of coping were partialed out previously may have biased the results against finding significant interaction terms (Aldwin & Revenson, 1987). However, the presence of significant moderators suggests that the true effect size may be underestimated. Therefore, given the complexity of the outcomes, as well as the likelihood that attachment is a more distal causal antecedent, it is argued that the effects found in the current study are substantially important.

Some caution should be exercised when considering the findings of the current study, due to the large number of analyses conducted which can result in an increase in the Type 1 error rate. This concern was minimised though the limitation of significant findings to those steps in the regression analyses that had an overall significant result, which helped to reduce the likelihood of spurious findings (Aiken & West, 1991). Moreover, the overall consistent pattern of findings appears to substantiate the links found between attachment, coping and negative life stress with psychological functioning.

The inclusion of adaptive functioning in the current study enabled a balanced picture of psychological functioning, considering both adaptive and maladaptive perspectives. This is in accordance with the current emphasis on resilience that has emerged in the more recent psychological research, including by Bowlby (e.g., Bowlby, 1989; Dozier, Stovall, & Albus, 1999; Garmezy, 1991; Luthar, Cicchetti, & Becker,

2000; Luthar & Zigler, 1991; Rutter, 1987, 1993; Wyman et al., 1999). It was beyond the scope of the current study to explicitly examine resilience, as this is best done through longitudinal research that can control to some extent the impact of negative life stress (Compas et al., 1995). This is an important area for future research studies. By considering all aspects of psychological functioning, underlying causal mechanisms are more likely to be identified, as well as protective factors that can help inoculate individuals against the aversive effects of negative life stress. While there is substantial evidence linking insecure attachment with maladaptive outcomes, it appears likely that secure attachment may also be acting as a protective factor. If this is indeed the case, there is much to be gained from therapeutic interventions that have been demonstrated to enhance secure attachment in mother-child dyads. Given the early development of attachment in an individual's life, and the compounding effect of early intervention, attachment is ideally suited as a modifiable variable that can have long-reaching implications for psychological functioning.

Conclusions

Based on the findings of the current study, a number of conclusions can be made. In general, the previously established aversive impact of negative life stress in the last 12 months on psychological functioning is confirmed by the current study. The avoidance attachment dimension is associated with adaptive functioning, in particular educational functioning and the relationship with a defacto partner. Avoidant attachment plays a smaller but still significant role in regards to psychological symptoms, however is not relevant in the expression and control of anger. In contrast, anxious attachment is implicated in the development of more severe problems such as psychological

symptoms, and to a lesser extent, anger, but is not a relevant predictor variable in relation to adaptive functioning. The interaction between the two attachment dimensions was universally not relevant in the prediction of psychological functioning, and as such, the usefulness of this product variable is questioned.

As hypothesised, problem engagement was the most helpful coping strategy and emotion disengagement the most unhelpful coping strategy in regards to psychological functioning. Problem disengagement was not a significant predictor of adaptive functioning, but exercised a negative effect on one of the anger and three of the psychopathology scales. Emotion engagement was demonstrated to exert effects on psychological functioning that, in turn, could be determined as helpful and unhelpful. Previous research has also found equivocal results in regards to the efficacy of emotion engagement as a coping strategy. It is possible this finding is due to the express emotions scale, as previous research suggests that it can be unhelpful to express emotions too much, as it can result in the exacerbation of distress. In contrast, there is much evidence pointing to the usefulness of social support (the other coping scale that determines emotion engagement) in dealing with stress. It is recommended that future research examine these scales separately to further elucidate this issue.

Whether coping had a direct or indirect impact on psychological functioning depended on the type of coping strategy used and the dependent variable examined. The engagement coping strategies both moderated the influence of negative life stress on some of the dependent variables examined, as well as having a direct effect. Both problem and emotion engagement had direct and indirect effects on adaptive functioning and anger. However, problem engagement only had direct effects on psychological symptoms, as did emotion engagement with the exception of the moderation of negative

life stress with somatic symptoms. In contrast, the disengagement strategies were only observed to have a direct negative effect on psychological functioning.

The relationship between attachment and coping was also examined in the current study. In accordance to predictions, it was found that the avoidance and anxiety attachment dimensions were associated with the use of unhelpful coping strategies, such as problem and emotion disengagement. Interestingly, the attachment dimensions had converse significant relationships to emotion engagement coping, with avoidant attachment inversely and anxious attachment positively related to social support and the expression of emotions. This result appeared to be largely driven by individuals who were high in anxious attachment and low in avoidant attachment (preoccupied). Given previous findings attesting to the efficacy of social support as a coping strategy, it is presumed that preoccupied individuals utilise social support in a qualitatively different manner to those low in attachment anxiety and avoidance (i.e., secure). More research is needed to determine if this is indeed the case.

The current study reinforces the importance of examining the influence of attachment on psychological functioning in conjunction with other relevant variables such as negative life stress and coping. This technique allows for the independent contribution of attachment to psychological functioning to be elucidated. Furthermore, the current study highlights that the two attachment dimensions should be examined separately, due to their independent effects on psychological functioning.

Despite the obvious appeal of linear relationships between the attachment dimensions and internalising and externalising symptoms in accordance to Bartholomew's model, the relationships are more complex. The literature suggests that there are some general associations between avoidant attachment and externalising

behaviour and anxious attachment and internalising symptoms in childhood. However, as is often the case, the nature of these associations becomes more complex with time. The attachment dimensions evolve as an individual matures, as those with avoidant attachment tendencies perfect the suppression of distressing emotions, while those who are anxiously attached become increasingly frustrated at their attachment needs not being met. Of course, further research is needed to focus on this hypothesised trajectory from infant attachment to caregivers to romantic attachment to partners.

Despite the lack of associations in accordance with Bartholomew's model, the current study did show largely independent links between the attachment dimensions and particular aspects of psychological functioning. It appears that the attachment dimensions may have independent associations with specific symptoms, rather than global categories. Therefore, it is recommended that future research examine links between the attachment dimensions and psychological functioning on a more minute level.

Therapeutic approaches utilising attachment theory are becoming more common as clinicians observe the ramifications of insecure attachment in their clientele (Akister, 1998; Armstrong, Fraser, Dadds, & Morris, 2000; Bowlby, 1977, 1978; Buchheim, Brisch, & Kachele, 1998; Fonagy et al., 1996; Gold, 1993; Goodwin, 2003; Horowitz, Rosenberg, & Bartholomew, 1993; Jellema, 1999; Leick, Davidsen-Nielsen, & Stoner, 1991; Levy & Orlans, 2000). The findings of current study allow for therapeutic approaches to be implemented with greater specificity depending on the presenting problems of the client. For example, difficulties in adaptive functioning may require work focusing on the avoidant attachment dimension, whereas clients experiencing

difficulties with anger and psychological symptoms may benefit most from therapies targeting the anxious attachment dimension.

The use of the YASR, which was developed from measures used with children and adolescents, allowed for the extension of previous research examining attachment and psychological functioning to young adults. In particular, the YASR provided empirically established internalising and externalising symptoms for a young adult sample. The distinction between internalising and externalising symptoms is rarely made in research utilising adult samples, despite the common use of this distinction in studies of childhood and adolescence. Thus, the current study enhances the continuity of research conducted with children and adolescents on attachment and psychological functioning to young adults. Furthermore, the use of a measure that examines symptoms rather than disorders, helped to highlight underlying causal mechanisms (Kim Bartholomew et al., 2001).

Finally, the current study investigated an original model of the theorised relationships between attachment, coping, negative life stress and psychological functioning. Support was found for this model, with attachment related to coping, which was in turn related to negative life stress, and all three of these independent variables had an impact on psychological functioning. The broad range of psychological functioning measures allowed a thorough investigation into the relationship between the independent and dependent variables. Thus, examples of adaptive and affective functioning were examined, as well as psychological symptoms. Consequently, the current study has contributed to the body of findings on the role of attachment, coping, and negative life stress in psychological functioning, as well as providing directions for future research and clinical practice.

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Appendices

Appendix A: The Life Experiences Survey

Listed below are a number of events which sometimes bring about change in the lives of those who experience them and which necessitate social readjustment. *Please tick those events which you have experienced in the recent past and indicate the time period during which you have experienced each event.* Be sure that all ticks are directly across from the items they correspond to.

Also for each item ticked below, *please indicate the extent to which you viewed the event as having either a positive or negative impact on your life* at the time the event occurred. That is, *indicate the type and extent of impact that the event had.* A rating of –3 would indicate an extremely negative impact. A rating of 0 suggests no impact either positive or negative. A rating of +3 would indicate an extremely positive impact.

Section 1

	0 to 6 mths	7 mths to 1 yr	Extremely negative	Moderately negative	Somewhat negative	No impact	Slightly positive	Moderately positive	Extremely positive
1. Marriage			-3	-2	-1	0	+1	+2	+3
2. Detention in jail or comparable institution			-3	-2	-1	0	+1	+2	+3
3. Death of partner			-3	-2	-1	0	+1	+2	+3
4. Major change in sleeping habits (much more or much less sleep)			-3	-2	-1	0	+1	+2	+3
5. Death of close family member:									
a) mother			-3	-2	-1	0	+1	+2	+3
b) father			-3	-2	-1	0	+1	+2	+3
c) brother			-3	-2	-1	0	+1	+2	+3
d) sister			-3	-2	-1	0	+1	+2	+3
e) grandmother			-3	-2	-1	0	+1	+2	+3
f) grandfather			-3	-2	-1	0	+1	+2	+3
g) other (specify)			-3	-2	-1	0	+1	+2	+3
6. Major change in eating habits (much more or much less food intake)			-3	-2	-1	0	+1	+2	+3
7. Foreclosure on mortgage or loan			-3	-2	-1	0	+1	+2	+3
8. Death of close friend			-3	-2	-1	0	+1	+2	+3
9. Outstanding personal achievement			-3	-2	-1	0	+1	+2	+3
10. Minor law violations (traffic tickets, disturbing the peace, etc)			-3	-2	-1	0	+1	+2	+3
11. *Male*: Partner's pregnancy			-3	-2	-1	0	+1	+2	+3
12. *Female*: Pregnancy			-3	-2	-1	0	+1	+2	+3
13. Changed work situation (different work responsibility, major change in working conditions, working hours, etc.			-3	-2	-1	0	+1	+2	+3
14. New job			-3	-2	-1	0	+1	+2	+3
15. Serious illness or injury of close family member:									
a) father			-3	-2	-1	0	+1	+2	+3
b) mother			-3	-2	-1	0	+1	+2	+3
c) sister			-3	-2	-1	0	+1	+2	+3
d) brother			-3	-2	-1	0	+1	+2	+3
e) grandfather			-3	-2	-1	0	+1	+2	+3
f) grandmother			-3	-2	-1	0	+1	+2	+3
g) spouse			-3	-2	-1	0	+1	+2	+3
h) other (specify)			-3	-2	-1	0	+1	+2	+3

16. Sexual difficulties	-3	-2	-1	0	+1	+2	+3
17. Trouble with employer (in danger of losing job, being retrenched, demoted, etc)	-3	-2	-1	0	+1	+2	+3
18. Trouble with in-laws	-3	-2	-1	0	+1	+2	+3
19. Major change in financial status (a lot better off or lot worse off)	-3	-2	-1	0	+1	+2	+3
20. Major change in closeness of family members (increased or decreased closeness)	-3	-2	-1	0	+1	+2	+3
21. Gaining a new family member (through birth, adoption, family member, moving in, etc)	-3	-2	-1	0	+1	+2	+3
22. Change of residence	-3	-2	-1	0	+1	+2	+3
23. Separation from spouse/partner (due to conflict)	-3	-2	-1	0	+1	+2	+3
24. Major change in church activities (increased or decreased attendance)	-3	-2	-1	0	+1	+2	+3
25. Reconciliation with spouse/partner	-3	-2	-1	0	+1	+2	+3
26. Major change in number of arguments with partner (a lot more or a lot less arguments)	-3	-2	-1-	0	+1	+2	+3
27. Change in partner's work outside the home (beginning work, ceasing work, changing to a new job, retirement), etc	-3	-2	-1	0	+1	+2	+3
28. Major change in usual type and/or amount of recreation	-3	-2	-1	0	+1	+2	+3
29. Taking out a mortgage (e.g. buying home, business)	-3	-2	-1	0	+1	+2	+3
30. Taking out a personal loan (e.g. buying car, etc)	-3	-2	-1	0	+1	+2	+3
31. Being fired from job	-3	-2	-1	0	+1	+2	+3
32. *Male:Partner* having an abortion	-3	-2	-1	0	+1	+2	+3
33. *Female*: having an abortion	-3	-2	-1	0	+1	+2	+3
34. Major personal illness or injury	-3	-2	-1	0	+1	+2	+3
35. Major change in social activities eg parties, movies, visiting (increased or decreased participation)	-3	-2	-1	0	+1	+2	+3
36. Major change in living conditions of family (building new home, remodelling, deterioration of home, neighbourhood, etc)	-3	-2	-1	0	+1	+2	+3
37. Divorce	-3	-2	-1	0	+1	+2	+3
38. Serious injury or illness of close friend	-3	-2	-1	0	+1	+2	+3
39. Retirement from work	-3	-2	-1	0	+1	+2	+3
40. Son or daughter leaving home (due to marriage education, work, etc)	-3	-2	-1	0	+1	+2	+3
41. Ending of formal schooling	-3	-2	-1	0	+1	+2	+3
42. Separation from spouse (due to work, travel, etc)	-3	-2	-1	0	+1	+2	+3
43. Engagement	-3	-2	-1	0	+1	+2	+3
44. Breaking up with partner	-3	-2	-1	0	+1	+2	+3
45. Leaving home for the first time	-3	-2	-1	0	+1	+2	+3
46. Recent experiences which have had impact on your life. List and rate.							
_____	-3	-2	-1	0	+1	+2	+3
_____	-3	-2	-1	0	+1	+2	+3
_____	-3	-2	-1	0	+1	+2	+3

Section 2: Student only

47. Beginning a new school experience at a higher academic level (university, TAFE, post graduate studies)	-3	-2	-1	0	+1	+2	+3
48. Changing course at same academic level (undergraduate, post graduate, etc)	-3	-2	-1	0	+1	+2	+3
49. Academic probation	-3	-2	-1	0	+1	+2	+3
50. Failing an important exam	-3	-2	-1	0	+1	+2	+3
51. Changing a course major	-3	-2	-1	0	+1	+2	+3
52. Failing a subject	-3	-2	-1	0	+1	+2	+3
53. Dropping a subject	-3	-2	-1	0	+1	+2	+3
54. Financial problems concerning University study (in danger of not having sufficient money to continue)	-3	-2	-1	0	+1	+2	+3

Appendix B: Experiences in Close Relationships Inventory

The following statements concern how you feel in romantic relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by indicating how much you agree or disagree with it. Write the number in the space provided, using the following rating scale:

1	2	3	4	5	6	7
Disagree Strongly	.....	.....	*Neutral/ Mixed*	.....	.....	*Agree Strongly*

___ 1. I prefer not to show a partner how I feel deep down.

___ 2. I worry about being abandoned.

___ 3. I am very comfortable being close to romantic partners.

___ 4. I worry a lot about my relationships.

___ 5. Just when my partner starts to get close to me I find myself pulling away.

___ 6. I worry that romantic partners won't care about me as much as I care about them.

___ 7. I get uncomfortable when a romantic partner wants to be very close.

___ 8. I worry a fair amount about losing my partner.

___ 9. I don't feel comfortable opening up to romantic partners.

___ 10. I often wish that my partner's feelings for me were as strong as my feelings for him/her.

___ 11. I want to get close to my partner, but I keep pulling back.

___ 12. I often want to merge completely with romantic partners, and this sometimes scares them away.

___ 13. I am nervous when partners get too close to me.

___ 14. I worry about being alone.

___ 15. I feel comfortable sharing my private thoughts and feelings with my partner.

___ 16. My desire to be very close sometimes scares people away.

___ 17. I try to avoid getting too close to my partner.

___ 18. I need a lot of reassurance that I am loved by my partner.

1	2	3	4	5	6	7
Disagree Strongly	.....	.....	*Neutral/ Mixed*	.....	.....	*Agree Strongly*

___ 19. I find it relatively easy to get close to my partner.

___ 20. Sometimes I feel that I force my partners to show more feeling, more commitment.

___ 21. I find it difficult to allow myself to depend on romantic partners.

___ 22. I do not often worry about being abandoned.

___ 23. I prefer not to be too close to romantic partners.

___ 24. If I can't get my partner to show interest in me, I get upset or angry.

___ 25. I tell my partner just about everything.

___ 26. I find that my partner(s) don't want to get as close as I would like.

___ 27. I usually discuss my problems and concerns with my partner.

___ 28. When I'm not involved in a relationship, I feel somewhat anxious and insecure.

___ 29. I feel comfortable depending on romantic partners.

___ 30. I get frustrated when my partner is not around as much as I would like.

___ 31. I don't mind asking romantic partners for comfort, advice, or help.

___ 32. I get frustrated if romantic partners are not available when I need them.

___ 33. It helps to turn to my romantic partner in times of need.

___ 34. When romantic partners disapprove of me, I feel really bad about myself.

___ 35. I turn to my partner for many things, including comfort and reassurance.

___ 36. I resent it when my partner spends time away from me.

Appendix C: Coping Strategies Inventory

The purpose of this questionnaire is to look at how you deal with difficult life events. Consider each item and CIRCLE the extent to which you have used it in dealing with a recent stressful event (that occurred within the last month).

		Not at all	A little	Some what	Much	Very Mucl
1.	I just concentrated on what I had to do next; the next step	1	2	3	4	5
2.	I tried to get a new angle on the situation.	1	2	3	4	5
3.	I found ways to blow off steam.	1	2	3	4	5
4.	I accepted sympathy and understanding from someone.	1	2	3	4	5
5.	I slept more than usual.	1	2	3	4	5
6.	I hoped the problem would take care of itself.	1	2	3	4	5
7.	I told myself that if I wasn't so careless, things like this wouldn't happen.	1	2	3	4	5
8.	I tried to keep my feelings to myself.	1	2	3	4	5
9.	I changed something so it would turn out all right.	1	2	3	4	5
10.	I looked for the silver lining, so to speak; tried to look on the bright side of things.	1	2	3	4	5
11.	I did think some things to get it out of my system.	1	2	3	4	5
12.	I found somebody who was a good listener.	1	2	3	4	5
13.	I went along as if nothing were happening.	1	2	3	4	5
14.	I hoped a miracle would happen.	1	2	3	4	5
15.	I realised that I brought the problem on myself.	1	2	3	4	5
16.	I spent more time alone.	1	2	3	4	5
17.	I stood my ground and fought for what I needed.	1	2	3	4	5
18.	I told myself things that helped me feel better.	1	2	3	4	5
19.	I let my emotions go.	1	2	3	4	5
20.	I talked to someone about how I was feeling.	1	2	3	4	5
21.	I tried to forget the whole thing.	1	2	3	4	5
22.	I wished that I never let myself get involved with the situation.	1	2	3	4	5
23.	I blamed myself.	1	2	3	4	5

24.	I avoided my family and friends.	1	2	3	4	5
25.	I made a plan of action and followed it.	1	2	3	4	5
26.	I looked at things in a different light and tried to make the best of what was available.	1	2	3	4	5
27.	I let out my feelings to reduce the stress.	1	2	3	4	5
28.	I just spent more time with people I liked.	1	2	3	4	5
29.	I didn't let it get to me; I refused to think about it too much.	1	2	3	4	5
30.	I wished that the situation would somehow go away.	1	2	3	4	5
31.	I criticized myself for what had happened.	1	2	3	4	5
32.	I avoided being with people.	1	2	3	4	5
33.	I tackled the problem head on.	1	2	3	4	5
34.	I asked myself what was really important, and discovered that things weren't so bad after all.	1	2	3	4	5
35.	I let my feelings out somehow.	1	2	3	4	5
36.	I talked to someone that I was very close to.	1	2	3	4	5
37.	I decided that it was really someone else's problem and not mine.	1	2	3	4	5
38.	I wished that the situation had never started.	1	2	3	4	5
39.	Since what happened was my fault, I really chewed myself out	1	2	3	4	5
40.	I didn't talk to other people about the problem.	1	2	3	4	5
41.	I knew what had to be done, so I doubled my efforts and tried harder to make things work.	1	2	3	4	5
42.	I convinced myself that things aren't quite as bad as they seemed.	1	2	3	4	5
43.	I let my emotions out.	1	2	3	4	5
44.	I let my friends help out.	1	2	3	4	5
45.	I avoided the person who was causing the trouble.	1	2	3	4	5
46.	I had fantasies or wishes about how things might turn out.	1	2	3	4	5
47.	I realised that I was personally responsible for my difficulties and really lectured myself.	1	2	3	4	5
48.	I spent some time by myself.	1	2	3	4	5

49.	It was a tricky problem, so I had to work around the edges to make things come out OK	1	2	3	4	5
50.	I stepped back from the situation and put things into perspective.	1	2	3	4	5
51.	My feelings were overwhelming and they just exploded.	1	2	3	4	5
52.	I asked a friend or relative I respect for advice.	1	2	3	4	5
53.	I made light of the situation and refused to get too serious about it.	1	2	3	4	5
54.	I hoped that if I waited long enough things would turn out OK.	1	2	3	4	5
55.	I kicked myself for letting this happen.	1	2	3	4	5
56.	I kept my thoughts and feelings to myself.	1	2	3	4	5
57	I worked on solving the problems in the situation.	1	2	3	4	5
58.	I recognised the way I looked at the situation so things didn't look so bad.	1	2	3	4	5
59.	I got in touch with my feelings and just let them go.	1	2	3	4	5
60.	I spent some time with my friends.	1	2	3	4	5
61.	Every time I thought about it, I got upset so I just stopped thinking about it.	1	2	3	4	5
62	I wished I could have changed what happened.	1	2	3	4	5
63.	It was my mistake and I needed to suffer the consequences.	1	2	3	4	5
64.	I didn't let my family and friends know what was going on.	1	2	3	4	5
65.	I struggled to resolve the problem.	1	2	3	4	5
66.	I went over the problem again and again in my mind and finally saw things in a different light.	1	2	3	4	5
67.	I was angry and really blew up.	1	2	3	4	5
68.	I talked to someone who was in a similar situation.	1	2	3	4	5
69.	I avoided thinking or doing anything about the situation.	1	2	3	4	5
70.	I thought about fantastic or unreal things that made me feel better.	1	2	3	4	5
71.	I told myself how stupid I was.	1	2	3	4	5
72.	I did not let others know how I was feeling.	1	2	3	4	5

Appendix D: Background Information

Please tick boxes as appropriate

Age: _____ ***Gender***: Male: ☐ Female: ☐

1) Are you currently in a romantic relationship? Yes: ☐ No: ☐

1a) If yes, are you:

Married: ☐ Defacto: ☐ Other (i.e. not living together): ☐

1b) How long have you been in this relationship (in months)?

_____

2) Do you have any children? Yes: ☐ No: ☐

If yes, how many? _____

3) How many romantic relationships have you had (minimum one month duration, including any current relationship)? _____

4) What are your current means of income support? (tick as many boxes as apply)

Austudy: ☐ Other Centrelink income support: ☐

Parents: ☐ Paid employment: ☐

Partner: ☐

Appendix E: Information Sheet for Participants

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Information Sheet for Potential Participants:
The role of relationships on current functioning

Hi, my name is Lorraine Brown and this study forms part of my Clinical PhD in the School of Psychology. I am interested, along with my supervisors, Dr Iain Montgomery and Dr Elaine Hart, in the role of close relationships on psychological well-being. This study asks you to provide some basic demographic data such as age and gender, and then to complete a number of questionnaires regarding the following:

- How you relate to romantic partners
- How you deal with anger
- How you cope with events
- The type of events you have experienced in the last year
- Your current psychological well-being (any problems you may be experiencing)

The questionnaires are relatively simple to complete, and could take up to 60 minutes. Before you decide to participate, you should know that your participation is completely voluntary and you are free to cease your involvement at any time, without prejudice or penalty from myself, my supervisors or any other member of the psychology department. Confidentiality will be maintained at all times. The information you submit will only be accessible to my supervisors or myself. Your name and other identifying details will not be recorded on any results' sheet, instead individual results will be coded to ensure that all information remains anonymous. Any published results will only refer to group data.

Whilst the survey items are unlikely to create discomfort, debriefing will be available by myself, or if you prefer, the University Counselling Service is also available (6226 2099). This study has received approval from the University Ethics Committee. Please feel free to contact myself (details above), Dr Iain Montgomery (6226 2386) or Dr Elaine Hart (6226 2936) should there be any aspect of this project you wish to discuss, or if you would like further information regarding the outcome of this study. If you have any concerns about the ethical nature of this study, please contact the Chair or the Executive Officer of the University Human Research Ethics Committee, Dr Janet Vial on 6226 4842 or Ms Chris Hooper, on 6226 2763.

Appendix F: Consent Form for Participants

I ..... have read and understood the information sheet regarding the study on "**The role of relationships on current functioning**". I understand that the study involves the completion of a number of questionnaires regarding how I relate to romantic partners, deal with anger, cope with events, the type of events I have experienced in the last year and my current psychological well-being. I understand that all research data will be treated as confidential and that the results of the study may be published, providing I cannot be identified as a subject. Any questions I have asked have been answered to my satisfaction.

Therefore, I agree to participate in the above study and understand that I may withdraw at any time without prejudice to my academic studies.

Name: .....

Signature: ..... Date:

Investigator: .....

I have explained this project and the implications of participation in it as a volunteer. I believe that the consent is informed and that he/she understands the implications of participation.

Signature: ..... Date:

Appendix G: Correlation Matrix for the Variables Used in the Regression Analyses

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
2	.0	-																			
3	**.3**	**.2**	-																		
4	.0	.0	-.1	-																	
5	.0	-.2	-.1	.0	-																
6	.1	**-.3**	.2	-.1	**.3**	-															
7	**.2**	**.2**	**.4**	-.1	-.1	.1	-														
8	**.3**	**.4**	**.4**	.0	-.2	**-.2**	**.6**	-													
9	**.2**	.1	.0	.1	.2	-.1	.1	.0	-												
10	**.2**	.1	.1	-.1	-.1	-.1	.0	.1	.1	-											
11	.1	-.1	.1	.2	.1	.0	-.1	.0	.1	**.3**	-										
12	**.4**	-.2	**.2**	.0	.0	.1	.0	**.2**	.0	.0	**.4**	-									
13	-.2	**-.2**	-.1	-.1	.1	.2	-.1	**-.2**	**-.2**	-.1	-.1	-.1	-								
14	**-.3**	**-.3**	**-.3**	.1	**.2**	.1	**-.3**	**-.4**	-.1	.0	.1	**-.2**	.1	-							
15	-.2	-.2	-.2	.1	.1	.1	**-.2**	**-.2**	.0	.0	-.2	-.1	.1	**.4**	-						
16	-.1	-.1	-.1	.1	**.2**	.0	.0	-.1	.1	.0	.1	.1	.1	.1	.1	-					
17	-.3	**-.6**	-.3	-.1	.0	.0	-.3	-.2	-.3	-.3	-.2	.0	**.4**	**.4**	**.4**	.1	-				
18	-.2	**-.5**	**-.2**	.1	**.2**	**.2**	**-.2**	**-.4**	-.1	-.1	-.1	.0	**.4**	**.6**	**.6**	.1	**.8**	-			
19	**.3**	.0	.2	.0	-.1	.1	.1	**.3**	.2	.0	.1	.2	-.1	**-.2**	-.1	-.1	-.1	-.1	-		
20	**.2**	.0	**.3**	-.1	.0	.0	**.3**	**.3**	.2	.0	.1	.1	-.1	**-.2**	-.2	.0	-.1	-.1	**.4**	-	
21	**.2**	-.1	.1	.0	.0	.1	.1	.2	**.2**	.1	.1	.1	.0	**-.2**	.0	.0	-.3	**-.2**	**.6**	**.4**	-
22	**.3**	**.3**	**.4**	.0	**-.2**	**-.2**	**.4**	**.6**	.1	.0	.0	.2	**-.3**	**-.3**	-.2	-.1	.0	**-.2**	**.2**	**.3**	.1
23	-.1	.0	-.2	.0	**.3**	-.1	-.1	-.1	-.1	.1	.1	.1	.0	.1	.1	.2	.0	.1	**-.5**	**-.2**	**-.5**
24	-.1	-.1	-.1	.1	**.5**	.1	-.1	**-.2**	.1	.1	.1	.0	.1	**.2**	.2	**.2**	.0	**.2**	**-.4**	**-.3**	**-.3**
25	**.3**	.1	**.3**	-.1	**-.4**	.0	**.2**	**.4**	.1	.0	.0	.1	-.1	**-.3**	-.2	**-.2**	-.1	**-.2**	**.6**	**.5**	**.6**
26	**.4**	**.3**	**.5**	.0	**-.3**	.0	**.4**	**.6**	-.1	.2	.0	.2	**-.3**	**-.4**	**-.2**	**-.2**	-.3	**-.3**	**.3**	**.3**	.1
27	**.2**	**.4**	**.2**	.0	-.2	**-.2**	**.3**	**.5**	.0	.1	.0	.1	**-.4**	**-.4**	**-.3**	-.1	-.1	**-.4**	**.3**	**.3**	.1
28	**.4**	.0	.2	.0	-.1	.0	.2	**.3**	.1	-.1	-.1	**.2**	-.1	**-.3**	-.2	-.1	.0	-.1	**.4**	**.2**	**.2**
29	.1	**.2**	**.2**	.0	-.1	-.1	.2	**.4**	.0	.0	.1	**.2**	-.2	**-.2**	**-.5**	-.1	-.1	**-.2**	.1	.2	.0
30	**.3**	**.2**	**.4**	-.1	**-.2**	-.1	**.4**	**.5**	.0	.0	.0	**.2**	**-.2**	**-.5**	**-.4**	-.2	-.3	**-.4**	**.3**	**.3**	**.3**
31	.1	.0	.1	.0	.1	.1	**.2**	.0	.1	-.1	.0	.0	.0	.0	.1	.0	-.2	.0	**.2**	.1	**.4**
32	**.4**	.1	**.3**	.0	-.2	.0	**.2**	**.4**	.1	.0	.0	**.2**	-.1	**-.4**	-.2	**-.2**	-.3	**-.3**	**.7**	**.4**	**.6**
33	**.3**	.2	**.2**	-.1	.1	.0	**.3**	**.3**	**.2**	.0	.1	.1	-.1	**-.4**	**-.3**	-.1	-.3	**-.3**	.2	.2	**.2**
34	**.4**	**.3**	**.4**	-.1	-.2	.1	**.4**	**.5**	.0	.1	.0	**.2**	**-.2**	**-.5**	**-.3**	-.2	-.3	**-.3**	**.5**	**.4**	**.3**
35	**.4**	**.3**	**.5**	.0	**-.3**	-.1	**.4**	**.6**	.0	.1	.0	.2	**-.3**	**-.4**	**-.3**	**-.2**	-.2	**-.4**	**.3**	**.3**	.1
36	**.4**	.1	**.3**	.0	.0	.0	**.3**	**.3**	**.2**	.0	.1	.2	-.1	**-.4**	**-.2**	-.1	**-.4**	**-.2**	**.6**	**.3**	**.5**
37	**.5**	**.3**	**.5**	.0	**-.2**	.0	**.4**	**.6**	.0	.1	.0	**.2**	**-.3**	**-.5**	**-.4**	**-.2**	-.3	**-.4**	**.5**	**.4**	**.3**
38	.1	**.3**	.2	.0	-.1	-.2	.1	**.3**	-.1	.0	.1	.1	**-.2**	-.2	-.1	**-.2**	-.1	-.2	.1	.1	.0
39	.1	.1	.0	-.1	-.2	.1	.1	**.2**	-.1	.1	.0	.1	-.1	.0	-.1	-.2	.1	-.1	.0	.1	-.1
40	.1	.0	.2	.0	.0	-.1	.1	.0	.0	-.1	-.1	.0	.2	-.2	-.2	-.1	-.2	.0	.0	.2	.1
41	.1	.0	.1	-.1	.0	-.1	**.2**	.1	.1	.0	.0	.0	.1	.0	-.1	.0	-.1	.0	.0	.0	-.1

Italic coefficients = $p < .05$, bold coefficients = $p < .01$; See page following completion of table for note identifying variables

Appendix G: Correlation Matrix for the Variables Used in the Regression Analyses

	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
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13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			
21																			
22	-																		
23	.0	-																	
24	**-.2**	**.7**	-																
25	**.5**	**-.8**	**-.8**	-															
26	**.5**	**-.2**	**-.3**	**.4**	-														
27	**.5**	.0	**-.2**	**.3**	**.6**	-													
28	**.4**	**-.2**	**-.2**	**.4**	**.5**	**.4**	-												
29	**.3**	.0	**-.2**	**.2**	**.4**	**.4**	**.2**	-											
30	**.4**	*-.2*	**-.3**	**.4**	**.6**	**.5**	**.4**	**.4**	-										
31	-.1	-.1	.0	.1	.0	-.1	.1	.0	*.2*	-									
32	**.3**	**-.4**	**-.4**	**.6**	**.5**	**.4**	**.5**	**.2**	**.4**	**.3**	-								
33	**.2**	.0	-.1	**.2**	*.2*	**.2**	**.3**	**.3**	**.4**	**.2**	**.3**	-							
34	**.4**	**-.2**	**-.3**	**.5**	**.7**	**.5**	**.6**	**.4**	**.6**	**.3**	**.6**	**.4**	-						
35	**.6**	*-.2*	**-.3**	**.4**	**1**	**.8**	**.5**	**.4**	**.6**	.0	**.5**	**.2**	**.7**	-					
36	**.3**	**-.3**	**-.3**	**.5**	**.4**	**.3**	**.4**	**.2**	**.5**	**.7**	**.8**	**.7**	**.6**	**.4**	-				
37	**.5**	**-.3**	**-.3**	**.5**	**.8**	**.7**	**.7**	**.5**	**.7**	**.3**	**.7**	**.4**	**.9**	**.9**	**.7**	-			
38	**.3**	.0	*-.1*	*.2*	**.5**	**.3**	**.2**	**.3**	**.2**	.0	**.2**	*.2*	**.3**	**.4**	**.2**	**.4**	-		
39	*.2*	.0	.0	.0	**.2**	*.2*	.1	**.4**	.0	.0	.1	.1	**.2**	**.2**	.1	**.2**	**.2**	-	
40	.1	.0	.0	.1	.0	.0	*.2*	.1	**.2**	**.2**	.0	**.6**	*.2*	.0	**.4**	**.2**	.0	.1	-
41	.0	.0	.0	.0	.0	.1	.0	.1	**.2**	.1	.0	**.4**	.1	.1	**.2**	.1	.0	.0	**.3**

Italic coefficients = $p < .05$, bold coefficients = $p < .01$; See next page for note identifying variables

Note. 1 = Negative Life Stress (NEG), 2 = Avoidant Attachment, 3 = Anxious Attachment, 4 = Avoidance x Anxiety, 5 = Problem Engagement (PE), 6 = Emotion Engagement (EE), 7 = Problem Disengagement (PD), 8 = Emotion Disengagement (ED), 9 = NEG x PE, 10 = NEG x EE, 11 = NEG x PD, 12 = NEG x ED, 13 = Friends, 14 = Education, 15 = Job, 16 = Family, 17 = Spouse, 18 = Mean Adaptive Functioning, 19 = Trait Anger Temperament, 20 = Trait Anger Reaction, 21 = Anger Expression Out, 22 = Anger Expression In, 23 = Anger Control Out, 24 = Anger Control In, 25 = Anger Expression Index, 26 = Anxious/Depressed, 27 = Withdrawn, 28 = Somatic Complaints, 29 = Thought Problems, 30 = Attention Problems, 31 = Intrusive Symptoms, 32 = Aggressive Behaviour, 33 = Delinquent Behaviour, 34 = Other Problems, 35 = Internalising Symptoms, 36 = Externalising Symptoms, 37 = Total Problems, 38 = Suicidal Ideation, 39 = Self Harm/Suicide Attempts, 40 = Alcohol Use, 41 = Drug Use.

Appendix H: Means, Standard Deviations and T scores for the Young Adult Self-Report Problem Scales

Scale	Gender	Mean	Standard Deviation	T Score[a]
Anxious/Depressed	Male	9.4* (7.5)	6.2 (5.9)	55 (54)
	Female	11.9* (9.3)	6.8 (6.3)	55 (54)
Withdrawn	Male	3.7* (2.6)	2.9 (2.2)	55 (54)
	Female	3.1* (2.6)	2.4 (2.2)	54 (54)
Somatic Complaints	Male	3.0 (2.5)	2.4 (2.8)	55 (54)
	Female	5.2* (3.5)	4.1 (3.3)	56 (54)
Thought Problems	Male	0.5 (0.4)	0.9 (0.9)	54 (53)
	Female	0.4 (0.3)	0.8 (0.7)	55 (53)
Attention Problems	Male	4.1* (2.9)	2.5 (2.5)	55 (54)
	Female	4.1* (2.4)	2.4 (2.1)	58 (54)
Intrusive Symptoms	Male	2.7 (3.4)	2.0 (2.7)	50 (54)
	Female	3.0 (2.6)	2.3 (2.4)	53 (54)
Aggressive Behaviour	Male	3.2 (3.6)	2.5 (3.4)	51 (54)
	Female	3.7 (3.8)	2.8 (3.2)	52 (54)
Delinquent Behaviour	Male	2.6 (2.1)	2.7 (2.4)	54 (54)
	Female	1.9* (1.1)	2.0 (1.7)	57 (54)
Internalising Symptoms	Male	13.1* (10.1)	8.5 (7.5)	55 (50)
	Female	15.1* (11.9)	8.6 (7.8)	55 (50)
Externalising Symptoms	Male	8.5 (9.1)	5.2 (6.7)	51 (50)
	Female	8.6* (7.5)	5.2 (5.8)	54 (50)
Total Problems	Male	42.3 (37.3)	22.6 (23.6)	54 (50)
	Female	49.6* (38.5)	22.5 (23.2)	56 (50)

Note. Mean and Standard Deviation of the normative sample from the YASR included in parenthesis (males n = 484, females n = 575). *p < .05. a T score 50-67 = Normal Range, T score 67-70 = Borderline Clinical Range, T score 70-100 = Clinical Range.

Appendix I: Correlation Matrix for the Express Emotions and Social Support Coping Scales (i.e., Emotion Engagement) and Adaptive Functioning

Emotion Engagement Coping Scales	Friends	Spouse	Family	Education	Job	Mean Adaptive
Express Emotions	.01	-.05	-.12	-.03	.03	.07
Social Support	.26**	.08	.02	.17*	.13	.28**

*p < .05; **p < .01.

Appendix J: Correlation Matrix for the Express Emotions and Social Support Coping Scales (i.e., Emotion Engagement) and Anger

Emotion Engagement Coping Scales	TAT	TAR	AXO	AXI	ACO	ACI	AX Index
Express Emotions	.25**	.10	.20**	-.04	-.20	-.07	.15*
Social Support	-.09	-.04	-.02	-.34**	-.01	.16*	-.20**

*p < .05; **p < .01; TAT = Trait Anger Temperament, TAR = Trait Anger Reaction, AXO = Anger Expression Out, AXI = Anger Expression In, ACO = Anger Control Out, ACI = Anger Control In, AX Index = Anger Expression Index

Appendix K: Correlation Matrix for the Express Emotions and Social Support Coping Scales (i.e., Emotion Engagement) and Psychopathology

Emotion Engagement Coping Scales	1	2	3	4	5	6	7	8	9	10	11	12
Express Emotions	.11	.02	.07	.05	.09	.11	.27	.04	.23	.10	.20	.18
Social Support	*-.17*	-.33	-.13	-.22	-.18	.06	*-.17*	-.09	-.10	-.23	-.11	-.19

Italic coefficients = $p < .05$, bold coefficients = $p < .01$; 1 = Anxious/Depressed, 2 = Withdrawn, 3 = Somatic Complaints, 4 = Thought Problems, 5 = Attention Problems, 6 = Intrusive Symptoms, 7 = Aggressive Behaviour, 8 = Delinquent Behaviour, 9 = Other Problems, 10 = Internalising Symptoms, 11 = Externalising Symptoms, 12 = Total Problems

Appendix L: Correlation Matrix for the Express Emotions and Social Support Coping Scales (i.e., Emotion Engagement) and Suicidality, Alcohol and Drug Use

Emotion Engagement Coping Scales	Suicidal Ideation	Self Harm/ Suicide Attempts	Alcohol Use	Drug Use
Express Emotions	-.09	.20**	-.08	-.04
Social Support	-.19**	-.09	-.07	-.10

*$p < .05$; **$p < .01$

Appendix M: Correlation Matrix for the Express Emotions and Social Support Coping Scales (i.e., Emotion Engagement) and Attachment

Emotion Engagement Coping Scales	Avoidance	Anxiety	Anxiety x Avoidance
Express Emotions	-.19**	.17*	-.02
Social Support	-.30**	.11	-.02

*p < .05; **p < .01