

**The Relationship Between Parental and Adolescent Mental Health:  
Internalising Disorders, Attachment Prototype  
and Schema Profile**

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## DECLARATION

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## ABSTRACT

**Purpose of Study:** Several studies have noted that the vulnerability that appears to stem from insecure attachment may originate with cognitive processes (Ingram, 2003). The conceptual similarities between Bowlby's (1969, 1973) attachment theory and Young's (1994) schema theory have been noted (Mason *et al*, 2005). Few studies have examined the relationship of attachment style, cognitive style and affect in adolescence. Moreover, studies of depressed children and adolescents in clinical samples have rarely reported on the status of mothers (Hammen *et al*, 1999) or fathers, representing gaps in existing knowledge given that many children and adolescents may have disorders that are functionally linked in some way to their parents (Hammen *et al*, 1999; Goodman & Gotlib, 1999). The present exploratory study investigated two mechanisms of risk for adolescent internalising disorders, modelling of parents attachment style, cognitive style and affect and indirect learning through attachment representations.

**Method:** A cross-sectional between-subjects postal questionnaire design was employed. A clinical sample of 10 adolescents with internalising disorders and their parents (10 mothers and 2 fathers) completed a questionnaire battery incorporating self-report measures of attachment style, affect symptomatology and cognitive style.

**Results:** Correlational analysis did not provide support for the modelling hypothesis with regard to matching between adolescents and mothers attachment styles, cognitive styles or affect. Adolescents cognitive style was not found to be related to mothers affect or history of internalising problems. However, significant relationships were evident between adolescents' cognitive schemas, internalising symptomatology and attachment style.

**Conclusions:** The significant results obtained are consistent with interpersonal relationship and cognitive vulnerability theories of risk but need to be interpreted with the caution necessary to an exploratory study. Implications concerning mechanisms of risk for adolescent internalising disorders are discussed and several directions for future research provided.

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# CHAPTER 1

## INTRODUCTION

## INTRODUCTION

### **1.1 Introduction and Overview**

Few studies of depressed children and adolescents in clinical samples have reported on the status of the mother (Hammen *et al*, 1999) or fathers representing a gap in existing knowledge as many children and adolescents may have disorders that are functionally linked in some way to their parents (Goodman & Gotlib, 1999; Hammen *et al*, 1999; Weissman *et al*, 1997). Studies indicate that depressed mothers expose their children to more negative cognitions, affect, and behaviour (Cummings & Davies, 1994; Downey & Coyne, 1990; Kaslow *et al*, 1994), and that children of depressed mothers exhibit more maladaptive cognitions, affect and behaviour. However, little is known as to whether depressed children of depressed parents differ in any significant way from depressed children of non-depressed parents (Hammen & Brennan, 2001) and there is limited understanding as to how children of depressed mothers acquire these traits and tendencies or the extent to which these may mediate their risk for depression (Goodman & Gotlib, 1999). Insecure attachments and cognitive processes have however been implicated in this area.

Few studies have examined the relationship of attachment style, cognitive style and affect in adolescence, or linked this with those of their parents. Studies investigating mechanisms of risk for child and adolescent internalising disorders, such as indirect learning through attachment relations and modelling of parents' cognition and affect are proposed to be important steps in understanding mechanisms for the transmission of risk (Goodman & Gotlib, 1999).

## 1.2 Internalising Disorders in Children and Adolescents

Reviews of epidemiological studies show slightly higher rates of psychopathology for adolescents than children (Cohen *et al*, 1996). Both internalising and externalising problems show an increase in prevalence during adolescence (Moffitt, 1993). With regard to internalising disorders, depression, panic disorder and social anxiety become increasingly common in adolescence (King *et al*, 1994; Lewinsohn *et al*, 1994).

By adolescence prevalence rates for depression are twice as high in girls as compared to boys (Lewinsohn *et al*, 1994; Birmaher *et al*, 1996; Angold *et al*, 1999), whereas no differences are observed during childhood. It is estimated that by age eighteen, 20-25% of adolescents in the general population will have experienced an episode of affective illness (Lewinsohn *et al*, 1993). Moreover, co-morbidity rates of depression and anxiety have been reported at 40-75% in studies of children and adolescents in both community and clinical samples (Biederman *et al*, 1995; Kashani *et al*, 1987; Kovacs, 1989, 1996; Masi *et al*, 1999). In addition, depression in children and adolescents is significantly impairing (Hammen & Rudolph, 1996) and generally portends recurring or continuing episodes in to adulthood (Hammen *et al*, 1999; Harrington *et al*, 1990; Rao *et al*, 1995; Weissman *et al*, 1997). With respect to depression, increasing incidence has been reported in adolescents as compared with earlier decades (Birmaher *et al* 1996; Hammen & Rudolph, 1996).

In light of the above studies indicating the prevalence and impact of child and adolescent internalising disorders, in addition to noted limitations of downward extensions of adult models for conceptualising and treating children and adolescents with internalising disorders (Hammen *et al*, 1999), researchers have increasingly focused on the origins and development of such disorders. Specifically, researchers have examined factors which may either add protection or increase vulnerability in order to clarify which factors may contribute to the

development of psychopathology. This in turn may help to inform the development of effective treatments for children and adolescents with internalising disorders.

### **1.3 Developmental Psychopathology and the Interpersonal Relationship Perspective**

Psychopathology in developmental terms has been defined as the study of the origins and course of individual patterns of behaviour adaptation (Sroufe & Rutter, 1984). Within developmental psychopathology a transactional model is generally now accepted. The transactional model attempts to integrate individual and contextual processes in a dynamic ecological model for understanding psychopathology and tends to focus on models of multiple risk or models of risk, resilience and protective factors. This is because linear models which focus on individual traits or simple environmental effects have been prone to reductionism and highlighted as inadequate in relation to the general systems theory concepts of multifinality and equifinality (Von Bertalanffy, 1968). Multifinality is defined as similar experiences leading to a different outcome, and equifinality is defined as different experiences leading to a similar outcome, indicating considerable diversity in the processes involved in attaining a similar outcome (Cicchetti & Rogosch, 1996). For example, the common outcome of an internalising disorder is likely to result from different processes across different individuals rather than from all individuals following the same progression to an internalising disorder.

The course of development is therefore complex in psychopathology and it is difficult to ascertain whether a certain factor, such as parenting experiences, led to a disorder in a linear manner given that psychopathology is usually the result of the combination of risk and protective factors impacting on the individual's life over time (Sameroff, 1997; Sroufe, 1997).

However, some theorists (Bowlby, 1973; Sameroff & Emde, 1989) view early relationships to be the progenitors of disorder whereby psychopathology is the outgrowth of relationship disturbances. It has been mooted that when the quality of early relationships are poor, successful psychological adjustment throughout life may be hindered, potentially leading to the development of both symptomatology (Cicchetti & Toth, 1995) and interpersonal difficulties (Bowlby, 1988; Weinfield *et al*, 1997), implicating the role of attachment in the origins of mental health problems. To this end, Sroufe *et al* (2000) have argued that interpersonal relationships are pivotal for studying psychopathology given that all disorders develop in a context (Sameroff, 1997; Sroufe, 1997) and relationships with parents and peers are a critical part of children and adolescents developmental contexts. This viewpoint has some kinship with family system perspectives, in which disorder is seen within the relationship system and not the individuals (Jackson, 1977). Individual differences in early attachment relationships are not viewed in themselves as direct causes of psychopathology, or as the only risk factor deriving from parenting history but at the same time they are viewed as key contributors to psychopathology because of their role as risk factors, protective factors, mediators, and moderators (Bronfenbrenner, 1979; Masten *et al*, 1990; Holmbeck *et al*, 2000; Sroufe *et al*, 2000).

In sum, the interpersonal relationship perspective on developmental psychopathology emphasises the importance of the early social environment within which attachment relationships are heavily implicated. Prior to continuing the discussion as to why attachment relations are considered pivotal in understanding the development of mental health problems, it is necessary to first outline the tenets of Bowlby's (1969, 1973, 1980) attachment theory as context.

## 1.4 Attachment Theory

Attachment theory developed by Bowlby (1969, 1973, 1977, 1980) conceptualises “The propensity of human beings to make strong affectional bonds to particular others” (Bowlby, 1977, p.201). At the core of attachment theory is the reciprocity of early parental relationships. The attachment behaviours of the human infant, such as proximity seeking, smiling and clinging are reciprocated by adult attachment behaviours, such as touching, holding, and soothing. These responses strengthen the attachment behaviour of the infant toward the particular parent or caregiver. Bowlby hypothesised that the attachment system evolved to maintain proximity between infants and their parents under conditions of danger or threat. The activation of attachment behaviours depends on the infant’s evaluation of a range of environmental signals which results in the feeling of security or insecurity. The experience of security is the goal of the attachment system which functions continuously to provide children with a sense of “felt security”, facilitating exploration by the child (Ainsworth *et al*, 1978; Sroufe & Waters, 1977). The quality of early attachment relationships is therefore rooted in the degree to which the infant has come to rely on the attachment figure as a source of security (Ainsworth *et al*, 1978), and the continuity of contact with the attachment figure (Ainsworth *et al*, 1978; Lamb *et al*, 1985).

According to Bowlby’s attachment theory (1969, 1973, 1980) children develop general expectations about themselves and others from their early attachment relationships with parents. Past experiences with parents are aggregated in to representational systems that Bowlby (1973) termed internal working models, which have been defined as having two key features:

“Firstly, whether or not the attachment figure is judged to be the sort of person who in general responds to calls for support and protection, and secondly, whether or not the self is judged to be the sort of person towards whom anyone, and the attachment figure in particular, is likely to respond in a helpful way” (Bowlby, 1973, p. 204).

The first concerns the child's image of other people, the second concerns the child's image of the self. More specifically, the internal working model of others represents one's general expectations about the availability, dependability, and supportiveness of others and the internal working model of the self is said to represent one's internalised sense of self-worth. There is general agreement that the self exists only in the context of the other, and the development of the self is tantamount to the aggregation of experiences of the self in relationships (Fonagy & Target, 1997; Crittenden, 1994; Sroufe, 1990). Theorists are in agreement that repeated, invariant aspects of self-other relations are abstracted in to internal representational mental models (Johnson-Laird, 1983) or self-other-affect triads (Kernberg, 1977), akin to Bowlby's conception of internal working models.

Intimately connected with the attachment system and emergence of internal working models is the development of reflective function of the self (Fonagy & Target, 1997). Reflective function is the developmental acquisition that allows children to respond to others behaviour, but also the child's conception of others beliefs, feelings, and attitudes. Reflective function enables children to 'read' other people's minds (Baron-Cohen, 1995). By doing this children make people's behaviour meaningful and predictable. Exploring the meaning of others actions is therefore a precursor of children's ability to label and find meaningful their own psychological experiences. For example, if a child is anxious it will experience a range of physical sensations, thoughts and behaviours. When the mother reflects the child's anxiety, this organises the child's experience so that they know what they are feeling. Mirroring is said to fail when then child's experience is exaggerated or minimised by the parent (Gergely & Watson, 1996). Both Bowlby (1973) and Fonagy & Target (1997) suggest that the integrated representation of the affect in self and other ultimately enables a child to understand affective displays in others, as well as arriving at regulation of their own emotions. Thus, attachment has been defined as the dyadic regulation of emotion (Sroufe, 1996). Attachment security is thought to facilitate the development of an autonomous and

coherent sense of self (Emde, 1990; Fonagy *et al* 1995, 1996; Liberman & Pawl, 1990) whereas attachment insecurity leads children to form negative internal working models of themselves and others (Bowlby, 1969, 1973, 1980). The attachment system has therefore been argued to be, first and foremost, a regulator of emotional experience (Bowlby, 1973; Fonagy *et al*, 1996; Sroufe, 1996). In this sense it is thought to lie at the core of many mental health problems (Fonagy *et al*, 1996; Bowlby, 1973).

#### **1.4.1 Measurement and Classification of Attachment Styles in Infants**

With regard to measurement techniques to support Bowlby's attachment theory, Ainsworth and colleagues (Ainsworth *et al*, 1978; Ainsworth, 1985) developed a structured laboratory procedure for observing infants' internal working models in action, known as the 'Strange Situation'. On the basis of infants' responses to brief separation from and reunion with their mother in a situation unfamiliar to them, three distinct styles of infant attachment were identified: secure, insecure-avoidant and insecure-ambivalent.

Infants classified as secure explored readily in the presence of their mother and were distressed by their mother's brief absence, rapidly seeking contact with her afterwards before returning to their exploration. Secure infants behaviour is said to be based on the experience of well-coordinated, sensitive interactions where the parent is rarely over-arousing and is able to re-stabilise the child's disorganising emotional responses. Negative emotions feel less threatening and can be experienced as meaningful and communicative (Grossman *et al*, 1988; Sroufe, 1996).

Infants classified as insecure-avoidant were less anxious at separation, avoided the mother following separation, not necessarily preferring her over the stranger. Insecure-avoidant children are presumed to have had experiences where their emotional arousal was not stabilised by the parent, or where they were over-aroused through intrusive parenting.



Therefore, they are thought to over regulate their affect and avoid situations that are likely to be distressing.

Insecure-ambivalent infants showed limited exploration and play, tended to be highly distressed by the separation and had great difficulty settling afterwards. The mother's presence or attempts to comfort failed to reassure the infant. Insecure-ambivalent children are thought to under regulate their affect, heightening their expression of distress, possibly in an effort to elicit the expectable response of the mother. There is a low threshold for threat, and the child becomes preoccupied with having contact with the parent but is frustrated even when it is available (Sroufe, 1996).

Later, Main & Solomon (1990) identified a fourth group of infants by reanalysing Ainsworth's data. These infants were classified as disorganised and exhibited seemingly undirected behaviour and the wish to escape the situation even in the presence of the parent. Crittenden (1988) had previously mooted the possibility of a fourth style characterised by a mixture of ambivalence and avoidance. It is generally held that for disorganised infants the parent has served as a source of fear and reassurance, and thus arousal of the attachment system produces strong conflicting motivations.

#### **1.4.2 Attachment Theory Beyond Infancy**

Attachment theory proposes that attachment styles continue to be influential and endure throughout the life span (Ainsworth, 1982, 1989; Bowlby, 1977, 1980; Main *et al*, 1985; Lopez & Gover, 1993; Colin, 1996; Lopez & Brennan, 2000). Children are said to internalise experiences with their parents in such a way that they abstract expectation from these relationships to form a set of postulates about how relationships in general operate. Attachment relations undergo developmental transformations, as new attachment figures are added to the hierarchy and relative preferences for attachment figures may change. During

adolescence the hierarchy of attachment figures (Bowlby, 1982) is gradually reordered as adolescents increasingly direct their attachment behaviours towards peers rather than parents (Furnam & Buhrmester, 1992; Hazan & Zeifman, 1994). With development and experience a general internal working model of relationships evolves, which reflects an aggregation of experiences in different relationships and becomes established as an influential cognitive structure (Bowlby, 1988). This forms the basis of the individual's attachment style or prototype for later relationships and is used to guide behaviour in these relationships.

These internal working models are viewed as self-perpetuating because they are thought to represent an established cognitive model that predisposes individuals towards interpreting experiences in ways which are consistent with those models (Shaver *et al*, 1996). Bowlby (1988) used information processing theories to explain the increasing stability of internal working models as well as their defensive distortion. Firstly, patterns of interacting grow less accessible to awareness as they become habitual and automatic. Secondly, dyadic patterns of relating are more resistant to change than individual patterns because of reciprocal expectancies.

An array of information processing biases are available to guide the processing of social feedback so as to confirm internal models (Greenwald, 1982; Swann, 1983). Internal models are expected to direct attention, organise and filter new information, and determine the accessibility of past experiences. Thereby ambiguous stimuli tend to be assimilated to existing models. In processing social information, people seem to produce behaviours that evoke specific reactions from other people, and this social feedback is interpreted in ways that confirm the person's internal models of the self and others (Capsi & Elder, 1988; Swann, 1983, 1987; Sroufe & Fleeson, 1986). Internal working models are thought to include both conscious and unconscious schematic elements (Shaver *et al*, 1996) and are thought to be resistant to change given that some aspects are inaccessible to consciousness

(Crittenden, 1994). Individual's internal working models are thought to be successively validated through information processing biases, becoming more firmly established as the individual matures in to adolescence and adulthood (Bretherton, 1985; Sroufe, 1988; Weiss, 1982).

### **1.4.3 Measurement and Classification of Attachment Styles in Adolescents and Adults**

With regard to measurement techniques to support the conclusion that attachment styles continue to be important and endure throughout the lifespan, the Adult Attachment Interview (AAI) was developed by George *et al* (1985, 1987) and Main and Goldwyn (1994). The AAI is a structured clinical interview which explores adult's representations or internal working models of childhood attachment relationships to parents by eliciting narratives. On the basis of these interviews, parents have been classified in to attachment groups that parallel the infant attachment patterns described earlier.

The AAI scoring system (Main & Goldwyn, 1994) classifies individuals into autonomous (secure), dismissing (insecure-avoidant), preoccupied (insecure-ambivalent), or unresolved (insecure-disorganised) categories based on the structural qualities of narratives of early experience. Individuals classified as autonomous are said to value attachment relationships, coherently integrate memories into a meaningful narrative, and regard these as formative. Individuals classified as dismissing are poor at integrating memories of experience with the meaning of that experience and show avoidance by denying memories and by idealising or devaluing early relationships. Preoccupied individuals tend to be confused, angry or fearful in relation to attachment figures, sometimes still complaining of childhood slights, echoing the protests of the ambivalent infant. Unresolved individuals give indications of significant disorganisation in their attachment relationship representation in semantic or syntactic confusions in their narratives concerning childhood trauma or a recent loss. The final

categorisation on the AAI is assumed to represent the individual's current state of mind, internal working model or schema of attachment relationships and is assumed to include cognitive and affective components that shape behaviour in their current relationships (Main & Goldwyn, 1994; Crowell *et al*, 1991).

A different but overlapping approach is taken by those who argue that attachments in adulthood, although differing in some way from those in childhood, still involve the activation of a system uniquely adapted to seek comfort and security under conditions of stress, which occurs through seeking proximity to a primary figure (Ainsworth, 1989). Within this research strategy measures of adult attachment are developed and validated against criteria of interpersonal functioning in relationships (Hazan & Shaver, 1987; Feeney & Noller, 1990; Collins & Read, 1994; Bartholomew & Horowitz, 1991). Within this approach the assertion is made that attachment patterns have continuity into adulthood, not just in terms of the psychological capacities underpinning the attachment behaviour in infancy, mainly affect regulation, but also that the strategies themselves are conserved into adulthood.

Hazan and Shaver (1987) were the first to develop a self-report measure of adult attachment. They wrote three descriptions based on imagining how adults might operate within romantic relationships as related to the three infant categories of attachment identified by Ainsworth and colleagues (Ainsworth *et al*, 1978). Subsequently, several authors suggested that attachment styles are best conceptualised as regions in two dimensional space (Bartholomew, 1990; Bartholomew & Horowitz 1991; Brennan *et al* 1998), namely attachment anxiety and attachment avoidance. Bartholomew (1990) and Bartholomew & Horowitz (1991) dichotomised the internal working model of self and other, as proposed by Bowlby, in to positive or negative giving four theoretical attachment styles or prototypes.

The four category model conceptualises working models that are more or less consciously held, though they tend to operate automatically.

Within the two dimensions of Bartholomew (1990) and Bartholomew & Horowitz's (1991) conceptualisation, low anxiety and avoidance were labelled as a secure attachment style. This corresponds conceptually to previous researchers secure classifications of attachment (Ainsworth *et al*, 1978; Hazan & Shaver, 1987; Main *et al*, 1985). The secure style indicates a sense of worthiness and lovability plus an expectation that other people are generally accepting and responsive and is defined by positive self and other models. Secure adults are expected to be more self-confident, trusting, and comfortable with closeness in relationships. The preoccupied style relates to high anxiety and low avoidance corresponding to Hazan & Shaver's (1987) ambivalent and to Main *et al*'s (1985) preoccupied attachment style. The preoccupied style indicates a sense of low self-worth and unlovability combined with a positive evaluation of others and is defined by negative self and positive other models. Such individuals are expected to be clinging, dependent, jealous, and anxious about relationships (Collins & Read, 1994; Feeney & Noller, 1990; Hazan & Shaver, 1987) and a preoccupied style would lead the person to strive for self-acceptance by gaining the acceptance of valued others.

The primary difference between the three and four category model is the differentiation of two types of avoidant adults, dismissing avoidants and fearful avoidants. The dismissing style is characterised by low anxiety and high avoidance and largely corresponds conceptually to the dismissing style described by Main *et al* (1985) and the avoidant style described by Ainsworth *et al* (1978). The dismissing style indicates a sense of self love and worthiness combined with a negative view of other people and is defined by positive self and negative other models. Dismissing adults might be expected to deny the distressing aspects of interpersonal situations, reject offers of assistance, and aggressively assert their

independence (Bartholomew & Horowitz, 1991; Mikulincer *et al*, 1990). Finally, Bartholomew (1990) and Bartholomew & Horowitz (1991) added a fourth category which they labelled the fearful style, which relates to high anxiety and avoidance, something that neither AAI researchers nor Hazan & Shaver (1987) initially did. The fearful style corresponds conceptually to the disorganised style proposed by Main & Solomon (1990) in the infant attachment literature and the unresolved style described by Main & Goldwyn (1994) in subsequent revisions of the AAI. The fearful style indicates a sense of unworthiness and unlovability combined with an expectation that others will be untrustworthy and rejecting and is defined by negative self and other models. Fearful individuals are likely to be confused about their relationships, socially inhibited and unassertive, showing a combination of avoidant and ambivalent traits (Bartholomew & Horowitz, 1991; Crittenden, 1988, 1994, 1997).

Bartholomew & Horowitz's (1991) self-report Relationship Questionnaire (RQ) was designed to assess adult attachment within Bartholomew's (1990) four category model and is based on an adaptation of Hazan & Shaver's (1987) self-report attachment measure. The RQ consists of four short paragraphs describing the four attachment styles. Each respondent is asked to categorise themselves in to the best fitting style in addition to continuously rating the degree to which they resemble each of the four styles. In Bartholomew & Horowitz's (1991) studies to test the model and the validity of the RQ, they assessed undergraduate subject's attachment styles through interview, self-report and friend-report and validated attachment ratings via measures of self-concept and interpersonal functioning. Intercorrelations of the attachment ratings were consistent with the proposed model and each style was associated with a distinct profile of interpersonal problems according to both self- and friend-reports. Participant's attachment styles with peers were also correlated with family attachment ratings highlighting the applicability of the model to representations of family relationships.

In further support of the model, Brennan *et al* (1991) compared the four categories as measured by the RQ and the traditional three category model using Hazan & Shaver's (1987) measure but with the addition of continuous ratings and found that fearful subjects tend to endorse both the avoidant and ambivalent options on the Hazan & Shaver (1987) measure lending support for the two dimensional structure, anxiety and avoidance, hypothesised in Bartholomew's (1990) four category model. Subsequently, Shaver & Hazan (1993) have shown that the two dimensions fit with their initial ideas and Brennan *et al* (2000) highlighted that these dimensions are conceptually the same as Ainsworth *et al*'s (1978) and argued that the distinctions among attachment styles have always primarily been a matter of scores on anxiety and avoidance (Brennan *et al*, 2000; Shaver, 2006) The AAI however focuses primarily on coherence of discourse, not on anxiety and avoidance.

Bartholomew (1990) and Bartholomew & Horowitz (1991) did however note that none of the subjects uniquely fitted in to any one attachment style with many subjects showing elements of two or three of the attachment styles. Therefore, a great deal of individual variability was lost when the four continuous ratings were collapsed into a simple four category classification. However, the results were very similar whether a correlational analysis was used involving four continuous ratings or whether a between groups comparison of four groups was used involving categorical ratings across dependent measures. Thus, no convincing evidence was produce for the advantage of continuous attachment ratings over a categorical classification.

Subsequent to this, Fraley & Waller (1998) provided evidence to indicate that precision is lost when categorical instead of continuous measures are utilised and argued that there was no such thing as a true attachment style. Current thinking in attachment research therefore recommends that continuous rather than categorical measures are utilised when researching attachment (Fraley & Waller, 1998; Shaver, 2006).

#### **1.4.4 Stability and Intergenerational Transmission of Attachment Styles**

As noted earlier, Bowlby proposed that internal working models become increasingly established as influential cognitive models, which are resistant to change, and provide prototypes for all later relationships. Whilst several of the main types of measure for infant and adult attachment styles have been described above, a range of measures currently exist, which have allowed researchers to explore these assumptions. With regard to evidence to support the assertion that attachment styles endure throughout the lifespan researchers have conducted longitudinal studies following up infants originally studied in the Strange Situation in middle childhood, early adolescence, late adolescence and early adulthood (Grossmann *et al*, 1993; Sroufe *et al*, 1990). Major longitudinal studies have shown a 68-85% correspondence with attachment classifications in infancy and classifications in adulthood (Waters *et al*, 1995; Waters *et al*, 2000). For example, Waters *et al* (2000) measured attachment security of fifty one year olds in the Strange Situation and saw the same subjects twenty years later in AAI. 85% of infants who were secure in the Strange Situation were secure in the AAI twenty years later. Infants who were insecure at one year had only a 25% chance of becoming secure in their adult relationships with their parents.

A related argument to the stability of attachment styles across the lifespan is the intergenerational transmission of attachment styles. Bowlby (1973) proposed that internal working models or attachment styles provide prototypes for all later relationships, and to this end can be transmitted from parent to child across the generational line. With regard to evidence to validate this position, studies have found that secure adults have children who are three to four times more likely to be securely attached to them (Van Ijzendoorn, 1995). In general, high concordance between parents internal representations of their own family relationships as assessed by the AAI and their children's attachment security to them as assessed by the Strange Situation have been reported (Crowell & Feldman, 1987, 1988; Grossmann *et al*, 1988; Main *et al*, 1985; Fonagy *et al*, 1991; Van Ijzendoorn, 1992). This is



true even when parental attachment is assessed with the AAI before the birth of the child (Fonagy *et al*, 1991; Ward *et al*, 1990; Benoit & Parker, 1994; Steele *et al*, 1996). Further, there is evidence that attachment patterns are maintained over three generations (Benoit & Parker, 1994). However, the majority of this research has pertained to mothers and their children and studies of concordance between fathers and children's attachment classifications have been very limited (Cowan *et al*, 1996).

In sum, models of attachment have been found to be relatively stable across the lifespan (Ainsworth, 1989; Bartholomew & Horowitz, 1991; Doane & Diamond, 1994; Collins & Read, 1994) and considerable evidence exists documenting the continuity of attachment related behaviours (Belsky & Pensky, 1988; Bowlby, 1973, 1980; Ricks, 1985; Rutter, 1988), in addition to the intergenerational transmission of attachment styles (Steele *et al*, 1996; Benoit & Parker, 1994).

#### **1.4.5 Summary of Attachment Theory**

Early attachment relations with parents have been proposed by Bowlby as core in the development of affect regulation strategies and internal working models. These internal working models, because of information processing biases, unconscious aspects and reciprocal expectancies are proposed to become established as influential cognitive structures which guide behaviour in future relationships. Measures of both infant and adult attachment have classified individuals in to attachment styles on the basis of their affect regulation strategies and functioning in interpersonal relationships, with four category models offering enhanced conceptualisation. Both longitudinal and cross-sectional studies have provided considerable evidence as to the stability, continuity and intergenerational transmission of attachment styles, providing support for Bowlby's theory that attachment styles continue to be influential throughout the lifespan.

## **1.5 Attachment Theory and the Conceptual Congruence to Cognitive and Schema Theories**

Bowlby (1988) implicated cognitive models and related information processing biases in the development and maintenance of internal working models and the enduring influence of attachment styles. In this respect it has been suggested that the vulnerability that appears to stem from insecure attachments may originate with cognitive processes and models (Ingram, 2003) and it has been proposed that attachment research could benefit from links with other fields, such as cognitive approaches to clinical phenomena (Main *et al*, 1985).

Akin to attachment theory, several cognitive theorists have proposed that early experiences contribute to the development of cognitive styles (Beck, 1967; Beck *et al*, 1979; Young, 1994; Haines *et al*, 1999; Ingram *et al*, 1998). According to Beck (1996) and Young (1994) schemas form the framework for how individuals interpret and evaluate both positive and negative interactions during adolescence and adulthood. Schemas are described as extremely enduring patterns that develop during childhood and are elaborated throughout an individual's life and are resistant to change, in much the same way as Bowlby's theory proposes. Schemas are said to be organised representations of prior experience that facilitate recall and systematically distort new interpretations with implications for selective filtering of corroborating information and discounting conflicting information (Beck, 1976; McGinn & Young, 1996; Schmidt *et al*, 1995). Such information processing biases serve to perpetuate schemas over time.

According to Beck's theory schemas are core absolute and dichotomous such as "I am unlovable". Young (1994) however, proposed schemas to be at an overarching level to that of core belief. He proposed that a core belief is part of a schema, but a schema is a broader or more pervasive theme or pattern, which is comprised of memories, bodily sensations, emotions and cognitions. As such, it has been posited that schemas are likely to be an

integrative concept across differing therapeutic modalities such as cognitive, interpersonal, dynamic and constructivist (Wellburn *et al*, 2002). Within Young's schema model the origins of schemas and more specifically early maladaptive schemas are said to develop when specific core childhood needs are not met and lie in repeated episodes of negative childhood and adolescent experiences and are thought to reflect childhood attachment approval or disapproval experiences (Wellburn *et al*, 2002). Schemas in childhood are said to be functional and help to make sense of experience but as an adult they may be inflexible which is maladaptive.

### **1.5.1 Vulnerability to Internalising Disorders according to Cognitive and Schema Theories**

The cognitive vulnerability hypothesis has been most extensively studied in relation to depression. Theories focusing on cognitive schemas in depression (e.g. Beck, 1967; Beck *et al*, 1979; Young, 1994) suggest that these schemas develop in response to stressful events in childhood. Adverse early experiences, particularly inadequate parenting, contribute to the development of negative cognitive styles or schemas associated with risk of depression (Beck, 1967; Beck *et al*, 1979; Young, 1994; Abramson *et al*, 1989; Haines *et al*, 1999; Ingram *et al*, 1998). Emotional disturbance is viewed as being influenced by the cognitive distortions people make, for example, negative thoughts about the self, others and the world. In Beck's theory people who possess negative self schemas that contain dysfunctional attitudes, such as their worth depends on being perfect, are hypothesised to be vulnerable to depressive episodes when they encounter stressors or negative events which activate these beliefs (Beck, 1967, 1987; Beck *et al*, 1979). This is in accordance with other cognitive theories of depression, although differing in some details, such as hopelessness theory (Abramson *et al*, 1989; Alloy *et al*, 1988) and fits with attachment theory whereby internal working models are believed to guide appraisals of experience and behaviour especially under stressful conditions (Main *et al*, 1985).

Cognitive styles or schemas that confer vulnerability to anxiety have received considerably less attention than depression (Riskind *et al*, 2000). Several theories of anxiety implicate the role of dysfunctional assumptions (Beck *et al*, 1985; Williams *et al*, 1997). Wells (1997) describes Beck's theory of anxiety (Beck *et al*, 1985) as a schema theory because of the distortion in cognitive processes. For example, negative automatic thoughts and selective attention reflect the operation of underlying cognitive structures, namely schemas.

Similarly, Riskind *et al* (2000) have also proposed a schema theory of anxiety. They contend that perceptions of threat which they labelled the looming maladaptive style, represents the central component in evoking an anxious or fearful response. They posit that individual's process information about potential threats, the majority of which occurs automatically and unreflectively, involving the integration of incoming information with memories, attitudes, beliefs and concepts developed from past experience. Therefore expectations of threat or risk are derived from, or are influenced by, an individual's schemas (Riskind, 1997; Riskind *et al*, 1992). Studies to test the concept of a looming maladaptive style suggest that it is a fairly stable construct that acts to increase vulnerability to later catastrophising, anxiety and worry while remaining conceptually and psychometrically distinct from these, although strongly related (Riskind *et al*, 2000; Riskind & Williams, 1999). Riskind *et al*'s (2000) results suggest that a schema processing bias, even when people are not currently anxious, confers a vulnerability to future anxiety.

Whilst there is a well established literature documenting the role of core beliefs and dysfunctional assumptions in depression (Kovaks & Beck, 1978; Beck *et al*, 1979, Beck, 1983) and there is increasing evidence that negative cognitive styles predict depressive symptoms in both children and adults (Hilsman & Garber, 1995; Nolen-Hoeksema *et al*, 1992; Metalsky & Joiner, 1992; Alloy *et al*, 1992; Alloy *et al*, 1999; Ingram *et al*, 1998;

Alloy *et al*, 2000), there is more limited evidence as to the role schemas which confer vulnerability to anxiety (Riskind *et al*, 2000).

Young's (1994) schema theory may help to conceptually integrate Beck *et al*'s (1979, 1985) & Riskind's (2000) schema theories of vulnerability to depression and anxiety respectively, with attachment theory. Young proposed that there were theoretically 16 early maladaptive schemas (EMS), such as unrelenting standards, vulnerability to harm and abandonment. Young (1991) developed the Schema Questionnaire (SQ) to assess the presence and severity of early maladaptive schemas (EMS) operating within individual's. These EMS are assessed by questions addressing aspects of close relationships and the majority the schemas are self orientated. Several factor analytic studies have supported 15 of the EMS proposed by Young and demonstrated good construct validity and internal consistency (Schmidt *et al*, 1995; Lee *et al*, 1999; Wellburn *et al*, 2002). Hence, Young revised the SQ to reflect these 15 validated schemas whilst concurrently developing a short form (SQ-SF; Young, 1998), which has been found to have equivalent psychometric properties to the original SQ (Wellburn *et al*, 2002).

Young proposed that certain EMS are conceptually congruent with psychological symptoms and should significantly correlate with those symptoms, for example, the schema 'vulnerability to harm' is more likely to be related to anxiety than depression. Studies examining the assertion that EMS are associated with specific diagnoses such as depression and anxiety have found that the SQ was significantly related to axis I and axis II symptomatology and that EMS accounted for a considerable proportion of the variance in predicting psychological distress (Schmidt *et al*, 1995). The analyses also indicated divergence between EMS associated with depression and anxiety. Dependency and defectiveness EMS were significantly related to depression, which is consistent with cognitive theories of depression (Abramson *et al*, 1989; Beck, 1983). Vulnerability to harm and inferiority/incompetence were associated with anxiety which is also consistent with

cognitive and schema theories of anxiety, given the conceptual congruence of a sense of apprehension, threat and vulnerability (Beck *et al*, 1985; Riskind *et al*, 2000; Wellburn *et al* 2002). Further to this, in a sample of 203 psychiatric adult day patients Wellburn *et al* (2002) found five EMS to be related to anxiety, namely, vulnerability to harm, failure, abandonment, self-sacrifice and emotional inhibition. The schemas most relevant to depression were abandonment and insufficient self control. The abandonment EMS was found to be highly salient for both anxiety and depression. However, a sample size of 375 was required for this analysis and thus the study was considerably under power affecting the conclusions that can be drawn from the results.

It is clear that there is considerable theoretical overlap between Beck's cognitive theory, and particularly Young's schema theory with attachment theory and theoretically the vulnerability that stems from insecure attachment may originate with cognitive processes. Several researchers have suggested that attachment style may function as a conceptual bridge, linking earlier relational experiences with the development of schemas (Mason *et al*, 2005; Chorpita & Barlow, 1998; Platts *et al*, 2002). For this reason it has been argued that cognitive and schema models may help to clarify the relevance of attachment style (Platts *et al*, 2002) throughout the lifespan.

Although differing in several details from other theories which focus on early experiences (Bowlby, 1973; Beck *et al*, 1979; Young, 1994), Goodman & Gotlib (1999) also proposed a cognitive theory which focuses on early experiences. They proposed an integrative model focusing on four potential mechanisms of transmission of risk within the context of having a depressed mother, including the heritability of depression, innate dysfunctional neuroregulatory mechanisms, negative maternal cognitions, behaviour and affect, and the stressful context of children's lives. With regard to the third mechanism, a number of related components are thought to be involved. Depressed mothers are thought to be characterised

by negative affect, cognition and behaviour and because of this they are hypothesised to be an inadequate social partner for the child and unable to meet the child's social and emotional needs. This inadequate parenting would then negatively affect the child's development of social and cognitive skills, whereby children of depressed mothers should demonstrate more maladaptive affect, cognitions and behaviours. Children's acquired depressotypic affect, cognitions and behaviours and their deficient skills would then place them at elevated risk for developing depression. Thus, Goodman & Gotlib (1999) argued that an important way to examine the origins and development of cognitive vulnerability to depression is to assess cognitive functioning in children who are not depressed but who are at risk for depression, for instance having a mother who is depressed (Goodman & Gotlib 1999; Hammen, 1991).

Prior to outlining in more detail potential mechanisms of transmission of risk from parents to children with regard to internalising disorders and studies which lend support to such mechanisms, it is necessary to understand the context as to why Goodman & Gotlib (1999) suggest that studying children of depressed mothers is a good way of examining the cognitive vulnerability hypothesis, which is outlined below.

## **1.6 The Relationship Between Parental and Child and Adolescent Internalising Disorders**

The relationship between parental mental health problems and poor outcome, in terms of increased rates of psychopathology in children has long been known (Rutter, 1966; Rutter & Quinton, 1984; Beardslee *et al*, 1983; Orvaschel, 1983). One of the best supported predictors of depression in children and adolescents is having a depressed mother. Studies have demonstrated that half or more of children and adolescents of depressed mothers experience depressive disorders, as well as other conditions (Downey & Coyne, 1990; Hammen *et al*, 1990, 1998; Weissman *et al*, 1992, 1997). Meta analytic findings indicate that approximately

60 % of children with a parent with major depressive disorder will develop a psychiatric disorder during childhood or adolescence and are four times more likely to develop an affective disorder than children with parents who don't have mental health problems (Lavoie & Hodgins, 1994). However, rates of observed disorder have varied greatly with estimates as low as 8% and as high as 74% reported in children of depressed parents, likely attributable to different measures and sample compositions.

With regard to anxiety disorders, Last *et al* (1987) reported that 83% of mothers with children with anxiety disorders had a lifetime history of an anxiety disorder themselves. Moreover, 57% of mothers presented to services with an anxiety disorder at the same time their children were seen for similar problems, and both of these rates significantly differed from control subjects. Subsequently, Manassis & Hood (1998) in a sample of 74 outpatient adolescents and their mothers also reported a significant relation between adolescent anxiety disorders and maternal anxiety.

Longitudinal studies have consistently shown increased rates in overall psychiatric diagnosis and depression in children with depressed parents, relative to children with non depressed parents (Hammen *et al*, 1990; Beardslee *et al*, 1993; Weissman *et al*, 1997). For example, in a four year longitudinal study in a sample of non-clinically referred adolescents Beardslee *et al* (1993) found earlier onset of depression and observed more co-morbidity in the depressed adolescents of depressed parents. By young adulthood those with a depressed parent were found to have a 40% chance of experiencing a major depression themselves (Beardslee *et al*, 1993, 1998). Furthermore, a ten year longitudinal study of children of depressed parents found a threefold increase in depression, but also similar increases in the rates of anxiety disorders and the likelihood of the developing an alcohol dependence (Weissman *et al*, 1997).



In addition, children whose parents affective illness began before the age of 20 appear to be at greater risk for experiencing an episode of depression than children whose parents became affectively ill later in life (Weissman *et al*, 1988) and in general the younger the age of the child at the onset of parental depression, the greater the risk for psychopathology (Grigoriou-Serbanescu *et al*, 1991).

Consistent with Goodman & Gotlib's (1999) third mechanisms of transmission of risk, several studies have provided some support for the related components. For example, studies of young infants and their mothers frequently show disruption in the mother-child interaction, with depressed mothers being less contingent, less affectively positive, less energetic and less effortful (Downey & Coyne, 1990; Field, 1995) and there is consistent empirical support to indicate that depressed mothers expose their children to more negative cognitions, affect and behaviour (Cummings & Davies, 1994; Downey & Coyne, 1990; Kaslow *et al*, 1994; Gotlib & Goodman, 1999; Field *et al*, 1990, 1995; Goodman *et al*, 1994; Hammen, 1991). Several studies have also consistently shown that relative to children of non-depressed mothers, children and adolescents of depressed mothers have been found to have more school problems, poorer peer relations, lower self-esteem, a more negative cognitive style, poorer self-concept and higher levels of behaviour problems (Billings & Moos, 1985; Beardslee *et al*, 1987; Lee & Gotlib, 1989a, 1989b, 1991; Goodman *et al*, 1993; Cummings & Davies, 1994; Gotlib & Lee, 1996; Gotlib & Goodman, 1999; Hirsch *et al*, 1985; Goodman *et al*, 1994; Jaenicke *et al*, 1987; Radke-Yarrow *et al*, 1990; Garber & Robinson, 1997). For example, Hammen and colleagues (Hammen, 1988; Hammen *et al*, 1988; Jaenicke, *et al* 1987) in testing cognitive theories of vulnerability examined whether a negative self-concept and a negative attributional style were more characteristic of children with affectively disturbed parents than of control children and whether these cognitions predicted subsequent changes in child adjustment. Children of parents with a unipolar and bipolar disorder had significantly more negative self-concept and a more negative

attributional style than children of parents without mental health problems. A negative self-concept predicted increases in both affective and nonaffective diagnoses over a 6 month period. Contrary to the theoretical expectations, a negative attributional style predicted increases only in nonaffective diagnoses, it did not predict depression.

Whilst children and adolescents of parents with mental health problems are at significantly increased risk in terms of their cognitive, emotional and social development, many parents with mental health problems continue to parent their children well, and many children do not develop any apparent form of psychopathology (Rutter & Quinton, 1984; Davies & Windle, 1997). Goodman & Gotlib (1999) noted that there is little understanding of the mechanisms of how children of depressed mothers acquire these traits and tendencies or the extent to which these may mediate their risk for depression. This has led researchers to move beyond an examination of the question of whether children of depressed mothers are at increased risk for psychopathology, and have now begun to examine the causal mechanisms that are associated with this risk.

### **1.7 Potential Mechanisms of Risk for Internalising Disorders**

Whilst numerous factors are likely to impact on the relationship between parental and child and adolescent mental health, for the purposes of this study two key mechanisms will be reviewed based on social learning mechanisms. Firstly, learning from negative parenting practices such as insecure attachment and the related cognitive vulnerabilities that this may give rise to, and secondly, modelling by examining correlational studies which investigate matching between mothers and their children with respect to their cognition, affect and behaviour.

Prior to outlining these two mechanisms of potential transmission, studies pertaining to the relation of attachment styles and mental health and adjustment across the lifespan will be outlined as context to the discussion that insecure attachment may give rise to mental health problems and cognitive vulnerabilities.

### **1.7.1 Attachment Styles and the Relation to Mental Health**

As outlined previously, attachment theory embodies core features of interpersonal connectedness and emotion regulation that are central to psychopathology. For example, interpersonal difficulties and problems with affect regulation underlie most child and adult mental health problems (Cole *et al*, 1994), and form a significant proportion of the criteria for diagnosis within ICD-10 (WHO, 1992) and DSM-IV (APA, 1994) classifications (Sroufe *et al*, 2000).

Attachment styles are not deterministic but rather probabilistic in terms of their impact on mental health. Insecure attachments do not directly cause later disorder. However, the interpersonal perspective on developmental psychopathology suggests that low quality early attachment relations may be a precursor to individual psychopathology through their role in establishing fundamental patterns of emotional regulation, and may represent the initiation of developmental pathways probabilistically leading to disorder (Sroufe, 1997). As outlined, several theorists have hypothesised that children's self-worth, attitudes and inferential styles are influenced by the quality of their relationships with their parents (Beck & Young, 1985; Bowlby, 1988; Young, 1994; Cole, 1990; Eisner, 1995; Garber & Flynn, 1998). A number of clinical theorists have suggested that attachment style may play an important role (Blatt & Homann, 1992; Bowlby, 1980; Roberts & Munroe, 1999).

With regard to secure attachment, numerous studies have documented the link between parental warmth and the psychological well-being and emotional health of infants and

children (Campbell, 1997; Sroufe, 1997). The relevance of parental attachment during adolescence is also illustrated by numerous studies linking secure attachment to several indicators of child and adolescent emotional and social functioning (Lapsley *et al*, 1990; Samuolis *et al*, 2001; Armsden & Greenberg, 1987; Barnas *et al*, 1991; Raja *et al*, 1992; Sroufe *et al*, 1999; Weinfield *et al*, 1997). Attachment security is associated with fewer behavioural problems in children and adolescents (Sroufe *et al*, 1990; Leadbeater *et al*, 1999; LeCroy, 1988; Barnes & Farrell, 1992; Dekovic, 1999; Allen *et al*, 1998; Marcus & Betzer, 1996; Laible *et al*, 2000). With regard to internalising disorders, secure attachment in adolescence is related to lower levels of depression, anxiety and feelings of personal inadequacy (Kerns & Stevens, 1996; Kobak & Sceery, 1988; Lessard & Moretti, 1998; Paterson *et al*, 1995). Both longitudinal and cross-sectional studies provide considerable evidence that secure children and adolescents are overall better emotionally and socially adjusted as compared to those classified as having insecure attachments (Carlson & Sroufe, 1995).

With regard to insecure attachments, research examining children classified as ambivalent have found that they hold negative views of themselves (Kaplan & Main, 1985; Main *et al*, 1985). Internalising disorders such as depression and anxiety have been associated with ambivalent attachment styles in children and adolescents (Warren *et al*, 1997; Renken *et al* 1989; Cole-Detke & Kobak, 1996). For example Scott Brown & Wright (2003) compared a clinical group of 15 adolescents with 15 adolescents from a non-clinical group who were matched on factors such as age, gender and family background. They assessed attachment style using a modified version of the Separation Anxiety Test, interpersonal difficulties with the Inventory of Interpersonal problems (IIP-32; Barkham *et al*, 1996), and clinical symptoms with the Youth Self-Report (YSR; Achenbach, 1991). They found that adolescents with an ambivalent attachment style reported the highest level of interpersonal difficulties and symptomatology, relative to those classified as secure or avoidant, a finding

which has been substantiated by a number of other studies (Cooper *et al*, 1998; Dozier, 1990; Dozier & Lee, 1995; Kobak & Sceery, 1988; Pianta *et al*, 1996). With regard to children classified as avoidant, several studies have provided evidence that externalising disorders such as conduct disorder and aggression are associated with this style (Lewis *et al*, 1984; Sroufe, 1997; Cassidy & Kobak, 1988; Reimer *et al*, 1996). The disorganised attachment style has been shown by some researchers to have the strongest overall relationship to disturbance in adolescence (Carlson, 1998) and histories of prolonged or repeated separation and severe neglect, physical, or sexual abuse (Carlson *et al*, 1989) is often associated with the disorganised style. The disorganised style has been related specifically to dissociative symptoms (Carlson, 1998; Liotti, 1995).

The mixed results in terms of which attachment style shows the strongest relationship to psychopathology is marred by virtue of the fact that some researchers have only used three categories of attachment style as opposed to four categories as conceptualised by Bartholomew (1990) and Bartholomew & Horowitz (1991). Within the four category model the fearful style which corresponds conceptually to the disorganised style is theoretically most likely to show the strongest relationship to disturbance because of negative self and other models, which has been documented in several studies (Mason *et al*, 2005; Carnelley *et al*, 1994; Bartholomew, 1997). Therefore, the discrepancies in the literature may be explained by studies comparing measurement tools that are designed to measure different attachment constructs (Bartholomew & Shaver, 1998; Gerlsma & Luteijn, 2000; Oppenheim & Waters, 1995). Further, Given that attachment status is considered to be partly unconscious in nature (Crittenden, 1992; Fonagy, 1999) and partly conscious (Bartholomew & Horowitz, 1991) it may be conceptually difficult to draw direct comparisons between self-report measures which assume conscious awareness with interview methods such as the AAI (George *et al*, 1985, 1987) which are designed to access unconscious aspects.

However, further to the argument of the relation between attachment style and mental health, empirical studies of clinical populations of adolescents and adults are marked by a very high incidence of insecure attachments. Adam *et al* (1995) using an adolescent sample found that 50% were secure in the non-clinical control group whereas only 16% were secure in the clinical group. Scott Brown & Wright (2003) reported that 86% of adolescents in a clinical group were classified as having insecure attachments, which was substantially higher than the non-clinical group at 26%, although the sample size was small at 15 in each group. Further, van Ijzendoorn *et al* (1996) reported that only 12-14% of clinical groups had secure attachment in a meta-analysis using an adult sample.

In sum, the above studies clearly indicate the role attachment plays in affect regulation and interpersonal functioning. Moreover, attachment insecurity has strong links to the development of mental health problems in children and adolescents.

### **1.7.2 Indirect Learning: Parenting Practices, Insecure Attachment and Cognitive Vulnerability**

With regard to insecure attachments, two aspects of parenting most often implicated in the association between children's risk for depression and parent-child relations are lack of parental warmth and negative parental control (Cole, 1990; McCranie & Bass, 1984; Tashman, 1997), which can be considered as indirect measures of attachment given that these factors are implicated in fostering attachment security (Ainsworth *et al*, 1978). These negative parenting practices may contribute to the development of a cognitive vulnerability to depression given that studies have reported significant associations between children's reports of low parental acceptance and warmth, and high parental control and children's negative cognitive styles (Blatt *et al*, 1979; McCranie & Bass, 1984; Brewin *et al*, 1992; Litovsky & Dusek, 1985; Parker, 1993; Randolph & Dykman, 1998; Stark *et al*, 1996; Ingram *et al*, 2001). Several studies have also examined the ability of parenting behaviour to

predict their children's cognitions prospectively. Koestner *et al* (1991) found that rejecting and restrictive parenting measured earlier in childhood predicted subsequent self-criticism during adolescence. Garber & Flynn (2001) found that low maternal care predicted their adolescent's low self-worth and high maternal psychological control predicted their adolescent's depressive attributional style, even after controlling for maternal depression history in a sample of 240 adolescents and their mothers. Thus there is reasonably consistent evidence that low parental acceptance and high parental control are associated cross-sectionally and longitudinally with negative cognitions in children and adolescents.

With regard to studies that have examined attachment more specifically as a mechanism of risk for negative cognitive styles, a number of studies examining current attachment in adults and adolescents have demonstrated that attachment insecurity is related to higher levels of depressive symptomatology, dysfunctional attitudes and low self-esteem (Reinecke & Rogers, 2001; Roberts *et al*, 1996; Whisman & McGarvey, 1995; Whisman & Kwon, 1992; Garber *et al*, 1997; Gamble & Roberts, 2005).

In a series of studies conducted with college students, Roberts *et al* (1996) found that the relation between adult attachment and depressive symptoms was almost entirely mediated by dysfunctional attitudes and low self-esteem, even after initial depressive symptoms and neuroticism were controlled. Relatedly, Whisman & McGarvey (1995) examined the association between parental attachment, dysfunctional attitudes, depressotypic attributional style, and depressive symptomatology in 104 undergraduates with a mean age of 21 years old. Findings indicated that perceived attachment was related to both dysfunctional attitudes and depressive symptoms in adulthood. Moreover, from a cognitive vulnerability perspective the association between attachment and depressive symptoms was mediated in part by dysfunctional attitudes and attributions.

Relatedly, Hammen & Brennan (2001) sought to explore differences among adolescents with depression according to whether their mother was depressed or not, consistent with an interpersonal perspective on intergenerational transmission of depression. They found that depressed children of depressed mothers displayed more negative interpersonal behaviours whereby they were significantly more likely to report fewer friends and social activities. In addition, the RQ (Bartholomew & Horowitz, 1991) attachment measure indicated that overall, depressed and non-depressed adolescents did not differ. However, the planned comparison on the four scales indicated that as expected, the depressed adolescents of depressed mothers saw themselves as less secure, more fearful, and more dismissing. They did not differ however on preoccupied attachment style. The differences between depressed adolescents of depressed and non-depressed women were not attributable to differences in current depressive symptoms which were controlled for, likewise age of onset and history of depressive disorders did not differ among groups. Greater frequency of dysthymic disorder was observed in depressed adolescents of depressed women. Although there was no specific difference in co-morbid disorders in the two groups, the children of depressed women had higher rates of co morbidity overall (46%) than depressed adolescents of non-depressed mothers (27%), a finding similar to Beardslee *et al* (1993).

On the basis of these patterns Hammen & Brennan (2001) speculated that the interpersonal difficulties of depressed adolescents are enduring and unique characteristics of a subgroup of depressed adolescents of depressed women. Overall, Hammen & Brennan's (2001) results are consistent with the perspective that depression among adolescents of depressed mothers is likely to occur in the context of and perhaps as a result from difficulties in interpersonal skills and perceptions of others. The adolescent's difficulties may represent a mechanism of intergenerational transmission of depression that results in part from the parents own interpersonal difficulties acquired in their own childhood family environments. However several limitations of the research design should be noted. The cross-sectional nature of the



data does not permit clarification of the origins, consequences and stability of the observed interpersonal difficulties of the depressed adolescents of depressed women and do not specifically test the mechanisms by which parental depression may be linked to adolescents difficulties in interpersonal functioning.

Subsequently, Gamble & Roberts (2005) examined the relationship between adolescents' attachment styles and negative cognitive styles, namely low self-esteem, dysfunctional attitudes, and a negative attributional style, to assess whether these relations were mediated by attachment insecurity. Results from 134 adolescent secondary school students with a mean age of 16 years ( $SD=1$ ) suggested that a negative cognitive style was largely mediated by attachment insecurity. Together with several other studies (Garber *et al*, 1997; Miller *et al*, 1999; Mongrain, 1998; Randolph & Dykman, 1998; Whisman & Kwon, 1992) the results suggest that problematic parent-child relationships give rise to risk factors for depression and that some of these risk factors are cognitive. In addition, the association between attachment and dysfunctional attitudes and attributional style are generally indirect and are mediated by attachment insecurity. In other words, dysfunctional early parent-child interactions may shape cognitive vulnerabilities to emotional distress through their impact on insecure attachment representations. As Randolph & Dykman (1998) suggest, it may be that parents who impose rigid or perfectionistic standards upon their children may be inadvertently influencing their children to adopt these standards for themselves, resulting in the formation of dysfunctional attitudes in the child. Together this body of research suggest that children internalise their parents negative or dysfunctional cognitions, behaviour and affect through the development of complementary negative cognitions, affect and behaviour.

Further to this, Cecero *et al* (2004) whilst investigating the psychometric properties of the SQ-SF in a sample of 292 undergraduate students demonstrated correlations between EMS and measures of both adult attachment and childhood trauma. Moreover, Mason *et al* (2005)

noted the conceptual similarities between attachment theory and schema theories and vulnerability to mental health problems, in that both insecure attachment and early maladaptive schemas have been associated with mental health difficulties (Bowlby, 1973; Warren *et al*, 1997; Young, 1994; Schmidt *et al*, 1995; Wellburn *et al*, 2002). They aimed to investigate how EMS related to attachment style classifications in mental health service users. 72 participants with a mean age of 39 (SD= 10.52) completed the Schema Questionnaire-Short Form (SQ-SF; Young, 1998), the Experiences in Close Relationship Scale (ECL, Brennan *et al*, 1998) self report questionnaire which identifies attachment style according to Bartholomew & Horowitz's (1991) four category model, and the Clinical Outcomes in Routine Evaluation (CORE; Evans *et al*, 1998). They hypothesised that individuals classified as fearful (insecure-disorganised) would show greater evidence of maladaptive schemas as measured by the SQ-SF based on Bartholomew's (1997) finding that fearful attachment style is most strongly associated with poor mental health, whereas they hypothesised the secure group would possess the lowest degree of maladaptive schemas. Secondly they hypothesised that there would be a relationship between attachment style and ratings of subjective well-being, clinical problems and social functioning as measured by the CORE, with poorer functioning characterising insecure attachment styles in general.

Overall 81% of the participants had an insecure attachment style. The fearful group were most distressed across several domains of the CORE, followed by the preoccupied group (insecure-ambivalent). The fearful group also possessed the greatest EMS in accordance with previous findings (Bartholomew, 1997; Carnelley *et al*, 1994) and theoretical expectation due to both negative self and other models (Bartholomew, 1990; Bartholomew & Horowitz, 1991). The secure group had the lowest number of EMS, however the dismissing group were also characterised by low EMS scores on the SQ-SF although numbers in this group were low and therefore this was a tentative finding. Discriminant function analysis identified

differing patterns of schemas associated with attachment. 77 % of participants could be reliably placed in to attachment category according to their schema profile, the fearful group being most reliably distinguished. The fearful group were characterised by greater social isolation, defectiveness/shame and emotional inhibition. The secure group were characterised by lower scores on nine of the EMS, whereas the preoccupied group were more difficult to distinguish but a second function analysis revealed abandonment, subjugation and emotional deprivation as characterising this group. They did not however determine patterns of EMS associated with the dismissing style due to low numbers in the group.

These studies demonstrate further the association between insecure attachment and the development of negative cognitive styles and EMS which place children and adolescents at elevated risk for developing internalising disorders. However, stronger support regarding the mechanisms of transmission may come from studies examining the modelling hypothesis.

### **1.7.3 Modelling of Parents Cognition and Affect.**

Children may learn their cognitive styles in part by observing and modelling significant others, in particular their parents (Kovacs & Beck, 1978; Abramson *et al*, 1999; Alloy *et al*, 1999; Garber & Flynn, 1998; Haines *et al*, 1999). If this is the case then children's cognitive styles should correlate with those of their mothers or fathers. Correlational studies that examine similarities between depressed mothers and their children with respect to their affect, behaviour or cognitions have reported mixed results.

Observational studies of infants and young children interacting with their mother have found that infants of depressed mothers match their mother's negative state. Interestingly less matching was observed when the mothers were positive towards the infants (Field *et al*, 1990; Field *et al*, 1989). Seligman *et al* (1984) reported a significant correlation between the attributional styles for negative events of 47 mothers and their primary school children, but

no correlation between fathers and children's attributional styles. Similarly, Stark *et al* (1996) found a relationship between mothers and children's scores, but not fathers scores on a measure of Beck's negative cognitive triad. In a sample of 204 secondary school children and their mothers Garber & Flynn (2001) found a significant association between mothers and children's global self-worth, but no correlation between their general attributional styles. Alloy *et al* (2001) in a prospective longitudinal study using an undergraduate sample, found that whilst maternal depression was associated with negative cognitions in their children, a significant association was also found between mothers negative cognitions and their children's negative cognitions, but no association for fathers. However, fathers' parenting was implicated in contributing to their child's vulnerability of depression whereby father's low emotional acceptance and negative inferential feedback predicted the likelihood of their child developing depression over the following two and a half years. However, the study relied on retrospective self-reports from the undergraduate sample and their parents as to parenting behaviour in childhood, which may have incurred biases in reporting.

On the other hand, Kaslow *et al* (1988) in a three group comparison of 15 depressed, 22 non depressed clinic children, and 25 non clinic children and Turk & Bry (1992) with a sample of 21 adolescents with academic problems, both reported an absence of significant correlations between either parent's attributional style and that of their child. Oliver & Berger (1992) also found that college students and their parent's scores were not significantly correlated on three measures of dysfunctional attitudes and self-schemas.

Results are mixed with regard to the simple correlations between parents and children's depressive cognitions. Differences in the composition and size of samples and cognitive measures used in these modelling studies may contribute to the discrepant findings. However, from the reported findings it would appear that mother's cognitive styles are modelled more strongly than fathers. Seligman *et al* (1984) suggested that the significant

associations between mothers' attributional styles may be attributable to mother's role as primary caregiver in most families. Pleck (1997) reported that mothers are overwhelmingly the parents most responsible for child rearing activities and therefore it is likely that children are exposed to more of the negative, cognition and affect associated with psychopathology in mothers than in fathers. If quantity of exposure is a critical factor, maternal psychopathology in general should be more closely associated with internalizing and externalizing problems in children than paternal psychopathology. Lamb (1997) however argued that the amount of time that fathers invest in a child care is less closely associated with child outcome than the quality of fathers' involvement with their children.

With respect to these arguments, studies have found that children of depressed fathers are less disturbed than children of depressed mothers (Luthar *et al*, 1997; Keller *et al*, 1986; Klein *et al*, 1985) and reported findings of a greater effect of depression on maternal versus paternal parenting (Field *et al*, 1999). In addition, a meta-analysis performed by Connell & Goodman (2002) showed that children's internalising problems were more closely related to the presence of psychopathology in mothers than in fathers, although the magnitude of this difference was small. Externalizing problems were equally related to presence of psychopathology in mothers and fathers. Other studies have however found equivalent disturbance levels (Billing & Moos, 1983; Klein *et al*, 1988; Weissman *et al*, 1987).

Whilst good evidence has been reported with regard to children matching their parents' attachment styles (Crowell & Feldman, 1987, 1988; Grossmann *et al*, 1988; Main *et al*, 1985; Fonagy *et al*, 1991; Van Ijzendoorn, 1992; Main & Goldwyn, 1994), the evidence with regard to matching of cognitive styles and affect is more equivocal. It has been proposed that studies investigating children's modelling of their depressed parents thoughts, moods and behaviours would be important steps in understanding the potential mechanisms of transmission of risk for internalising disorders (Goodman & Gotlib, 1999).

## 1.8 Summary

Within the interpersonal relationship perspective on developmental psychopathology early relationships and attachment relations are viewed as key contributors to psychopathology due to their role as risk and protective factors, as well as mediators and moderators. The attachment system has been argued to be foremost a regulator of emotional experience, and internal working models and attachment styles have been proposed to become established as influential cognitive structures which endure throughout the life span and are resistant to change. Indeed several studies have documented the high stability of attachment classifications across the lifespan. In addition to the intergenerational transmission of attachment styles, there is the suggestion that social learning or modelling processes are involved in the transmission of attachment styles, and hence the transmission of risk for psychopathology if the attachment relationship is insecure.

The conceptual similarities between attachment theory and cognitive and schema theories which confer vulnerability to internalising disorders has been noted, and in particular the concept of early maladaptive schemas (EMS) may provide a conceptual bridge to early attachment relations. The studies reviewed on the whole lend support to the idea that the vulnerability that stems from insecure attachment may originate with cognitive processes, such as dysfunctional attributions and EMS, and studies of children deemed as high risk in terms of having a mother who is depressed have further served to clarify this. However, stronger tests of the mechanisms of transmission could be derived from studies examining the modelling hypothesis.

Several researchers have noted that there has been limited research on attachment processes in adolescence (Scott Brown & Wright, 2003; Cooper *et al.*, 1998). Given that adolescence is a critical period of psychological adjustment due to many possible stressful life changes, attachment relationships are especially relevant during this time and undergo significant

transformations which require further study (Scott Brown & Wright, 2003; Colin, 1996; Lopez & Brennan, 2000). Few studies have examined the relationship of attachment style, cognitive style and affect in adolescence, and specifically the concept of EMS has not been previously explored in adolescent populations.

In addition, there has been limited research on the role of father's attachment to their children and the impact this may have on children's development, despite studies that show fathers to be competent, although less fully participant attachment figures than mothers (Belsky *et al*, 1984; Lamb, 1978; Parke & Tinsley, 1987). Further to this, few studies have reported on the status of mothers or fathers of depressed children in clinical samples representing a gap in the literature given that many depressed children adolescents may have disorders that are functionally linked in some way to maternal depression (Hammen *et al*, 1999).

The present study seeks to address some of these existing gaps in the literature by examining the role of social learning processes in the development of adolescent internalising disorders. Specifically, the study will examine the relationship between adolescent's attachment style and their cognitive style and affect as a mechanism of indirect learning. In addition, by exploring matching between adolescents and parents attachment style, cognitive style and affect the present study seeks to reflect on the potential of modelling mechanisms of direct transmission of risk.

## 1.9 Hypotheses

Hypothesis 1: There will be a significant association between adolescents' attachment style, cognitive style and affect with those of their mothers, but not fathers.

Hypothesis 2: There will be a greater relationship between maternal depression and anxiety and adolescents cognitive styles than between paternal depression and anxiety and adolescents cognitive styles.

Hypothesis 3: Adolescents of parents with a history of or current depression and anxiety will have greater negative cognitive styles as compared to adolescents of parents who have never been depressed or anxious.

Hypothesis 4: Adolescents cognitive styles will be significantly related to the severity of their internalising disorder and attachment style.

The secondary aim of the study was to explore whether particular EMS including abandonment, dependency, defectiveness, insufficient self-control and vulnerability to harm were associated with depression and anxiety for adolescents and mothers, as the literature suggest these are salient for internalising problems.



## CHAPTER 2

### METHOD

## METHOD

### **2.1 Design**

The method of investigation was empirically based utilising a quantitative approach. A cross-sectional, between-subjects design was employed. A postal questionnaire battery was utilised in order to collect relevant data to test the hypotheses.

### **2.2 Participants**

#### **2.2.1 Recruitment**

Participants were identified for recruitment by utilising an NHS database of all adolescent patients, aged 13-18 years, currently being seen within one child and adolescent mental health service (CAMHS) in the Grampian NHS Health Board area. Consultation with CAMHS staff and recorded diagnostic ICD-10 (WHO, 1992) codes on the NHS database were utilised to determine which adolescents and their parent(s) met inclusion criteria and to verify the correct names and addresses for sending invitation letters.

With regard to inclusion criteria, the sample was restricted to adolescents aged between 13-18 years old who were currently depressed or anxious or in remission, although the presence of other co-morbid disorders was allowed to vary. In addition, at least one of the adolescent's biological parents also had to consent to participate. Thereby, the exclusion criteria included depressed or anxious adolescents whose parent(s) did not consent to participate, and never depressed or anxious adolescents. Further to this, adolescents or their parents with a learning disability or acquired brain injury were excluded due to potential difficulties in completing the questionnaires. A total of 114 adolescents were identified as meeting inclusion criteria and were invited to participate in the study.

### **2.2.2 Sample Size**

An *a priori* statistical power analysis was carried out to estimate the appropriate sample size required for parametric analyses (Cohen, 1988; 1992). The intended sample size for statistical comparison between adolescents, their mother and fathers was 38 in each group, or rather 38 complete families in order to detect medium to large effect sizes with an alpha level of .05 and power set at .80.

### **2.2.3 Sample Characteristics**

Only 17 adolescents consented to participate, a response rate of just 14.9%. However, one of these adolescents had to be excluded as they did not give consent to contact their parents to participate in the study. In addition, 16 mothers and 6 fathers consented to participate. However, only 13 adolescents returned completed questionnaires lowering the response rate to just 11.4%. Further, 3 of these adolescents had to be excluded from the data set as their parent(s) did not return the questionnaires. The data set therefore consisted of 22 participants in total: 10 adolescents, 10 mothers and 2 fathers.

With regard to adolescents, their mean age was 15.4 years old ( $SD=1.17$ , range 13-17), 4 of whom were male and the remaining 6 female. Mothers mean age was 44.7 years old ( $SD=6.79$ , range 33 - 58) and the two fathers were aged 45 and 65 years old. With regard to family composition, 5 adolescents had parents who were married, 2 adolescents had step-families and 3 adolescents were from single parent families.

## **2.3 Measures**

### **2.3.1 Beck Depression Inventory – Second Edition (BDI-II)**

The BDI-II (Beck, 1996) is a 21 item self-report measure for assessing the presence and severity of depressive symptoms in adults and adolescents aged 13 years and older and is

consistent with DSM-IV (APA, 1994) diagnostic criteria for depression, although the BDI-II is not designed for specifying clinical diagnoses. The 21 items are rated on a 4 point scale ranging from 0 to 3 in terms of severity and individuals are asked to rate their degree of symptoms over the past two weeks. The BDI-II is scored by summing the ratings of the 21 items. With regard to the severity of depressive symptoms, a score of 0-13 is classified as minimal, a score of 14-19 is classified as mild, a score of 20-28 is classified as moderate; and finally a score of 29-63 is classified as severe. Within the present study BDI-II classifications were employed for descriptive analysis, whereas continuous total scores were employed for statistical analysis.

The BDI-II is an accepted instrument for assessing the severity of depressive symptoms clinical populations as well as detecting possible depression in normal populations (Kendall *et al*, 1987). High reliability and validity of the BDI-II has been reported regardless of the clinical population studied (Beck *et al*, 1988b; Steer *et al*, 1998; Barrera & Garrison-Jones, 1988; Beck *et al*, 1996; Kumar *et al*, 2002).

Specifically, with regard to adolescent clinical populations, the BDI-II has been found to have high internal consistency and concurrent validity (Ambrosini *et al*, 1991; Steer *et al*, 1998; Krefetz *et al*, 2003) with an alpha coefficient of .92 reported in a sample of 105 male and 105 female outpatients aged between 12 and 18 years old (Steer *et al*, 1998). Further, Krefetz *et al* (2003) reported that mean scores on the BDI-II did not differ with respect to age in a sample of 144 adolescent outpatients aged between 13 and 17 years with a diagnosis of depression. Both Kashani *et al* (1990) and Marton *et al* (1991) found that the BDI-II differentiated depressed from non-depressed adolescent outpatients as compared to structured diagnostic interviews. The available studies suggest that the BDI-II can be reliably used in adolescent outpatient populations as well as a screening tool in general adult populations.

### 2.3.2 Beck Anxiety Inventory (BAI)

The BAI (Beck *et al*, 1988a) is a 21 item self report measure for assessing the presence and severity of anxiety symptoms in adults and adolescents aged 13 years and over. The 21 items are rated on a 4 point scale ranging from 0 to 3 in terms of severity and individuals are asked to rate their degree of symptoms over the past week. The BAI is scored by summing the ratings of the 21 items. With regard to the severity of anxiety symptoms a score of 0-7 is classified as minimal, 8-15 as mild; 16-25 as moderate and finally a score of 26-63 is classified as severe. BAI classifications were employed for descriptive analysis and continuous total scores were employed for statistical analysis within the present study.

Steer *et al* (1993) reported that the BAI had high internal consistency ( $\alpha=.92$ ) in a sample of 470 outpatients with mixed psychiatric disorders and showed good concurrent validity in that the BAI was significantly more correlated with the SCL-90-R (Derogatis, 1977) anxiety subscale than the SCL-90-R depression subscale. However, the BAI was also significantly correlated with BDI suggesting overlap of the measurement constructs. This may be attributable to commonly occurring co-morbid diagnoses between depression and anxiety disorders. Several other studies have all documented high internal consistency, good concurrent validity and adequate test-retest reliability in adult clinical populations and non clinical populations (Fydrich *et al*, 1992; Osman, *et al* 1997; Creamer *et al*, 1995; Leyfer *et al*, 2006).

With regard to adolescent clinical populations, Jolly *et al* (1993) reported high internal consistency, moderate to high concurrent validity and moderate discriminant validity of the BAI in a sample of 80 adolescent inpatients aged 12-19 years. Steer *et al* (1995) also reported good psychometric properties of the BAI in adolescent outpatients. Further, Osman *et al* (2002) reported good factor structure, reliability and validity of the BAI in a sample of adolescents aged 14-18 years who were either inpatients or attending secondary school.

These studies support the use of the BAI in adolescent populations, as well as adult populations as a screening tool, suggesting that the BAI can be used validly and reliably in clinical practice and research.

### **2.3.3 Schema Questionnaire-Short Form (SQ-SF)**

The Schema Questionnaire (SQ) was developed by Young & Brown (1990) and revised in 1994 (SQ; Young & Brown, 1994) to measure the presence of 16 early maladaptive schemas (EMS) and consists of 205 items. Schmidt *et al* (1995) conducted a factor analysis of the SQ with a large student sample (N=1129) which showed support for 13 of the 16 proposed schemas and in a smaller sample of psychiatric patients (N=187) the factor analysis supported 15 of the 16 proposed schemas. Subsequently, Lee *et al* (1999) reported the same 15 factors as Schmidt *et al* (1995) in a large clinical population factor analysis, suggesting that the factor structure broadly accords with Young & Brown's (1990) description. The SQ was also found to have adequate test-retest reliability and internal consistency and good convergent and discriminant validity (Schmidt *et al*, 1995).

Subsequently, the Schema Questionnaire-Short Form (SQ-SF, Young, 1998) was developed as a briefer 75 item measure and consists of the 15 EMS which were validated by Schmidt *et al* (1995). The 15 EMS included in the SQ-SF are: emotional deprivation, abandonment, mistrust/abuse, social isolation, defectiveness/shame, failure to achieve, dependence/incompetence, vulnerability to harm and illness, enmeshment, subjugation, self-sacrifice, emotional inhibition, unrelenting standards, entitlement, and insufficient self-control (Young, 1998). Each EMS consists of 5 items from the original scale, those which loaded most strongly in Schmidt *et al*'s (1995) factor analysis. Items on the SQ-SF are clustered according to the 15 EMS. Individuals are asked to rate their level of agreement with each of the 75 statements on a 6 point Likert scale ranging from 1 'completely untrue of me', to 6 'describes me perfectly'. For research purposes the most common way of scoring

the SQ-SF is by calculating the mean of the 5 items within each of the 15 EMS, In addition a total mean score for the 15 EMS can be obtained (Mason *et al*, 2005; Wellburn *et al*, 2002; Waller *et al*, 2001), which is the method used in the present study. Higher scores indicate a greater presence of the EMS for the individual.

With regard to studies supporting the validity and reliability of the SQ and SQ-SF, Stopa *et al* (2001) compared the SQ to SQ-SF and found similar levels of internal consistency and parallel forms of reliability and concurrent validity, indicating that the shorter SQ-SF can be used with reasonable confidence by clinicians and researchers. Both versions of the SQ were also modest predictors of psychopathology scores on the SCL-90-R (Derogatis, 1977) in a heterogeneous sample of adult psychiatric outpatients. Waller *et al* (2001) also examined the psychometric properties of long and short versions of the SQ in a group of bulimic and control women and also found the two forms to have similar levels of internal consistency and parallel forms of reliability and discriminant validity.

With regard to the SQ-SF specifically, factor analysis has supported the 15 EMS sub-scales and alpha reliability coefficients indicated that the sub-scales have adequate to very good internal consistency ranging from .76 to .93 in a sample of adult patients attending a psychiatric day treatment program (Wellburn *et al*, 2002). Cecero *et al* (2004) in investigating the psychometric properties of the SQ-SF in a sample of 292 undergraduate students reported 11 of the EMS to have adequate reliability and 14 hypothesised EMS factors emerged. Overall, these results are consistent with previous findings (Lee *et al*, 1999; Schmidt *et al*, 1995) for the longer 205 item SQ. Further, Stopa & Waters (2005) reported that only three EMS were susceptible to the influence of mood, namely emotional deprivation, defectiveness and entitlement. Scores on emotional deprivation and defectiveness increased in the depressed mood condition, whereas entitlement scores

increased in the happy mood condition, therefore the SQ-SF appears to be measuring largely stable cognitive constructs.

#### **2.3.4 Relationship Questionnaire (RQ) and the Adolescent-Relationship Questionnaire (A-RQ)**

The Relationship Questionnaire (RQ) was developed by Bartholomew & Horowitz (1991) and consists of four short paragraphs describing the four attachment styles as applied to close adult peer relationships and was adapted from Hazan & Shaver's (1987) adult attachment self-report measure. Paragraph A corresponds to secure attachment style, paragraph B to fearful, paragraph C to preoccupied, and lastly paragraph D corresponds to dismissing. In part 1 of the RQ Individual's are asked to choose categorically which attachment style they resemble most closely. In part 2 individuals are asked to continuously rate their degree of correspondence of each attachment style on a seven point Likert scale from 'not at all like me' to 'very much like me'. These ratings provide a profile or prototype of an individual's attachment feelings and behaviours.

Bartholomew & Horowitz (1991) recommend that the ideal use of the RQ is to obtain continuous ratings of each of the four attachment prototypes, although categorical measures can also be obtained by selecting the highest of the four attachment prototype ratings. In addition Bartholomew (2006) recommends that both the categorical and continuous attachment ratings are administered even if the RQ is not going to be utilised categorically, as completing the categorical rating serves to counterbalance and minimise order effects when individuals rate the degree to which each prototype is self-characterising. The Adolescent-Relationship Questionnaire (A-RQ), the RQ was revised and re-worded by Scharfe (1999) to reduce the focus on romantic relationships and make the wording more simplistic, but otherwise is identical to the RQ. For the purposes of the present study continuous ratings on the RQ have been utilised.



Several studies have demonstrated the construct and convergent validity of the attachment prototypes in young adults (Bartholomew & Horowitz, 1991; Carnelley *et al*, 1994) and ratings of the four attachment prototypes using the RQ have shown moderate stability over an 8 month test re-test period (Scharfe & Bartholomew, 1994). The RQ has also been shown to demonstrate independence from self-deceptive biases (Leak & Parsons, 2001).

### **2.3.5 Relationship Scales Questionnaire (RSQ) and Adolescent Relationship Sales Questionnaire (A-RSQ)**

The Relationship Scales Questionnaire (Griffin & Bartholomew, 1994b) was designed as a continuous measure of adult attachment styles and consists of 30 items which are rated on a five point Likert scale ranging from 'not at all like me' to 'very like me'. Seventeen of the items make up the subscales for the attachment styles as defined by Bartholomew's (1990) four category model, namely secure, fearful, preoccupied and dismissing. Five statements relate to the secure and dismissing attachment patterns and four statements contribute to the fearful and preoccupied patterns. Scores for each attachment style are derived by taking the mean of the four or five items representing each attachment prototype, noting that some of the items are reversed scored. The additional 13 items correspond to other attachment measures used by Collins & Read (1990), Feeney & Noller (1990), and Simpson (1990) and can be calculated if required for comparison.

Scharfe (1999) revised the RSQ to form an Adolescent Relationship Scales Questionnaire (A-RSQ) by revising the wording to make it suitable for adolescent populations whilst also reducing the focus on romantic relationships. The A-RSQ contains 17 items derived from the RSQ (Bartholomew & Horowitz, 1991) but does not incorporate the other attachment measures (Collins & Read, 1990; Feeney & Noller, 1990; Simpson, 1990). In every other respect, the A-RSQ is the same as the RSQ.

Siegert *et al* (1995) evaluated the factor structure of the RSQ in a sample of 256 undergraduates. Factor analysis revealed a robust two factor structure relating to the two dimensions of anxiety and avoidance and four categories synonymous with the four attachment styles were yielded.

No normative data for the RSQ exists although ratings of the four attachment patterns have shown moderate stability over an 8 month test-retest period (Scharfe & Bartholomew, 1994). The RSQ has been found to evidence low internal consistency in both the adult and adolescent versions (Griffin & Bartholomew, 1994; Scharfe, 2005) and for this reason several authors recommend that if a self-report approach is to be utilised with respect to attachment styles, multiple measures of attachment should be utilised (Bartholomew, 2006; Shaver, 2006). In this regard by administering the RQ and RSQ a composite measure of attachment style can be obtained which may give a more reliable indication of attachment prototypes (Ognibene & Collins, 1998). This method was employed in the present study and is discussed below.

### **2.3.6 RQ and RSQ Composite Measure of Attachment Styles**

Ognibene & Collins (1998) reported on a method of deriving a single composite measure of attachment style from the RQ and RSQ. Prior to forming the composite measure they correlated the four continuous attachment style ratings on the RQ with the RSQ. They reported that correlations between corresponding attachment styles ranged between .54 to .74 and correlations between non corresponding attachment styles ranged between -.14 to -.49 as would be expected theoretically. They did not however report levels of significance for these correlations.

The four continuous subscale ratings on the RQ and the RSQ were then converted in to standard scores (z-scores) and the corresponding standardised scores on the RQ and RSQ were summed to form a single continuous composite measure of four attachment styles. For example, the secure z score on the RQ was combined with the secure z score on the RSQ to form a single composite score for secure attachment. In addition to these four continuous composite measures of attachment style, a categorical measure of attachment style can also be derived from the composite scores by assigning individuals to the style that they obtained the highest positive z score in, representing the best fitting attachment style. This is the method employed in the present study when discussing categorical and continuous ratings of attachment style.

### **2.3.7 Youth Self-Report (YSR)**

The Youth Self-Report (YSR; Achenbach, 1991, 2001) provides symptom status for adolescents aged 11 to 18 years old. The first part of the YSR asks about the adolescent's social, activity and school competencies and responses are rated on a 3 point Likert scale using their peer group as comparison. The second part of the YSR comprises of a list of 112 items rated on a 3 point Likert scale including 'not true', 'sometimes true' or 'often true'. These items are grouped in to 8 syndrome scales including: anxious/depressed, withdrawn/depressed, somatic problems, social problems, thought problems, attention problems, rule-breaking behaviour and aggressive behaviour. In addition, 6 DSM-IV orientated scales can be derived from the grouping of the items including: affective problems, anxiety problems, somatic problems, attention deficit/hyperactivity problems, oppositional defiant problems and conduct problems. Broadband internalising and externalising subscales can also be derived. The internalising subscale is comprised of three of the syndrome scales, namely anxious/depressed, withdrawn/depressed and somatic problems. Adolescents scores are normed against same age and sex peers for syndrome and



broadband scales but not DSM-IV scales and standard scores (t-scores) with normal (0-64), borderline (65-69) or clinical (< 70) classifications are provided.

The YSR has been reported to be a highly reliable and valid measure for assessing adolescent psychopathology (Achenbach, 1991). In this regard, Song *et al* (1994) evaluated the reliability, factor structure and validity of the YSR in a sample of hospitalised psychiatric adolescents. Factor analysis revealed that internalising and externalising were valid broadband syndromes. In a later study by Van Lang *et al* (2005) in a Dutch sample of children aged 10 to 12 years old investigated concurrent validity of DSM-IV scales of anxiety and affective problems on the YSR as compared to the Revised Child Anxiety and Depression Scale (RCADS; Chorpita *et al*, 2000) and examined whether the association between the YSR DSM-IV scale and the RCADS was stronger than the association between the empirically derived YSR syndrome scales. Results indicated that the YSR DSM-IV scale affective problems had a stronger association with symptoms of DSM-IV major depressive disorder than the syndrome scales withdrawn/depressed and anxious/depressed. However, the YSR DSM-IV anxiety problems had a weaker association with symptoms of DSM-IV anxiety disorders, compared to the YSR syndrome scale anxious/depressed. Therefore, suggesting that utilising DSM-IV scales improves correspondence with DSM-IV major depressive disorder but not with DSM-IV anxiety disorders.

Given equivocal evidence as to the validity of the DSM-IV scales of the YSR and lack of normative data for these, for the purposes of the present study the broadband internalising scale was utilised given that these scales have established normative data, in addition to wishing to collate information on presence and severity of internalising symptomatology, as opposed to diagnostic parallels given that diagnostic classifications were already established for adolescents via the recording of ICD-10 diagnostic codes on the NHS database. The YSR

internalising classifications were utilised for descriptive analysis and continuous scores were utilised for statistical analysis within the present study.

### **2.3.8 Non-Validated Questionnaire**

A non-validated questionnaire was utilised in order to collate relevant details as to parents' mental health status and history. Parents were asked to indicate on a forced choice yes/no response format as to whether they had ever been depressed or anxious, whether they considered themselves to be currently depressed or anxious, and if they ever sought professional help or received a diagnosis with respect to depression or anxiety. In addition parents were also asked to indicate if they had ever had any other mental health problems, and to provide basic details of this where applicable (see Appendix A).

In addition, adolescents were also asked to indicate on a forced choice 'yes/no' response format as to whether they had ever been depressed or anxious as well as whether they currently considered themselves to be depressed or anxious. Adolescents were also asked to indicate if they had ever had any other mental health problems, and again to provide basic details of this where applicable (see Appendix A).

Based on the forced choice answers, participants were dichotomised in to two groups, For example parents with a reported history of depression and parents with no history of depression. For parents, two broader groups were also created, parents with a reported history of internalising problems and parents with no reported history of internalising problems.

## 2.4 Ethics

Prior to commencing the study ethical approval was sought from Grampian Local Research Ethics Committee, which was not approved until April 2006 due to several request for further information and clarification. Further, approval was sought from NHS Grampian Research and Development office, which was granted subsequent to them receiving notification of full ethical approval (see Appendix B).

With regard to ethical issues the present study could have potentially identified adolescents or their parents who were suicidal via their self-reports on the BDI, in addition to the YSR for adolescents. In this respect several ethical procedures had to be put in place. Participant information sheets had to clearly outline the limits of confidentiality, whereby if participants indicated that they were actively suicidal, the researcher would be obliged to act on this information. If adolescents indicated they were actively suicidal the procedure put in place was for the researcher to contact the adolescent in the first instance, outline the concerns, reiterate the limits of confidentiality and explain that this information would be passed on to their case manager in the CAMHS. The case manager was then to be informed within 24 hours both verbally and in writing by researcher. Where it was not possible to contact the case manager, the duty clinician for the CAMHS was to be informed within the same time period. If parents indicated they were actively suicidal, the same procedure was followed except that the information would be passed on to their GP. Whilst both the adolescents' case manager at the CAMHS or the parents GP may have been aware that the individual was at risk with appropriate supports in place, this procedure was thought to provide a necessary safeguard.

Other ethical issues pertaining to the present study related to obtaining informed consent, data protection and potential sensitivity of some questions within the battery which may have caused some participants distress. Participant information sheets outlined all relevant details

pertinent to obtaining informed consent. Adolescents aged 13 and above were assumed to have capacity to consent based on Fraser guidelines. With regard to data protection participants were given a numerical code and research and personal information were held on separate databases to comply with the Data Protection (1998) Act. For participants who did not consent to participate their details were destroyed from the database. For participants who may have found some of the questions distressing contact details for the researcher were provided should they wish to discuss this or seek advice on further sources of help, in addition participants were free to withdraw at any time.

## **2.5 Procedure**

A total of 114 adolescents and their parent(s) were identified as meeting the inclusion criteria. All participant invitation letters contained a covering letter, participant information sheet, and two consent forms, one to be kept for the participants own record, along with a stamped addressed envelope for returning the consent form should they decide to participate in the research (see Appendix C). There were slightly different versions of the invitation packs depending on whether the participant was a parent or an adolescent. All adolescents were invited to participate via post by the clinician currently involved in their care, and correspondingly their parents. Where adolescent were aged between 13-15 years old their parent(s) were invited simultaneously to participate in the research. Where adolescents were aged between 16-18 years old they were asked for consent to contact their parent(s) and to provide their parent(s) name and contact address.

If the adolescent and at least one parent consented to participate a postal questionnaire battery (see Appendix D for (A)RQ, (A)RSQ and SQ-SF) was sent for them to complete and return using the stamped addressed envelope provided. Adolescents questionnaire batteries included a covering letter and a form for indicating their wishes for feedback of research

results (see Appendix E), in addition to the BDI-II, BAI, YSR, SQ-SF, A-RQ, A-RSQ and the non-validated questionnaire pertaining to their past and current mental health. Parents' questionnaire batteries were the same except for the YSR which parents did not complete and adult version of the RQ and RSQ were sent as opposed to the adolescent versions of these.

Following the first three weeks of sending invitation letters, it became apparent that response rates were low and therefore two consecutive substantial amendments to the Grampian Local Research Ethics Committee were applied for (see Appendix B). The first substantial amendment related to sending potential participants reminder letters about the study and to return their consent forms if they still wished to participate. However, ethical approval for this amendment was not granted until mid July 2006. Given that the present study was due for completion at the beginning of August 2006 this was out with the time parameters and could not be actioned. The second substantial amendment related to recruiting participants from a second CAMHS within the Grampian Health Board area. Whilst this amendment was approved by the Ethics Committee in June, the second CAMHS within the Grampian Health Board area did not approve data collection from this site and therefore this avenue for increasing participant numbers was unsuccessful.

## **2.6 Data Analysis**

Despite attempts to increase participant numbers and associated difficulties encountered in relation to this, participant numbers fell considerably short of the size of sample that was intended, as calculated by the *a priori* statistical power analysis. A total number of 38 families were required, however, only 10 families consented, completed and returned all questionnaires including just two fathers. Whilst it had been planned to test the hypotheses with a series of multiple regression analyses in order to test for the interaction of the



variables, as a consequence of the small sample size this was not possible and correlational analysis had to be employed as a substitute.

As a result of this, the data analysis cannot be considered a true test of the hypotheses. Firstly because power is too low to adequately detect effect sizes, whereby low power means that the probability of rejecting the null hypothesis is increased when the null hypothesis is in fact false. Therefore, the probability of making a Type II error is increased. Secondly, because it was not possible to utilise fathers data for analysis due to low numbers the relative influence of fathers attachment style, cognitive style and affect on adolescents, as compared to mothers, cannot be adequately tested. Therefore, the present study has been treated as an exploratory study with regard to the relation between adolescents and mothers attachment styles, cognitive styles and affect only. Since the present study has been treated as an exploratory study it was important to keep the power high, if necessary at the expense of an inflated alpha level due to the large number of independent tests performed. Accordingly no attempt was made to allow for inflated alpha level, and the present results need to be treated with the caution appropriate to an exploratory study.

The data was analysed using the Statistics Package for Social Sciences (SPSS) version 14.0 for Windows. Non-parametric correlations were employed due to the low numbers and associated difficulties in adequately testing the normality of the data. Given that non-parametric methods do not assume normal distribution of the data, Spearman's rank ( $\rho$ ) two-tailed correlation coefficients were utilised to test the hypotheses in order to examine the strength and direction of the relationships between the variables.

Firstly, Spearman's correlations were performed for adolescents A-RQ and A-RSQ attachment style measures and correspondingly mothers RQ and RSQ attachment style measures to test for the degree of association between these measures, prior to forming a

continuous composite measure of the four attachment styles for each participant. To test hypothesis 1 adolescents and mothers continuous composite measures of attachment style, total mean score on the SQ-SF as a measure of cognitive style, and BDI-II and BAI scores as a measure of affect were correlated. In addition adolescents mean scores on the 15 EMS on the SQ-SF were correlated with mothers mean scores on the 15 EMS. In order to test hypothesis 2, adolescents total mean score on the SQ-SF as a measure of cognitive style were correlated with mothers BDI-II scores, BAI scores, self-report of a history of internalising problems and self-report of current internalising problems. It was not possible to test hypothesis 3, as discussed later, but in relation to hypothesis 4, adolescents total mean scores on the SQ-SF were correlated with adolescents BDI-II, BAI, and YSR internalising scores as measures of affect, and continuous composite measures of attachment style.

With regard to the secondary aim of the study, adolescents mean scores on 5 EMS on the SQ-SF, namely abandonment, dependency, defectiveness, insufficient self-control and vulnerability to harm were correlated with adolescents BDI-II, BAI and YSR internalising scores. The same measures were correlated for mothers, except for the YSR.

# CHAPTER 3

## RESULTS

## **RESULTS**

### **3.1 Normality of Data**

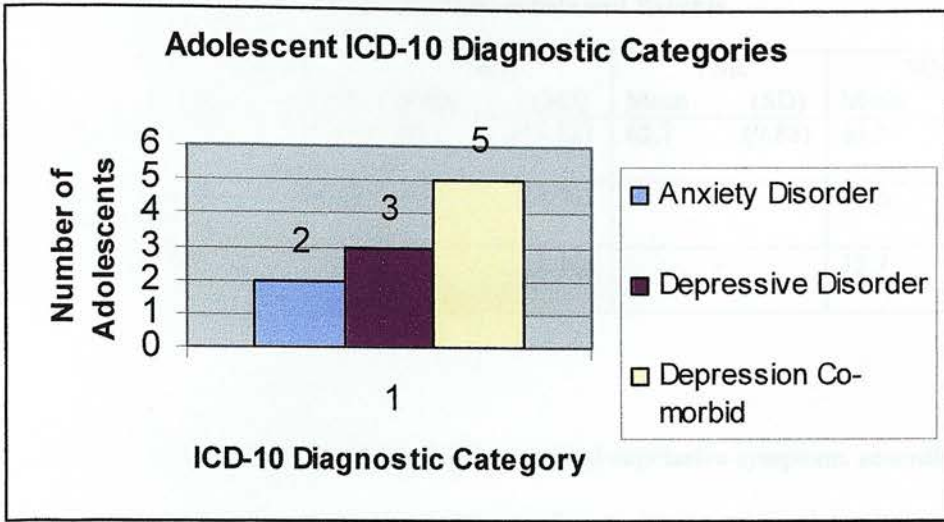
Given the low number of participants in each group it is difficult to adequately test for the normality of the data. However, by employing descriptive statistics, measures of skewness and kurtosis were derived, in addition to employing histograms, boxplots and the Kolmogorov-Smirnov test as measures of the normality of the distribution. These all suggested that the data were not normally distributed, indicating appropriate use of non-parametric statistics for analysis of the data.

### **3.2 Sample Characteristics**

#### **3.2.1 Internalising Problems**

Adolescents recorded ICD-10 diagnoses on the NHS database indicated that 5 adolescents had only one ICD-10 diagnosis recorded. This included 2 adolescents with pure anxiety disorders, namely OCD and specific phobia, and 3 adolescents who were classified as having pure depression incorporating one adolescent with a mild depressive episode and two adolescents with a moderate depressive episode. The remaining 5 adolescents had two or three recorded ICD-10 diagnoses, all of whom were classified as depressed ranging from mild to severe depressive episodes in addition to other co-morbid conditions including anxiety, self-harm and anorexia nervosa. Figure 1 provides an overview of the number of adolescents in each of the main ICD-10 diagnostic categories, including anxiety disorders, depressive disorders and depression co-morbid with other mental health problems.

With regard to symptom severity, adolescents obtained a mean score of 22.5 (SD=10.78) on the BDI-II. According to BDI-II classifications for depressive symptomatology, 2 adolescents were classified as having minimal symptoms, 6 with moderate symptoms and the remaining 2 adolescents were classified as having severe symptoms. Pertaining to the BAI



**Figure 1. Number of Adolescents in each of the main ICD-10 Diagnostic Categories**

adolescents obtained a mean score of 16.7 (SD=11.12). BAI classifications for anxiety symptomatology indicated that 2 adolescents had minimal symptoms, 3 had mild, 3 had moderate and the remaining 2 adolescents had severe anxiety symptoms. Adolescents obtained a mean score of 62.7 (SD=9.88) on the YSR internalising broadband scale. YSR classifications for internalising symptomatology indicated that 5 adolescents scored within the clinical range, 2 adolescents within the borderline range, and the remaining 3 adolescents were within in the non-clinical range. Adolescents total mean scores on the SQ-SF as a measure of the presence of early maladaptive schemas (EMS) or cognitive styles were 45.3 (SD=10.97). Adolescents mean scores and standard deviations for the above measures along with parents' means scores and standard deviations for corresponding measures, except for the YSR which was not completed by parents, are presented in Table 1 for ease of comparison.

With regard to symptom severity for parents, as can be seen from Table 1, mothers obtained a mean score of 7.6 (SD=2.87) and 7.4 (SD=4.76) on the BDI-II and the BAI respectively.

**Table 1. Affect Symptomatology for Adolescents and Parents.**

	BDI-II		BAI		YSR		SQ-SF	
	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)
Adolescents (N=10)	22.5	(10.78)	16.7	(11.12)	62.7	(9.88)	45.31	(10.97)
Mothers (N=10)	7.6	(2.87)	7.4	(4.76)	-		31.6	(9.05)
Fathers (N=2)	14	(5.66)	2	(1.41)	-		35.7	(0.99)

All of the mothers were classified as having minimal depressive symptoms according to the BDI-II. As for the BAI, 5 mothers were classified as having minimal symptoms and the remaining 5 mothers were classified as having mild anxiety symptoms. Fathers obtained a mean score of 14 (SD=5.66) and 2 (SD=1.41) on the BDI-II and BAI respectively. One father obtained a mild symptom severity classification on the BDI-II and a moderate classification on the BAI, whilst the remaining father obtained minimal classifications on both the BDI-II and BAI. Mothers and fathers total mean scores on the SQ-SF as a measure of the presence of early maladaptive schemas (EMS) or cognitive styles were 31.6 (SD=9.05) and 35.7 (SD=0.99) respectively, as shown in Table 1.

Self-reports as to whether participants had ever considered themselves to have had a history of depression or anxiety, in addition to whether they currently considered themselves to have a problem with depression and anxiety are summarised in Table 2. For adolescents, 2 reported a history of anxiety, 4 reported a history of depression, and the remaining 4 adolescents reported a history of depression and anxiety. For current depression or anxiety, 6 adolescents did not report any problems, 3 considered themselves to be depressed and anxious and the remaining adolescent considered themselves to be depressed but not anxious.

**Table 2. Adolescents and Parents Self-Reports of History of Mental Health Problems and Current Depression or Anxiety Problems.**

	Adolescents (N=10)	Mothers (N=10)	Fathers (N=2)
<b>Self-Report of Mental Health History</b>			
- Depressed	4	4	0
- Anxious	2	0	0
- Depressed & Anxious	4	5	1
- Never Depressed or Anxious	0	1	1
<b>Self-Report of Current Anxiety or Depression</b>			
- Depressed	1	1	0
- Anxious	0	1	0
- Depressed & Anxious	3	0	0
- Not Depressed or Anxious	6	8	2

As can be seen from Table 2, four mothers reported they had a history of depression, 5 mothers reported they had a history of depression and anxiety, and the remaining mother did not report any history of depression or anxiety. Therefore, a total of 9 mothers had a history of internalising disorders. As for current depression or anxiety, 8 mothers did not report any problems, 1 mother considered herself to be anxious, and the remaining mother considered herself to be depressed. Therefore, only 2 mothers were classified as having a current internalising problem. Further, 5 mothers reported that they had sought professional help for their problems with depression and/or anxiety.

With regard to fathers, one reported a history depression and anxiety, had sought professional help for this, but did not consider himself to be currently depressed or anxious. The remaining father did not report any history of or current difficulties with depression or anxiety as summarised in Table 2. None of the mothers or fathers reported any additional mental health problems either currently or in the past.

### 3.2.2 Attachment Styles

Prior to deriving participants continuous composite attachment scores, correlations were performed between participants four continuous attachment style scores on the (A)RQ and (A)RSQ to test for the degree of association between these two measures (Ognibene & Collins, 1998). For adolescents a significant positive correlation was obtained between corresponding A-RQ and A-RSQ fearful scores ( $\rho=.81, p<.01$ , two-tailed), although no significant correlations were obtained between adolescents remaining corresponding attachment scores. A significant negative correlation was obtained between adolescents A-RSQ secure scores and A-RQ fearful scores ( $\rho= -.74, p<.05$ , two-tailed) and a significant positive correlation was also obtained between A-RQ fearful and A-RSQ dismissing scores ( $\rho=.71, p<.05$ , two-tailed) as shown in Table 3 below.

**Table 3. Spearman's rho Correlation Coefficients for Adolescents (N=10) and Mothers (N=10) Four Continuous Attachment Style Scores on the (A)RQ and (A)RSQ.**

	(A)RQ Secure	(A)RQ Fearful	(A)RQ Preoccupied	(A)RQ Dismissing	(A)RSQ Secure	(A)RSQ Fearful	(A)RSQ Preoccupied	(A)RSQ Dismissing
(A)RQ Secure		-.61	-.23	-.59	.30	-.56	-.44	-.17
(A)RQ Fearful	-.82**		-.22	-.46	-.74*	.81**	-.08	.71*
(A)RQ Preoccupied	-.17	.47		-.32	-.38	.18	.43	-.02
(A)RQ Dismissing	-.61	.44	-.46		-.38	.59	-.17	.30
(A)RSQ Secure	.93**	-.71*	-.02	-.63		-.64*	-.09	-.41
(A)RSQ Fearful	-.61	.62	.04	.70*	-.44		.14	.31
(A)RSQ Preoccupied	-.08	.45	.73*	-.44	.12	.16		-.37
(A)RSQ Dismissing	-.28	-.05	-.38	.52	-.25	.64*	-.40	

Values above the line denote coefficients for adolescents and values below the line denote coefficients for mothers.

\* Correlation is significant at  $p<.05$  level

\*\* Correlation is significant at  $p<.01$  level



For mothers significant positive correlations were obtained between corresponding RQ and RSQ secure scores ( $\rho=.93$ ,  $p<.01$ , two-tailed), and preoccupied scores ( $\rho=.73$ ,  $p<.05$ , two-tailed), although no significant correlations were obtained between mothers remaining corresponding attachment scores. A significant negative correlation was obtained between mothers RQ fearful scores and RSQ secure scores ( $\rho= -.71$ ,  $p<.05$ , two-tailed). Mothers RQ dismissing scores and RSQ fearful scores were also positively correlated ( $\rho=.70$ ,  $p<.05$ , two-tailed) as shown in Table 3 above.

Following these correlations which were performed to test for the degree of association between participants two attachment measures, a composite measure was derived as described in the method section on which participants continuous and categorical attachment styles were based.

**Table 4. Attachment Style Classifications for Adolescents and Parents.**

Group	Secure	Fearful	Preoccupied	Dismissing
Adolescents (N=10)	1	6	3	0
Mothers (N=10)	1	1	2	6
Fathers (N=2)	0	0	0	2

Utilising categorical attachment styles, only 1 adolescent was classified as secure, 6 as fearful, and the remaining 3 adolescents were classified as preoccupied. A total of 9 adolescents were therefore classified as insecure. As for mothers, 1 was classified as secure, 6 as dismissing, 2 as preoccupied, and the remaining mother was classified as fearful. A total of 9 mothers were also therefore classified as insecure. Both fathers were classified as dismissing, and thus insecure as summarised in Table 4.

### 3.3 Hypothesis 1 - 3

Hypothesis 1 stated that there would be a significant correlation between adolescent's attachment style, cognitive style and affect with that of their mothers, but not fathers. As previously discussed hypotheses cannot be tested with regard to fathers. Therefore adolescents and mothers continuous attachment styles, mean total scores on the SQ-SF as a measure of cognitive style and BDI-II and BAI scores as a measure of affect were correlated. No significant correlations were obtained between adolescents and mothers corresponding attachment styles, cognitive style or affect. However, a significant negative correlation was obtained between adolescents preoccupied scores and mothers fearful scores ( $\rho = -.64$ ,  $p < .05$ , two-tailed) as shown in Table 5. The other significant correlations obtained relate to different hypotheses and will be discussed later. In further testing hypothesis 1, adolescents mean scores for the 15 EMS were correlated with mother mean scores for the 15 EMS. No significant correlations were obtained between adolescents and mothers corresponding EMS.

Hypothesis 2 stated that there would be a greater relationship between maternal depression and anxiety and adolescents cognitive styles than between paternal depression and anxiety and adolescents cognitive styles. Correlations performed for adolescents and mothers only indicated no significant relationships between adolescents mean total scores on the SQ-SF as a measure of cognitive style and mothers BDI-II scores, BAI scores, self-report of a history of internalising problems and self-report of current internalising problems as measures of maternal depression and anxiety as indicated in Table 6. Unrelated to hypothesis 2, but as would be expected a significant positive correlation was obtained between mothers BAI scores and self-report of current internalising problems reflecting that as mothers scores increased on the BAI so did mothers reporting of current internalising problems.

**Table 5. Spearman's rho Correlation Coefficients for Adolescents (N=10) and Mothers (N=10) Attachment Styles, Cognitive styles and Affect Measures.**

	A Secure	A Fearful	A Preoccupied	A Dismissing	M Secure	M Fearful	M Preoccupied	M Dismissing	A SQ-SF total	M SQ-SF total	A BDI-II	M BDI-II	A BAI	M BAI
A Secure	-	-.76*	-.24	-.21	.19	-.04	-.24	.36	-.76*	-.09	-.46	.17	-.17	.12
A Fearful	-	-	-.24	.18	-.37	.26	.02	-.03	.71*	.37	.50	.22	.30	.24
A Preoccupied	-	-	-	-.53	.61	-.64*	.04	-.43	.25	-.43	.15	.00	-.15	-.24
A Dismissing	-	-	-	-	-.46	.41	.46	-.18	-.29	.26	-.34	-.14	.00	-.33
M Secure	-	-	-	-	-	-.98**	-.44	.03	.16	-.72*	-.26	-.03	.19	-.02
M Fearful	-	-	-	-	-	-	.46	-.01	-.27	.74*	.16	.04	-.23	.13
M Preoccupied	-	-	-	-	-	-	-	-.87**	-.37	.44	-.09	-.12	.06	-.13
M Dismissing	-	-	-	-	-	-	-	-	.13	-.13	.03	.10	-.23	.18
A SQ-SF total	-	-	-	-	-	-	-	-	-	-.16	.55	-.14	.29	.19
M SQ-SF total	-	-	-	-	-	-	-	-	-	-	.35	.30	.05	.34
A BDI-II	-	-	-	-	-	-	-	-	-	-	-	.13	.23	-.09
M BDI-II	-	-	-	-	-	-	-	-	-	-	-	-	-.28	.04
A BAI	-	-	-	-	-	-	-	-	-	-	-	-	-	.21
M BAI	-	-	-	-	-	-	-	-	-	-	-	-	-	-

A denotes coefficients for adolescents

M denotes coefficients for mothers

\* Correlation is significant at p<.05 level

\*\* Correlation is significant at p<.01 level

**Table 6. Spearman's rho Correlation Coefficients for Adolescents (N=10) Cognitive Style and Mothers (N=10) Affect Measures.**

	A SQ-SF	M BDI-II	M BAI	M History	M Current
A SQ-SF total	-	-.14	.19	-.52	-.26
M BDI-II		-	.04	.23	.18
M-BAI			-	.06	.70*
M History				-	.17
M Current					-

A denotes coefficients for adolescents

M denotes coefficients for mothers

\* Correlation is significant at  $p < .05$  level

Hypothesis 3 stated that adolescents of parents with a history of, or current depression or anxiety, would have greater negative cognitive styles as compared to adolescents of parents who have never been depressed or anxious. It was not possible to test this hypothesis due to the low number of mothers in the never depressed or anxious group for comparison, given that only one mother did not have a self-reported history of internalising problems.

### 3.4 Hypothesis 4

With regard to hypothesis 4 it was stated that adolescent's cognitive styles would be significantly related to the severity of their internalising disorder and attachment style. In order to test this hypothesis adolescents mean total scores on the SQ-SF as a measure of cognitive style were correlated with their BDI-II scores, BAI scores and YSR internalising scores as measures of affect, in addition to their continuous attachment styles.

Adolescents mean total scores on the SQ-SF were significantly and positively correlated with their YSR internalising scores ( $\rho = .74, p < .05$ , two-tailed) but not to their BDI-II or BAI scores. In addition, adolescents mean total scores on the SQ-SF were negatively and significantly correlated with secure attachment ( $\rho = -.76, p < .05$ , two-tailed), and significantly and positively correlated to fearful attachment ( $\rho = .71, p < .05$ , two-tailed) as illustrated in Table 7. Similarly, when exploring hypothesis 1, mothers mean total scores on the SQ-SF were negatively and significantly correlated with secure attachment ( $\rho = -.72, p < .05$ , two-tailed) and significantly and positively correlated with fearful attachment ( $\rho = .74, p < .05$ , two-tailed) as shown in Table 5.

**Table 7. Spearman's rho Correlation Coefficients for Adolescents Measures of Affect, Attachment and Cognitive Style (N=10)**

	BDI-II	BAI	YSR	Secure	Fearful	Preocc upied	Dismis sing	SQ-SF
BDI-II	-	.23	.33	-.46	.50	.15	-.34	.55
BAI		-	.28	-.17	.30	-.15	.00	0.42
YSR			-	-.71*	.76*	.34	-.16	0.74*
Secure				-	-0.76*	-.24	-.21	-0.76*
Fearful					-	-.24	.18	0.71*
Preoccupied						-	-.53	0.25
Dismissing							-	-0.29
SQ-SF								-

\* Correlation is significant at  $p < .05$  level

Significant correlations were also obtained with regard to adolescent's attachment style and internalising symptomatology as indicated in Table 7. Adolescents secure attachment was negatively and significantly correlated with their YSR internalising scores ( $\rho = -.71, p < .05$ ,

two-tailed) and fearful attachment was positively and significantly correlated with their YSR internalising scores ( $\rho=.76$ ,  $p<.05$ , two-tailed) as shown in Table 7.

### 3.5 Secondary Aims

With regard to the secondary aim of the study, adolescents mean scores on 5 EMS on the SQ-SF, namely abandonment, dependency, defectiveness, insufficient self-control and vulnerability to harm were correlated with adolescents BDI-II, BAI and YSR internalising scores. A significant positive correlation was obtained between adolescents BDI-II scores and defectiveness EMS ( $\rho=.69$ ,  $p<.05$ , two-tailed) and dependence EMS ( $\rho=.65$ ,  $p<.05$ , two-tailed). In addition a significant positive correlation was found between adolescents YSR scores and defectiveness EMS ( $\rho=.64$ ,  $p<.05$ , two-tailed) as illustrated in Table 8.

**Table 8. Spearman's rho Correlation Coefficients for Five of Adolescents EMS and Measures of Affect**

	BDI-II	BAI	YSR	Abandonment	Vulnerability	Dependency	Defectiveness	Insufficient
BDI-II	-	.23	.33	.60	.48	.65*	.69*	-.26
BAI		-	.28	.34	.28	.32	.16	-.15
YSR			-	.31	.62	.43	.64*	.52
Abandonment				-	.49	.50	.62	-.44
Vulnerability					-	.03	.29	.08
Dependency						-	.88**	-.12
Defectiveness							-	-.02
Insufficient								-

\* Correlation is significant at  $p<.05$  level

\*\* Correlation is significant at  $p<.01$  level

With regard to mothers, mean scores on the 5 EMS abandonment, dependency, defectiveness, insufficient self-control and vulnerability to harm were correlated with their BDI-II and BAI scores. A significant positive correlation was obtained between mothers BDI-II scores and dependence EMS ( $\rho=.72$ ,  $p<.05$ , two-tailed) and insufficient self control EMS ( $\rho=.68$ ,  $p<.05$ , two-tailed). Further, mothers BAI score was positively and significantly correlated to vulnerability to harm EMS ( $\rho=.67$ ,  $p<.05$ , two-tailed) as illustrated in Table 9.

**Table 9. Spearman's rho Correlation Coefficients for Five of Mothers EMS and Measures of Affect.**

	BDI-II	BAI	Abandonment	Vulnerability	Dependency	Defectiveness	Insufficient
BDI-II	-	.04	.02	.36	.72*	.13	.68*
BAI		-	.05	.67*	-.16	.22	.00
Abandonment			-	-.25	.14	.86**	-.25
Vulnerability				-	.05	-.26	.48
Dependency					-	.12	.39
Defectiveness						-	-.12
Insufficient							-

\* Correlation is significant at  $p<0.05$  level

\*\* Correlation is significant at  $p<0.01$  level

## CHAPTER 4

### DISCUSSION



## DISCUSSION

### **4.1 Overview**

The present exploratory study sought to examine the relationship between adolescents and parents attachment style, cognitive style and affect based on two social learning mechanisms, modelling and indirect learning via attachment relations. No significant associations were found between adolescents and mothers attachment style, cognitive style and affect with regard to the modelling hypothesis. However, several significant associations were found between adolescents attachment style, cognitive style, and affect and between mothers' attachment style and cognitive style with regard to the indirect learning hypothesis via attachment relations. The results are discussed in relation to these two potential mechanisms of risk.

### **4.2 Internalising Problems**

Half of the adolescents in the present sample had a co-morbid diagnosis, and nine out of ten mothers reported a history of internalising problems, in addition to one father. This is largely in accordance with Hammen *et al's* (1999) descriptive analysis of 43 adolescents attending an outpatient clinic. They reported that adolescents typically displayed co-morbid diagnoses and their parents were characterised by high rates of psychopathology, in addition to maternal intergenerational patterns of diagnoses being evident. However, in contrast to Hammen *et al's* (1999) results the majority of mothers in the present sample did not consider themselves to have a current internalising problem, in addition to both fathers, and none of the parents reported any additional mental health problems. Measures of affect supported this whereby all mothers and fathers were classified as having minimal depressive symptoms on the BDI-II and half of the mothers and one father were classified as having minimal anxiety symptoms on the BAI. The remaining five mothers and one father were classified as having

mild and moderate anxiety symptoms respectively. The present results are however consistent with a large body of evidence which has demonstrated that half or more of children and adolescents of depressed mothers experience depressive disorders, as well as other conditions (Hammen *et al*, 1990, 1998; Beardslee *et al*, 1993; Lavoie & Hodgins, 1994; Weissman *et al*, 1997).

Adolescents self-report as to whether they considered themselves to be currently depressed or anxious did not appear to correspond to their measures of affect. Six adolescents did not consider themselves to be currently depressed or anxious, and the remaining four identified themselves as depressed, three of which reported co-morbid anxiety. Adolescents BDI-II scores did not reflect this however in that eight were classified as having moderate to severe depressive symptoms. A further five adolescents obtained moderate to severe classifications for anxiety symptoms on the BAI with an additional two adolescents classified as mild on this measure. In addition, adolescents YSR internalising scale also identified 5 adolescents to be within the clinical range and 2 within the borderline range. Therefore there was considerable disparity between adolescents self-report of current internalising problems and their measures of symptom severity.

It is not clear what may account for this disparity. It is possible that relative to when the adolescents first presented for treatment to the Child and Adolescent Mental Health Service (CAMHS), and following a period of treatment, they consider themselves to be subjectively better than when they first presented. This is purely speculative and cannot be accounted for within the data obtained as no details as to length of treatment, pre or mid-treatment psychometric measures of affect were available to the researcher, and could not have been accounted for within the current cross-sectional design. It is possible that this finding is related to measurement error. Whilst both the BDI-II and BAI have proven reliability and validity in adolescent populations (Ambrosini *et al*, 1991; Steer *et al*, 1998; Krefetz *et al*,

2003; Jolly *et al*, 1993; Steer *et al*, 1995; Osman *et al*, 2002), the forced choice non-validated self-report measure utilised was indented as a gross measure as to the current presence of depression or anxiety. In this sense it would not have picked up any fine detail as to symptomatology and was not intended for use in this way. However, the disparity between adolescents subjective self-reports as to current internalising problems and measures of affect and symptom severity represents an interesting finding nonetheless.

### **4.3 Attachment Style Classifications**

The present study found that 9 out of 10 adolescents had an insecure attachment style, which is in strong agreement with previous studies documenting high rates of insecure attachment in adult (Mason *et al*, 2005; Van Ijzendoorn *et al*, 1996) and adolescent clinical samples (Adam *et al*, 1995). For example, Scott Brown & Wright (2003) in comparison of 15 clinical and 15 non-clinical adolescents reported 87% had insecure attachment styles in the clinical group, likewise Adam *et al* (1995) reported 84% had insecure attachments in their adolescent clinical group. Whilst the present results are in strong agreement with existing studies, direct comparisons cannot be drawn as the measures of attachment employed to derive attachment classifications in these studies differed from the present methodology. The present findings do however provide support for the link between insecure attachment styles and mental health problems in children and adolescents which has been documented in several previous studies (Warren *et al*, 1997; Cole-Detke & Kobak, 1996; Scott Brown & Wright, 2003).

Moreover, 9 out of 10 mothers in addition to both fathers also had an insecure attachment style which is consistent with theory proposing the intergenerational transmission of attachment style (Bowlby, 1973). Several studies have reported high concordance of parents' attachment style with that of their child (Main *et al*, 1985; Crowell & Feldman, 1987, 1988; Grossman *et al*, 1988; Fonagy *et al*, 1991; Van Ijzendoorn, 1992; Main & Goldwyn, 1994).

However, these studies pertain to the degree of correspondence between mothers and infants attachment styles and thus are not directly comparable. Further it should be noted that the majority of these studies did not examine fathers and studies of concordance between fathers and their children's attachment classifications are very limited (Cowan *et al*, 1996). Nevertheless there was a strong correspondence between adolescents and mothers with regard to insecure attachment styles, and the results indicated that fathers' attachment style may also correspond with their adolescents, although this is speculative given that only two fathers were included in the sample, but both had an insecure attachment style.

With regard to specific attachment style classifications, six adolescents were classified as fearful, three as preoccupied and the remaining adolescent was classified as secure. This is largely in accordance with the literature which has documented associations between internalising disorders such as depression and anxiety and preoccupied (insecure-ambivalent) attachment styles in children and adolescents (Warren *et al*, 1997; Renken *et al*, 1989; Rosenstein & Horowitz, 1996; Cole-Detke & Kobak, 1996). In addition fearful (insecure-disorganised) attachment style has been shown by researchers to have the strongest overall relationship to disturbance in adults (Mason *et al*, 2005; Carnelley *et al*, 1994; Bartholomew, 1997) and adolescents (Carlson, 1998), which has been related to the presence of both negative self and other models (Bartholomew, 1997).

However, adolescents' specific attachment style classifications did not closely match those of their mothers, whereby six mothers were classified as dismissing, two as preoccupied, one as fearful and the remaining mother as secure. This is in contrast to studies which report a high degree of matching on specific attachment style classifications (Grossman *et al*, 1988; Fonagy *et al*, 1991; Van Ijzendoorn, 1992; Main & Goldwyn, 1994).

In the present study the degree of correspondence of adolescent's attachment styles to that of their father was not examined. It is possible that adolescents' attachment style categorisations more closely resembled those of their fathers. Further to this, in accordance with attachment theory, research indicates that during adolescence the hierarchy of attachment figures is reordered and attachment behaviours are increasingly focused towards peers than parents (Furnam & Buhrmester, 1992; Hazan & Zeifman, 1994). The lack of correspondence between adolescents and mothers attachment style classifications may have reflected this reordering of attachment relations, as prototypes for relationships are presumably still being formed and therefore adolescents' attachment style classifications may be relatively unstable during this period of development.

Moreover, it is possible that there may have been inherent measurement difficulties with the self-report measures of attachment employed, discussed in more detail later. The (A)RQ and (A)RSQ assess attachment style within current close relationships and to this end represent an aggregation of experiences in relationships with others, including peers, as opposed to specifically eliciting representations of childhood attachment relations to parents as in the AAI. Adolescents presenting psychopathology may also have obscured or altered aspects of earlier attachment and whilst attachment styles have been shown to be relatively stable across the lifespan (Ainsworth, 1989; Sroufe *et al*, 1990; Grossman *et al*, 1993; Waters *et al*, 2000; Bartholomew & Horowitz, 1991; Doane & Diamond, 1994) attachment styles can also change, which may help to explain the low degree of correspondence between adolescents and mothers attachment style classifications.

#### **4.4 Hypotheses 1 - 3**

According to hypothesis 1 there would be a significant relationship between adolescents attachment style, cognitive style and affect with that of their mothers, but not fathers. Whilst

this analysis was not performed for fathers, no significant correlations were obtained between adolescents and mothers corresponding attachment styles, cognitive style or affect. Nor were any significant correlations obtained between adolescents and mothers 15 corresponding early maladaptive schemas (EMS). A significant negative correlation was however obtained between adolescents preoccupied attachment style and mothers fearful attachment style. It is not clear why this should be the case. It is possible that this is a spurious finding related to measurement error of attachment styles.

An alternative possibility is that as a mother becomes more fearful in her attachment style, and by association more distressed with greater interpersonal problems (Bartholomew, 1997), the adolescent becomes less preoccupied with eliciting their mothers attention and approval as their role changes from one of trying to gain comfort and reassurance from their mother to one of providing comfort and reassurance to their mother, in light of their mothers increased distress. However such a reciprocal effect between adolescents and mothers opposing attachment style has not been previously documented. This finding may however have some basis in the literature whereby preoccupied and dismissing styles are most diametrically opposed to each other, given that the preoccupied style is defined by negative self and positive other models and the dismissing style is defined by the reverse opposite (Bartholomew, 1990) and should significantly and negatively correlate with each other (Bartholomew & Horowitz, 1991). However, such reciprocal effects between adolescents preoccupied and mothers fearful attachment styles are speculative and the present result requires replication before the possibility that this is a spurious finding can be ruled out.

With regard to the literature surrounding modelling hypotheses, studies provide equivocal support. Correlational studies examining matching between depressed mothers and their children with respect to cognitive style and affect have reported associations between children's and mothers cognitive styles, but not fathers (Stark *et al*, 1996; Alloy *et al*, 2001).

Garber & Flynn (2001) reported a significant association between mothers and children's global self-worth, but no association between their general attributional styles. Several studies have however failed to show any significant associations between parents and children's attributional styles (Kaslow, 1988; Turk & Bry, 1992). Likewise, Oliver & Berger (1992) in a sample of college students and their parents did not find any significant associations on three measures of dysfunctional attitudes and self-schemas.

In the context of these equivocal findings, it is possible that within the present study no real effect existed for hypothesis 1, and the null hypothesis is in fact true that adolescents and their mothers do not closely match with regard to their attachment style, cognitive style and affect. However, this requires replication in future studies as there are inherent difficulties in accepting the null hypothesis with confidence within the present study due to insufficient sample size and problems with adequate power, which is discussed in some detail later. It should however be noted that whilst no significant associations were obtained between adolescents and mothers corresponding continuous attachment measures and there was an observed disparity between the four categorical attachment styles, the broader category of secure versus insecure attachment indicated high concordance between adolescents and mothers, as outlined previously.

According to hypothesis 2 there would be a greater relationship between maternal depression and anxiety and adolescents cognitive styles than between paternal depression and anxiety and adolescents cognitive styles. In assessing the relationship for adolescents and mothers, no significant associations were found between mothers reported history of or current internalising problems and measures of affect with adolescents' cognitive styles.

This finding is in contrast to studies which firstly indicate that maternal depression is related to greater negative cognitive styles in their children as compared to children of non

depressed women (Hammen, 1988; Hammen *et al*, 1988; Jaenicke, 1987) and secondly studies which suggest that mothers cognitive styles are modelled more closely than fathers (Seligman, 1984; Stark *et al*, 1996; Alloy *et al*, 2001). The reason for this has been attributed to the fact that mothers are usually the primary caregivers in most families and therefore children are exposed to more negative cognition, affect and behaviour associated with maternal psychopathology than paternal psychopathology (Pleck, 1997). It was not however possible to assess whether there was a greater influence of maternal internalising problems on adolescents' cognitive styles, than paternal internalising problems within the present study.

The reason for the lack of observed association for hypothesis 2 may relate to the fact that only two mothers in the present sample considered themselves to have a current internalising problem and all of the mothers obtained minimal or mild classifications on the BDI-II and BAI affect measures. It may be that associations are only evident when the mother is currently depressed. The lack of observed association may also be due to the measurement of negative cognitive style. Whilst the SQ-SF has been validated for adult populations it has not been validated for adolescents and no previous published studies are available with regards to its use with adolescent populations. This represents an area for future research given that EMS were found to be operating in adolescents within the current sample.

It was not possible to test hypothesis 3, which asserted that adolescents of parents with a history of or current depression and anxiety would have greater negative cognitive styles as compared to adolescents of parents who have never been depressed or anxious, as all but one mother had a self-reported history of internalising problems. In regard to the literature relating to hypothesis 3, studies have shown that depressed children of depressed parents have greater negative cognitive styles and display significantly more interpersonal problems as compared to depressed children of non depressed parents (Hammen, 1988; Hammen *et al*,



1988; Jaenicke, 1987; Hammen & Brennan, 2001). Further, several studies have found higher rates of internalising and externalising disorders in children whose parents both exhibit mental health problems relative to children with only one affected parent (Dierker *et al*, 1999; Goodman *et al*, 1993; Reich *et al* 1993).

The inability to test hypothesis 3 may represent a sampling error whereby it was assumed that approximately half of parents would have experienced internalising problems and the remaining half would not have. In the context of studies which have documented that parents of adolescents who are being seen as outpatients are characterised by high rates of a history of or current psychopathology (Hammen *et al*, 1999), the estimation that approximately half of parents would not have a history of internalising problems may have been unrealistic. This could not have been controlled for however. The low sample size obtained likely affected the ability to test this hypothesis whereby if more families had agreed to participate the likelihood of gaining a greater number of parents who had never been depressed or anxious would have been increased.

#### **4.5 Hypothesis 4**

Several significant and theoretically congruent associations were obtained for hypothesis 4, which stated that adolescents' cognitive styles would be significantly related to the severity of their internalising disorder and attachment style.

Firstly, adolescents' cognitive styles were significantly and positively related to their YSR internalising scores, indicating that as symptom severity for internalising problems increases as does the presence of negative cognitive styles in the form of early maladaptive schemas (EMS). This finding is in accordance with literature which suggests that the presence of EMS is significantly associated with psychological problems in adults, including depression

and anxiety (Schmidt *et al*, 1995; Wellburn *et al*, 2002; Mason *et al* 2005) and negative cognitive styles predict depressive symptoms in both adults and children (Hilsman & Garber, 1995; Nolen-Hoeksema *et al*, 1992; Metalsky & Joiner, 1992; Alloy *et al*, 1999; Ingram *et al*, 1998; Alloy *et al*, 2000). Whilst the present study was cross-sectional and not a prospective longitudinal study, and in this sense no prediction of effects can be made, the association between negative cognitive styles and internalising problems is consistent with these latter studies.

However, no published studies could be found linking EMS in adolescents to internalising disorders, so the present finding is unique in this sense but tentative given the exploratory nature of the study and lack of available data regarding the validity of the SQ-SF in adolescent populations. However, the present result does represent an interesting and theoretically relevant finding nonetheless, and provides support for a relationship between negative cognitive styles and adolescent internalising disorders.

Secondly, adolescents' negative cognitive styles were negatively related to secure attachment and positively related to fearful attachment. This also held true for mothers whereby significant correlations were also obtained for both these dimensions when exploring hypothesis 1. These results are consistent with previous studies which have shown that secure attachment in adolescents and adults is related to better adjustment in general (Bartholomew & Horowitz, 1991; Carlson & Sroufe, 1995; Sroufe *et al*, 1999) and insecure attachment in adults and adolescents has been related to dysfunctional attitudes (Whisman & McGarvey, 1995) and negative cognitive styles (Gamble & Roberts, 2005). Specifically, insecure attachment has also been linked to EMS in adult clinical populations (Mason, 2005; Cecero, *et al* 2004), but not before demonstrated in an adolescent clinical population. More specifically, akin to Mason's (2005) findings, the present study found that fearful attachment

was associated with a higher presence of EMS and secure attachment was associated with a lower presence of EMS.

These findings lend support to the notion that the vulnerability that stems from insecure attachment may originate with cognitive processes (Bowlby, 1988; Ingram, 2003) and to the idea that attachment style may form a conceptual bridge linking earlier experiences with the development of early maladaptive schemas (Chorpita & Barlow, 1998; Platts *et al*, 2002; Mason *et al*, 2005).

Lastly, significant associations were also obtained with respect to adolescents' attachment styles and internalising symptomatology. Secure attachment was negatively and significantly related to internalising symptomatology as indicated by YSR internalising scores, and fearful attachment was positively and significantly related to adolescents internalising symptomatology. This result is consistent with the literature which has reported that secure attachment in adolescence is associated with lower levels of depression and anxiety and feeling of personal inadequacy (Kerns & Stevens, 1996; Kobak & Sceery, 1988; Nataraja *et al*, 1992; Lessard & Moretti, 1998; Paterson *et al*, 1995; Carlson & Sroufe, 1995) and insecure attachment is associated with internalising disorders such as depression and anxiety disorders (Coyne *et al*, 1987; Craske & Zoellner, 1995; Warren *et al*, 1997; Renken *et al* 1989; Cole-Detke & Kobak 1996; Dozier, 1999; Scott Brown & Wright 2003; Cooper *et al*, 1998; Dozier & Lee, 1995; Pianta, 1996; Dozier *et al*, 1991; Greenberg *et al*, 1991; Rosenstein & Horowitz, 1996). No significant associations were however evident for mothers attachment style and internalising symptomatology.

More specifically, the present finding of the significant association between adolescents fearful attachment style and internalising symptomatology, but not for the other attachment styles is consistent with theory which proposes that the fearful attachment style should show the

strongest relationship to disturbance because of both negative self and other models (Bartholomew & Horowitz, 1991). This has been demonstrated in several studies (Mason *et al* 2005; Carnelley *et al* 1994; Bartholomew, 1997). For example, Mason *et al* (2005) reported that the fearful group were most distressed across several domains of the CORE.

#### **4.6 Secondary Aims**

With regard to the secondary aims of the study, significant associations were found between adolescents' defectiveness and dependence EMS and their BDI-II scores suggesting these two EMS are salient in depression for adolescents. Further a positive correlation was obtained between adolescents YSR internalising scores and defectiveness EMS providing further support to this assertion, although equally the association between adolescents YSR internalising scores and defectiveness EMS could be related to anxiety, as this is also incorporated within the YSR broadband internalising score. For mothers, significant associations were obtained for dependence and insufficient self-control EMS and their BDI-II scores, and a further significant association was found between mothers' vulnerability to harm EMS and their BAI scores.

These results are consistent with Young's (1994) proposal that certain EMS are conceptually congruent with psychological symptoms and should significantly correlate with those symptoms. Previous studies examining this have reported that dependency and defectiveness EMS were found to be significantly related to depression in adult clinical populations (Schmidt *et al*, 1995) which the present results concur with, although not previously documented in adolescent populations. Within Schmidt *et al*'s (1995) study vulnerability to harm and inferiority/incompetence were found to be associated with anxiety. The present results were only partially consistent with this in that a significant association was obtained between mothers' anxiety symptomatology and vulnerability to harms EMS, but not for

inferiority/incompetence, and no associations were found with regard to adolescents. However, the finding between mothers anxiety symptomatology and vulnerability to harm EMS is consistent with cognitive and schema theories of anxiety given the conceptual congruence of a sense of threat and vulnerability (Beck *et al* 1985; Riskind *et al*, 2002, Wellburn *et al* 2002).

The present results did not largely support Wellburn *et al*'s (2002) findings that abandonment EMS were salient for both depression and anxiety. However, Wellburn *et al* (2002) did find that insufficient self-control EMS was associated to depression, which was consistent with the result obtained for mothers but not adolescents within the present study. Research as to the relation between certain EMS and specific disorders is limited and in its infancy and therefore these findings are speculative and not well substantiated, but the present results do provide some support for Schmidt *et al*'s (1995) findings and represent an interesting area for future research, particularly in relation to adolescent populations.

#### **4.7 Accepting and Rejecting Hypotheses**

As outlined previously the data analysis performed cannot be considered as a true test of the hypotheses, given that the relative influence of fathers could not be tested for due to low numbers in this group and a series of regression analyses would be required in order to test for the interaction of the variables amongst adolescents, mothers and fathers. The current correlation design, which had to be employed due to sample size limitations, indexes co-variation among variables only.

As noted previously, the statistical power of the study is likely to have been compromised due to the low sample size obtained as compared to the estimated numbers required in the *a priori* statistical power analysis (Cohen, 1988, 1992). Statistical power has been defined as

the probability of avoiding a Type II error (Baguley, 2004), or alternatively the probability of detecting an effect of a certain size if it exists. Due to an insufficient sample size the present study is likely to lack sufficient power to have a high probability of detecting the effects the study was examining and is therefore prone to Type II errors. These occur when one fails to reject the null hypothesis even though it is false. An effect may have existed but was not detected due to an insufficient sample size and thus low power (Rudestam & Newton, 1992). In addition, the small sample size obtained means that a greater degree of sampling error is likely to have been incurred and therefore there will be a higher standard error as a result of the sampling distribution of the means being dispersed around the population mean. More simply put, a small sample may not accurately reflect the pattern of the underlying population (Dancey & Reidy, 2004). This can lead to higher alpha levels meaning that the threshold for declaring a difference as significant is reduced. For example, a smaller observed difference in the means will be considered as significant. Further, the alpha level in the present study is likely to have been inflated due to the large number of independent tests performed. This can lead to Type I errors, when the null hypothesis is rejected when in fact no such effect existed. However, due to the exploratory nature of the study inflated alpha levels were not controlled for as it was important to keep the power high, in order to detect any large effects within the analysis

The noted implications for reduced power within the present study have an impact on the ability to accept or reject the hypotheses tested. Caution is required if hypotheses 1 or 2 were to be rejected on the basis that no significant associations were found, as Type II errors were likely incurred. Further the significant associations obtained for hypothesis 4 also need to be interpreted with caution as the alpha level is likely to have been inflated and therefore the probability of making a Type I error is increased.

A retrospective post-hoc power analysis was not performed as a substantial body of literature indicates that such an analysis would be fundamentally flawed. (Hoenig & Heisey, 2001; Lenth, 2001; Zumbo & Hubley, 1998) These calculations are done by estimating the population effect size using the observed effect size among the sample data. If a post-hoc power analysis is performed and a probability of 0.85 is derived with regard to power, this probability is interpreted as the ability of the study to detect significance, in that an effect would have been detected 85 times out of a hundred. In this way post-hoc power analysis is usually interpreted in the same way as prospective power. Baguley (2004) argues that this is particularly problematic when post-hoc power calculations are used to enhance the interpretation of a significant test as the post-hoc power is merely a function of the observed effect size and hence of the observed probability value (Hoening & Heisey, 2001). More simply put, post-hoc power in small samples is derived from a small range of effect sizes and to this end remains an inaccurate estimate of the true power of the study. Baguley (2004) noted that where the data analysis indicates a significant result, high observed power will usually be obtained in a post-hoc power analysis, and where the data analysis indicates a non significant result, low observed power will usually be obtained in a post-hoc power analysis. Therefore, post-hoc power can lead the researcher to falsely strengthen conclusions about the relative evidence for the hypotheses that were studied, and as such was not conducted for the present study.

Despite these limitations in hypothesis testing the present study is likely to have had sufficient power to detect large effect sizes. This is indicated by significant correlations obtained in the theoretically expected direction when testing convergence of participants two attachment measures in addition to significant correlations obtained between participants composite measures when testing hypothesis 1. For example, significant positive correlations were obtained between adolescents corresponding fearful attachment styles, and mothers corresponding secure and preoccupied attachment styles on the (A)RQ and (A)RSQ

attachment measures. In addition, significant negative correlations were obtained between secure and fearful attachment styles on the two measures for both adolescents and mothers. Further to this, when testing hypothesis 1, which employed participants continuous composite measures of attachment style, significant negative correlations were obtained between secure and fearful attachment styles for both adolescents and mothers. This is in accordance with theory given that secure and fearful attachment styles are most diametrically opposed, as the secure style is defined by positive self and other models, and the fearful style is defined by negative self and other models (Bartholomew, 1990). A significant negative correlation was also obtained between mothers preoccupied and dismissing scores, and a non significant correlation was obtained between adolescents preoccupied and dismissing scores. This is also in accordance with theory whereby preoccupied and dismissing attachment styles are also most diametrically opposed, with preoccupied attachment style being defined by negative self and positive other models, and the dismissing style being the reverse of this (Bartholomew, 1990). All of these correlations are in accordance with theory and have been previously documented in several studies (Bartholomew & Horowitz, 1991; Griffin & Bartholomew, 1994a & b; Bartholomew, 2006; Ognibene & Collins, 1998).

These expected directional correlations indicate that the study may have had sufficient power to detect large effect sizes, and provides some basis for taking seriously the significant and theoretically expected associations obtained for hypothesis 4. However, the results obtained for hypothesis 4 need to be viewed as tentative, particularly in light of there being no published research examining EMS in adolescent populations for comparison. In order to be able to generalise the results to adolescent clinical populations, or to be able to accept or reject the hypotheses more confidently the present study would need to be replicated with a sample size sufficiently large to obtain reliable statistical power and control for some of the weaknesses noted below. However, the significant associations obtained for hypothesis 4 do



represent interesting avenues for future research for the development and maintenance of internalising problems in adolescents, and potentially therapeutic interventions.

#### **4.8 Methodological Weaknesses and Limitations**

Several limitations and methodological weaknesses are noted relating to the study design, measures employed and potential mediator, moderator and confounding variables which are discussed in turn below.

##### **4.8.1 Design**

A weakness in the planning of the present study relates to failure to include a specification of sending participants reminder letters on the original ethical application, in order to encourage and potentially increase participant numbers. Whilst a substantial amendment was made to the ethics committee for this, subsequent approval for sending participants reminder letters was out with the time parameters of the present study.

The sampling inclusion criteria for adolescents stipulated an established diagnosis of depression and/or anxiety and in addition the presence of other co-morbid condition was allowed to co-exist. Whilst this may have increased the representativeness of adolescent clinical populations (Hammen *et al*, 1999), it cannot be claimed that the features of the adolescent sample reported here are unique to either depression or anxiety and the same findings may equally apply to other disorders such as self-harm and anorexia nervosa which some of the adolescents had a co-morbid diagnosis of. The results do however represent the broader category of internalising disorders in adolescents.

In justification for this, employing the broader inclusion criteria of internalising disorders when sampling adolescents was thought to maximise the potential number of participants

identified for inclusion in the study as opposed to focusing on only one disorder such as depression. Secondly, several studies have documented considerable overlap between depression and anxiety in child and adolescent community and clinical samples, with co-morbidity rates reported between 40-75% (Biederman *et al*, 1995; Kashani *et al*, 1987; Kovacs *et al*, 1989; Kovacs, 1996; Masi *et al*, 1999). In light of these rates of co-morbidity further sampling difficulties would likely have been incurred by focusing on one disorder only and this may have been of limited generalisability to adolescent clinical populations given the documented rates of co-morbidity.

#### **4.8.2 Measures**

##### Non Validated Questionnaire

Whilst adolescents' diagnostic status was known via the recording of ICD-10 codes on the NHS database, clinically confirmed diagnoses were not obtained for parents. Rather parents' history of internalising problems was assessed through a non-validated self-report questionnaire on a forced choice basis whereby parents were simply asked to indicate yes or no as to whether they had ever had depression or anxiety. The reliability of this method is questionable as parents who did report they had a history of depression and anxiety may have only experienced mild and transient problems that would not have met diagnostic criteria. In an attempt to address this weakness parents were asked to indicate whether they had ever sought professional help as an index of the severity of their problems. Half of the parents in the current sample reported they had sought professional help, although again this does not directly confirm diagnoses for parents.

Further to this, the use of self-report versus a diagnostic interview approach to parental psychopathology may show stronger effects than diagnostically based studies (Connell & Goodman, 2002). Whilst it was out with the scope of the present study to conduct interviews with parents given that self-report measures were the most convenient and appropriate

method for collecting data within the current postal questionnaire design, research indicates that depression is a recurring condition as opposed to a single time limited event. Over 80% of depressed individuals experiencing more than one episode (Belsher & Costello, 1988) and more than half relapse within two years of recovery (Keller & Shapiro, 1981; Mueller *et al* 1996). It is therefore likely that adolescents whose parents indicated that they had been depressed had been exposed to more than one episode of parental depression (Goodman & Gotlib, 1999).

However, the non-validated questionnaire used to assess parents mental health history did not collect details on variables such as the age of the adolescent at first exposure to parental depression or anxiety and the number of episodes of parental depression or anxiety as an index of severity representing an oversight in measurement. From a developmental perspective it is important to consider the timing of the parent's depressive episode, especially of the first depressive episode during the child's lifetime (Goodman & Gotlib, 1999).

### Attachment Measures

The method for assessing participants' attachment styles in the present study was based on self-report. With regard to self-report methods for assessing attachment styles, Griffin & Bartholomew (1994b) reported poor confidence in the ability of these measures to accurately derive attachment styles as theoretically aspects of attachment are not necessarily open to conscious awareness. In addition, Griffin & Bartholomew (1991) reported that multi-method studies involving both interview and self-report measures consistently fail to show convergent and discriminant validity. For example, Crowell *et al* (1999) compared the AAI and the RQ in a sample of 53 adult women. The results indicated a trend toward a relation between AAI and RQ secure classifications, whereby 81% of subjects classified as secure in the AAI identified themselves as secure on the RQ. However, only 42% of AAI insecure

subjects identified themselves as insecure within the RQ, indicating that classifications derived from interview and self-report measures are not equivalent. Moreover, Scharfe (2005) in reporting preliminary results on the properties of the A-RSQ in adolescent clinical samples, also indicated poor association between the A-RSQ and interview attachment ratings.

In addition to these studies which suggest that attachment prototypes cannot be accurately derived from self-report measures, the RQ and the RSQ, in addition to the adolescent versions of these, have limited validity or reliability data. The validity of the four category model has been documented (Bartholomew & Horowitz, 1991; Bartholomew & Griffin, 1994a; Brennan *et al*, 1991; Shaver & Hazan, 1993; Brennan *et al*, 2000; Shaver, 2006) and researchers have indicated the construct validity of these measures (Hammen & Brennan; 2001; Siegert *et al*, 1995; Carnelley *et al*, 1994) and moderate stability of the four attachment prototypes using the RQ over an 8 month test-retest period (Scharfe & Bartholomew, 1994). However, the RQ and RSQ have been found to evidence low internal consistency (Griffin & Bartholomew, 1994b), and in the absence of normative data researchers suggest that forming a composite measure between the RQ and RSQ may provide the most reliable index of attachment style when using self-report measures (Bartholomew, 2006; Shaver, 2006; Ognibene & Collins, 1998). Forming a composite measure decreases the influence of only one measure and reduces the problem of singular method bias (Cook & Campbell, 1979).

Correlations performed to test the degree of association between the two attachment measures prior to forming the composite measure indicated several significant associations in the expected directions. Whilst these significant correlations support the convergence between these two attachment measures, contradictory correlations were also obtained. Fearful and dismissing scores on the two measures were positively correlated for both adolescents and mothers. These correlations are contrary to theoretical expectation and

suggest overlap rather than differentiation between these two attachment styles as measured between the (A)RQ and (A)RSQ.

In this respect, errors in measurement of participant's categorical and continuous attachment styles may have occurred when forming the composite attachment measures in that this composite measure did not accurately reflect individual's attachment prototypes. This may help to account for the observed discrepancies between adolescents and mothers categorical attachments styles, and non-significant correlations obtained between adolescents and mothers continuous attachment styles. However, in testing hypothesis 1, which utilised participants continuous composite attachment measures all of the intercorrelations were in the expected direction, although not as good as those reported by Ognibene & Collins (1998). This indicates that the composite measure largely reliably distinguished between participant's four attachment styles. Therefore, equally the poor association between adolescents and mothers attachment styles may not have been due to unreliability in assessing attachment styles, although it is not possible to disentangle this due to the lack of data on the psychometric properties of the (A)RQ and (A)RSQ.

With this in mind, whilst it was not possible to utilise interview attachment measures within the context of a postal questionnaire design, in hindsight it may have been better to employ the Experiences in Close Relationships self-report questionnaire (ECL; Brennan *et al*, 1998) which was based on all previous self-report attachment measures including the RQ and RSQ and categorises participants according to Bartholomew's (1990) four category model and has established reliability data available. Studies have reported high internal consistency of the two dimensions (anxiety  $\alpha=.92$ ; avoidance  $\alpha = .91$ ) and the four attachment types derived from these dimensions (Sibley & Lui, 2004). As indicated in these cited studies the ECL measures the two dimensions of attachment style, namely anxiety and avoidance, and does not explicitly categorise participants into attachment styles. The four attachment styles

can however be derived from the ECL depending on whether the participant was high or low on anxiety and avoidance.

### Schema Questionnaire Short Form (SQ-SF)

Whilst considerable evidence exists supporting the factor structure of the SQ and SQ-SF and studies have reported good construct validity and high internal consistency (Schmidt *et al*, 1995; Lee *et al*, 1999; Wellburn *et al*, 2002), no studies exist documenting its use with adolescent populations and therefore the validity of this measure remains to be proven in this population.

In addition there are several conceptual difficulties and arguments related to the use of the SQ-SF. Firstly, Beck *et al* (1990) suggest that schemas need to be assessed uniquely for each person. Secondly, as aspects of schemas are thought to be underlying or unconscious structures, in much the same way that attachment styles are hypothesised to be, they may not be easily accessed via self-report measures which are based on the individual's conscious awareness and self-perception (Muran *et al*, 1998; Segal & Shaw, 1986). Therefore it has been argued that projective or semi-projective assessments are more appropriate measures of underlying schemas.

On the other hand, it is likely that there would be some conscious awareness of schemas. For example, an individual with a mistrust schema may be aware of questioning others intentions and looking for proof that others cannot be trusted. Projective assessment methods are lengthy and require considerable training with regard to administration and interpretation and the most viable way of assessing participant's schemas within the present postal questionnaire design was through self-report.

### **4.8.3 Mediator, Moderator and Confounding Variables**

As outlined in Goodman & Gotlib's (1999) model four main mechanisms of transmission of risk for cognitive vulnerability to depression have been proposed within the context of having a depressed mother, but also applicable more generally. These include heritability of depression, innate dysfunctional neuroregulatory mechanisms, exposure to negative maternal cognition, behaviour and affect, and the stressful context of children's lives. Whilst it was out with the scope of the present study to examine these factors they may equally mediate, moderate and represent mechanisms of risk to children's cognitive vulnerability to depression. For example, marital conflict and stressful life events have been related to children and adolescents cognitive vulnerability to depression (Hammen *et al*, 1999; Garber & Flynn, 2001).

The child's age may also act as a moderator. Researchers from a variety of domains have argued that parents exert their greatest influence when children are very young as there are fewer competing influences in their lives. Conversely several theories of child development have argued that the mutual influences of child and parents on each other tend to develop over the course of the years (Maccoby, 1992). Thus it has been argued that effect sizes should be larger for younger and older children (Rothbaum & Weisz, 1994).

For example, within Connell & Goodman's (2002) meta-analysis the mean age of children studied was found to be related to the magnitude of the association between psychopathology in mothers and fathers and the presence of internalizing and externalizing disorders in children. Paternal psychopathology, particularly depression and alcoholism, was more closely related to emotional and behaviour problems in samples examining older children. Maternal psychopathology, particularly depression was more closely related to emotional and behavioural problems in samples examining younger children. In general the older the child at the age of first exposure the more likely it is that behavioural and cognitive systems

will have matured and thus the child will be less vulnerable to adverse influences. It is also more likely that the child will have developed competencies that prepare them for successful coping (Compas, 1987; Sroufe & Rutter, 1984). Conversely the younger the age of the child at first exposure to parental depression, the greater the risk for psychopathology (Grigoriu-Serbanescu *et al*, 1991; Weismann *et al*, 1988)

As previously noted, the non-validated questionnaire as to parents mental health history did not collate details on the age of the child when they were first exposed to parental depression or the number of subsequent episodes. Moreover, adolescents ranged in age from 13 to 17 years old and the variation in ages may have masked important developmental issues, representing weaknesses in the context of studies demonstrating that these factors have an impact on the relation to parental psychopathology.

The gender of the adolescent was also not considered as a moderator variable. It has been proposed that stronger support for the modelling hypothesis could be derived from tests of Bandura's (1965, 1969, 1977, 1986) conclusions that children are more strongly influenced by same sex models (Tashman, 1997; Goodman & Gotlib, 1999). Based on this one would expect mothers to be stronger models for their daughters than their sons. Consistent with these arguments several studies have found that parents exert the greatest influence on same-sex children, whether through their negative parenting style (Deater-Deckard & Dodge, 1995; Koestner *et al*, 1991) or through the presence of depressive symptoms in mothers versus fathers (Hops, 1992; Hops *et al*, 1990; Radke-Yarrow & Nottelman, 1989). However, by virtue of the fact that within the present study there were inadequate numbers for fathers for analysis in addition to low numbers of male and female adolescents, four and six respectively, it was thought that this would not yield any meaningful analysis due to the under representation of the groups.



#### 4.9 General Discussion

Whilst there are several noted limitations of the study there are also several strengths. Firstly, the use of continuous attachment measures in the present study is consistent with current thinking in attachment research (Fraley & Waller, 1998; Shaver, 2006). Fraley & Waller (1998) provided evidence that indicated precision is lost when categorical instead of continuous measures are utilised and have argued that there is no such thing as a true attachment style. Bartholomew & Horowitz (1991) in testing the four category model also noted that none of the subjects uniquely fitted in to one attachment style, with many showing elements of two or three .

Secondly, continuous variables were utilised for attachment style in addition to cognitive style, and measures of affect, as opposed to categorising participants as mild or moderate with regard to affect or secure or insecure with regard to attachment style when performing correlational analyses. It had been noted that that the practice of dichotomising continuous variables in this way artificially inflates measurement error, decreases standardised effect sizes and leads to research that is low in power (Irwin & McClelland, 2001; Streiner, 2002; MacCallum *et al*, 2002). Moreover, Maxwell & Delaney (1993) have shown that the practice of dichotomising variables may lead to spurious findings arising from statistical analysis. In these sense, by employing continuous variables the sensitivity of the study and thus the power may have been increased.

Despite the caution required in accepting or rejecting the hypotheses, several interesting and theoretically relevant associations were found within the present exploratory study. Crowell *et al* (1999) noted that placing an individual in to attachment style or prototype does not necessarily elucidate why the person is located within that style (Crowell *et al*, 1999). In regard to this, the present study evidenced significant associations between adolescents attachment style, early maladaptive schemas and internalising problems. Whilst the

correlational design prohibits examination of cause and effect and offers nothing as to which are the dependent or independent variables and the cross-sectional nature of the data does not permit clarification of the origins, consequences or stability of the observed associations, the results do demonstrate that these three variables were not independent from each other for adolescents. Whilst the present results did not support the direct modelling mechanism, they do suggest indirect learning via the impact of attachment style on adolescents cognitive styles and internalising problems.

The present results lend some support to more recent suggestions that the concept of early maladaptive schemas may serve as later representations of internal working models developed through attachment relations and acts as a conceptual bridge between the two. Both attachment theory and schema theory maintain that internal working models and early maladaptive schemas respectively are developed in response to stressful or negative experiences in childhood, particularly inadequate parenting. These internal working models or EMS are both proposed to become established as influential cognitive processes, and involve processes such as selective attention and other information processing biases, which serve to maintain and perpetuate internal working models and schemas (Bowlby, 1988; Young, 1994). Both internal working models and EMS are thought to include conscious and unconscious aspects (Bowlby, 1973, 1988; Shaver *et al*, 1996; Young, 1994) and are thought to be resistant to change given some aspects are inaccessible to consciousness (Crittenden, 1994; Young, 1994). The conceptual congruence between these two theories is therefore high and the present results do provide some tentative support that the vulnerability that appears to stem from insecure attachment may originate with cognitive processes (Ingram, 2003).

Whilst significant associations were found between adolescents cognitive style, attachment style and affect, no such associations were evident for mothers. There as several possible and

related explanations for this. The mood-state dependent hypothesis states that cognitive vulnerability in the form of stable underlying cognitive structures remain latent until activated by an immediate stressor or changes in mood (Riskind & Rholes, 1984; Miranda & Persons, 1988; Miranda *et al*, 1990; Persons & Miranda, 1992). According to this hypothesis individuals would only report increased levels of dysfunctional attitudes or schemas if depressed mood is elevated, which is consistent with cognitive and schema theories of depression given that schemas are thought to leave the individual vulnerable to experiences of depression in situations that activate the schemas (Segal, 1988). In support of this hypothesis Miranda *et al* (1998) showed that women with a history of depression reported higher levels of dysfunctional attitudes following a negative mood induction, than before the induction. Taylor & Ingram (1999) reported that among children of depressed parents those in an induced negative mood state recalled a significantly higher proportion of negative words compared to those in a neutral mood condition.

In the present study all of the mothers had minimal symptomatology on the BDI-II, in addition to minimal or mild symptoms on the BAI despite the fact that the majority of mothers reported a history of internalising disorders. According to the mood-state dependent hypothesis associations between mothers attachment style, cognitive style and affect, in addition to matching between mothers and adolescent's cognitions may have been more apparent if the SQ-SF was completed under such activating conditions.

However, Teasdale & Barnard (1993) within their interacting cognitive subsystems model point out that if vulnerability to depression depends on stable and enduring cognitive characteristics, then individuals who have been depressed should show higher scores on measures of dysfunctional attitudes and negative cognitive styles such as EMS, even when they have recovered from an episode of depression. Whilst studies have demonstrated that dysfunctional attitudes are elevated during depression, no difference has been found between

previously depressed individuals and non-depressed individuals once the episode has remitted (Lewinsohn *et al*, 1981) which may account for the lack of significant associations found between adolescents and mothers cognitive styles given that the majority of adolescents had significant depressive symptomatology whereas mothers did not.

The results from Stopa & Waters (2005) study may help to clarify this. They reported that overall mood did not influence responses on the SQ-SF. However, three schemas were influenced by small changes in mood. Given that the magnitude of the mood change was small for most participants and sample size was low at 30 participants, there is not enough evidence to conclude that the SQ-SF is not influenced by mood. Therefore it is possible that in order to detect similarities between adolescents and mothers cognitive styles, in the absence of affect symptomatology in either, this may need to be primed.

A related explanation for the lack of significant associations between mothers attachment style, cognitive style and affect, in addition to matching between mothers and adolescent's cognitive style and affect may lie in control theories. Kobak *et al* (1993) formulated the control theory to explain specific links between attachment patterns and both symptomatology and interpersonal difficulties. They maintained that if the attachment figure is experienced as rejecting, a deactivating strategy is employed, diverting attention from attachment cues and thus minimising distress (Cole-Detke & Kobak, 1996). This strategy typifies dismissing (avoidant) attachment patterns and contrasts with a hyperactivating strategy which functions to maximise positive outcomes and increase consistency. This involves excessively focusing on attachment-related information and exaggerating distress cues, which typifies preoccupied (ambivalent) attachment patterns. Different strategies predispose the individual to focus on particular aspects of experience, thus rendering them more susceptible to an information processing bias (Allen *et al*, 1996). It is therefore probable that individuals with dismissing attachment patterns are more likely to under-report

difficulties (Burge *et al*, 1997; Bartholomew, 1997), while those with ambivalent attachment patterns would be more inclined to exaggerate problems (Pianta, *et al* 1996).

A growing body of evidence substantiates these hypotheses (Dozier & Kobak, 1992; Dozier & Lee, 1995; Shelder *et al*, 1993). Individuals classified as dismissing have been found to underreport distress, psychological symptoms or problems in interpersonal relationships, compared with reports of others who know them well (Dozier & Lee, 1995; Kobak & Sceery, 1998). Scott Brown & Wright's (2003) results are also consistent with this in an adolescent sample where those with ambivalent attachment patterns were found to report significantly higher levels of interpersonal distress and symptomatology whereas those classified as avoidant were not significantly different from those classified as secure. However, only three attachment styles as opposed to four were studied, limiting direct comparison.

Such control theories may help to explain the lack of associations found for the modelling hypothesis in the context of the majority of mothers being classified as dismissing (N=6). It is possible that these mothers underreported affective symptomatology and presence of early maladaptive schemas in order to avoid evoking negative affect consistent with a deactivating strategy. Whereas the majority of adolescents were classified as fearful and may have over reported symptomatology leading to a lack of association between affect and cognitive styles in adolescents and mothers.

As noted previously, it is also possible that adolescents modelled their fathers attachment style, cognitive style and affect more closely than their mothers and meta-analytic findings have reported paternal psychopathology to be more closely related to emotional and behaviour problems in samples examining older children Connell & Goodman's (2002). Research has reported that fathers are more likely to be involved in caring for older versus

younger children (Bailey, 1994) and may indicate that psychopathology in fathers becomes more salient for children later in development. Of course there is a third possibility that simple modelling mechanisms are simply not sufficient to explain the development of cognitive styles in adolescents.

The main body of the literature pertains to transmission of risk from mothers to their children. The literature with regard to the relative influence of fathers on children is limited by comparison (Phares & Compas, 1992). Whilst fathers were invited to participate in the present study the response rate was low as compared to mothers and the relative weighting of fathers influence as compared to mothers on adolescents attachment style, cognitive style and affect remains untested within the present study. It is possible that the low number of fathers obtained in this study coupled with the sparse literature in this area reflects a real difficulty in recruiting fathers to such studies. Given that fathers continue to be an understudied group this is an important area for future research. Failure to consider fathers in research of child and adolescent internalising problems is likely to leave a large proportion of the variance in child outcomes unaccounted for or incorrectly attributed solely to mothers (Connell & Goodman, 2002).

#### **4.10 Conclusions and Directions for Future Research**

From a developmental interpersonal relationship perspective and a cognitive vulnerability perspective the present study found significant associations between adolescents attachment style, cognitive style and internalising problems. Whilst evidence exists as to the role of depressive cognitions and dysfunctional attributions no published studies have examined the operation of EMS in adolescent populations. The present study found significant associations between adolescents EMS and attachment style supporting the conceptual congruence of these two theories.

If the operation of EMS is substantiated in adolescent populations, areas for further research could include examination of younger children to determine onset of EMS, although measurement difficulties may ensue as the SQ-SF is unlikely to be suitable for younger age groups without considerable modification. Further, it is not clear whether EMS are activated by changes in mood. Whilst conducting primed mood inductions may be one way of examining this further, comparing levels of EMS before and after episodes of depression and anxiety to see what effect mood has on EMS may represent a further avenue in addition to prospective studies of EMS as predictors of cognitive vulnerability. Interview based methods of assessing attachment may help also help to further elucidate the nature of or relationship between adolescents attachment styles, cognitive styles and internalising problems.

The present results require replication and validation controlling for the limitations noted and within the context of the exploratory nature of the present study. If the link between adolescents EMS and attachment style is upheld, this may represent an interesting avenue for future research and potentially treatment of adolescents with internalising disorders. The present study provides some indication that attachment styles may be maintained by and externalised via cognitive processes and in particular through the operation of EMS and may provide some insight in to avenues for modifying insecure attachment relations. Utilising a schema model for treatment of adolescents with internalising disorders, may have an inadvertent effect on insecure attachment relations by modifying internal working models through EMS, given the significant associations found between the two. In particular dependence and defectiveness EMS appeared to be particularly salient for adolescent depression.

Given that adolescence is characterised by significant change whereby many childhood structures are reworked and updated as a result of maturational development (Kobak & Cole,

1994), adolescence may offer the young person an opportunity to revise attachment strategies, and by association EMS, as they become increasingly able to access their inner thoughts, feeling and memories and to reflect on aspects of the self and others (Scott Brown & Wright, 2001). Whilst straight downward extensions of the adult model of schema therapy (Young, 1994) are likely to be inappropriate, with modification and appropriate developmental considerations schema therapy may offer a further avenue for research and potentially treatment for adolescents with internalising disorders.



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# **APPENDICES**

# **APPENDIX A**

**Non Validated Questionnaire for Parents and Adolescents**

This questionnaire is designed to collect details on your current emotional well-being and mental health history. Please read each question carefully. All information provided will be confidential.

**Q1) Have you ever been depressed?**

Yes

No

If no go  
to **Q2**

- Do you consider yourself to be currently depressed?

Yes

No

**Q2) Have you ever had a problem with anxiety?**

Yes

No

If no go  
to **Q3**

- Do you currently consider yourself to have a problem with anxiety?

Yes

No

**Q3) Have you ever had any other problems with your mental health?**

Yes

No

Please give details:

.....  
.....  
.....  
.....

**Thank you for completing this questionnaire**



This questionnaire is designed to collect details on your current emotional well-being and mental health history. Please read each question carefully. All information provided will be confidential.

**Q1) Have you ever been depressed?**

Yes

No

If no go  
to **Q2**

- Did you seek professional help?
- Did you ever receive a diagnosis?
- Do you consider yourself to be currently depressed?

Yes

No

Yes

No

Yes

No

**Q2) Have you ever suffered from anxiety?**

Yes

No

If no go to **Q3**

- Did you seek professional help?
- Did you ever receive a diagnosis?
- Do you currently consider yourself to have a problem with anxiety?

Yes

No

Yes

No

Yes

No

**Q3) Have you ever had any other mental health problem?**

Yes

No

Details:.....  
.....  
.....  
.....

**Thank you for completing this questionnaire**

# **APPENDIX B**

**Ethical and Research and Development Approval and Correspondence**

4 April 2006

Ms Laura A Grant  
Trainee Clinical Psychologist

Dear Ms Grant

**Full title of study:** Relationship of Parental Mental Health to Adolescent  
Mental Health: Depression, Attachment Type and Schema  
Profile

**REC reference number:** 06/S0802/6

Thank you for your letter of 22 March 2006, responding to the Committee's request for further information on the above research and submitting revised documentation.

**Confirmation of ethical opinion**

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised.

**Conditions of approval**

The favourable opinion is given provided that you comply with the conditions set out. You are advised to study the conditions carefully, in particular:

**Condition 1: Annual Progress Report**

Under the Central Office of Research Ethics Committees (COREC) regulations NHS Research Ethics Committees are required to monitor research with a favourable opinion. This is to take the form of an annual progress report which should be submitted to the Grampian Research Ethics Committee 12 months after the date on which the favourable opinion was given. Annual reports should be submitted thereafter until the end of the study.

**Statement of compliance**

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

**06/S0802/6****Please quote this number on all correspondence**

With the Committee's best wishes for the success of this project

Yours sincerely

[Redacted signature]

Dr [Redacted]  
Chair

Enclosures: Standard approval conditions  
Site approval form

Copy to: University Of Edinburgh (Clinical Psychology Department)  
Clinical Psychology Department, School of Health in Social Science,  
University of Edinburgh, Old Medical School, Teviot Place  
Edinburgh

[REDACTED]

Date 27/04/06  
Your Ref 06/SO802/006

Our Ref

Enquiries to [REDACTED]  
Extension [REDACTED]  
Direct Line [REDACTED]  
Email [REDACTED]

Dear Miss [REDACTED]

**Re: Relationship of parental mental health to Adolescent mental Health: Depression, attachment type and schema profile.**

Thank you very much for sending us a full copy of the ethics application for the above named study including a signed copy of the R&D Application Form and other relevant paperwork.

I am pleased to confirm that the study is now registered with the Research and Development Office in NHS Grampian and has approval to proceed locally providing full Ethical Approval has been obtained.

Please note that if there are any other researchers taking part that are not on the original Ethics application, please advise the Ethics Committee in writing and copy the letter to our office so that we may amend our records and assess any additional costs.

Wishing you every success with your research.

Yours sincerely

[REDACTED]  
[REDACTED]  
**Professor [REDACTED]**  
Director of Research and Development

RECEIVED	- 2 MAY 2006
FILE	
ACTION	
CIRCULATE	

**Grampian Local Research Ethics Committee (2)**

Telephone: [REDACTED]

Facsimile: [REDACTED]

7 June 2006

Ms Laura A Grant  
Trainee Clinical Psychologist

[REDACTED]  
Child & Adolescent Mental Health Services  
[REDACTED]

RECEIVED FILE ACTION CIRCULATE	- 9 JUN 2006
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Dear Ms Grant

**Study title:** Relationship of Parental Mental Health to Adolescent Mental Health: Depression, Attachment Type and Schema Profile  
**REC reference:** 06/S0802/6

The above amendment was reviewed by the Sub-Committee of the Research Ethics Committee on 6 June 2006.

**Ethical opinion**

The members of the Committee present decided that it could not give a favourable ethical opinion of the amendment. The Committee agree in principle to the sending of a reminder letter but request that the following alterations are made:

- The reminder letter should be sent to all the participants, even those who have replied, in order to protect the confidentiality of the whole group.

In the reminder letter –

- Please remove the second paragraph 'As we haven't heard from you we were wondering whether you might still like to take part? And replace with 'We apologise if you have already agreed to participate in the study'.
- At the beginning of the third paragraph please replace 'If you are intending to take part' with 'If you have not replied or are intending to take part'.

I regret to inform you that the amendment is therefore not approved. The study should continue in accordance with the documentation previously approved by the Committee.

### **Modifying the amendment**

You may modify or adapt the amendment, taking into account the Committee's concerns. Modified amendments should be submitted on the standard notice of amendment form. The form should indicate that it is a modification of the above amendment.

A revised notice of amendment must be submitted at least 14 days before you plan to implement the amendment. The Committee will then have 14 days from the date of receiving the notice in which to notify you that the amendment is rejected, otherwise the amendment may be implemented.

### **Documents reviewed**

The documents reviewed at the meeting were:

- Notice of substantial amendment 1, 27 May 2006
- Reminder letter to participants, Version 1, 27 May 2006
- Research Protocol, Version 2, 27 May 2006

### **Statement of compliance**

This Committee is recognised by the United Kingdom Ethics Committee Authority under the Medicines for Human Use (Clinical Trials) Regulations 2004, and is authorised to carry out the ethical review of clinical trials of investigational medicinal products.


The Committee is fully compliant with the Regulations as they relate to ethics committees and the conditions and principles of good clinical practice.

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

06/S0802/6

Please quote this number on all correspondence

Yours sincerely

  
Dr   
Scientific Advisor  
Grampian Research Ethics Committee

**Grampian Local Research Ethics Committee (2)**



Tel: [REDACTED]  
Fax: [REDACTED]

13 June 2006

Ms Laura A Grant  
Trainee Clinical Psychologist  
[REDACTED]  
Child and Adolescent Mental Health Services  
[REDACTED]

Dear Ms Grant

**Study title:** Relationship of Parental Mental Health to Adolescent  
Mental Health: Depression, Attachment Type and Schema  
Profile

**REC reference:** 06/S0802/6

**Amendment number:** 2  
**Amendment date:** 2 June 2006

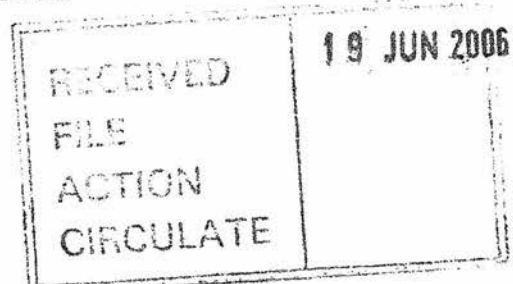
The above amendment was reviewed at the meeting of the Sub-Committee of the REC comprising the Chair and Vice-Chair of Committee 2 held on 8 June 2006.

**Ethical opinion**

The members of the Committee present gave a favourable ethical opinion of the amendment on the basis described in the notice of amendment form and supporting documentation.

However, the previously approved recruitment methods should be applied. Please note the Committee's response to Amendment 1 dated 7 June 2006.

**Approved documents**





The documents reviewed and approved at the meeting were:

Document	Version	Date
Protocol	3	2 June 2006
Participant Information Sheet: Participant (Adolescent)	3	2 June 2006
Participant Information Sheet: Parent of Adolescent aged 13-15	3	2 June 2006
Participant Information Sheet: Parent of adolescent aged 16-18	3	2 June 2006
Letter of invitation to participant: Adolescent age 13-15	3	2 June 2006
Letter of invitation to participant: Adolescent age 16-18	3	2 June 2006
Letter of Invitation to participant: Parents with adolescent 13-15	4	2 June 2006
Notice of Substantial Amendment (non-CTIMPs)	3.1 Amd 2	2 June 2006
Letter of invitation to participant: Parents with adolescent 16-18	4	2 June 2006
Covering Letter		2 June 2006

### Research governance approval

All investigators and research collaborators in the NHS should notify the R&D Department for the relevant NHS care organisation of this amendment and check whether it affects research governance approval of the research.

### Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

06/S0802/6:

Please quote this number on all correspondence

Yours sincerely

[Redacted signature]

[Redacted signature]

Ethics Administrator

**Grampian Local Research Ethics Committee (2)**

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
Tel: [REDACTED]  
Fax: [REDACTED]

7 July 2006

Ms Laura A Grant  
Trainee Clinical Psychologist  
[REDACTED]  
Child and Adolescent Mental Health Services  
[REDACTED]

Dear Ms Grant

**Study title:** Relationship of Parental Mental Health to Adolescent  
Mental Health: Depression, Attachment Type and Schema  
Profile

**REC reference:** 06/S0802/6

**Amendment number:** Modified 1  
**Amendment date:** 21 June 2006

The above amendment was reviewed at the meeting of the Chair, Committee 1, held on 29 June 2006.

**Ethical opinion**

The members of the Committee present gave a favourable ethical opinion of the amendment on the basis described in the notice of amendment form and supporting documentation.

**Approved documents**

The documents reviewed and approved at the meeting were:

Document	Version	Date
Protocol	2	27 May 2006
Modified Amendment		21 June 2006
Letter of invitation to participant	2	21 June 2006

RECEIVED  
FILE  
ACTION  
2 JUL 2006

## **Research governance approval**

All investigators and research collaborators in the NHS should notify the R&D Department for the relevant NHS care organisation of this amendment and check whether it affects research governance approval of the research.

## **Statement of compliance**

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

**06/S0802/6:**

**Please quote this number on all correspondence**

Yours sincerely

[Redacted signature]

[Redacted name]

**Ethics Administrator**

# **APPENDIX C**

**Participant Invitation Letters, Information Sheets and Consent Forms**

Dear

The CAMHS is currently carrying out a project. The project aims to find out about your emotional well-being and way of thinking and how this might relate to your parents emotional well-being and way of thinking. We were wondering whether you might like to take part in this project?

I have enclosed some information to help you decide whether or not you would like to take part. If you do decide to take part, please sign the enclosed consent form and return it in the stamped addressed envelope provided. We have also asked your parent(s) if they would like to take part in the project. Providing both you and your parent(s) agree to take part, you will be sent some questionnaires to complete and return.

If you do not want to take part you or your family's care within the NHS will not be affected in any way.

Please do not hesitate to contact us at the above address if you have any questions.

Yours sincerely

Signed by Case Manager

## PARTICIPANT INFORMATION SHEET

### **Study Title: The Relation of Parental and Adolescent Emotional Well-being**

I would like to invite you to take part in a research project, which has ethical approval from Grampian NHS research ethics committee.

Before you decide it is important for you to understand why the research is being done and what it will involve. Please read the following information carefully and discuss it with others if you wish. Please take your time to decide whether or not you want to take part.

You can contact us if there is anything that is not clear or you would like more information. Contact details are given at the end of this leaflet.

#### **What is this study about?**

The aim of the study is to examine your emotional well-being and thinking style and compare this to your parent's emotional well-being and thinking style. In essence, to assess whether you match your parent's emotional and thinking style. At the moment little is known as to how young people develop their thinking styles and whether this is related to their parents thinking style. I hope that finding out more about young people's development of thinking styles will lead to better interventions for young people who are experiencing difficulties and their families.

#### **Who is carrying out this study?**

This study is being carried out by Laura Grant, Trainee Clinical Psychologist as part of her Doctoral Qualification in Clinical Psychology from the University of Edinburgh. She will be supervised in conducting the research by Dr....., a Clinical Psychologist at the CAMHS and Dr....., a Consultant Clinical Psychologist and lecturer at the University of Edinburgh.

#### **Why have I been chosen?**

You have been invited to take part because you are currently receiving care from the CAMHS and are aged between 13 and 18 years. A number of people in a similar situation to yourself will also be invited to take part.

We would also like to ask your parent(s) to take part by completing questionnaires about themselves. If you are aged between 13 to 15 years, your parent(s) will have been sent a letter asking them to take part at the same time as you received this letter. If you are aged between 16-18 years you will be asked for permission to contact your parent(s). If you agree, we will then send them a letter asking them if they want to take part.

#### **Do I have to take part?**

It is entirely up to you whether or not you wish to take part. You are also free to withdraw at any time without giving a reason. If you decide not to take part, this will not affect your or your family's care within the NHS.

**What will happen to me if I take part and what do I have to do?**

If you do decide to take part you should sign the consent form enclosed and return it in the stamped addressed envelope provided. After returning the consent form, you will only be sent questionnaires to complete if both you and your parent(s) agree to take part. For example, if you consent to take part but your parent(s) do not you will be excluded from the study.

If both you and your parent(s) agree to take part, you will be sent 7 questionnaires to complete and return in a stamped addressed envelope. The questionnaires ask about your emotional well-being, your thinking style and your relationship style. These questionnaires should take no longer than 1 hour to complete in total.

**What are the possible benefits of taking part?**

Whilst there are no individual benefits in taking part, it is hoped that the information you provide along with others who agree to take part, will help to find out more about young people's development of thinking styles. This may lead to better interventions for young people who are experiencing difficulties and their families, although this cannot be guaranteed.

**What are the possible disadvantages of taking part?**

It is possible that you may find some of the questions to be of a sensitive nature.

**Will my participation in the study be kept confidential?**

The information that you or your parent(s) provide will be kept confidential. Information provided will have all identifying details removed so that no one will know it was you that provided the information.

There are however some circumstances where information would not be kept confidential. If you indicate on the questionnaires that you are at risk of harming yourself or someone else, we would have to tell someone else about this such as your case manager at the CAMHS. If this does happen, I will contact you first to explain the concern and let you know who I will tell before I do this.

**What if there is a problem?**

If the questionnaires raise issues for you that you feel you need help with, I can discuss this with you and help to put you in touch with appropriate sources of support, such as your case manager at the CAMHS.

If you are unhappy about how this research has been carried out, you can make a complaint by following the normal NHS complaints procedure, details of which can be obtained from the main reception at .....Hospital, .....

**What will happen to the results of the research study?**

After analysis of the results, the research will be written up as part of Ms. Laura Grant's Doctorate in Clinical Psychology at The University of Edinburgh. You can be sent a short summary of the anonymised results and/or I can telephone you to discuss the results of the study.

If you and your Parent(s) do agree to participate you will be asked to indicate your wishes for feedback when you are sent the questionnaires to complete.

**Contact for further information:**

Ms. Laura Grant or Dr.....  
CAMHS

Tel: .....

**Thank you for taking the time to read this.**



**CONSENT FORM**

**Title of Project:** The Relation of Parental and Adolescent Emotional Well-being.

**Name of Researcher:** Laura Grant

**Please tick box**

1) I have read and understood the information sheet for the above study.

2) I have had the opportunity to contact Laura Grant to ask any questions.

3) I understand that my participation in this study is voluntary and that I am free to withdraw at any time without giving any reason and without my medical or legal rights being affected.

4) I agree to take part in the above study.

.....  
Name of participant

.....  
Date

.....  
Signature

.....  
Name of researcher

.....  
Date

.....  
Signature

**Please return one copy of this form in the envelope provided and keep one copy for your own records.**

# **APPENDIX D**

## **Participant Measures**

**(A)RQ, (A)RSQ, and SQ-SF**

## RELATIONSHIP QUESTIONNAIRE (RQ)

### Part 1

Below are four general relationship styles that people often report. Please read each description and **CIRCLE** the letter corresponding to the style that best describes you or is *closest* to the way you generally are in your close relationships.

**A** It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me.

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

**C** I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them.

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

### Part 2

Please re-read each of the relationship styles described above and then rate the *extent* to which you think each description corresponds to your general relationship style by **CIRCLING** the appropriate number below.

	Not at all like me		Somewhat like me			Very much like me	
Style A	1	2	3	4	5	6	7
Style B	1	2	3	4	5	6	7
Style C	1	2	3	4	5	6	7
Style D	1	2	3	4	5	6	7

## ADOLESCENT RELATIONSHIP QUESTIONNAIRE (A-RQ)

### Part 1

Below we have described four different ways that people are when they are with other people. Please read each description below and **CIRCLE** the letter that best describes you or is *closest* to the way you are with other people.

**A** It is easy for me to feel close to people. I feel okay asking people for help and I know that they will usually help me. When people ask me for help, they can count on me. I don't worry about being alone and I don't worry about others not liking me.

**B** It is hard for me to feel close to people. I want to be close to people, but I find it hard to trust them. I find it hard to ask people for help. I worry that if I get too close to people they will end up hurting me.

**C** I want to be really close to people, but they don't want to get that close to me. I am unhappy if I don't have people that I feel close to. I sometimes think that I care about people more than they care about me.

**D** I don't care if I am close to people. It is very important for me not to ask for help, because I like to do things on my own. I don't like it if people ask me for help.

### Part 2

Please re-read each of the relationship styles described above and then decide how much you are like each one when you are with people by **CIRCLING** the appropriate number below.

	Not at all like me		Somewhat like me			Very much like me	
Style A	1	2	3	4	5	6	7
Style B	1	2	3	4	5	6	7
Style C	1	2	3	4	5	6	7
Style D	1	2	3	4	5	6	7

## RELATIONSHIP SCALES QUESTIONNAIRE (RSQ)

Please read each of the following statements and rate the extent to which you believe each statement best describes your feelings about close relationships.

	Not at all like me		Somewhat like me		Very much like me
1. I find it difficult to depend on other people.	1	2	3	4	5
2. It is very important to me to feel independent.	1	2	3	4	5
3. I find it easy to get emotionally close to others.	1	2	3	4	5
4. I want to merge completely with another person.	1	2	3	4	5
5. I worry that I will be hurt if I allow myself to become too close to others.	1	2	3	4	5
6. I am comfortable without close emotional relationships.	1	2	3	4	5
7. I am not sure that I can always depend on others to be there when I need them.	1	2	3	4	5
8. I want to be completely emotionally intimate with others.	1	2	3	4	5
9. I worry about being alone.	1	2	3	4	5
10. I am comfortable depending on other people.	1	2	3	4	5
11. I often worry that romantic partners don't really love me.	1	2	3	4	5
12. I find it difficult to trust others completely.	1	2	3	4	5
13. I worry about others getting too close to me.	1	2	3	4	5
14. I want emotionally close relationships.	1	2	3	4	5
15. I am comfortable having other people depend on me.	1	2	3	4	5
16. I worry that others don't value me as much as I value them.	1	2	3	4	5
17. People are never there when you need them.	1	2	3	4	5

	<b>Not at all like me</b>		<b>Somewhat like me</b>		<b>Very much like me</b>
18. My desire to merge completely sometimes scares people away.	1	2	3	4	5
19. It is very important to me to feel self-sufficient.	1	2	3	4	5
20. I am nervous when anyone gets too close to me.	1	2	3	4	5
21. I often worry that romantic partners won't want to stay with me.	1	2	3	4	5
22. I prefer not to have other people depend on me.	1	2	3	4	5
23. I worry about being abandoned.	1	2	3	4	5
24. I am somewhat uncomfortable being close to others.	1	2	3	4	5
25. I find that others are reluctant to get as close as I would like.	1	2	3	4	5
26. I prefer not to depend on others.	1	2	3	4	5
27. I know that others will be there when I need them.	1	2	3	4	5
28. I worry about having others not accept me.	1	2	3	4	5
29. Romantic partners often want me to be closer than I feel comfortable being.	1	2	3	4	5
30. I find it relatively easy to get close to others.	1	2	3	4	5

## ADOLESCENT RELATIONSHIP SCALES QUESTIONNAIRE (A-RSQ)

Think about all of the people in your life. Now read each of the following statements and rate how much it describes your feelings.

	<b>Not at all like me</b>		<b>Somewhat like me</b>		<b>Very much like me</b>
1. I find it hard to count on other people.	1	2	3	4	5
2. It is very important to me to feel independent.	1	2	3	4	5
3. I find it easy to get emotionally close to others	1	2	3	4	5
4. I worry that I will be hurt if I become too close to others.	1	2	3	4	5
5. I am comfortable without close emotional relationships.	1	2	3	4	5
6. I want to be completely emotionally close with others.	1	2	3	4	5
7. I worry about being alone.	1	2	3	4	5
8. I am comfortable depending on other people.	1	2	3	4	5
9. I find it difficult to trust others completely.	1	2	3	4	5
10. I am comfortable having other people depend on me.	1	2	3	4	5
11. I worry that others don't value me as much as I value them.	1	2	3	4	5
12. it is very important to me to do things on my own.	1	2	3	4	5
13. I'd rather not have other people depend on me.	1	2	3	4	5
14. I am kind of uncomfortable being emotionally close to people.	1	2	3	4	5
15. I find that people don't want to get as close as I would like.	1	2	3	4	5
16. I prefer not to depend on people.	1	2	3	4	5
17. I worry about having people not accept me.	1	2	3	4	5

# SCHEMA THERAPY

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[Young Schema Questionnaire: Long Form](#) · [Young Schema Questionnaire: Short Form](#) · [Young Parenting Inventory](#) · [Youi](#)  
[Avoidance Inventory](#) · [Young Compensation Inventory](#)

## YSQ - S2

Name \_\_\_\_\_

Date \_\_\_\_\_

### INSTRUCTIONS:

Listed below are statements that a person might use to describe himself or herself. Please read each statement and decide how well it describes you. When there you are not sure, base your answer on what you emotionally **feel**, not on what you **think** to be true. Choose the **highest rating from 1 to 6** that describes you and write the number in the space before the statement.

### RATING SCALE:

- 1 = Completely untrue of me
- 2 = Mostly untrue of me
- 3 = Slightly more true than untrue
- 4 = Moderately true of me
- 5 = Mostly true of me
- 6 = Describes me perfectly

1. \_\_\_\_\_ Most of the time, I haven't had someone to nurture me, share him/herself with me, or care deeply about everything that happens to me.
2. \_\_\_\_\_ In general, people have not been there to give me warmth, holding, and affection.
3. \_\_\_\_\_ For much of my life, I haven't felt that I am special to someone.
4. \_\_\_\_\_ For the most part, I have not had someone who really listens to me, understands me, or is tuned into my true needs and feelings.
5. \_\_\_\_\_ I have rarely had a strong person to give me sound advice or direction when I'm not sure what to do.
6. \_\_\_\_\_ I find myself clinging to people I'm close to, because I'm afraid they'll leave me.

\*ed



7. \_\_\_\_\_ I need other people so much that I worry about losing them.
8. \_\_\_\_\_ I worry that people I feel close to will leave me or abandon me.
9. \_\_\_\_\_ When I feel someone I care for pulling away from me, I get desperate.
10. \_\_\_\_\_ Sometimes I am so worried about people leaving me that I drive them away.

\*ab

11. \_\_\_\_\_ I feel that people will take advantage of me.
12. \_\_\_\_\_ I feel that I cannot let my guard down in the presence of other people, or else they will intentionally hurt me.
13. \_\_\_\_\_ It is only a matter of time before someone betrays me.
14. \_\_\_\_\_ I am quite suspicious of other people's motives.
15. \_\_\_\_\_ I'm usually on the lookout for people's ulterior motives.

\*ma

16. \_\_\_\_\_ I don't fit in.
17. \_\_\_\_\_ I'm fundamentally different from other people.
18. \_\_\_\_\_ I don't belong; I'm a loner.
19. \_\_\_\_\_ I feel alienated from other people.
20. \_\_\_\_\_ I always feel on the outside of groups.

\*si

21. \_\_\_\_\_ No man/woman I desire could love me once he/she saw my defects.
22. \_\_\_\_\_ No one I desire would want to stay close to me if he/she knew the real me.
23. \_\_\_\_\_ I'm unworthy of the love, attention, and respect of others.
24. \_\_\_\_\_ I feel that I'm not lovable.
25. \_\_\_\_\_ I am too unacceptable in very basic ways to reveal myself to other people.

\*ds

26. \_\_\_\_\_ Almost nothing I do at work (or school) is as good as other people can do.
27. \_\_\_\_\_ I'm incompetent when it comes to achievement.
28. \_\_\_\_\_ Most other people are more capable than I am in areas of work and achievement.
29. \_\_\_\_\_ I'm not as talented as most people are at their work.
30. \_\_\_\_\_ I'm not as intelligent as most people when it comes to work (or school).

\*fa

31. \_\_\_\_\_ I do not feel capable of getting by on my own in everyday life.

32. \_\_\_\_\_ I think of myself as a dependent person, when it comes to everyday functioning.
33. \_\_\_\_\_ I lack common sense.
34. \_\_\_\_\_ My judgment cannot be relied upon in everyday situations.
35. \_\_\_\_\_ I don't feel confident about my ability to solve everyday problems that come up.
- \*di
36. \_\_\_\_\_ I can't seem to escape the feeling that something bad is about to happen.
37. \_\_\_\_\_ I feel that a disaster (natural, criminal, financial, or medical) could strike at any moment.
38. \_\_\_\_\_ I worry about being attacked.
39. \_\_\_\_\_ I worry that I'll lose all my money and become destitute.
40. \_\_\_\_\_ I worry that I'm developing a serious illness, even though nothing serious has been diagnosed by a physician.
- \*vh
41. \_\_\_\_\_ I have not been able to separate myself from my parent(s), the way other people my age seem to.
42. \_\_\_\_\_ My parent(s) and I tend to be overinvolved in each other's lives and problems.
43. \_\_\_\_\_ It is very difficult for my parent(s) and me to keep intimate details from each other, without feeling betrayed or guilty.
44. \_\_\_\_\_ I often feel as if my parent(s) are living through me—I don't have a life of my own.
45. \_\_\_\_\_ I often feel that I do not have a separate identity from my parent(s) or partner.
- \*em
46. \_\_\_\_\_ I think that if I do what I want, I'm only asking for trouble.
47. \_\_\_\_\_ I feel that I have no choice but to give in to other people's wishes, or else they will retaliate or reject me in some way.
48. \_\_\_\_\_ In relationships, I let the other person have the upper hand.
49. \_\_\_\_\_ I've always let others make choices for me, so I really don't know what I want for myself.
50. \_\_\_\_\_ I have a lot of trouble demanding that my rights be respected and that my feelings be taken into account.
- \*sb
51. \_\_\_\_\_ I'm the one who usually ends up taking care of the people I'm close to.
52. \_\_\_\_\_ I am a good person because I think of others more than of myself.
53. \_\_\_\_\_ I'm so busy doing for the people that I care about, that I have little time for myself.

54. \_\_\_\_ I've always been the one who listens to everyone else's problems.

55. \_\_\_\_ Other people see me as doing too much for others and not enough for myself.

\*ss

56. \_\_\_\_ I am too self-conscious to show positive feelings to others (e.g., affection, showing I care).

57. \_\_\_\_ I find it embarrassing to express my feelings to others.

58. \_\_\_\_ I find it hard to be warm and spontaneous.

59. \_\_\_\_ I control myself so much that people think I am unemotional.

60. \_\_\_\_ People see me as uptight emotionally.

\*ei

61. \_\_\_\_ I must be the best at most of what I do; I can't accept second best.

62. \_\_\_\_ I try to do my best; I can't settle for "good enough."

63. \_\_\_\_ I must meet all my responsibilities.

64. \_\_\_\_ I feel there is constant pressure for me to achieve and get things done.

65. \_\_\_\_ I can't let myself off the hook easily or make excuses for my mistakes.

\*us

66. \_\_\_\_ I have a lot of trouble accepting "no" for an answer when I want something from other people.

67. \_\_\_\_ I'm special and shouldn't have to accept many of the restrictions placed on other people.

68. \_\_\_\_ I hate to be constrained or kept from doing what I want.

69. \_\_\_\_ I feel that I shouldn't have to follow the normal rules and conventions other people do.

70. \_\_\_\_ I feel that what I have to offer is of greater value than the contributions of others.

\*et

71. \_\_\_\_ I can't seem to discipline myself to complete routine or boring tasks.

72. \_\_\_\_ If I can't reach a goal, I become easily frustrated and give up.

73. \_\_\_\_ I have a very difficult time sacrificing immediate gratification to achieve a long-range goal.

74. \_\_\_\_ I can't force myself to do things I don't enjoy, even when I know it's for my own good.

75. \_\_\_\_ I have rarely been able to stick to my resolutions.

\*is

# **APPENDIX E**

**Participant Questionnaire Battery Covering Letter  
and Feedback Form**

Dear (Parent or Adolescent)

**Re: The Relation of Parental and Adolescent Emotional Well-being.**

Thank you for agreeing to take part in the above project. I have enclosed a series of questionnaires which should take you no longer than one hour to complete.

Please read the instructions on each questionnaire carefully before you complete them. Should you have any difficulty in completing them I can be contacted at the above address for help.

I have also enclosed a form for you to indicate your wishes for receiving feedback of the results of this project.

Once you have completed all the questionnaires please return them to us in the stamped addressed envelope provided.

Thank you again for agreeing to take part and please do not hesitate to contact us should you have any queries or difficulties in completing them.

Yours sincerely

Laura Grant  
Trainee Clinical Psychologist

**FEEDBACK OF PROJECT RESULTS**

Please indicate your wishes for receiving feedback of the project results by ticking the appropriate boxes below. If you indicate that you would like to receive feedback you can expect this in August 2006.

I would like to receive a written summary of the project results.

I would like to be contacted by telephone to receive a summary of the project results.

I do not want to receive any feedback of the project results.

.....  
Name

.....  
Address