THE UNIVERSITY OF HULL

Early parenting and attachment experiences: The association with adult affective symptoms

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Overview

This portfolio has three parts. Part one is a systematic literature review, in which the empirical literature relating to factors mediating the relationship between experiences of parenting and offspring adult depression is reviewed. A prior review demonstrated consistent results showing a predicting relationship between recalled adverse parenting experiences and adult depressive symptomology (Rappe, 1997). As the previous review did not consider factors that may be mediating this relationship, studies examining various potential mediating factors were reviewed in the present article. This systematic literature review identifies mediating variables within themes of cognition, standard setting and evaluation, personality, dissociation and current relationships. The nature of the relationship between experiences of early parenting and offspring adult depressive vulnerability is discussed with reference to the background research area. Clinical and research implications are also addressed.

Part two is an empirical paper, which examines the relationships between attachment style and forms and functions of self-criticism and social risk taking. The literature base suggests there may be interactions between these concepts, as well as in their potential association with symptoms of depression and anxiety, therefore the present study also examines the relative contribution of the aforementioned factors to depression and anxiety symptoms in a normal population sample. Finally, the relationship between childhood experiences of care and abuse and adult attachment style is also examined. Results indicate some supporting evidence for the links between attachment style and forms/functions of self-criticism, as well as the predicting relationship between adverse childhood experiences and insecure attachment style. Further results suggest that variables are generally more associated with anxiety

symptoms rather than depressive symptoms. Limitations of the present study are discussed, with recommendations for future research within the field.

Part three comprises the appendixes, which include a personal reflective statement regarding the research process.

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PART ONE:

Systematic Literature Review

Early Parenting Experiences and Adult Depressive Symptoms: A Systematic Literature Review of Mediating Factors

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This paper is written in the format ready for submission to The British Journal of Clinical Psychology. Please see Appendix B for the Guideline for Authors.

Early Parenting Experiences and Adult Depressive Symptoms: A Systematic Literature Review of Mediating Factors

Abstract

Purpose: Adverse parenting experiences are thought to predict depressive symptoms, with many potential mediating factors researched. The present article presents evidence on these mediating factors.

Methods: A systematic literature review where Medline and PsycINFO databases were searched located papers examining potential mediating factors. Studies were subjected to inclusion criteria and quality checklists before selected for review.

Results: Significant mediating variables were identified in the areas of cognition, standard setting and self-evaluation and current relationships. Modest results are also demonstrated for neuroticism and dissociation.

Conclusion: Methodological strength and availability of evidence in reviewed studies varies, several mediating factors are recommended for further research. Clinical interventions such as parenting skills training and CBT are recommended.

1. Introduction

Depression is currently the fourth leading cause of disability and disease worldwide (Hyman, Chisolm, Kessler, Patel & Whiteford, 2006). The World Health Organisation (WHO) predicts that by the year 2020 depression will be the second most significant cause of disease burden in developed countries (Mousavi, 2007). Point prevalence rates for depression in the UK were 2.6% in the year 2000 (Singleton, Bumpstead, O'Brien, Lee & Meltzer, (2001). While the DSM-IV diagnostic criteria for depression states at least five out of nine depressive symptoms are present for a period of at least two weeks in order to make a diagnosis of major depression, it has been acknowledged that symptoms falling below this threshold can nevertheless be very disabling (NICE, 2009). This indicates that attention is warranted to symptoms of depression falling below the clinical range as well as those that meet diagnostic criteria. Due to the recent focus on the economic burden of depression described by the Layard Report (Layard et al, 2006), the National Health Service in the UK will have invested £173 million into the IAPT (Increasing Access to Psychological Therapies) initiative, with the aim of training a workforce to provide evidence-based psychological therapies, (Department of Health, 2008) to address the problem of depression.

Attachment theory links vulnerability to depression in adulthood with adverse childhood experiences, stating relationships with caregivers contribute to an individual's internal models of self and others (Bowlby, 1980, 1982). Further literature on attachment theorises internalised models based on poor parental experiences serve as templates for future relating, indicating the importance of early parenting experiences (Main, Kaplan & Cassidy, 1985). Interpersonal relatedness and self-definition are concepts considered central to the development of the personality, beginning in early childhood and developing further across the lifespan (Blatt, 1990). Related to self-

definition, negative cognitions, or schemas, of the self, the future and the world are described in Beck's (1967) cognitive model of depression as central processes. As demonstrated by the background literature, both attachment and cognitive theories link early experiences to the development of future depressive symptoms, with parental experiences in particular thought to be highly significant (Neale et al 1994).

Regarding perceived parenting experiences, parental bonding has generated much research attention, with the Parental Bonding Instrument (PBI; Parker, Tupling & Brown, 1979) developed to assess two distinct dimensions of parenting style, care and overprotection. Other measures of adverse parenting experiences have also been developed, such as the The Egna Minnen av Barndoms Uppfostran (EMBU: Perris, Jacobsson, Lindstrom, von Knorring, & Perris, 1980), and The Children's Report of Parental Behavior Inventory (CRPBI; Schaefer, 1965), both retrospective reports commonly employed to assess experiences of parenting and upbringing (Rapee, 1997). Research using the PBI and other measures of experience of parenting has consistently demonstrated a link between parental bonding and offspring affective symptoms, as illustrated in a previous systematic review of published literature (Rapee, 1997).

Rapee (1997) found that while methodological strength of available studies varies, rejection and control by parents are consistently positively associated with offspring anxiety and depression levels. It concluded that interactions between other factors, such as offspring personality characteristics and parent psychopathology needed to be taken into account. Mediating factors are distinguishable from moderating factors by the effect they have on both the predicting variable and the dependent variable in a relationship. Mediators should therefore alter the impact of the predicting variable in some way (Baron & Kenny, 1986). The present review is concerned with factors that may mediate the predicting relationship between experiences of parenting and adult depressive symptoms in offspring. Potential mediators have been identified through

further research in the area such as personality variables (Rodgers, 1996; Carter, Joyce, Mulder, Luty & Sullivan, 1999; Enns, 2000), current life events (Rodgers, 1996) and cognitions about the self (Richman & Flaherty, 1986; Whisman & Kwon, 1992), among others considered in this review.

The initial review of experiences of parenting and offspring adult depressive symptoms (Rapee, 1997), alongside the growing body of research on factors that may potentially mediate the relationship between experiences of early parenting and offspring adult depression, suggests a further review of these potential mediating factors is required. A systematic review of the literature was therefore conducted in order to address the following questions:

I. What is the level of empirical support for the relationship between adverse parenting experiences and adult depression?

II. What are the factors that may be seen to mediate the impact of adverse parenting experiences in childhood on offspring depressive vulnerability and levels of depression symptoms in adulthood?

Specifically, this paper aims to review existing literature on the link between adverse parenting experiences in childhood and the effect on offspring depression levels in adulthood, and describe factors which may be mediating this relationship, drawing conclusions about the impact of these mediating factors.

2. Method

A systematic review of the published literature was performed in order to obtain a comprehensive and unbiased collection of articles within the field of experiences of parenting, vulnerability to depression and factors that mediate this relationship.

2.1. Search strategy

Medline and PsycINFO, two online electronic databases in social sciences, were searched in June 2010. Preliminary searches were conducted using a broad search strategy using the terms [PARENT*], [MEDIAT*] and [DEPRESSION], with results limited to peer reviewed journal articles concerning an adult population and published in English. The preliminary searches on PsycINFO and Medline yielded 167 and 279 articles respectively. After a review of the abstracts from these preliminary searches several broad themes within the field had emerged, among which was the selected theme of experiences of parenting and its influence on depression in adult offspring, and other factors that may mediate this relationship. The search terms were then refined and expanded to ensure maximum inclusion of relevant articles. The final search terms were as follows, in various combinations (*indicates truncation): [DEPRESSION], [MEDIAT*], [PARENTAL BONDING], [PARENTING EXPERIENCE*], [PARENTAL RECALL] and [PERCEIVED PARENTING]. Publications from 1950 onwards were included, with 41 results in total prior to application of inclusion and exclusion criteria and removal of those results that were replicated between the searches.

From the database searches a total of 15 articles met the inclusion criteria and were included in this review. Additional papers were located through review of the references for each of the included database-sourced papers, and after meeting the

inclusion criteria, one further article was located. The inclusion criteria and details of excluded studies are described below.

2.2. Study selection and inclusion criteria

Articles were included in the review if they met the following search criteria: (1) contained a psychometric measure or structured assessment of depression levels, (2) contained a measure of childhood experiences, parental bonding or parenting style, (3) contained measurements of additional variables which could be mediating the effect of parenting experiences (as described in criteria 1) on offspring adult depression levels (4) sample aged 16-70 years, (5) published in English, (6) peer reviewed journal article, (7) met a minimum research quality threshold (see section *2.3 Quality assessment*).

The inclusion criteria were chosen to ensure the selected articles were relevant to the area of parenting experiences (criteria 2), and it's impact on adult depression (criteria 1 and 4), with consideration of potential mediating factors (criteria 3), and were of a minimum standard of quality (criteria 6 and 7).

2.3 Quality assessment

Quality assessment was conducted using a quality checklist based on Vandenbroucke et al. (2007) and contains an additional item regarding longitudinal studies from recommendations made by Downs and Black (1998). The final checklist used to assess studies included in this review appears in Appendix C and contains items such as clarity of introduction, aims and hypotheses, methodological and design issues description of results and statistical analysis used, and a discussion focussing on the limitations and interpretations of the key findings within the larger research area. Each study was awarded one point for each item met from the checklist, giving a total out of 15, with a minimum score of 10 the threshold for inclusion in the review.

2.4 Excluded studies

Due to the use of limiters in the electronic databases, search results did not contain articles which were not written in English, reviews articles, book chapters, dissertations or commentaries (see Figure 1 for a diagram detailing full search protocol).

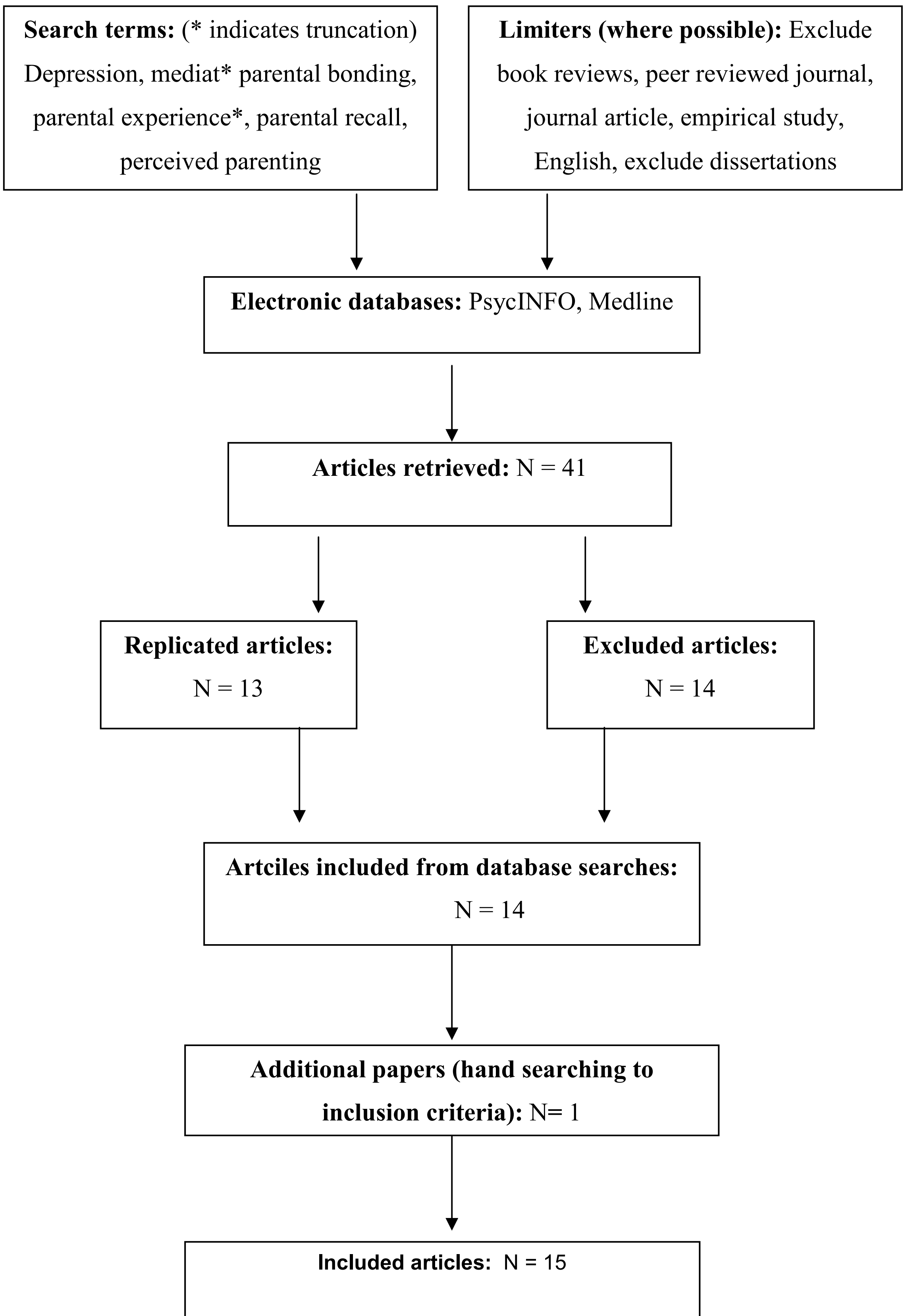
Of the 41 results from the database searches, 13 of these results were replicated between searches. Of the remaining 28 non-replicated articles, 14 were excluded for failing to meet the inclusion criteria. Eight articles were excluded because they contained a child sample (Stark, Schmidt, & Joiner, 1996; Appleton et al, 1997; Chambers, Power, Loucks, Swanson, 2000; McClure, Brennan, Hammen, & Le Brocque, 2001; Lee, Wong, Chow & McBride-Chang, 2006; Avaginaou & Zafiropoulou, 2008; Bolton, Barrowclough & Calam, 2009; Schroeder, Bulanda, Giordano, & Cernkovich, 2010;) four were excluded because they were concerned with the parenting ability of the adult offspring resulting from their early experiences, rather than how their experiences of parenting effected their adult depression levels (Libby, Orton, Beals, Buchwald & Manson, 2008; Zuravin & Silvern 1994; Brewin, Andrews, & Furnham, 1996; Wind & Silvern, 1994), one which was concerned with the intergenerational transmission of risk rather than offspring experiences of parenting style (Bifulco, Moran, Ball, Jacobs & Bunn et al (2002); one study because parental perception was the mediating factor in the relationship between disciplinary style and depression (Renk, McKinney, Klein & Oliveros, 2006); and a final study which was concerned with the mediating effect of depression on the relationship between parenting experiences and aggression (Hale, Van Der Valk, Engels, & Meeus, 2005).

2.5 Data analysis

Results from reviewed studies were subjected to narrative analysis to allow for comparison of findings across studies. This method of analysis was selected as opposed

to a meta-analysis as included studies utilised a wide variety of different tools for the measurement of depression levels and parenting experiences. While data could have been transformed to allow for meta-analysis this could potentially introduce researcher bias and decreased reliability and validity of the findings of the present review.

Figure 1: Flowchart of article selection process



3. Results

Fifteen studies met the inclusion criteria and were reviewed, all using questionnaire measures to assess variables of interest. One study also used structured interviews (Carter et al, 1999). All papers examined at least one factor proposed to mediate the relationship between childhood experiences of parenting and offspring adult depression symptoms. Most papers measured childhood experiences of parenting with the Parental Bonding Instrument (PBI; Parker, Tupling & Brown, 1979). Alternative questionnaire measures regarding participant's memories of upbringing, perceptions of parental acceptance/rejection, parent-child conflict and parental behaviour were utilised by the remaining studies (Irons, Gilbert, Baldwin, Baccus & Palmer, 2006; Oliver & Whiffen, 2003; and Soenens, Vansteenkiste, Luyten, Duriez & Goossens, 2005; respectively). Various potential mediating factors were examined, with results grouped according to general theme of mediating factor, including cognition, standard setting and evaluation, personality, dissociation and avoidant coping, and current relationship and lifestyle factors. A summary overview of each paper is presented in Table 1.

3.1. Cognition

This review grouped studies containing potential mediating factors of attributional style, dysfunctional attitudes and locus of control under the broad theme of cognition.

Several findings related to depressotypic attributions were reported in one study (Whisman & Kwon, 1992). Depressotypic attribution was found to mediate the relation between low parental care, and depressive symptoms, specifically depressotypic

attributions regarding stability and globality mediate the relationship between low parental care and depressive symptoms.

Dysfunctional attitudes, as measured by Form A of the Dysfunctional Attitudes Scale (DAS-A, Weissman, 1979), significantly mediated the relationship between low parental care and depressive symptoms (Whisman & Kwon, 1992) and were related to both parental care and depressive symptoms (Parker, 1993), however mediation analysis was not possible in the latter study due to failure to find a significant predicting relationship between parental care and adult affective symptoms.

Richman and Flaherty (1986) have several results regarding locus of control and interpersonal dependency. The relationship between maternal overprotection and depressive symptoms was no longer significant when mediated by external locus of control and interpersonal dependency. While there was some mediating impact of locus of control and interpersonal dependency on the relationship between maternal affectivity and depressive symptoms, the relationship remained independently significant. Both maternal and paternal affectivity predict depressive symptoms, although neither relationship was mediated by locus of control or interpersonal dependency.

3.2. Standard setting and evaluation

Mediating factors pertaining to standard setting and evaluation, including perfectionism, parental-criticism, self-criticism and self-esteem are reviewed under this theme.

Enns (2000) found associations between overprotection by fathers in males and depressive symptoms, with socially prescribed perfectionism and concern over mistakes mediating this relationship. In women, lack of care by mothers was associated with depressive symptoms, and mediated by socially prescribed perfectionism and concern

over mistakes. These findings are supported by another study by Enns (2002), where maladaptive perfectionism, a composite variable of concern over mistakes, doubt over actions and socially prescribed perfectionism, mediated the relationship between harsh parenting, a composite variable of critical parenting, lack of care and overprotection, and depressive proneness in both males and females. There was no mediating effect of maladaptive perfectionism on the relationship between perfectionistic parenting, a composite variable of parental personal standards and modified socially prescribed perfectionism, and depression proneness.

Apparent gender differences with regards to perfectionism (Enns, 2000) are not supported by Enns (2002), or Soenens et al (2005), who found no significant interaction of gender and parental psychological control in the prediction of self-esteem or depression. Further findings regarding maladaptive perfectionism as a mediating factor demonstrate a reduction in significance of the predicting relationship between psychological control and affective symptoms in adulthood, demonstrating partial mediation, nevertheless lending some support to the previous two studies findings regarding maladaptive perfectionism (Soenens et al, 2005).

The relationship between lack of care by mothers and depressive symptoms in women is mediated by self-criticism (Enns, 2000). This finding was replicated by a further study examining the mediating effect of self-criticism (Irons et al, 2006), which demonstrated a mediating effect of certain forms of self-criticism, specific to particular parenting experiences. Self-criticism based on self-inadequacy mediated the effect of parental rejection on adult depressive symptoms, and self-criticism relating to ideas of self-hatred mediated the effect of parental overprotection on adult depressive symptoms. This suggests further specificity in the mediating effect of self-criticism on the relationship between parental experiences and adult affective symptoms, providing support for findings of the previous study.

Results with regards to the mediating effect of self-esteem are mixed. Grotmol (2010) finds a significant, although modest, mediating effect of self-esteem on the predicting relationship between low maternal care and depressive symptoms. A further study found similar results for the mediating impact of self-esteem, limited to the relationship between low paternal care and depression, and only in male participants (Lloyd, & Miller, 1997). Elsewhere, self-esteem is not found to mediate the relationship between perceived parenting and depressive symptoms (Johnson, Zhang & Prigerson, 2008), however self-esteem was predicted by parental affection, and in turn high self-esteem was negatively correlated with depression symptoms. Self-esteem was also associated with PBI scores, but not found to mediate a relationship between PBI and depressive symptoms in another study (Parker, 1993). The significant predicting relationship between parenting and depression in order to test for mediation was not evidenced by Parker (1993).

3.3. Personality

The relationship between paternal overprotection and depressive symptoms was mediated by neuroticism (Enns, 2000). Neuroticism is associated with maternal care in another study included in this review, although no mediation analysis was carried out (Parker, 1993). Neuroticism was also associated with psychiatric functioning, however when incorporated into a mediation model that examined several other factors, including emotional support, social network, availability of help and interpersonal/non-interpersonal life events, neuroticism failed to demonstrate a significant mediating effect (Rodgers, 1996). A final study examined personality variables as mediating factors, but reached no significant findings (Sato, Uehara, Narita, Sakado & Fujii, 2000).

Personality dysfunction in the form of personality disorder (PD) was predicted by dysfunctional parenting above depression symptoms; therefore PD may mediate the impact of dysfunctional parenting on depressive symptomology, although there was no mediation analysis to support this suggestion (Carter et al, 1999). It is further suggested, due to a predicting relationship between adverse parenting and personality dysfunction, which in turn poses a vulnerability factor to depression in adulthood, that dysfunctional personality mediates the relationship between adverse parenting and depression symptoms in adulthood.

3.4. Dissociation and avoidant coping style

One paper was located observing the mediating process of dissociation and avoidant coping in the relationship between early parenting depressive symptoms in adulthood (Yoshizumi, Murase, Murakami & Takai, 2007). Results demonstrated a predicting relationship between perceived parenting in terms of overprotection, and depressive symptoms for male participants only. Dissociation mediated the relationship between inconsistent parenting and depressive symptoms for women only. Avoidance coping had no significant effect on depression in males or females.

3.5. Current relationship and lifestyle factors

This theme addressed studies examining the mediating factors of adult attachment style, current life events and current relationship factors including social support.

Current attachment style was investigated as a mediating factor between recalled parenting experiences and current depressive symptomology in two studies (Oliver & Whiffen, 2003; Irons et al, 2006). The experience of mothers as critical, rejecting, hostile and indifferent in childhood, and the effects these experiences have on

depression symptoms in adulthood, was entirely mediated by adult attachment security (Oliver & Whiffen, 2003). These results do not support a mediating effect for the same paternal experiences, suggesting an impact of gender. While attachment was not specifically tested as a mediating factor, fearful attachment style was related to high self-criticism through the forms of inadequacy and self-hatred, while secure attachment was positively associated with the ability to be reassuring and warm to the self. As self-reassurance was related to low symptoms of depression, the study provided some support for a mediating effect of attachment style (Irons et al, 2006).

Collectively, aspects of current personal relationships account for much of the elevated symptom levels in individuals rating parents as low on care and high on control, with several findings from one study (Rodgers, 1996). Firstly, mediating factors included emotional support, social network and non-interpersonal life events for females; and emotional support, help availability and interpersonal life events for males. Secondly, many of these mediating factors were inter-correlated, including lack of available help, poor emotional support and poor social networks in females. For men, lack of available help was associated with poor social networks. Finally, women who are divorced, never married or remarried also reported poorer social networks, identified as a significant mediating factor, than married women. Spousal bereavement was also a mediating factor in the relationship parental control and adult depressive symptoms, however only when the bereaved was highly dependent on the deceased (Johnson et al, 2008).

Table 1: Summary overview of reviewed articles

Study	Design	Participants	Measures	Main findings	Quality rating
Carter, Joyce, Mulder, Lute & Sullivan (1999)	Cross-sectional Questionnaires Structured Interviews	N = 248 Depressed outpatients	PBI, SCL-90-R, SAS, HAM-17, SCID-PQ, SCID-II	No mediating effect of gender on vulnerability to adverse parenting. Dysfunctional parenting predicts personality disorder (PD) above depression, suggests PD may mediate the effect of adverse parenting on depression in adulthood.	13/15
Enns, Cox & Larson (2000)	Cross-sectional Questionnaire	N = 138 Depressed outpatients	PBI, BDI, DEQ, NEO-FFI, MPS, Frost-MPS	Mediating personality factors include socially prescribed perfectionism and concern over mistakes (men and women), self-criticism (women only) and neuroticism (men only).	13/15

Enns, Cox & Clare (2002)	Cross-sectional Questionnaires	N = 261 Undergraduate students	POMS-D, BDI, DPRS, MPS, Frost-MPS, CPI, MSPS, PBI, PPS	Maladaptive perfectionism mediates the relationship between harsh parenting and depression proneness in males and females. Effects of mothering and fathering are mediated by maladaptive perfectionism, but no mediation effects on the relationship between perfectionistic parenting and depression proneness.	13/15
Grotmol, Ekeberg, Finset, Gude, Moum, Per-Vaglum et al (2010)	Longitudinal Questionnaires	N = 265 (over all time points) Post-graduation medical students	GHQ-28: SDS, PBI, BCI	Low self-esteem mediates the relationship between maternal care and severe depression symptoms. There is also a significant interaction effect between gender and maternal care on severe depression symptoms, which has a stronger effect on males than females.	13/15

Irons, Gilbert, Baldwin and Palmer (2006)	Cross-sectional Questionnaires	N = 197 Undergraduate students	s-EMBU, RQ, FSCRS, CES-D	Inadequate self-criticism mediates the relationship between experiences of over-protections and rejection with depression, but not between parental warmth and depression. Criticism related to self-hatred mediates the relationship between rejecting parents and depression scores but not between recall of over-protection and warmth on depression.	14/15
Johnson, Zhang & Prigerson (2007)	Longitudinal Questionnaires	N = 218 Widowed adults	PBI, BDS, ISEL-SE, HAM-17, YES	Dependency on a deceased spouse mediates the relationship between perceived parental control during childhood and adult depression. Self-esteem does not mediate the relationship between perceived parental control or parental care on adult depression.	14/15

Lloyd & Miller (1997)	Cross-sectional Questionnaires	N = 123 US undergraduate students N = 173 Scottish undergraduate students	PBI, RSS, VAS, CES-D	Both maternal and paternal care are significantly negatively related to depression for males, but only paternal care is significantly negatively related to depression in women. A positive relationship is observed between maternal overprotection and depression in males but not females, while self-esteem mediates the relationship between paternal care and depression in males only.	14/15
Oliver & Whiffen (2003)	Cross-sectional Questionnaires	N = 76 males Normal population sample	BDI, PARQ, CTS, RAAS	The link between maternal rejection and adult depression is entirely mediated by adult attachment security, with reduced attachment anxiety and increased closeness having mediating effects.	13/15

Parker (1993)	Cross-sectional Questionnaires	N = 123 Depressed outpatients	PBI, SDM, DAS, EPI, RSS, LCS	A link between parental bonding and offspring depression in adulthood is not support by this study. Anomalous parental bonding, maternal in particular, is however linked to low self-esteem and dysfunctional attitudes regarding personal failures and mistakes.	12/15
Richman & Flaherty (1986)	Cross-sectional Questionnaires	N = 211 First-year medical students	PBI, R-23-LoC, IDS-ER, CES-D	Maternal overprotection is no longer significantly related to depression when external locus of control and interpersonal dependency act as mediating factors. There is no support for a mediating relationship of locus of control or interpersonal dependency on the relationship between maternal/paternal affectivity and depression.	12/15

Rodgers (1996)	Longitudinal Questionnaires	N = 2936-3066 (dependent on time point and measure)	PSF, PBI, MPI, PAPI, data from the NSHD	Emotional support, social network and non-interpersonal life events, mediate the relationship between parental style and female depressive symptoms, while mediating factors for males are emotional support, help availability and interpersonal life events.	11/15
Sato, Uehara, Narita, Sakado, Fujii (2000)	Cross-sectional Questionnaires	N = 322 Normal population sample	MPT, IDDL, PBI	The causal pathway between adverse parenting and depression is not well explained by the mediating impact of personality.	14/15

Soenens, Vansteenkiste, Luyten, Duriez & Goossens (2005)	Cross-sectional Questionnaires	Sample 1: (18-24) N = 336 Sample 2: (14-20) N = 338 (excluded from the review due to age) Sample 3: (Adult) N = 336	CRPBI, Frost-MPS, CES-D, RSS	Maladaptive perfectionism is found to have a mediating effect on both depression and self-esteem. Specifically, a composite score of Doubts over Actions and Concern over Mistakes of the Frost-MPS explain most of the relations between psychological control and adjustment.	14/15
Whisman & Kwon (1992)	Cross-sectional Questionnaires	N = 150 Undergraduate students	PBI, DAS, EASQ, BDI	Associations between lower parental care and higher depressive symptoms in adulthood are mediated by depressogenic attitudes/attributions. No mediating effect of cognition on the relationship between over-protection and depressive symptoms.	11/15

Yoshizumi, Murase, Murakami & Takai (2007)	Cross-sectional Questionnaires	N = 449 Undergraduate students	PBI, PSI, DES, GHQ-60: DS, TAC-24	For men, dissociation mediates the effect of overprotective parenting on depressive symptoms, while for women dissociation mediates the relationship between inconsistent parenting and depressive symptoms. There is no effect of avoidance as a coping style on depressive symptoms.	12/15

BAI = Beck Anxiety Inventory; BCI = Basic Character Inventory; BDI = Beck Depression Inventory; BDS = Bereavement Dependency Scale; CAPA = Child and Adolescent Psychiatric Assessment; CECA = Childhood Experience of Care and Abuse; CES-D = Centre for Epidemiological Studies-Depression scale; CPI = Critical Parenting Inventory; CRPBI = Children's Report on Parent Behaviour Inventory; CTS = Conflict Tactics Scale; CTPSC = Parent-Child Conflict Tactics Scales; DAS = Dysfunctional Attitudes Scale; DEQ = Depressive Experiences Questionnaire; DES – Dissociative Experiences Scale; DPRS = Depression Proneness Rating Scale; EASQ = Expanded Attributional Style Questionnaire; EPI = Eysenck Personality Scale; Frost – MPS = Frost – Multi-dimensional Perfectionism Scale; GHQ-28:SDS = General Health Questionnaire-28: Severe Depression Subscale; GHQ-60:DS = General Health Questionnaire – 60: Depression Scale; HAM-17 = Hamilton Depression Rating Scale; IDDL = Inventory to Diagnose Depression – Lifetime version; IDS-ER = Interpersonal Dependency Scale – Emotional Reliance on another person subscale; ISEL-SE = Interpersonal Self-Evaluation List: Self-Esteem subscale; LEAP = Lum Emotional Availability of Parenting scale; LCS = Locus of Control Scale; MPI = Maudsley Personality Inventory; MPS = Multi-dimensional Perfectionism Scale; MPT = Munich Personality Test; MSPS = Modified Social Prescribed Perfectionism Scale; NEO-FFI = Neo-Five Factor Inventory; NSHD = National Survey of Health and Development; PAPI = Pinter Aspects of Personality Inventory; PARQ = Parental Acceptance-Rejection Questionnaire; PBI = Parental Bonding Instrument; POMS-D = Profile of Mood States – Depression; PoPS = Perceptions of Parents Scale; PPS = Parental Personal Standards; PSE = Present State Examination; PSF = Psychiatric Symptoms Frequency scale; PSI – Parenting Scale of Inconsistency; R-23-LoC = Rotter 23-item Locus of Control scale; RAAS = Revised Adult Attachment Scale; RQ = Relationship Questionnaire; RSS = Rosenberg Self-esteem Scale; SAS = Social Adjustment Scale, SCID = Structured Clinical Interview for DSM-IV; SCID-II = Structured Clinical Interview for DSM-III-R: Personality Disorders; SCID-PQ = Structured Clinical Interview for DSM-III-R: Personality Questionnaire; SCL-90-R = Hopkins Symptom Checklist, SESS = Self Evaluation and Social Support; s-EMBU = Swedish acronym translated as 'My memories of upbringing' - short form); SDM = State Depression Measure; TAC-24 = Tri-Axial Coping Scale; VAS = Visual Analogue Scale (Miller & Ingram, 1979); YES = Yale Evaluation of Suicidality Scale

4. Discussion

4.1. Main findings

Similar to the findings of the previous review examining the link between experience of parenting and adult anxious and depressive symptomology (Rapee, 1997), this review found largely consistent support for the link between adverse parenting and symptoms of depression in adulthood, with one exception (Parker, 1993). This surprising result may be understood as anomalous in view of the overwhelming number of papers in this review and the previous review (Rapee, 1997) that did find a significant predicting relationship between PBI scores and adult depressive symptoms over a wide range of included studies.

Many reviewed studies found gender differences in the results of their samples. However these studies did not examine gender in mediation analyses. Differential results were demonstrated regarding both offspring gender and parental gender in the majority of studies, which may be related to differing reports regarding level of dysfunctional parenting by participant gender (Wilhelm, Roy, Mitchell, Brownhill & Parker, 2002).

Factors relating to aspects of cognition such as dysfunctional attributions, and depressotypic cognition mediated the relationship between low parental care and depressive symptoms (Whisman & Kwon, 1992), while maternal overprotection was mediated by external locus of control and interpersonal dependency (Richman & Flaherty, 1986). Significant mediating effect of dysfunctional attributions and depressotypic cognition support background literature demonstrating common features within attachment theory's internal working models, whereby children internalise models of the self and the other based on early attachment to parenting figures (Bowlby, 1988), depressotypic cognition as described in Beck & Young (1985), and dysfunctional

attributional style (Abramson, Metalsky & Alloy, 1989). Differences in findings relating to the significance of parental care and parental overprotection may be explained by the broad range of factors included in the overprotection scale of the PBI, such as decision-making, dependency and self-efficacy in terms of the ability to look after oneself; as opposed to the more homogenous content of the parental care scale (Parker, 1983). Overall, the results support the background theory from attachment perspective regarding internalised working models which impact on future relating to the self in terms of cognition (Main, Kaplan & Cassidy, 1985).

Relating to standard setting and self-evaluation, maladaptive perfectionism mediated the relationship between harsh parenting and depressive symptoms in males and females (Enns, 2002). Differential effects of parental gender were noted and additional support provided from a previous study which used separate maternal and paternal, as opposed to composite, parenting scores (Enns, 2000), providing some preliminary evidence for an effect of parental gender.

Self-criticism was also found to mediate the relationship between adverse parenting and depressive symptoms in two studies (Enns, 2000; Irons et al, 2006). Specific forms of self-criticism were noted (Irons et al, 2006); in accordance with previous findings suggesting interpersonal schemas of relating to the self are influenced by previous experience of relations with others (Baldwin, 1992).

Consensus was reached concerning the association of PBI scores to self-esteem (Parker, 1993; Lloyd & Miller, 1997; Grotmol, 2010), however significant mediation analysis was conducted in two out of four studies only, (Lloyd & Miller, 1997; Grotmol, 2010). Mixed findings may be explained by comorbidity of depression and low self-esteem, where studies have viewed both phenomena as dependent variables (Renk, 2006; Johnson et al, 2008), or the view of low self-esteem as a symptom of depression (Teasdale, 1983).

Limited evidence for a mediating effect of neuroticism as was found (Enns, 2002), supported by the association of neuroticism with maternal care (Parker, 1993), and psychiatric functioning in general (Rodgers, 1996). Mediation analysis was not significant in two further studies (Rodgers, 1996; Sato, Uehara, Narita, Sakado & Fujii, 2000). Neuroticism has previously been conceptualised as a mild symptom of depression, as opposed to a separate construct (Duncan-Jones et al, 1990), which may explain variance in result significance.

Results show support for a mediating effect of dissociation, but not avoidant coping (Yoshizumi et al, 2002), with results regarding dissociation supported by previous findings (Offen, Thomas & Waller, 2003). Lack of significance for a mediating effect of avoidance is surprising in view of the theorised overlap between dissociation and avoidant coping, suggesting the two may exist on a continuum (Badura et al, 1997), and also in terms of the link between avoidance and depressive symptoms in other studies (Moulds, Kandris, Starr & Wong, 2007). Replication of results regarding avoidance may therefore be beneficial.

Current relationship factors have a mediating effect in terms of attachment in a male sample (Oliver & Whiffen, 2003), with some support from correlation of these variables (Irons et al, 2006). Mediation was only significant with opposite-sex parent experiences in this male sample (Oliver & Whiffen, 2003), suggesting an adverse experience of the same-sex parent has a more direct link to depressive symptoms, consistent with literature on gender differences in attachment and parental perception (Collins & Read, 1990). These results are conclusive with previous findings of a mediating effect of avoidant attachment regarding same-sex parenting recollections and depression (Difilippo & Overholser, 2002).

4.2. Limitations

Various methodological weaknesses were appreciated in the reviewed studies. DAS-A and DAS-B short forms as opposed to the full DAS are shown to have reduced equal item-total correlations and factorial congruence, therefore the full DAS is recommended (Oliver & Baumgart, 1985). Studies utilising the DAS short forms (Parker, 1993) may therefore have demonstrated better results had the full DAS been utilised.

Validity and reliability of the selected measures should also be considered, e.g. the use of the self-report Relationship Questionnaire (Bartholomew & Horowitz, 1991) rather than a structured interview measure of attachment such as the Adult Attachment Interview (George, Kaplan & Main, 1985), which demonstrates better psychometric properties (Ravitz, Maunder, Hunter, Sthankiya & Lancee, in press).

Retrospective data should be viewed with caution due to the possibility of a cyclical effect of current depressive symptoms impacting on recall of parents (Rapee, 1997), bias and false negatives, or measurement error (Hardt & Rutter, 2004). However evidence suggests retrospective reports of parenting are highly stable across clinically significant mood level changes (Gerlsma, Das & Emmelkamp, 1993).

The use of statistical analysis to determine mediating effects of variables is also a methodological concern. In order to conclude a mediating effect, multiple regression must be used to demonstrate relation to both predicting and independent variables, with its inclusion in the regression model either reducing or eliminating the effect of the predictor, indicating partial or full mediation respectively (Baron & Kenny, 1986). As noted in the results, several studies inferred a potential mediating effect through correlation, without employing a mediation model.

As discussed in section *4.1 Main Findings*, support for the mediating effect of variables only assessed by a single stand-alone study included in this review can be

extrapolated from alternative studies within the wider research field. The degree of support varies; ranging from theoretical assumptions and correlations between related variables to mediation analysis through multiple regression, therefore results should be approached with caution. This reflects in some cases a lack of available evidence in the research field, but may also indicate potential flaws in the search strategy such as limited results in database searches due to selection of search terms. Another potential methodological weakness is the use of hand searching through reference lists being limited to database results that met the inclusion criteria only, as opposed to all papers sourced in the database regardless of their inclusion in this review.

4.3. Implications

Several mediating factors were only examined by one study; therefore reaching a conclusive decision as to their significance was problematic due to lack of supporting or contradicting evidence. Future studies should consider the following potential mediators further: dissociation, locus of control, current life events, depressive attributions and dysfunctional attitudes. Findings also suggest the mediating role of gender may be important in future research, supported by reports suggesting the links between parental representations and future vulnerability may differ between males and females (Blatt & Maroudas, 1992).

As with the earlier review (Rapee, 1997), a range of methodological issues within the located studies was noted, for example the use of retrospective reports. Longitudinal designs were only utilised in one study (Rodgers, 1996), despite recommendations that longitudinal studies may eliminate potential recall bias inherent in retrospective reports (Halverson, 1988). However this review acknowledges the practical constraints inherent in longitudinal research. Many studies employed normal population samples without clinical diagnosis; therefore results may not be

generalisable to community or in-patient populations with depression diagnosed. It is suggested that future research attempt to overcome some of these potential issues through use of structured interview measures with an emphases on objective factors as opposed to subjective self-reports, and the inclusion of clinical and normal population samples.

Despite consideration of current relationships with romantic partners in one study, there was no study located or included in this review that examined the potential mediating effect of positive relationships with other significant carers or family members in childhood. Attachment theory suggests that a positive relationship with any significant caregiver may be enough to provide good internal models of the self and others, and that maladaptive experiences may be mediated by further positive relationships (Ainsworth, 1989), therefore effect of adaptive relationships with other family members is identified as a potential mediating factor to be addressed in future research within the field.

Previous results have demonstrated a link between parental depression and adverse parenting (Downey & Coyne, 1990), as well as increased risk of depression in offspring of depressed parents (Anderson & Hammen, 1993). Given the present review results demonstrating a link between adverse parenting experiences and offspring depression, adverse parenting may be seen as a mechanism through which depressive vulnerability is transmitted, therefore suggesting the beneficial effects of steps to address adverse parenting such as parenting skills interventions to reduce child emotional difficulties (Sanders, 1999). This also gives support for systemic family therapy approaches to mediate the impact of adverse parenting and effective therapies to combat depressive symptoms in parents.

Child and Adolescent Mental Health Services, Looked After Children (LAC) teams may also help in supporting foster and adoptive families to mediate the effect of

abusive and adverse parenting experiences through attachment-building interventions (Golding, 2003). This review also gives further support for interventions targeting specific factors found to mediate the relationship between adverse parenting experiences and depressive symptoms in adulthood, such as Cognitive Behaviour Therapy addressing dysfunctional cognitions, which are recommended as effective treatments of depressive symptoms (NICE, 2004).

4.4. Conclusion

This review concludes that many variables may be mediating the effect of the relationship between experience of parenting and adult depressive symptoms, including variables relating to aspects of cognition, personality, current lifestyle and expectations for the self. Further supporting evidence is needed in many cases to draw more reliable conclusions regarding significant mediators across gender and diverse sample populations. Methodological strength of studies is a particular source of potential weakness for studies within this field. Reviewed literature supports the link between experience of parenting and adult depressive symptoms may be mediated by a number of factors that could be clinically addressed in the treatment of depression.

5. References

Ainsworth, M.S. (1989). Attachments beyond infancy. *American Psychologist 44*(4): 709-716.

Anderson, C.A., & Hammen, C.L. (1990). Psychosocial Outcomes of Children of Unipolar Depressed, Bipolar, Medically Ill, and Normal Women: A Longitudinal Study. *Journal of Consulting and Clinical Psychology 61*(3): 448-454.

Appleton, P.L., Ellis, N.C., Minchom, P.E., Lawson, V., Boll, V., & Jones, P. (1997). Depressive symptoms and self-concept in young people with spina bifida. *Journal of Paediatric Psychology 22*(5): 707-722.

Avagianou, P., & Zafiropoulou, M. (2008). Parental bonding and depression: personality as a mediating factor. *International Journal of Adolescent Medicine & Health. 20*(3): 261-9.

Badura, A.S., Reiter, R.C., Altmaier, E.M., Rhomberg, A., Elas, D. (1997).Dissociation, somatisation and substance abuse and coping in women with chronic pelvic pain. *Obstetrics and Gynaecology 90*(3): 321-482.

Baldwin, M.W. (1992). Relational schemas and the processing of social information. *Psychological Bulletin 112*(3): 461-484.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology, 51*(6): 1173-1182.

Bartholomew, K., & Horowitz, L.M. (1991). Attachment styles among young adults: a test of a four-category model. *Journal of Personality and Social Psychology*, 61(2): 226-44.

Beck, A.T. (1967). *Depression: Causes and Treatment*. Philadelphia: University of Pensylvania Press.

Bifulco, A., Moran, P.M, Ball, C., Jacobs, C., Baines, R., Bunn, A., & Cavagin, J. (2002). Childhood adversity, parental vulnerability and disorder: examining inter-generational transmission of risk. *Journal of Child Psychology and Psychiatry 43*(8): 1075-1086.

Bolton, C., Barrowclough, C., & Calam, R. (2009). Parental criticism and adolescent depression: Does adolescent self-evaluation act as a mediator? *Behavioural and Cognitive Psychotherapy 37*(5): 553-570.

Bowlby, J. (1980) *Attachment and Loss, Volume 3: Loss, Sadness and Depression*. London: Hogarth Press and the Institute of Psycho-Analysis.

Bowlby, J. (1982). *Attachment and loss. Volume 1: Attachment*. New York: Basic Books.

Brewin, C. R., Andrews, B., & Furnham, A. (1996). Self-critical attitudes and parental criticism in young women. *British Journal of Medical Psychology 69*(1): 69-78.

Carter, Janet D.; Joyce, Peter R.; Mulder, R T. Luty, S. E., & Sullivan, P. F. (1999). Early deficient parenting in depressed outpatients is associated with personality dysfunction and not with depression subtypes. *Journal of Affective Disorders 54*(1-2): 29-37.

Chambers, J.A., Power, K. G., Loucks, N., Swanson, V. (2000) The quality of perceived parenting and its association with peer relationships and psychological distress in a group of incarcerated young offenders. *International Journal of Offender Therapy and Comparative Criminology 44*(3): 350-368.

Collins, N., & Read, S. (1990). Adult attachment, working models, and relationship quality in dating couples. *Journal of Personality and Social Psychology 58*(4): 644-663.

Difilippo, J., & Overholser, J.C. (2002). Depression, adult attachment, and recollections of parental caring during childhood. *Journal of Nervous and Mental Disease 190* (10): 663-669.

Downey, G., & Coyne, J.C. (1990). Children of depressed parents: An integrative review. *Psychological Bulletin 108*(1): 50-76

Downs, S.H. & Black, N. (1998). The feasibility of creating a checklist for the assessment of the methodological quality both of randomized and non-randomised studies of health care interventions. *Journal of Epidemiology and Community Health 52*(6): 377-384.

Duncan-Jones, P., Fergussen, D.M., Ormel, J., & Horwood, L.J. (1990). *Psychological Medicine 18*(1): 1-28.

Enns, M.W., Cox, B.J., & Larsen, D.K. (2000). Perceptions of parental bonding and symptom severity in adults with depression: mediation by personality dimensions. *Canadian Journal of Psychiatry 45*(3): 263-8.

Enns, M.W., Cox, B.J., & Clara, I. (2002). Adaptive and maladaptive perfectionism: developmental origins and association with depression proneness. *Personality and Individual Differences 33*(6): 921-935.

George, C., Kaplan, N., Main, M. Adult Attachment Interview. Unpublished Manuscript. 1996.

Gerlsma, C., Das, J., & Emmelkemp, P.M.G. (1993). Depressed patients' parental representations: stability across changes in depressed mood and specificity across diagnoses. *Journal of Affective Disorders 27*(3): 173-181.

Golding, K. (2003). Helping foster carers, helping children: Using attachment theory to guide practise. *Adoption and Fostering Journal 27*(2): 64-73.

Grotmol, K.S., Ekeberg, O., Finset, A., Gude, T., Moum, T., Vaglum, P., & Tyssen, R. (2010). Parental bonding and self-esteem as predictors of severe depressive symptoms: a 10-year follow-up study of Norwegian physicians. *Journal of Nervous & Mental Disease 198*(1): 22-27.

Hale, W.W., Van Der Valk, I., Engels, R., & Meeus, W. (2005). Does perceived parental rejection make adolescents sad and mad? The association of perceived parental rejection with adolescent depression and aggression. *Journal of Adolescent Health 36*(6): 466-474.

Halverson, C.E. (1988). Remembering you parents: Reflections on the retrospective method. *Journal of Personality 56*(2): 435-443.

Hardt, J. & Rutter, M. (2004). Validity of adult retrospective reports of adverse childhood experiences: review of the evidence. *Journal of Child Psychology and Psychiatry 45*(2): 260-273.

Hyman, S., Chisholm, D., Kessler, R., Patel, V., Whiteford, H. *Mental Disorders*. In: Jamison D, Breman J, Measham A, et al., (eds). Disease control priorities in developing countries (2nd Edition). New York: Oxford University Press, 2006.

Irons, C., Gilbert, P., Baldwin, M.W., Baccus, J.R., & Palmer, M. (2006). Parental recall, attachment relating and self-attacking/self-reassurance: their relationship with depression. *British Journal of Clinical Psychology. 45*(3): 297-308.

Johnson, J. G., Zhang, B., & Prigerson, H. G. (2008). Investigation of a developmental model of risk for depression and suicidality following bereavement. *Suicide and Life-Threatening Behavior 38*(1): 1-12.

Lee, M.T.Y, Wong, B.P., Chow, B.W.Y, & McBride-Chang, C. (2006). Predictors of suicide ideation and depression in Hong Kong adolescents: Perceptions of academic and family climates. *Suicide and Life-Threatening Behaviour 36*(1): 82-96.

Layard, R., Clark, D., Bell, S., Knapp, M., Meacher, B., Prieve, S., et al. (2006). *The depression report: A new deal for depression and anxiety disorders.* London: London School of Economics.

Libby, A.M., Orton, H.D., Beals, J., Buchwald, D., & Manson, S.M. (2008). Childhood abuse and later parenting outcomes in two American Indian tribes. *Child Abuse & Neglect. 32*(2): 195-211.

Lloyd, C., & Miller, P. (1997). The relationship of parental style to depression and self-esteem in adulthood. *Journal of Nervous and Mental Disease 185*(11): 655-663.

Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood and adulthood: A move to the level of representation. *Monographs of the Society for Research in Child Development 50* (1-2): 66-104.

McClure, E.B., Brennan, P.A., Hammen, C., & Le Brocque, R.M. (2001). Parental anxiety disorders, child anxiety disorders, and the perceived parent-child relationship in an Australian high-risk sample. *Journal of Abnormal Child Psychology 29*(1): 1-10.

Moulds, M. L., Kandris, E., Starr, S., & Wong A.C.M. (2007). The relationship between rumination, avoidance and depression in a non-clinical sample. *Behaviour Research and Therapy 45*(2): 251-261.

Mousavi, S., Chatterji, S., Verdes, E., Tandon, A., Patel, V., & Ustun, B. (2007). Depression, chronic diseases, and decrements in health: Results from the World Health Surveys. *The Lancet, 370* (9590): 851-858.

National Institute for Health and Clinical Excellence (2009) Depression: Management of depression in primary and secondary care. CG90. London: National Institute for Health and Clinical Excellence.

Neale, M.C, Walters, E., Heath, M.C., Kesler, R.C., Perusse, D., Eaves, L.J., et al. (199). Depression and parental bonding: cause, consequence, or genetic covariance? *Genetic Epidemiology 11*(6): 503-522.

Offen, L., Thomas, G., & Waller, G. (2003). Dissociation as a mediator between recalled parenting and the clinical correlates of auditory hallucinations. *British Journal of Clinical Psychology 42*(3): 231-241.

Oliver, J.M., & Baumgart, E.P. (1985). The Dysfunctional Attitudes Scale: Psychometric properties and relation to depression in an unselected adult population. *Cognitive Therapy and Research 9*(2): 161-167.

Oliver, L.E., & Whiffen, V.E. (2003). Perceptions of parents and partners and men's depressive symptoms. *Journal of Social and Personal Relationships 20*(5): 621-635.

Parker, G., Tupling, H., & Brown, L.B. (1979). A Parental Bonding Instrument. *British Journal of Medical Psychology 51*(1): 1-10.

Parker, G. (1993). Parental rearing style: examining for links with personality vulnerability factors for depression. *Social Psychiatry & Psychiatric Epidemiology. 28*(3): 97-100

Perris, C., Jacobsson, H., Lindstrom, H., von Knorring, L., & Perris, H. (1980). Development of a new inventory for assessing memories of parental rearing behaviour. *Acta Psychiatrica Scandinavica 61*(4): 265-274.

Rapee, R.M. (1997). Potential role of childrearing practices in the development of anxiety and depression. *Clinical Psychology Review 17*(1): 47-67

Ravitz, P., Maunder, R., Hunter, J., Sthankiya, B., & Lancee, W. (in press). Adult attachment measures: A 25-year review. *Journal of Psychosomatic Research.*

Renk, K., McKinney, C., Klein, J., & Oliveros, A. (2006). Childhood discipline, perceptions of parents, and current functioning in female college students. *Journal of Adolescence. 29*(1): 73-88.

Richman, J.A., & Flaherty, J.A. (1986). Childhood relationships, adult coping resources and depression. *Social Science and Medicine 23*(7): 709-716.

Rodgers, B. (1996). Reported parental behaviour and adult affective symptoms. 1. Associations and moderating factors. *Psychological Medicine. 26*(1): 51-61.

Sanders, M. R. (1999). Triple P-Positive Parenting Program: Towards an empirically validated multilevel parenting and family support strategy for the prevention of behavior and emotional problems in children. *Clinical Child and Family Psychology Review 2*(2): 71-90.

Sato, T., Uehara, T., Narita, T., Sakado, K.,& Fujii, Y. (2000). Parental bonding and personality in relation to a lifetime history of depression. *Psychiatry & Clinical Neurosciences. 54(2*): 121-130.

Schaefer, E. S. (1965). Children's reports of parental behavior: An inventory. *Child Development, 36,* (2): 413-424.

Schroeder, R, D., Bulanda, R. E., Giordano, P. C., Cernkovich, S. A. (2010). Parenting and adult criminality: An examination of direct and indirect effects by race. *Journal of Adolescent Research 25*(1): 64-98.

Singleton, Bumpstead, O'Brien, Lee & Meltzer, (2001). *Psychiatric morbidity among adults living in private households.* Office for National Statistics.

Stark, K. D., Schmidt, K. L., & Joiner, T. E. (1996). Cognitive triad: Relationship to depressive symptoms, parents' cognitive triad, and perceived parental messages. *Journal of Abnormal Child Psychology 24*(5): 615-631.

Soenens, B., Vansteenkiste, M., Luyten, P., Duriez, B., Goossens, L. (2005). Maladaptive perfectionistic self-representations: The mediational link between psychological control and adjustment. *Personality and Individual Differences 38*(2): 487-498.

Teasdale, J.D. (1983). Negative thinking in depression: Cause, effect or reciprocal relationship? *Advances in Behaviour Research and Therapy 5*(1): 3-25.

Vandenbroucke, J.P., von Elm, E., Altman, D.G., Gotzsche, P.C., Mulrow, C.D., Pocock, S.J., Poole, C., Schlesselman J.J., & Egger, M.; STROBE Initiative. (2007). Strengthening The Reporting of Observation Studies in Epidemiology (STROBE): Explanation and elaboration. *Epidemiology 18*(6): 805-835.

Weissman, A.N. (1979). The Dysfunctional Attitudes Scale – A validation study. Doctoral Dissertation, University of Pennsylvania. Dissertation International, 1979, 40, 1389B-1390B. University Microfilm no 79-19533).

Wilhelm, K., Roy, K., Mitchell, P., Brownhill, S., & Parker, G. (2002). Gender differences in depression risk and coping factors in a clinical sample. *Acta Psychiatrica Scandinavica 106*(1): 45-53.

Wind, T.W., & Silvern, L. (1994). Parenting and family stress as mediators of the long-term effects of child abuse. *Child Abuse and Neglect 18*(5): 439-453.

Whisman, M. A., Kwon, P. (1992). Parental representations, cognitive distortions and mild depression. *Cognitive Therapy and Research 16*(5): 557-568.

Yoshizumi,T., Murase, S., Murakami, T., & Takai, J. (2002). Dissociation as a mediator between perceived parental rearing style and depression in an adult community

population using college students. *Personality and Individual Differences 43(2*): 353-364.

Zuravin, S.J., Fontanella, C. (1999). Parenting behaviours and perceived parenting competence of child sexual abuse survivors. *Child Abuse and Neglect 23*(7): 623-632.

PART TWO:

Empirical Study

Attachment Style, Risk-Avoidant Decision-Making and Self-Criticism: Examining relationships with scores on depression and anxiety in the normal population

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This paper is written in the format ready for submission to The British Journal of Clinical Psychology. Please see Appendix B for the Guideline for Authors.

Attachment Style, Risk-Avoidant Decision-Making and Self-Criticism: Examining relationships with scores on depression and anxiety in the normal population

Abstract

Objectives: Relationships between adverse childhood experiences, attachment, social risk-taking and forms/functions of self-criticism are examined alongside relative contribution to depression and anxiety.

Methods: Regression analyses were used to predict self-criticism, inhibited social risk-taking and depression and anxiety symptoms in an opportunity sample of 130 non-clinical adults completing various self-report measures.

Results: Sexual abuse and paternal apathy/neglect predict preoccupied and fearful attachment. Preoccupied attachment predicts maladaptive self-criticism and inhibited social risk-taking. Depression and anxiety symptoms are predicted by maladaptive forms of self-criticism, while inhibited social risk-taking and preoccupied attachment predict anxiety symptoms only.

Discussion: Builds on preliminary research supporting link between attachment and maladaptive self-criticism. Results generally demonstrate concepts are more related to anxiety than depression symptoms in this non-clinical sample.

1.Introduction

Attachment theory was first introduced as a way of understanding the relationships between infants and their caregiver's, describing attachment as two internal working models, one of 'the self' and one of 'the other' Bowlby (1982). Further studies have investigated attachment style as a lifelong relational template (Ainsworth, 1982, Bowlby 1969, 1977 & 1980). In adulthood, attachment style is considered a major factor in the formation and maintenance of social and romantic relationships, as well as how they perceive themselves and others with whom they interact (Collins & Read, 1990; Feeny & Knoller, 1990, 1992; Hazen & Shaver, 1987, Kirkpatrick & Davis, 1994; Scharfe & Bartholomew, 1994; Simpson, 1990).

Building on early conceptualisations of attachment, a four-category model of adult attachment was described by Bartholomew and Horowitz (1991). The four categories are described as secure, characterised by comfort with intimacy and autonomy, a positive view of the self and others; fearful, characterised by fear of intimacy and social avoidance, a negative view of the self and others; preoccupied, characterised by preoccupation with relationships, a negative view of the self and a positive view of others; and dismissing, characterised by dismissing of intimacy and counter-dependence, a positive view of the self and a negative view of others. Bartholomew and Horowitz's (1991) model addresses original internal working models of attachment (Bowlby, 1973), characterising the model of self as 'anxiety about closeness and dependence on others for self esteem' and the model of others as 'avoidance of intimacy'. Securely attached individuals have a sense of worthiness in social relationships and an expectation that others are generally responsive and accepting, therefore are able to function well in relationships with others. Fearful, preoccupied and dismissing types are further defined as insecure attachment styles and

are thought to present more problems in an individuals relationships with others, as opposed to the more functional secure attachment style. Previous research has linked insecure attachment styles with adverse early experiences, particularly abusive and neglectful parental experiences (Bifulco, Moran, Ball & Lillie, 2002). Fearfully attached individuals have a sense of unworthiness and tend to see others as untrustworthy and rejecting, therefore avoid close involvement with others in order to protect themselves. Individuals with a preoccupied attachment style tend to see themselves as unworthy and therefore strive for the acceptance of valued individuals. The dismissing attachment style indicates an individual who has a sense of worthiness and acceptance of themselves, but a generally negative perception of others, therefore avoids potential disappointment by rejecting close relationships.

Attachment has recently been investigated alongside self-criticism. The tendency to criticise oneself has been much investigated and linked with various pathologies, particularly depression. In a study into attachment style and self-criticism Thompson and Zuroff (2003) identified two evaluative domains of self-criticism. Comparative self-criticism relates to achievements and a goal defined by others external to the individual and is experienced as hostility and criticism from others, while internalised self-criticism relates to standards the individual has set for themselves and therefore experienced as self-generated criticism. While internalised self-criticism did not show a significant relationship to any single attachment style, comparative self-criticism was positively correlated with fearful and preoccupied attachment styles, and negatively correlated with secure attachment. Previous measures of self-criticism, such as the Levels of Self-Criticism Scale (LOSC; Thompson & Zuroff, 2004) have addressed general self-criticism. Gilbert (2004) furthered research into different forms of self-criticism by developing two new measures, one examining the different forms of self-criticism, and one examining the perceived functions of self-criticism. The Forms

of Self-Criticising/attacking and Self-Reassurance Scale (FSCRS, 2004) identifies and measures three forms of self-criticism, 'inadequate self' (IS), 'reassured self' (RS) and 'hated self' (HS). The Functions of Self-Criticism Scale (FSCS, 2004) identifies and measures levels of two perceived functions of self-improving/self-correcting ('self-criticising', or SC) and self-persecution ('Self-Punishing', or SP). These scales allow for analysis of different forms of self-criticism and the perceived functions of doing so.

Depression, attachment style and self-criticism are therefore linked in the background literature; however a literature search by the author failed to identify a paper examining all three concepts. There is therefore good rationale for a study that addresses this apparent gap in the literature.

In addition to the theoretical links between attachment style and vulnerability to depression, Bowlby (1980) proposed that poor attachment experiences could lead to a predisposed tendency to interpret information negatively. Negative information processing and the related experiences of helplessness and low self-esteem may be commonly observed in low mood states (Gilbert, 1992), therefore establishing a potential link between attachment style and vulnerability to depression. Attachment style may differentiate between depressed and non-depressed individuals (Carnelley, 1994). The study found that depressed students could be identified in terms of their self-representation, i.e. model of self, rather than their model of others. Preoccupied and fearful attachment styles in particular are linked with depression and are likely to be vulnerability factors for depression. These findings support the suggestion that the perceived inability to form and maintain attachment relations with others becomes a concern for the individual, leading to depression (Bowlby, 1980).

Numerous models of depression have been proposed; one in particular that pertains to interactions with others is the social risk hypothesis of depression (Allan & Badcock, 2003). This model suggests that individuals who feel they have low social

worth may act in ways to minimise the possibility of social rejection. These individuals may be hypersensitive to social threat from others, may send signals to others to reduce social risk and may inhibit risk-seeking behaviours. In terms of attachment theory the latter may be understood as the individual displaying inhibited social or exploratory risk-taking out of a fear of rejection, or to minimise threat to an existing social relationship (Gilbert, 1992).

Links between levels of risk-taking and mood disorders has been the topic of much empirical investigation. While levels of risk-taking may be increased in individuals with bipolar depression, those with unipolar depression tend to display inhibited risk-taking behaviours (Gilbert, 1992). The social risk hypothesis of depressed mood sees low mood as a form of risk-management, whereby low affect serves to inhibit behaviour in situations with a perceived high risk and low pay-off (Nesse, 2000; Leahy, 1997; Klinger, 1975). Maner and Schmidt (2006) defined risk-avoidant decision-making as a process whereby decisions with the potential for positive or negative results are made, and found that anxious symptoms rather than depressive symptoms had the greater relationship with risk-avoidant decision-making. Studies on anxiety have demonstrated that individuals with high trait anxiety report more pessimistic appraisals of future events (Shepperd, Grace, Cole & Klein, 2005) and heightened perceptions of negative outcomes across a range of contexts (Lemer & Keltner, 2000). The cognitive triad of depression (Beck, 1967; Beck et al, 1979) for example, states that depressed individuals have a negative view of themselves, the world and the future. While this model describes depression rather than anxiety, the similarities are striking.

The previous findings have significant implications for the theoretical understanding and treatment of depression and anxiety. From review of the literature, it seems there may be a link between the three aforementioned concepts of attachment style, risk-avoidant decision-making, and different forms and functions of self-criticism,

all of which are demonstrated to impact on depression levels and vulnerability. As risk-avoidance too has been linked to anxiety (Allan & Badcock, 2003) it is valuable to demonstrate the differential effects of these concepts on anxiety levels. This study is therefore interested in examining how these factors are related to the two disorders, in terms of which are more predictive of depression, and which are more predictive of anxiety. As many attachment style measures are self-report and therefore have reduced validity and reliability (Ravitz, Maunder, Hunter, Sthankiya & Lancee, in press). additional measure of early experiences should support attachment style ratings and will be included for this purpose and in order to examine the link between adverse experiences in childhood and type of insecure attachment style rating in adulthood.

The present study aimed to demonstrate how attachment style influences social risk-taking and tendency to self-criticise in either more or less functional ways. The study also aimed to assess the relative contribution of attachment style, social risk taking and forms and functions of self-criticism to depression and anxiety symptom levels.

The hypotheses were:

I. Insecure attachment style will predict low social risk-taking, while secure attachment scores will predict high levels of social risk taking.

II. Scores on insecure attachment styles will predict negative forms of self-criticism (i.e. inadequate-self and hated-self) and the less adaptive function of self-criticism (i.e. self-punishing), while secure attachment scores will predict self-reassurance (reassured-self) and the more adaptive function of self-criticism (self-criticising).

III. Symptoms of depression and anxiety will be predicted by insecure attachment style, inhibited social risk-taking, and high maladaptive forms and functions of self-criticism.

IV. Insecure attachment style will be predicted by parental apathy and neglect (from either or both parents) and reported presence of physical and/or sexual abuse in childhood.

2. Method

2.1. Participants

Research participants were recruited to take part in the study through opportunity sampling at a university and in local community and social groups. Additional potential participants were recruited by responding to advertising in local businesses. The inclusion criteria were:

I. Working age adults between 18 and 65 years of age

II. No reported mental health or psychiatric problems

III. Not currently receiving or previous history of any psychological, social or medical treatment for any mental health problems

In order to determine appropriate sample size for sufficient power a 'rule of thumb' informal power estimate for regression was utilised based on the equation $N > 104 + m$, where m represents the number of predicting variables (Green, 1991). Therefore with 10 independent variables the estimated minimum number of participants to demonstrate statistical power is 114. When data collection was complete the final

sample number of participants meeting the inclusion criteria was 130, comprising 78 females and 52 males between the ages of 19 and 64 (M = 37.7, SD = 14.8).

2.2. Design

A between subjects design was employed. Participants were asked to complete various self-report questionnaire measures, generating quantitative data.

2.3. Measures

2.3.1. Hospital Anxiety and Depression Inventory (HADS; Zigmond & Snaith, 1983)

The HADS (see Appendix H) is a self-report questionnaire measuring symptoms of depression and anxiety. 14 items are scored on a scale of 0-3, seven of which relate to symptoms of anxiety and seven to symptoms of depression, generating subscale scores between zero and twenty-one A score below eight is considered to be within the normal range, 8-10 is considered borderline and 11 and above is considered to indicate a potentially significant clinical level. Both HADS subscales are shown to have high internal consistency, HADS-A (α=.68-.93, m=.83) and HADS-D (α=.67-.90, m=.82) across a number of studies (Bjelland, Dahl, Haug & Neckelmann, 2002). The HADS also has high internal consistency (α=.80-.93, HADS-A, α =.81-.90, HADS-D; Hermann, 1997).

2.3.2. Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991)

The RQ (see Appendix G) is a self-report measure used to identify attachment style. The questionnaire has two sections, one a forced choice and the other a rating scale of 1-7. The continuous rating scale section was utilised in this study, whereby the participant is presented with four paragraphs, each a description of one of four

attachment styles; secure, fearful, preoccupied and dismissing. Participants rate each paragraph from 1-7 on how much it applies to them (1 being the lowest and 7 the highest). Continuous ratings of all four attachment styles are produced. The RQ has adequate test-retest reliability scores and evidence of discriminant and predictive validity as well as convergence with other measures of attachment (Ravitz, Maunder, Hunter, Sthankiya & Lancee et al, 2009), with alpha values ranging from .32 for the secure dimension and .79 for the fearful dimension when using the continuous ratings rather than categorical attachment choice. In addition to the reliability and validity information, the RQ has also previously been used in empirical research to demonstrate associations between adult attachment and depression and anxiety symptoms (Collins and Read, 1990).

2.3.3. Social subscale of the Risk-Taking Behaviour Scale (from the Domain Specific Risk Taking Scale (DOSPERT); Weber, Blais & Betz, 2002)

The DOSPERT (see Appendix G) is a 30-item self-report measure relating to risk taking behaviours. 30 items in total relate to five content domains of risk taking, these being social, health and safety, financial, ethical and recreational (7 items per sub-scale). By responding to each statement on a seven-point scale as to how likely they are to engage in these behaviours (1 = extremely unlikely, 7 = extremely likely), five subscale scores are generated. For purposes of this study, the 7-item social risk-taking behaviour subscale was employed. The coefficient alpha for the social risk-taking behaviour subscale is .69, demonstrating internal validity. Test-retest reliability is somewhat low, at 0.58, however convergent validity(r = -0.30) with Budner's (1962) intolerance of ambiguity scale is demonstrated (Weber, Blais & Betz, 2002).

2.3.4. Forms of Self-Criticising/attacking and Self-Reassurance Scale (FSCRS; Gilbert, Clarke, Hempel, Miles & Iron, 2004)

The FSCRS (see Appendix H) is a 22-item self-report questionnaire measure of the forms of self-criticism and self-reassurance. Participants are presented with 22 statements and are required to rate each statement on a scale of 0-4 (0 = not at all like me, 1= a little bit like me, 2= moderately like me, 3=quite a bit like me, 4 = extremely like me) how much they believe each statement is true to them. Each item is associated with one of the three following factors; inadequate-self (IS), reassured-self (RS) and hated-self (HS). Gilbert et al (2004) demonstrated the FSCRS congruency with other measures of self criticism (LOSC; Thompson & Zuroff, 2004) and found good internal consistency (for each subscale (α=.86 or above).

2.3.5. Functions of Self-Criticism Scale (FSCS; Gilbert, Clarke, Hempel, Miles and Iron, 2004)

The FSCS (see Appendix H) is a 21-item self-report measure of the perceived functions of self-criticism. Participants are presented with 21 statements, which they are required to rate on a scale of 0-4 (0 = not at all like me, 1= a little bit like me, 2= moderately like me, 3=quite a bit like me, 4 = extremely like me) how much they believe each statement is true to them. Test items relate to one of two functions of self-criticism; self-improving (called self-criticising, or SC) and self-attacking (called self-punishing, or SP). Both subscales have good internal consistency (α=.92) and are congruent with other measures of self-criticism (LOSC; Thompson & Zuroff, 2004).

2.3.6. Childhood Experience of Care and Abuse Questionnaire (CECA.Q; Smith, Lam, Bifulco & Checkley, 2002)

The CECA.Q (see Appendix G) is a self-report questionnaire containing items relating to perceptions of early experiences and parental abuse. Experiences are divided into sexual abuse, physical abuse and parental apathy and neglect (maternal and paternal). Participants are asked to give either a positive or negative response to the experience of any physical or sexual abuse, and respond to statements about their perception of both parental figures (e.g. he/she was very difficult to please) on a scale of 1-5 (1 = definitely, 3=unsure, 5 = no, not at all). Apathy and neglect scales of the CECA.Q converge with other established measures of childhood adversity, namely the Parental Bonding Instrument (Parker, Tupling & Brown, 1979), suggesting good convergent validity. Compared with the CECA interview the CECA.Q demonstrates good test-retest reliability and alternate-forms reliability in clinical and non-clinical population samples (Smith et al, 2002).

2.4. Procedure

The Post Graduate Medical Institute at the University of Hull granted ethical approval for this study. Information sheets were provided to participants prior to participation in the study, with written informed consent obtained following an opportunity to discuss the study and ask questions.

Participants were asked to confirm that they were not currently receiving psychological, social or medical care for any current mental health problem and to indicate whether or not they had ever previously received any such care for mental health problems in the past. The HADS was then administered for the first time.

The RQ, DOSPERT, FSCRS, FSCS and CECA.Q were then completed, presented in an individual computer-generated random order for each participant. Age

and gender were recorded on the CECA.Q. Following completion of these measures the HADS was administered for a second time to ensure there was no increase in scores on symptoms of anxiety or depression since the measure was first completed prior to completion of the other measures. If scores were higher upon re-administration of the HADS, participants were given the opportunity to discuss any difficult feelings arising from participation and provided with information on where they might seek further support. All participants were fully debriefed at the end of the study.

3.Results

3.1. Data analysis

Data for all hypotheses was analysed using a general linear model due to the presence of categorical as well as interval level data. Hierarchical regression allowed for control of age and gender independent variables. Statistical significance for regression analysis is reported at the $p < 0.05$ level in all cases. Pearson correlation analyses were carried out to demonstrate associations between interval level variables. T-tests were carried out to assess gender differences between scores on interval level measures. Following multiple linear regression, checks of residual and predicted values and distribution of scores were made for all dependent variables (see section *3.4.6* below for findings).

3.2. Descriptive statistics

In addition to the description of the sample characteristics included in section *2.1 (Participants*) a descriptive summary of scores for each measure is presented in table 1.

Table 1 about here

3.3. Preliminary analysis results

Correlations between independent variables for each hypothesis were carried out to ensure included variables were not strongly related, in order to avoid multicollinearity. Full correlation tables are presented in Appendix I.

Preoccupied attachment was negatively correlated with social risk taking score (p = .036). Negative correlations between secure attachment scores and all aspects of maladaptive forms and functions of self-criticism were demonstrated, ranging from p < .001 to p = .009. Fearful and preoccupied attachment scores were positively correlated with all aspects of maladaptive forms and functions of self-criticism, ranging from p = .000 to p = .031. Secure attachment was positively correlated with reassured-self, while fearful and preoccupied were negatively correlated with reassured-self (p = .011, p < .001 and p = .008 respectively).

Significant associations in the expected directions were found for all independent variables with both anxiety and depression symptoms (p< .001 in all cases), with the exception of social risk-taking score, which was not associated with symptoms of either, and self-criticising, which was not associated with depression symptoms. Independent variables that were highly correlated (p< .001) were not included in the general linear model to avoid multicollinearity.

3.4. Regression analyses results

Effects of age and gender are associated with depression in previous research (Weissman & Klerman, 1977; Jorm, 1987 & Nolen-Hoeksema, 1987). Gender is also associated with attachment style (Bartholomew & Horowitz, 1991); therefore both were

included in the general linear model as control variables in step 1. T-tests were carried out on gender and dependent variables scores, demonstrating no significant difference in scores between males and females (see Appendix I). Table two presents regression analysis results for the hypothesised relationship between attachment style, social risk-taking and forms/functions of self-criticism.

3.4.1. Attachment style and social risk-taking

The relationship between attachment scores and social risk-taking was analysed by hierarchical regression analysis. In step one of the general linear model, age predicted low social risk taking scores (p = .001), however there was no significant effect of gender. In step two, high scores on preoccupied attachment predicted low scores on social risk taking (p = .021) when age and gender were controlled for. There were no other statistically significant attachment score predictors of social risk taking.

3.4.2. Attachment style and forms of self-criticism

Hierarchical multiple regression analysis examined the relationship between attachment style and forms of self-criticism. Age predicted low scores on both Inadequate-self (p = .013), and hated-self (p = .028) in step 1of the general linear model. In step 2, secure attachment scores predict low inadequate-self (p < .001), while fearful attachment scores predict high inadequate-self (p = .030). Fearful and preoccupied attachment scores predict high hated-self (p = .041 and p = .003 respectively), while fearful attachment scores predict low reassured-self (p = .018).

3.4.3. Attachment style and functions of self-criticism

A hypothesised relationship between attachment style and perceived functions of self-criticism was analysed by hierarchical multiple regression. In step 1 of the hierarchical regression analysis age predicted low scores on self-criticising (p = .013). With the addition of the attachment variables in step 2, fearful attachment scores predict high self-criticising (p = .002), while dismissing attachment scores predict low self-criticising (p = .039). Fearful attachment scores only were found to predict high self-punishing (p = .022).

Table 2 about here

3.4.4. Contribution to symptoms of depression and anxiety

Fearful and preoccupied attachment styles were highly correlated. Fearful attachment was also highly correlated with self-criticising and self-punishing (FSCS), as well as inadequate-self and hated-self (FSCRS). As preoccupied attachment was unrelated to these variables, fearful attachment was removed from the general linear model analysis. Self-criticising and self-punishing were also highly correlated, with both also highly correlated with inadequate-self and hated-self. As a ceiling effect was noted with hated-self and self-punishing, potentially effecting confidence in interpretation of these results, these variables was removed from the analysis. Self-criticising was also removed from the analysis due to its high correlation with inadequate-self. As self-criticising was correlated with inadequate-self, and a ceiling effect noted with self-punishing was also noted, both FSCS variables were removed from the regression analysis.

It was hypothesised that forms of self-criticism, attachment style scores and social risk-taking would predict depression and anxiety, tested by hierarchical multiple

regression analysis (a summary of the regression analysis is presented in table 3). There was no significant effect of age or gender on depression symptoms in either step of the regression analysis. Only inadequate-self was found to predict depression symptoms ($p = .001$) in step 2.

Age and gender had no significant effect on anxiety scores in either step of the regression analysis for effect on anxiety symptoms. Social risk-taking ($p = .034$), preoccupied attachment ($p = .026$) and insecure-self ($p < .001$) were all found to predict anxiety symptoms in step 2.

Table 3 about here

3.4.5. Attachment style scores and childhood experiences

Table 4 presents results from regression analysis on the hypothesised predicting relationship between CECA.Q data regarding early experiences and attachment style scores. Sexual abuse predicts both fearful and preoccupied attachment scores ($p = .029$ and $p = .030$ respectively), while paternal apathy and neglect predicts fearful attachment scores only ($p = .032$). There was no significant relationship between physical abuse and attachment scores, nor was any relationship observed between maternal apathy and neglect and attachment.

Table 4 about here

3.4.6. Predicted/residual values and distribution of scores

Scatter-plots of residual and predicted scores and distribution histograms for each dependent variable are included in Appendix I. No discernable pattern is observed for scores on any variable with the exception of SP and HS, both of which demonstrated an apparent floor effect, which will be further addressed in the discussion section of this

paper. Scores appear to be normally distributed in most cases, again with the exception of self-punishing and hated-self variables, and also with attachment style scores.

4. Discussion

4.1. General discussion and research implications

Results partially support the hypothesised predicting relationship between insecure attachment styles (fearful, preoccupied and dismissing) and low social risk taking by demonstrating a significant predicting relationship between preoccupied attachment scores and social risk-taking. As preoccupied attachment in particular is described as an individual being preoccupied with social relationships (Bartholomew & Horowitz, 1991), the finding that preoccupied attachment predicts low social risk taking is supported within the context of the theoretical background literature. The four-factor model proposed by Bartholomew and Horowitz (1991) also conceptualises fearful attachment as being related to social behaviour, therefore it was surprising that no significant relationship was noted between fearful attachment and social risk-taking. This may be an anomalous result, due to a link between fearful attachment and concern over loss of relationships previously demonstrated (Boon & Griffin, 2005), although this study primarily examined romantic, as opposed to social, relationships. As a significant association was demonstrated in the correlation analysis, results should be replicated utilising a larger sample size, or more objective measure of attachment that demonstrates better psychometric properties of reliability and validity (Ravitz, Maunder, Hunter, Sthankiya, & Lancee, in press), enhancing potential for significant results.

It was further hypothesised that insecure attachment style would predict negative forms of self-criticism, i.e. inadequate-self and hated-self. While significant correlations between preoccupied and fearful attachment support this hypothesis for both fearful and

preoccupied attachment, differential associations were demonstrated. Fearful attachment predicts inadequate-self, while preoccupied attachment predicts hated-self. These differential findings may suggest preoccupied attachment; conceptualised as preoccupation with social relationships (Bartholomew & Horowitz, 1991) is associated with hatred of the self, a more extreme variable than inadequacy of the self, which was associated with fearful attachment. Previous research has demonstrated links between fearful attachment and both inadequate and hated self (Irons et al, 2006), but not preoccupied attachment. Further research utilising the FSCRS has not yet been undertaken, suggesting a need for further research in this area to clarify the mixed findings so far. Links between dismissing attachment and any of the dependent variables for this hypothesis were not supported, which is in line with previous findings by Irons et al (2006).

Interestingly, age predicted low scores on both inadequate-self and hated-self, suggesting that these negative forms of self-criticism may be related to age. The theory that age may relate to reduced maladaptive self-criticism could be a potential area for future research using the FSCRS, which has previously been used in student samples with narrow age ranges (Gilbert, 2004; Gilbert, Durrant & McEwan, 2006; Irons, et al, 2006), thereby not affording any prior opportunity for this pattern to emerge.

It was also proposed that secure attachment style would predict self-reassurance (reassured-self), which was not directly supported by the results of this study, however secure attachment did predict low inadequate-self, providing support for reduction in maladaptive forms if not an increase in adaptive forms. Previous research succeeded in finding a significant relationship between secure attachment and both high self-reassurance scores (Irons et al, 2006). Consensus between the present study and that of Irons et al (2005) was reached regarding the relationship between secure attachment and lower scores on maladaptive self-criticism, as well as the association between fearful

attachment and low self-reassurance. Overall, the hypothesised association between insecure attachment and maladaptive self-criticism, and secure attachment and adaptive-self criticism, appears modestly supported.

Inadequate-self was found to predict depression levels, however contrary to background literature there was no link between insecure attachment and depression in the regression analysis. Previous research has demonstrated the relationship between attachment anxiety/insecure attachment styles and depression (Pettem, 1992; Safford, Alloy, Crossfield, Morocco & Wang, 2004; Williams & Riskind, 2004). Lack of significant results for a predicting relationship between insecure attachment styles and depression in this study is therefore surprising, requiring replication of these results in the future. Lack of association between dismissing attachment and depression was less surprising as this has been demonstrated in previous research (Murphey & Bates, 1996).

Insecure attachment, low social risk-taking and maladaptive forms of self-criticism were further hypothesised to predict anxiety symptoms. A predicting relationship between preoccupied attachment, low social-risk taking and inadequate-self support this. The findings are also consistent with previous research demonstrating a relationship between low social risk-taking and anxiety (Maner & Schmidt, 2006), and suggest preoccupied attachment, that is preoccupation with relationships, is also associated with anxiety symptoms.

Due to the high degree of correlation between these variables and two of the variables on the FSCRS, the functions of self-criticism were not included in the analysis for hypothesised predicting relationships between attachment, social risk-taking and forms/functions of self-criticism, and depressive and anxious symptoms. Correlations between self-punishing and both anxiety and depression did provide some support for this hypothesis, as did a correlation between self-criticising and anxiety, although no relationship was noted between self-criticism and depression. In a normal population

sample, as utilised in this study, scores for both functions of self-criticism are expected to be lower than would be anticipated in clinical populations (Gilbert, 2004), suggesting differential ranges of scores may not have been possible with this sample, and therefore explaining the high degree of correlation between these two variables.

The final hypothesis stated that childhood experiences would predict attachment style ratings, therefore supporting RQ self-report attachment ratings by enhancing reliability. Preoccupied and fearful attachment were predicted by sexual abuse history, however there was no relationship between sexual abuse and dismissing attachment, or between physical abuse and insecure attachment across all styles. Paternal, but not maternal apathy and neglect were found to predict fearful attachment scores only. Previous research has found some difficulties reaching a consensus on the link between childhood experiences of care and abuse and attachment style, with non-significant results for a relationship between physical abuse and attachment noted elsewhere (Bifulco, Moran, Ball & Lillie, 2002). Research into parental bonding has suggested mediating effects of core beliefs relating to insufficient self-control, defectiveness and self-sacrifice (Shah & Waller, 2000), attributional style (Whissman & Kwon, 1992), and further negative life events (Hankin, 2005). As parental bonding is shown to be related both to childhood experiences of care and abuse and attachment style (Bifulco, Bernazzani, Moran & Jacobs, 2005); Oliver & Whiffen, 2003; respectively), the aforementioned factors associated with parental bonding may also have a mediating effect on the relationship between childhood adversity as measured by the CECA.Q and attachment style.

4.2.Limitations

A review of reliability and validity of attachment measures reported reduced performance of self-report measures generally when compared to structured interview measures, potentially due to self-report bias (Ravitz et al. in press). It would have been

difficult to resolve this problem in this study. Due to the time constraints the use of interview measures to reach the numbers required to have sufficient statistical power is impossible. Self-report bias may also be evident in the social risk-taking measure employed in this study. When risk-taking is examined by experimental paradigm tasks instead of self-reports there may be higher validity as well as eliminating self-report bias. Unfortunately, existing paradigms do not measure social risk-taking, making a self-report measure of social risk-taking necessary. Unexpected results regarding attachment style and childhood experience may also be explained by the use of a self-report measure rather than a more objective structured interview measure.

As noted in the results an apparent ceiling effect for hated-self (FSCRS) and self-punishing (FSCS) was noted in scatter-plots of residual vs. predicted values. Distribution histograms for these variables were also slightly skewed, indicating the results were not normally distributed. As these two variables are considered to be quite extreme examples of forms and functions of self-criticism, this is to be expected by the use of a normal population, less likely to display the full range of scores (Gilbert, 2004). These results suggest a general linear model may not be the best fit for these variables. Extrapolating from the results concerning hated-self and self-punishing should therefore be approached with caution.

This study also set out to differentiate between depression and anxiety by demonstrating differences in variables predicting scores on the two syndromes. This was not fully achieved in this study and may be explained in terms of the use of a non-clinical sample, therefore not demonstrating the full range of scores on the HADS. It could reasonably be expected that with use of a clinical sample in future research the ceiling effect of the FSCRS hated-self variable and the FSCS self-criticising and self-punishing variables would be reduced (Gilbert, 2004), as well as producing greater numbers of individuals scoring highly on insecure attachment styles. Broader

distribution of scores may also have reduced the high degree of correlation between preoccupied and fearful attachment, as well as between hated-self, inadequate-self, self-criticising and self-punishing, allowing for their inclusion in statistical analysis as possible predictors of depression and anxiety symptom levels and possible confirmation of the hypotheses of this paper regarding fearful attachment and high scores on symptoms of depression and anxiety. Greater degrees of statistical significance and further predicting relationships would be expected between self-criticising and self-reassurance (reassured-self), and depressive symptom levels in line with previous research (Irons et al. 2006).

4.3. Conclusion: Clinical implications and suggested areas for further research

The results of this study demonstrate some associations between negative cognitions in the form of maladaptive forms of self-criticism (insecure-self) and depression, therefore supporting the use of a cognitive model in understanding these processes. Social risk-taking is found to be more related to anxiety than depression in the present study, consistent with previous research in the area. Preliminary support for the link between attachment style and maladaptive forms and functions of self-criticism suggest further research in this area may be useful, while replication of the results of this study utilising interview measures of attachment would be beneficial.

5. References

Ainsworth, M.S. (1982) Attachments beyond infancy. *American Psychologist 44*(4): 709-716.

Allen, N. B. & Badcock, P.B. (2003). The Social Risk Hypothesis of Depressed Mood: Evolutionary, Psychosocial, and Neurobiological Perspectives. *Psychological Bulletin* 129(6): 887–913.

Bartholomew, K., Horowitz, L.M. (1991). Attachment styles among young adults: a test of a four-category model. *Journal of Personality and Social Psychology*, 61(2): 226–44.

Beck, A.T. (1967). *Depression: Causes and Treatment*. Philadelphia: University of Pensylvania Press.

Beck, A.T., Mrush, A.J., Shaw, B.F., & Emery, G. (1979) *Cognitive therapy of depression*. New York: Guilford Press.

Bjelland, I., Dahl, A.A., Haug, T.T., & Neckelmann, D. (2002). The validity of the Hospital Anxiety and Depression Scale: An updated literature review. *Journal of Psychosomatic Research 52*(2): 68-77.

Bifulco, A., Lillie, A., Ball, B. & Moran, P. (1998b) *Attachment Style Interview (ASI). Training manual*. Royal Holloway, University of London.

Bifulco, A., Moran, P.M., Ball, C. & Lillie, A. (2002). Adult attachment style II: Its relationship to psychosocial depressive vulnerability. *Social psychiatry and Psychiatric Epidemiology 37*(2): 60-67.

Bifulco, A., Bernazzani, O., Moran, P.M., & Jacobs, C. (2005). The Childhood Experience of Care and Abuse Questionnaire (CECA.Q): Validation in a community series. *British Journal of Clinical Psychology 44*(4): 563-581.

Boon, S.D., & Griffin, D.W. (2005). The construction of risk in relationships: The role of framing in decisions about intimate relationships. *Personal Relationships 3*(3): 293-306.

Bowlby, J. (1973). *Attachment and Loss, Volume 2: Separation*, New York: Basic Books.

Bowlby, J. (1977) The making and breaking of affectional bonds. II. Some principles of psychotherapy. *The British Journal of Psychiatry 130*(5): 421-431.

Bowlby, J. (1980) *Attachment and Loss, Volume 3: Loss, Sadness and Depression*. London: Hogarth Press and the Institute of Psycho-Analysis.

Bowlby, J. (1982). *Attachment and Loss, Volume 1: Attachment,* Second Edition, London: Pimlico.

Budner, S. (1962). Intolerance of ambiguity as a personality variable. *Journal of Personality 30*(10): 29-50.

Carnelley, K.B., Pietromonaco, P.R. & Jaffe, K. (1994) Depression, working models of others and relationship functioning. *Journal of Personality and Social Psychology, 66*(1): 127-140.

Collins, N.L., & Read, S.J. (1990). Adult attachment, working models and relationship quality in dating couples. *Journal of Personality and Social Psychology 58*(4): 644-663.

Feeny J.A. & Knoller, P. (1990). Attachment style as a predictor of adult romantic relationships. *Australian Journal of Psychology 58*(2): 281-289.

Feeny J.A. & Knoller, P. (1992). Attachment style and romantic love: Relationship dissolution. *Australian Journal of Psychology 44*(1): 69-74.

Gilbert, P. (1992) *Depression: The Evolution of Powerlessness*. New York: The Guilford Press.

Gilbert, P., Clarke, M., Hempel, S., Miles, J.N.V., Irons, C. (2004) Criticising and reassuring oneself: an exploration of forms, styles and reasons in female students. *British Journal of Clinical Psychology 43*: 31-50.

Gilbert, P., Durrant, R., & McEwan, K. (2006). Investigating relationships between perfectionism, forms and functions of self-criticism, and sensitivity to put-down. *Personality and Individual Differences 41*(7): 1299–1308.

Green, S.B. (1991). How many subjects does it take to do a regression analysis? *Multivariate Behavioural Research 26*(3): 499-510.

Hankin, B.L. (2005). Childhood maltreatment and psychopathology: Prospective tests of attachment, cognitive vulnerability and stress as mediating processes. *Cognitive Therapy and Research 29*(6): 645-671.

Hazen, C & Shaver, P. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology*, *52*(3): 511-524.

Herrmann, C. (1997). International experiences with the Hospital Anxiety and Depression Scale – A review of validation data and clinical results. *Journal of Psychosomatic Research 42*(1): 17-41.

Irons, C., Gilbert, P., Balwin, M.W., Baccus, J.R. & palmer, M. (2006). Parental recall, attachment relating and self-attacking/self-reassurance: Their relationship with depression. *British Journal of Clinical Psychology 45*(3): 297-308.

Jorm, A.F. (1987). Sex and age differences in depression: a quantitative synthesis of published research. *Australian and New Zealand Journal of Psychiatry 21*(1): 46–53.

Kirkipatrick, L.E. & Davis, K.E. (1994). Attachment style, gender and relationship stability: A longitudinal study. *Journal of Personality and Social Psychology 66*(3): 502-512.

Klinger, E. (1975). Consequences of commitment to and disengagement from incentives. *Psychological Review, 82* (1): 1–25.

Leahy, R. L. (1997). Depression and resistance: An investment model of decision-making. *Behaviour Therapist 20*(1): 3–6.

Lerner, J. S., & Keltner, D. (2000). Beyond valence: Toward a model of emotion specific influences on judgment and choice. *Cognition and Emotion 14*(4): 473–493.

Maner, J. K., & Schmidt, N. B. (2006). The role of risk-avoidance in anxiety. *Behaviour Therapy, 37*(2): 181–189.

Murphey, B., & Bates, G.W. (1996). Adult attachment style and vulnerability to depression. *Personality and Individual Differences 22*(6): 835-844.

Nesse, R. M. (2000). Is depression an adaptation? *Archives of General Psychiatry 57*(1): 14–20.

National Institute for Health and Clinical Excellence (2004) Depression: Management of depression in primary and secondary care. CG23. London: National Institute for Health and Clinical Excellence.

Nolen-Hoeksema, S. (1987). Sex differences in unipolar depression: evidence and theory. *Psychological Bulletin 101(*2): 259–282.

Oliver, L.E., & Whiffen, V.E. (2003). Perceptions of parents and partners and men's depressive symptoms. *Journal of Social and Personal Relationships 20*(5): 621-635.

Parker, G., Tupling, H., & Brown, L.B. (1979). A Parental Bonding Instrument. *British Journal of Medical Psychology 51*(1): 1-10.

Pettem, O., West, M., Mahoney, A., Keller, A. (1992). Depression and attachment problems. *Journal of Psychiatry and Neuroscience 18*(2): 78-81.

Ravitz, P., Maunder, R., Hunter, J., Sthankiya, B., & Lancee, W. (in press). Adult attachment measures: A 25-year review. Journal of Psychosomatic Research.

Safford, S.M., Alloy, L.B., Crossfield, A.G., Morocco, A.M., & Wang, J.C. (2004) The relationship of cognitive style and attachment style to depression and anxiety in young adults. *Journal of Cognitive Psychotherapy: An International Quarterly 18* (1): 25-41.

Scharfe, E. & Bartholomew, K. (1994). Relaibility and stability of attachment patterns. *Personal Relationships 1*: 23 –43.

Shah, R., & Waller, G. (2000). Parental style and vulnerability to depression: The role of core beliefs. *Journal of Nervous and Mental Disease 188*(1): 19-25.

Shepperd, J. A., Grace, J., Cole, L. J., & Klein, C. (2005). Anxiety and outcome predictions. *Personality and Social Psychology Bulletin 31*(2): 267–275.

Simpson, J.A. (1990). Influence of attachment styles on romantic relationships. *Journal of Personality and Social Psychology 59*(5): 971-980.

Smith, N., Lam, D., Bifulco, A. & Checkly, S. (2002). Childhood Experience of Care and Abuse Questionnaire (CECA.Q): Validation of a screening instrument for childhood experiences in clinical populations. *Social Psychiatry and Psychiatric Epidemiology 37*(12): 572-579.

Thompson, R & Zuroff, D.C. (2003). The Levels of Self-Criticism Scale: comparative self-criticism and internalised self-criticism. *Personality and Individual Differences 36*(2): 419-430.

Tabachnick, B. G., and Fidell, L. S. (2007). *Using Multivariate Statistics.* Boston: Allyn and Bacon.

Weber, E.U., Blais, A.N, & Betz, N.E., (2002). A domain specific risk-attitude scale: Measuring risk perceptions and risk behaviours. *Journal of Behavioural Decision Making 15*(4): 263-290.

Weissman, M.M., & Klerman, G.L. (1977). Sex difference in the epidemiology of depression. *Archives of General Psychiatry 34*(1): 98–111.

Whisman, M. A., Kwon, P. (1992). Parental representations, cognitive distortions and mild depression. *Cognitive Therapy and Research 16*(5): 557-568.

Williams, N.L., & Riskind, J.H. (2004). Adult romantic attachment and cognitive vulnerabilities to anxiety and depression: Examining the interpersonal basis of vulnerability models. *Journal of Cognitive Psychotherapy: An International Quarterly 18* (1): 7-23.

Zigmond, A.S., & Snaith, R.P. (1983) The hospital anxiety and depression scale. *Acta Psychiatrica Scandinavica* 67(6): 361-70.

Table 1: Descriptive data for HADS, FSCRS, FSCS, social risk-taking score and CECA.Q

	Mean	Sd	Percentage (frequency)
HADS			
Anxiety	6.55	3.76	-
Depression	2.76	2.29	-
FSCRS			
Inadequate-self	14.25	8.72	-
Reassured-self	21.02	5.80	-
Hated-self	3.00	4.16	-
FSCS			
Self-criticising	15.78	11.57	-
Self-punishing	3.64	5.80	-
Social risk-taking score	29.51	6.25	-
RQ			
Secure	4.92	1.79	-
Fearful	3.62	1.99	-
Preoccupied	2.68	1.78	-
Dismissing	3.47	1.87	-
CECA.Q			
Paternal apathy and neglect	33.69	14.8	-
Maternal apathy and neglect	29.63	13.4	-
Sexual Abuse			
Positive	-	-	14.6% (19/130)
Negative	-	-	85.4% (111/130)
Physical abuse			
Positive	-	-	15.4% (20/130)
Negative	-	-	84.6% (110/130)

Table 2: Summary of the final equations relating to regression analysis for hypothesis I and II

DV	Step	Predictor variable	R^2 of model	B	*Std Error.*	95% CI for *B*		P
						Lower	Upper	
Social risk-taking score	1	Age	.092	-.129	.036	-.199	-.058	.000
		Gender		-.501	1.087	-2.662	1.642	.640
	2	Secure score	.140	-.072	.331	-.727	.583	.828
		Fearful score		.162	.316	-.462	.787	.608
		Preoccupied score		-.761	.325	-1.404	-.119	.021
		Dismissing score		-.263	.285	-.827	.301	.358
Inadequate-self	1	Age	.070	-.111	.044	-.198	-.024	.013
		Gender		.534	1.345	-2.129	3.198	.692
	2	Secure score	.324	-1.566	.410	-2.366	-.745	.000
		Fearful score		.857	.391	.084	1.631	.030
		Preoccupied score		.685	.402	-.110	1.479	.091
		Dismissing score		-.560	.353	-1.258	.138	.115
Reassured-self	1	Age	.018	.041	.037	-.031	.114	.261
		Gender		.296	1.116	-1.913	2.506	.791
	2	Secure score	.141	.314	.340	-.358	.987	.357
		Fearful score		-.774	.324	-1.416	-.133	.018
		Preoccupied score		-.412	.333	-1.072	.247	.218
		Dismissing score		.300	.293	-.279	.879	.307
Hated-self	1	Age	.056	-.049	.022	-.092	-.005	.028
		Gender		.309	.667	-1.012	1.630	.644
	2	Secure score	.267	-.387	.203	-.789	.015	.059
		Fearful score		.39	.194	.016	.783	.041
		Preoccupied score		.594	.199	.200	.988	.003
		Dismissing score		-.158	.175	-.504	.188	.369
Self-criticising	1	Age	.066	-.158	.063	-.282	-.034	.013
		Gender		-3.847	1.912	-7.632	-.063	.046
	2	Secure score	.224	-.589	.582	-1.741	.563	.313
		Fearful score		1.776	.555	.678	2.875	.002
		Preoccupied score		.316	.571	-.814	1.446	.581
		Dismissing score		-1.045	.501	-2.036	-.053	.039
Self-punishing	1	Age	.028	-.051	.032	-.115	.013	.119
		Gender		-.729	.990	-2.689	1.230	.463
	2	Secure score	.172	-.295	.301	-.891	.301	.329
		Fearful score		.666	.287	.097	1.235	.022
		Preoccupied score		.563	.295	-.021	1.148	.059
		Dismissing score		-.111	.259	-.625	.402	.669

Table 3: Summary of the final equations relating to regression analysis for hypothesis III

DV	Step	Predictor variable	R^2 of model	B	*Std Error.*	95% CI for *B* Lower	95% CI for *B* Upper	P
Depression symptoms	1	Age	.012	.002	.012	-.022	.026	.167
		Gender		-.507	.348	-1.196	.183	.149
	2	Secure score	.341	-.182	.108	-.396	.032	.095
		Preoccupied score		.120	.103	-.084	.325	.246
		Dismissing score		.097	.093	-.087	.282	.299
		Inadequate-self		.091	.027	.038	.145	.001
		Reassured-self		-.057	.033	-.122	.007	.081
		Social risk-taking		-.030	.030	-.089	.028	.309
Anxiety symptoms	1	Age	.037	-.011	.018	-.047	.025	.555
		Gender		.481	.519	-.547	1.509	.356
	2	Secure score	.460	-.123	.161	-.442	.196	.446
		Preoccupied score		.348	.154	.043	.652	.026
		Dismissing score		-.025	.139	-.299	.250	.860
		Inadequate-self		.234	.040	.155	.314	.000
		Reassured-self		-.004	.048	-.100	.092	.936
		Social risk-taking		-.094	.044	-.182	-.007	.034

Table 4: Summary of the final equations relating to regression analysis for hypothesis IV

DV	Step	Predictor variable	R^2 of model	B	*Std Error.*	95% CI for *B* Lower	Upper	P
Secure attachment	1	Age	.018	.008	.011	-.014	.030	.463
		Gender		-.187	.320	-.822	.447	.559
	2	Maternal apathy/neglect	.081	-.014	.014	-.042	.014	.317
		Paternal apathy/neglect		-.009	.013	-.034	.016	.459
		Physical abuse		-.626	.464	-1.544	.293	.180
		Sexual abuse		.921	.472	-.014	.014	.053
Fearful attachment	1	Age	.031	-.002	.012	-.026	.021	.845
		Gender		.539	.347	-.149	1.226	.123
	2	Maternal apathy/neglect	.132	.004	.015	-.026	.034	.800
		Paternal apathy/neglect		.030	.014	.003	.056	.032
		Physical abuse		.543	.503	-.452	1.539	.282
		Sexual abuse		-1.130	.512	-2.144	-.116	.029
Preoccupied attachment	1	Age	.002	.001	.011	-.021	.022	.952
		Gender		-.088	.317	-.716	.540	.782
	2	Maternal apathy/neglect	.089	.012	.014	-.016	.039	.405
		Paternal apathy/neglect		.016	.012	-.008	.041	.192
		Physical abuse		.368	.460	-.542	1.278	.425
		Sexual abuse		-1.027	.468	-1.954	-.100	.030
Dismissing attachment	1	Age	.015	-.022	.012	-.025	.021	.851
		Gender		-.524	.342	-1.202	.153	.128
	2	Maternal apathy/neglect	.041	.008	.015	-.021	.038	.580
		Paternal apathy/neglect		-.023	.013	-.049	.004	.096
		Physical abuse		-.276	.495	-1.256	.705	.579
		Sexual abuse		-.342	.505	-1.341	.656	.499

PART THREE:

Appendices

Appendix A:

Reflective Statement

Reflective Statement

This statement describes my reflections on the process of producing my portfolio thesis. The main focus of my reflections have related to the initial planning stages, problems encountered along the way and what I have learned about the research process. I will also describe my reflections on possible weaknesses of my research, and ways these may have been avoided. Finally, I reflected upon what the process of conducting doctoral level research has taught me about myself and my approach to my work as a trainee clinical psychologist.

Like many students at the start of their doctoral training, I found the idea of generating an idea for a piece of empirical research very daunting. My previous experience of conducting research was limited to my final year dissertation as an undergraduate, which was obviously much more limited in scope and on a far smaller scale. I had also not enjoyed the process, giving me a bad first impression of conducting psychological research. I had many ideas for potential project areas, all of which were concentrated within the field of mood disorder, specifically unipolar depression. High depression prevalence rates in the UK and evidence that even non-clinically significant levels of depression can be very disabling (NICE, 2009) fostered within me the opinion that this was a problem that impacts on every person among us to some degree or another. The huge body of research within the field continues to grow, and yet there are still so many mechanisms we do not understand. However I struggled to determine an area within the field of depression to focus my research.

I still remember my interview for a place on the doctoral training course, in particular a question which was asked of me by the course director, Professor Dominic Lam, where I was asked to describe a psychological theory that I found particularly interesting. I

described attachment theory. It seems fitting that when I eventually decided on a research area within the field of depression, I chose attachment style. As my research remained in the broader area of depression, I was supervised by Professor Lam.

I had originally planned to conduct research focussing on self-criticism and deliberate self-harm within the context of attachment. I proceeded through to the final research proposal, which was given the go ahead by the departmental research team. Shortly after making the revisions required, and much consideration of the ethical issues relating to work with people who engage in deliberate self-harm, I encountered sampling difficulties whereby the previously identified source for potential participants was no longer available. Due to the practical time constraints of completing the portfolio, and the difficulties I encountered attempting to identify an alternative participant pool, my supervisor and myself took the only decision available to us: we abandoned this project. Many of the concepts I had been considering from the background literature regarding attachment, self-criticism and early childhood experiences were salvaged, and with a second review of the background literature I was able to put together the present study. I also learned the first major lesson about conducting large-scale research: always have a backup.

My revised research proposals progressed through the relevant channels quickly, and although it was difficult to process such rapid changes to such an important aspect of my clinical training, I was able to make up some of the lost time and return to a reasonable parallel with my peers on the course.

My next major difficulty came with sampling once again, although this time around participants were surprisingly readily available, and my research seemed to generate a lot of interest. The difficulty was time. While a steady stream of participants continued throughout data collection, it took far longer than I expected to reach adequate numbers.

My initial fancy that I might get my thesis completed with plenty of time to spare was thrown into harsh reality. Over the last six months before hand-in, juggling the research project, job-hunting for post-graduation and attending lectures and placements I felt constantly overwhelmed. I began to fear my research project and, I know now, began to unconsciously find ways to avoid work. Obviously reality quickly intervened once again, and I was forced to regain my lost ground. Without the support of those closest to me, I sometimes wondered whether this project would have been completed at all. I then learned that when something is that important, you go the extra mile. Looking back now at this time, with my completed thesis on the table in front of me, I feel very proud of the work I have done and the inner strength I did not realise I had. This taught me my first and second major lessons about myself; that I needed to step up my time management skills in general, and that when I do so, I can surprise even myself. This is also an important lesson for the future, with effective time management vital in organising the various commitments relating to my career, and my life.

Due to the fact that I had changed my empirical question just before submission to ethics I was under a lot of time pressure at this point. I chose to focus on my empirical paper, as I knew that data collection might be very time consuming. When I eventually found the time to consider my systematic literature review, I once again felt overwhelmed. I found the process of identifying a topic for my systematic literature review challenging, spending a great deal of time searching for 'the holy grail' as my supervisor put it, never sure that the question I had in mind at any one time was 'the right question'. I eventually decided upon an investigation of the relationship between attachment style, early experiences and depressive vulnerability. I conducted laborious searches and wrote the first two sections of the paper before I realised that my search results were too broad, and writing a conclusive result section would be extremely

difficult. I was also struggling to acquire enough papers to achieve meaningful results. To alter my inclusion criteria would have the effect of forcing me to re-start database searching from step one, with no promise that additional papers would lead to less fractured results. I took the decision to change my systematic literature review topic to that which is presented in this portfolio. This was not as drastic as it may sound, as through review of the literature and the process of writing up my empirical research so far, I had now a much stronger grasp of the research field, and I believe the topic I eventually based the review upon is not only more related to my empirical paper, but more manageable given the diverse results from the searches for my previous review topic. This enforced upon me the importance of planning ahead in research to avoid the potential for disaster, this being my second major lesson about research.

Now that my research project has reached its end, I am able to recognise weaknesses that I had not appreciated in my planning of the research methodology. One main example of this is the use of a self-report measure of attachment. A recent review of attachment measures available for research use concluded that overall, self-report measures are psychometrically weaker than structured interviews to assess attachment (Ravitz, Maunder, Hunter, Sthankiya, & Lancee, in press). While pragmatically speaking, I recognise that to conduct lengthy interviews with 130 participants would have constituted a major practical issue; I do wonder whether this could have been avoided. My participant number reflects the relatively large number of questionnaire variables in my research, therefore requiring a significant number of participants to demonstrate statistically meaningful results. It seems the only way I could have utilised structure interviews would have been to drop some of my other measure, thereby reducing the totally number of variables, and decreasing the necessary sample size. With hindsight, I am pleased I did not make this decision, as I believe that with my research, which is the first to examine social risk-taking, forms and functions of self-

criticism and attachment style, and their differential relationships with depression and anxiety, I have produced a piece of work, which though inevitably flawed, is nevertheless something I can be proud of.

Earlier in this statement I made reference to lessons learnt about the self, and I find I am able to extrapolate the lessons I have learned about conducting research into other areas of my work as a trainee clinical psychologist. Obviously, time management is very important here, as well as the ability to manage the stress of juggling many different responsibilities at once. The main theme within my lessons learnt from conducting research is around planning and preparation, as well as always having an alternative option in case something unexpected happens. These lessons seem fitting with the cycle of assessment, formulation, intervention and evaluation utilised in all client work. Through better assessment of the research area, many of my difficulties could have been avoided. With a formulation that felt right, my research went a lot smoother. The ability to stick with action that is trying allows me to better appreciate how the process of intervention may make my clients feel. Finally, the ability to reflect on the research process has taught me valuable lessons I will be able to take into my future research endeavours, just as evaluating and reflecting upon work with a client allows for growth as a therapist.

Appendix B:

Author guidelines: British Journal of Clinical Psychology

The **British Journal of Clinical Psychology** publishes original contributions to scientific knowledge in clinical psychology. This includes descriptive comparisons, as well as studies of the assessment, aetiology and treatment of people with a wide range of psychological problems in all age groups and settings. The level of analysis of studies ranges from biological influences on individual behaviour through to studies of psychological interventions and treatments on individuals, dyads, families and groups, to investigations of the relationships between explicitly social and psychological levels of analysis.

The following types of paper are invited:

- Papers reporting original empirical investigations
- Theoretical papers, provided that these are sufficiently related to the empirical data
- Review articles which need not be exhaustive but which should give an interpretation of the state of the research in a given field and, where appropriate, identify its clinical implications
- Brief reports and comments

1. Circulation

The circulation of the Journal is worldwide. Papers are invited and encouraged from authors throughout the world.

2. Length

Papers should normally be no more than 5000 words (excluding abstract, reference list, tables and figures), although the Editor retains discretion to publish papers beyond this length in cases where the clear and concise expression of the scientific content requires greater length.

3. Submission and reviewing

All manuscripts must be submitted via our online peer review system. The Journal operates a policy of anonymous peer review.

4. Manuscript requirements

- Contributions must be typed in double spacing with wide margins. All sheets must be numbered.
- Tables should be typed in double spacing, each on a separate page with a self-explanatory title. Tables should be comprehensible without reference to the text. They should be placed at the end of the manuscript with their approximate locations indicated in the text.
- Figures can be included at the end of the document or attached as separate files, carefully labelled in initial capital/lower case lettering with symbols in a form consistent with text use. Unnecessary background patterns, lines and shading should be avoided. Captions should be listed on a separate sheet. The resolution of digital images must be at least 300 dpi.

- For articles containing original scientific research, a structured abstract of up to 250 words should be included with the headings: Objectives, Design, Methods, Results, Conclusions. Review articles should use these headings: Purpose, Methods, Results, Conclusions. Please see British Journal of Clinical Psychology – Structured Abstracts Information for more details.
- For reference citations, please use APA style. Particular care should be taken to ensure that references are accurate and complete. Give all journal titles in full. See the APA Publication Manual published by the American Psychological Association for further details.
- SI units must be used for all measurements, rounded off to practical values if appropriate, with the imperial equivalent in parentheses.
- In normal circumstances, effect size should be incorporated.
- Authors are requested to avoid the use of sexist language.
- Authors are responsible for acquiring written permission to publish lengthy quotations, illustrations, etc. for which they do not own copyright.

5. Brief reports and comments

These allow publication of research studies and theoretical, critical or review comments with an essential contribution to make. They should be limited to 2000 words, including references. The abstract should not exceed 120 words and should be structured under these headings: Objective, Method, Results, Conclusions. There should be no more than one table or figure, which should only be included if it conveys information more efficiently than the text. Title, author name and address are not included in the word limit.

6. Publication ethics

All submissions should follow the ethical submission guidelines outlined in the document Ethical Publishing Principles – A guideline for Authors and the Code of Ethics and Conduct (2006).

7. Supplementary data

Supplementary data too extensive for publication may be deposited with the British Library Document Supply Centre. Such material includes numerical data, computer programs, fuller details of case studies and experimental techniques. The material should be submitted to the Editor together with the article, for simultaneous refereeing.

8. Copyright

On acceptance of a paper submitted to a journal, authors will be requested to sign an appropriate assignment of copyright form. To find out more, please see our Copyright Information for Authors.

Structured abstracts –
The British Journal of Clinical Psychology

Authors should note that all papers submitted to the *British Journal of Clinical Psychology* must include structured abstracts. Papers will not be considered for publication unless they have a structured abstract in the correct format.

Articles containing original scientific research should include a structured abstract with the following headings and information:

Objectives **Design**	State the primary objectives of the paper and the major hypothesis tested (if appropriate). Describe the design of the study and describe the principal reasoning for the procedures adopted.
Methods **Results**	State the procedures used, including the selection and numbers of participants, the interventions or experimental manipulations, and the primary outcome measures. State the main results of the study. Numerical data may be included but should be kept to a minimum.
Conclusions	State the conclusions that can be drawn from the data provided and their clinical implications (if appropriate).

Review articles should include a structured abstract with the following headings:

Purpose	State the primary objectives of the review.
Methods	State the method used to select studies for the review, the criteria for inclusion, and the way in which the material was analysed.
Results	State the main results of the review.
Conclusions	State the conclusions that can be drawn from the review and their clinical implications if appropriate.

Appendix C:

Quality checklist

	Item No.	Recommendation	Y	N	N/A	Unsure
Abstract	1	Abstract provides a clear and informative summary of the research and it's main findings				
Introduction						
Background / rationale	2	Explains the background research area and rationale for the research being reported				
Objectives	3	States specific and clear research aims/objectives and hypotheses				
Method						
Study design	4	Presents key elements of the study design				
Participants	5	Inclusion/exclusion criteria provided, as well as the sources and methods of selecting the participants				
Data sources/ measurement	6	Sources of data and methods of measurement/assessment provided for each variable of interest				
Bias	7	Describes any efforts to address potential sources of bias				
Results						
Descriptive data	8	Reports number of participants as well as any relevant demographic, social or clinical information				
Power calculation/ sample size	9	Reports how the sample size decision was made. If no formal power calculation was used, does the study justify this?				
Participant losses	10	Was the number of participants lost to follow-up reported and their characteristics described/reasons for loss explained? (Longitudinal studies only)				
Statistical methods	11	Describes all statistical methods as well as those used to determine or control for confounding variables and explains how missing data were addressed.				
Main results	12	Reports statistical significance and their precision (e.g. significant at p=0.05 level). Makes clear which confounding variables were adjusted for and why.				
Discussion						
Key results	13	Provides a summary of the key results with reference to study objectives and with regard to the hypothesis/null hypothesis.				
Limitations	14	An unbiased and comprehensive review of the limitations of the study				
Interpretation	15	Gives a cautious, general interpretation of the results considering the study aims, objectives and hypotheses, placed within the context of the background research or results of similar studies				
					Total Score:	

Appendix D:

Ethical approval letter

Appendix E:

Participant Information Sheet

You have been invited to participate in a research study that is being undertaken as part of a doctoral training course in clinical psychology. Please take your time in reading this information sheet and feel free to ask questions at any time. All communication both as a potential participant or actual participant is confidential between yourself and the researcher. Thank you for taking the time to read this information sheet.

Summary of the study:

This study will use questionnaire responses to examine possible links between different relationship patterns, self-criticism and behaviour in social situations. The study will also examine the effect of these issues on symptoms of anxiety and depression in an attempt to promote a better understanding of the interaction between these issues and provide information on better treatment approaches within psychological therapy.

Participation and withdrawal:

Participation in this study is voluntary. Participants must provide informed consent before taking part in the study. Informed consent means that the individual understands what the study is about and what would be required of them should they take part. Participants may withdraw from the study at time, including after their responses have been collected

What will happen during and after the study:

Once a potential participant has decided to take part they will be asked to sign a consent form and be allocated a participation number that can be used to identify their responses should they wish to withdraw from the study at a later date. This will ensure responses are anonymous. Participants will be asked to complete a series of short questionnaires (seven in total). The participant may ask further questions at any time while they complete the questionnaires.
Participants will then be given the opportunity to talk about their experience of taking part in the study, as well as ask further questions raised by participating. Participants will be provided with the researchers' contact information should they wish to withdraw from the study at a later date. Participation is now complete.
Once all the data has been collected it will be written up as a research report and submitted for assessment as part of obtaining a qualification in Clinical Psychology. The report will also be submitted for potential publication in an academic journal, although all data will remain anonymous and no individual participant will be identified.

Potential risks to the participant:

Due to the nature of the questionnaires it is possible that some people may find the topics raised upsetting. Should any participant feel that they have been in any way adversely affected by taking part in the study they will be provided with the chance to talk through their issues and may be provided with information on where they can seek further help and support.

If having read this sheet and discussed participation with the researcher you do not wish to take part in the study please feel free to decline. If you wish to continue with the study, please complete the attached consent form.

Appendix F:

Consent form

Centre Number: University of Hull

Participant Identification Number for this study:

Email Address/Telephone number:

CONSENT FORM

Title of Project: Attachment Style, Risk-Avoidant Decision-Making and Self-Criticism: Examining relationships with scores on depression and anxiety in the normal population

Name of Researcher: Lucy Webster (Trainee Clinical Psychologist)

Please initial box

1. I confirm that I have read and understand the participant information sheet for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care or legal rights being affected.
3. I agree to take part in the above study.

Name of Participant	Date	Signature
Name of researcher	Date	Signature

Appendix G:

Non-copyrighted materials

Domain-Specific Risk-Taking (Adult) Scale – Risk Taking

For each of the following statements, please indicate the **likelihood** that you would engage in the described activity or behavior if you were to find yourself in that situation. Provide a rating from *Extremely Unlikely* to *Extremely Likely*, using the following scale:

1	2	3	4	5	6	7
Extremely unlikely	Moderately unlikely	Somewhat unlikely	Not sure	Somewhat likely	Moderately likely	Extremely likely

1. Admitting that your tastes are different from those of a friend. **1 2 3 4 5 6 7**

2. Going camping in the wilderness. **1 2 3 4 5 6 7**

3. Betting a day's income at the horse races. **1 2 3 4 5 6 7**

4. Investing 10% of your annual income in a moderate growth mutual fund. **1 2 3 4 5 6 7**

5. Drinking heavily at a social function. **1 2 3 4 5 6 7**

6. Taking some questionable deductions on your income tax return. **1 2 3 4 5 6 7**

7. Disagreeing with an authority figure on a major issue. **1 2 3 4 5 6 7**

8. Betting a day's income at a high-stake poker game. **1 2 3 4 5 6 7**

9. Having an affair with a married man/woman. **1 2 3 4 5 6 7**

10. Passing off somebody else's work as your own. **1 2 3 4 5 6 7**

11. Going down a ski run that is beyond your ability. **1 2 3 4 5 6 7**

12. Investing 5% of your annual income in a very speculative stock. **1 2 3 4 5 6 7**

13. Going whitewater rafting at high water in the spring. **1 2 3 4 5 6 7**

14. Betting a day's income on the outcome of a sporting event **1 2 3 4 5 6 7**

15. Engaging in unprotected sex. **1 2 3 4 5 6 7**

16. Revealing a friend's secret to someone else. **1 2 3 4 5 6 7**

17. Driving a car without wearing a seat belt. **1 2 3 4 5 6 7**

18. Investing 10% of your annual income in a new business venture.	**1 2 3 4 5 6 7**
19. Taking a skydiving class.	**1 2 3 4 5 6 7**
20. Riding a motorcycle without a helmet.	**1 2 3 4 5 6 7**
21. Choosing a career that you truly enjoy over a more prestigious one.	**1 2 3 4 5 6 7**
22. Speaking your mind about an unpopular issue in a meeting at work.	**1 2 3 4 5 6 7**
23. Sunbathing without sunscreen.	**1 2 3 4 5 6 7**
24. Bungee jumping off a tall bridge.	**1 2 3 4 5 6 7**
25. Piloting a small plane.	**1 2 3 4 5 6 7**
26. Walking home alone at night in an unsafe area of town.	**1 2 3 4 5 6 7**
27. Moving to a city far away from your extended family.	**1 2 3 4 5 6 7**
28. Starting a new career in your mid-thirties.	**1 2 3 4 5 6 7**
29. Leaving your young children alone at home while running an errand	**1 2 3 4 5 6 7**
30. Not returning a wallet you found that contains £200.	**1 2 3 4 5 6 7**

Relationship Questionnaire

The following statements are ways in which people commonly describe their relationships. Please read each statement and circle the statement you think most applies to you.

Statement one

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

Statement two

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

Statement three

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.

Statement four

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.

Please record a score from one to seven for each of the paragraphs below based on how accurately you feel they describe your attitude towards relationships

Statement one

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

Score /7

Statement two

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

Score /7

Statement three

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.

Score /7

Statement four

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.

Score /7

Appendix H:

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Appendix I:

Further information regarding statistical analysis

	t-test for Equality of Means						
						95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Social Risk Taking Score	.274	128	.785	.308	1.123	-1.915	2.530
	.280	116.941	.780	.308	1.100	-1.870	2.486
Secure Attachment Rating	.941	128	.348	.301	.320	-.332	.935
	.948	111.953	.345	.301	.318	-.329	.931
Fearful Attachment Rating	-1.756	128	.081	-.622	.354	-1.322	.079
	-1.796	117.293	.075	-.622	.346	-1.308	.064
Preoccupied Attachment Rating	-.020	128	.984	-.006	.320	-.639	.626
	-.021	120.795	.984	-.006	.309	-.619	.606
Dismissing Attachment Rating	1.404	128	.163	.468	.333	-.191	1.127
	1.387	104.815	.168	.468	.337	-.201	1.137
Depression Score	.735	128	.464	.301	.410	-.510	1.112
	.719	101.125	.474	.301	.419	-.530	1.132
Anxiety Score	-1.453	128	.149	-.974	.671	-2.302	.353
	-1.478	115.636	.142	-.974	.659	-2.280	.332
Self Criticising Score	1.024	128	.308	2.122	2.072	-1.977	6.221
	1.028	110.819	.306	2.122	2.064	-1.968	6.212
Self Punishing Score	.178	128	.859	.186	1.043	-1.877	2.249
	.175	102.873	.861	.186	1.061	-1.918	2.290
Inadequate Self Score	-1.134	128	.259	-1.769	1.560	-4.856	1.318
	-1.150	114.519	.253	-1.769	1.539	-4.817	1.279
Reassured Self Score	.356	128	.723	.410	1.154	-1.873	2.694
	.353	106.495	.725	.410	1.163	-1.895	2.716
Hated Self Score	-.990	128	.324	-.737	.744	-2.210	.736
	-1.009	116.064	.315	-.737	.731	-2.185	.710

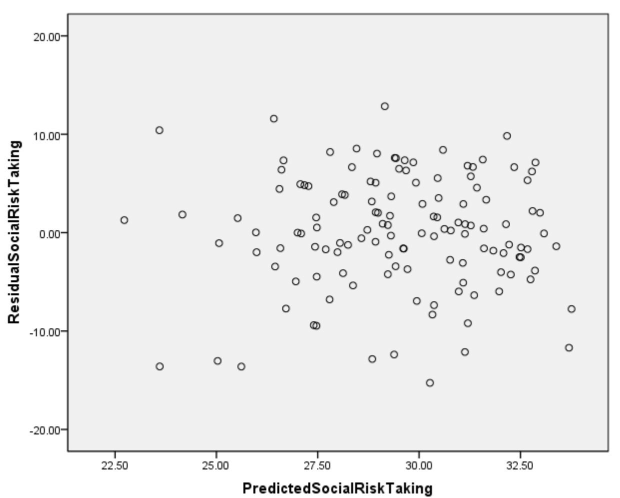
Pearson correlations for social risk-taking, FSCRS, FSCS and attachment scores

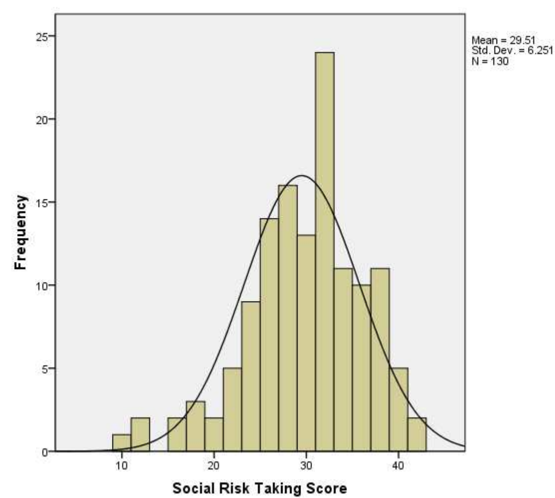
	Independent variables				
Dependent variables	Age	Secure	Fearful	Preoccupied	Dismissing
Social risk-taking					
Pearson Correlation	-.302**	-.009	-.009	-.184*	-.092
Significance (two-tailed)	.000	.916	.921	.036	.300
Inadequate-self					
Pearson Correlation	-.245**	-.450**	.413**	.296**	-.073
Significance (two-tailed)	.005	.000	.000	.001	.412
Reassured-self					
Pearson Correlation	.060	.222*	-.329**	-.230**	.060
Significance (two-tailed)	.499	.011	.000	.008	.499
Hated-self					
Pearson Correlation	.130	-.329**	.388**	.375**	-.030
Significance (two-tailed)	.140	.000	.000	.000	.735
Self-criticising					
Pearson Correlation	-.242**	-.229**	.355**	.189*	-.129
Significance (two-tailed)	.006	.009	.000	.031	.145
Self-punishing					
Pearson Correlation	-.167	-.241**	.341**	.291**	.002
Significance (two-tailed)	.057	.006	.000	.001	.980

Pearson correlations for age, social risk-taking, FSCRS, FSCS, attachment scores and depression and anxiety scores

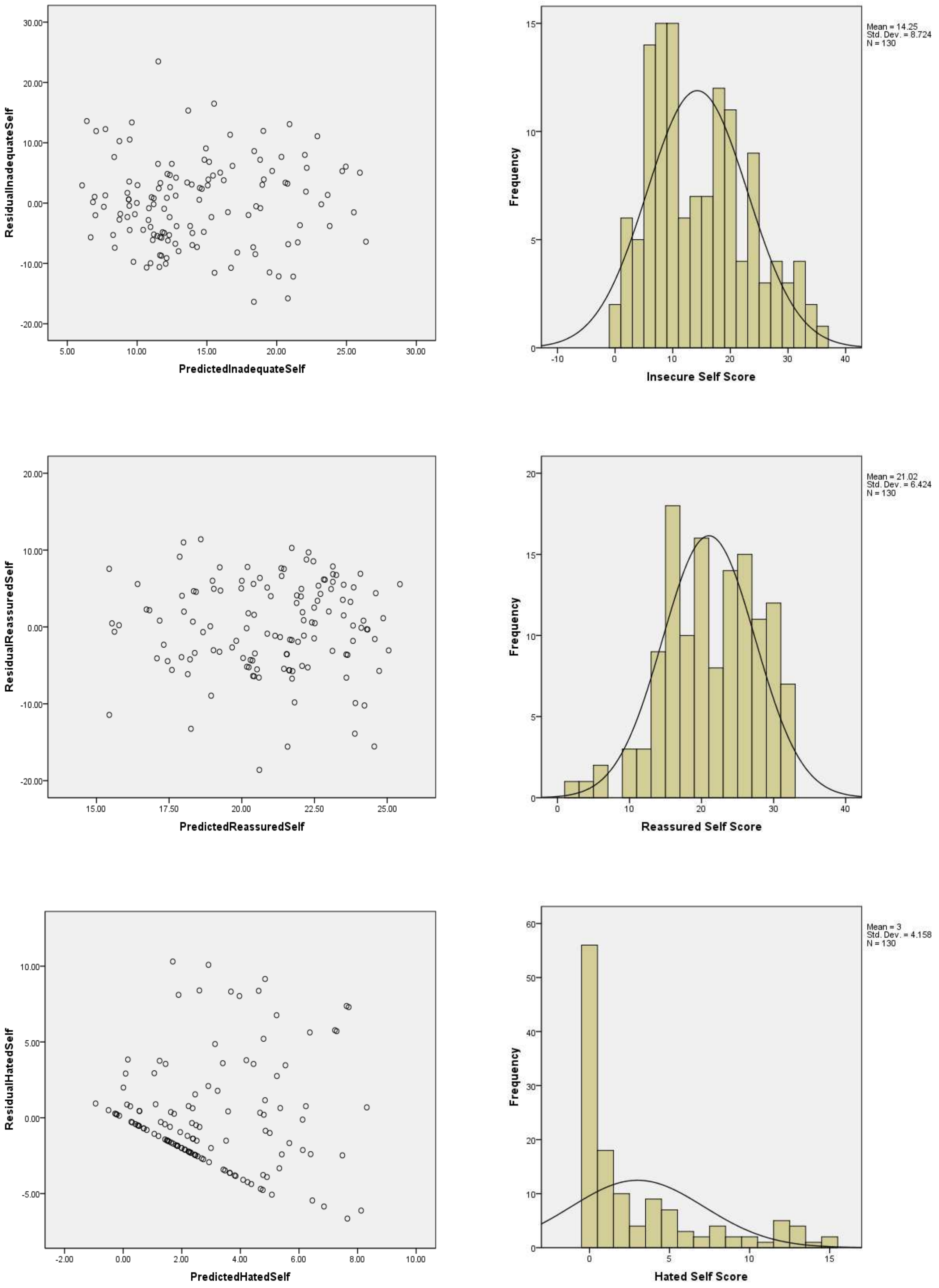
	Dependent variables	
Independent variables	Depression	Anxiety
Age		
Pearson Correlation	-.088	-.143
Significance (two-tailed)	.318	.105
Social risk-taking		
Pearson Correlation	-.095	-.130
Significance (two-tailed)	.284	.140
Inadequate-self		
Pearson Correlation	.505**	.627**
Significance (two-tailed)	.000	.000
Reassured-self		
Pearson Correlation	-.410	-.389**
Significance (two-tailed)	.000	.000
Hated-self		
Pearson Correlation	.450**	.476**
Significance (two-tailed)	.000	.000
Self-criticising		
Pearson Correlation	.163	.325**
Significance (two-tailed)	.064	.000
Self-punishing		
Pearson Correlation	.399**	.423**
Significance (two-tailed)	.000	.000
Secure attachment		
Pearson Correlation	-.356**	-.353**
Significance (two-tailed)	.000	.000
Fearful attachment		
Pearson Correlation	.201*	.305**
Significance (two-tailed)	.022	.000
Preoccupied attachment		
Pearson Correlation	.292**	.372**
Significance (two-tailed)	.001	.000
Dismissing attachment		
Pearson Correlation	.090	-.024
Significance (two-tailed)	.309	.791

Predicted vs., residual score scatter-plots and distribution histogram for social risk-taking scores

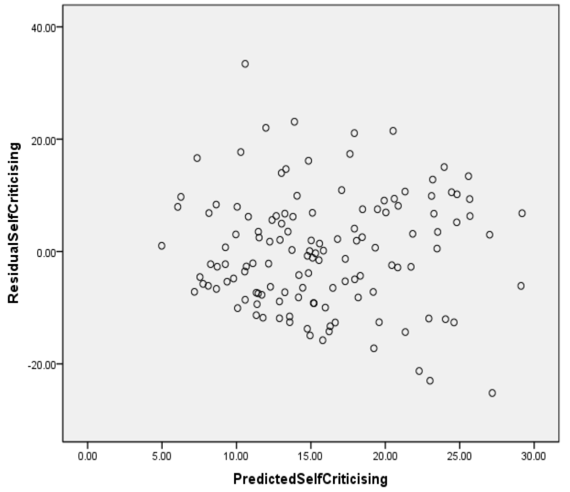


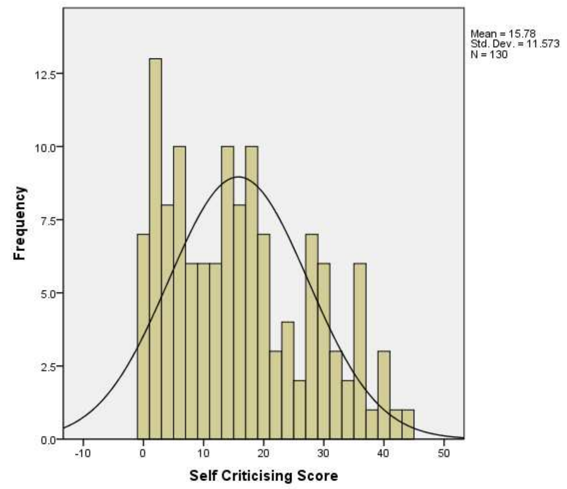


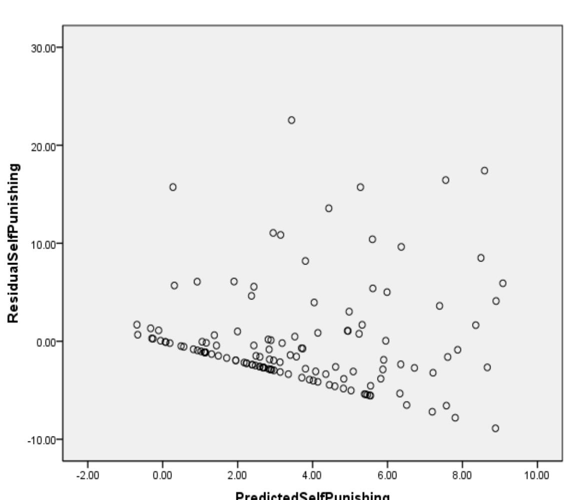
Predicted vs., residual score scatter-plots and distribution histograms for FSCRS variables

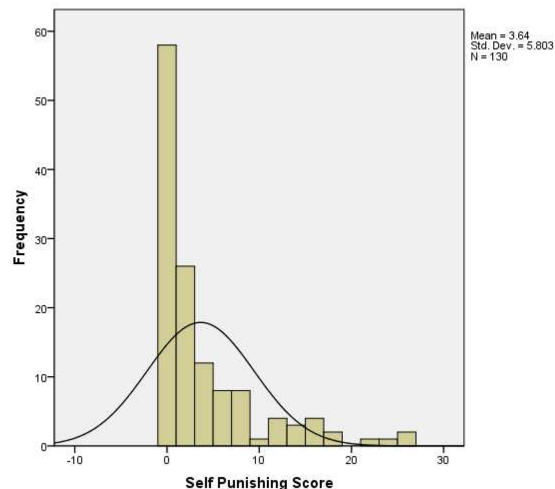


Predicted vs. residual score scatter-plots and distribution histograms for FSCS variables

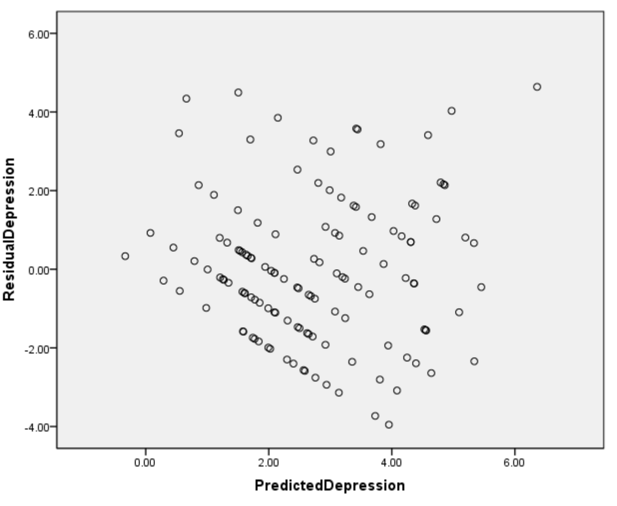


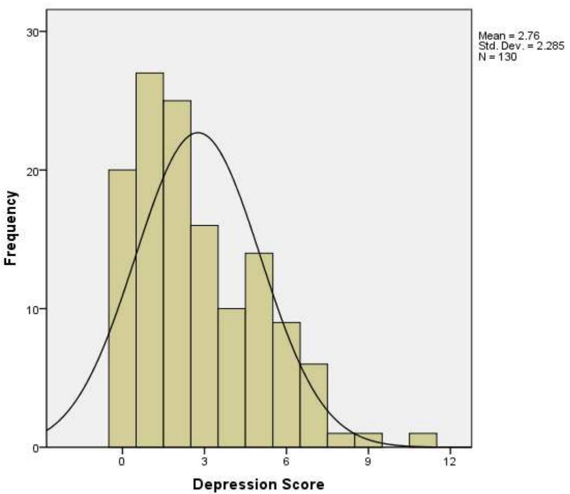


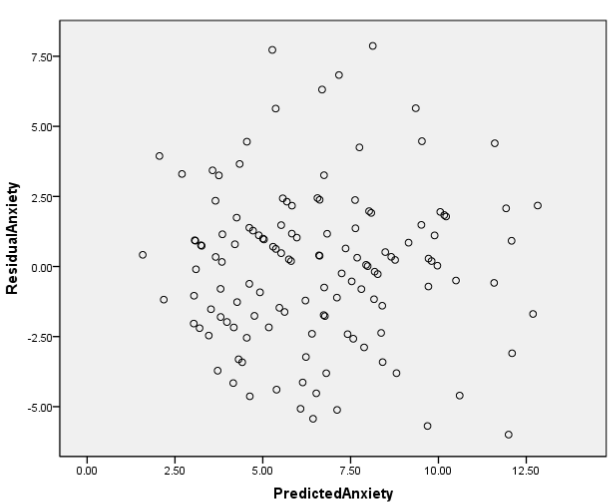


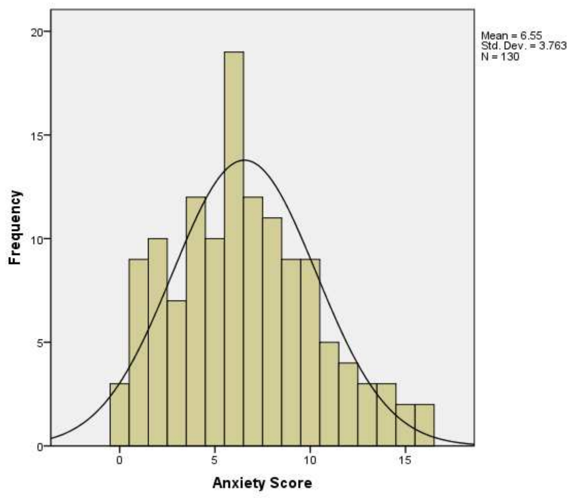


Predicted vs. residual score scatter-plots and distribution histograms for depression and anxiety symptom scores

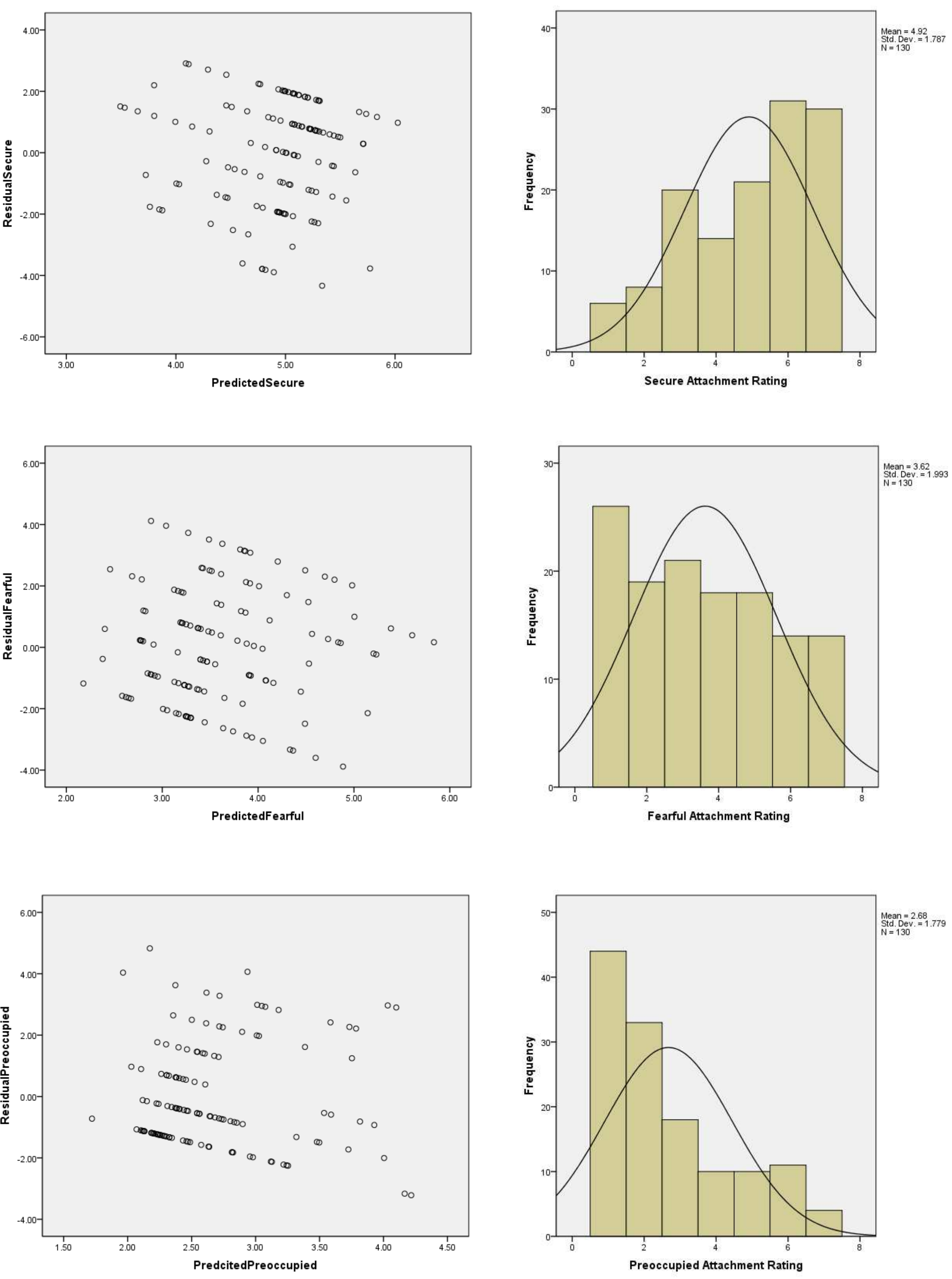


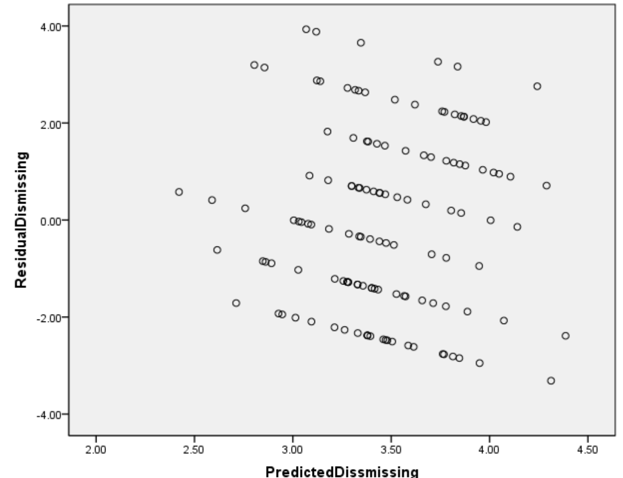


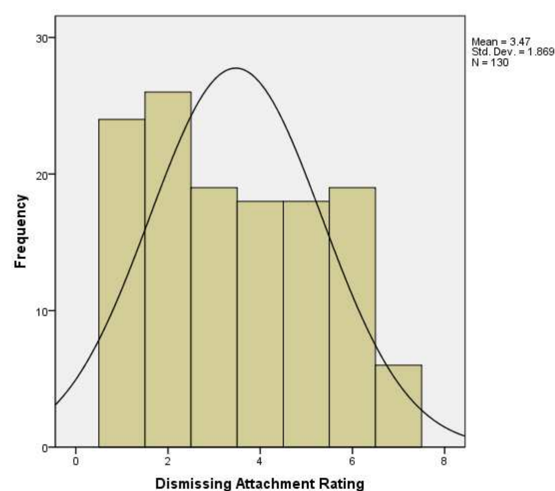




Predicted vs. residual score scatter-plots and distribution histograms for attachment style scores




ResidualDismissing
PredictedDissmissing


Mean = 3.47
Std. Dev. = 1.869
N = 130
Frequency
Dismissing Attachment Rating

Family Relationships in Childhood

CECA.Q

1. WHO BROUGHT YOU UP BEFORE AGE 17

Write below the **PARENT FIGURES** who brought you up in childhood. List each family arrangement with different types of parent figures which lasted a year or longer.
Consider natural parent, step-parent (including parents live-in partner), aunt, friend of family, adoptive parent, foster parent etc.

If you have only lived in one arrangement only then fill in first family arrangement and leave other boxes blank. For example, if this was with your natural parents, write in 'Mother' and 'Father' and age '0'.

Family arrangement	Mother figure	Father figure	Your age at start
FIRST (ALL)			

If you have lived in other arrangements such as with mother alone or mother and stepfather, then list them below together with the age you were when the arrangement began.

Family arrangement	Mother figure	Father figure	Your age at start
SECOND (If applicable)			
THIRD (If applicable)			

Were you ever in a children's home or institution prior to age 17? YES/NO
(Please circle)
IF NO SKIP TO 2 OVERLEAF

IF YES: TYPE OF INSTITUTION e.g. local authority care; hospital; boarding school	**Age entered**	**Age left**
1.		
2.		

2. PARENTAL LOSS
Please circle or write in answer.

	MOTHER	**FATHER**
Did either parent die before you were aged 17?	**YES/ NO**	**YES/ NO**
IF YES: What age were you?	**AGE......**	**AGE......**
Have you ever been separated from your parent for one year or more before age 17?	**YES/ NO**	**YES/ NO**

IF NO SEPARATION THEN SKIP TO 3 OVERLEAF

IF SEPARATED:	**MOTHER**	**FATHER**
At what age were you first separated?	**AGE.....**	**AGE......**
How long was this separation?	**.......... YEARS**	**............ YEARS**
What was the reason for separation? (please circle)		
Parent's illness	**YES/NO**	**YES/NO**
Parent's work	**YES/NO**	**YES/NO**
Parents' divorce/separation	**YES/NO**	**YES/NO**
Abandoned by parent or never knew parent	**YES/NO**	**YES/NO**
Other reason	**YES/NO**	**YES/NO**

Please describe your experience...

....

3. AS YOU REMEMBER YOUR MOTHER FIGURE IN YOUR FIRST 17 YEARS:
Please circle the appropriate number. If you more than one mother figure, choose the one you were with longest, or the one you found most difficult to live with.

WHICH MOTHER FIGURE ARE YOU DESCRIBING BELOW?

1. Natural mother
2. Step-mother/father's live-in partner
3. Other relative e.g. aunty, grandmother
4. Other non-relative e.g. foster mother, godmother
5. Other (describe)....................

		YES DEFINITELY		UNSURE	NO NOT AT ALL	
1.	She was very difficult to please..........	1	2	3	4	5
2.	She was concerned about my worries........	1	2	3	4	5
3.	She was interested in how I did at school.	1	2	3	4	5
4.	She made me feel unwanted................	1	2	3	4	5
5.	She tried to make me feel better when I was upset.......................	1	2	3	4	5
6.	She was very critical of me..............	1	2	3	4	5
7.	She would leave me unsupervised before I was 10 years old........................	1	2	3	4	5
8.	She would usually have time to talk to me	1	2	3	4	5
9.	At times she made me feel I was a nuisance	1	2	3	4	5
10.	She often picked on me unfairly...........	1	2	3	4	5
11.	She was there if I needed her............	1	2	3	4	5
12.	She was interested in who my friends were	1	2	3	4	5
13.	She was concerned about my whereabouts..	1	2	3	4	5
14.	She cared for me when I was ill..........	1	2	3	4	5
15.	She neglected my basic needs (e.g. food and clothes)	1	2	3	4	5
16.	She did not like me as much as my brothers and sisters............................ (Leave blank if no siblings)	1	2	3	4	5

Do you want to add anything about your mother?...
....

4. **AS YOU REMEMBER YOUR FATHER FIGURE IN YOUR FIRST 17 YEARS**

Please circle the appropriate number. If you had more than one father figure, choose the one you were with longest, or the one you found the most difficult to live with. If you had no father in the household then leave out this section.

WHICH FATHER FIGURE ARE YOU DESCRIBING BELOW?

1. Natural father
2. Step-father/ mother's live-in partner
3. Other relative e.g. uncle, grandfather
4. Other non-relative e.g. foster father, adoptive father
5. Other (describe)...................

		YES DEFINITELY		UNSURE		NO NOT AT ALL
1.	He was very difficult to please..........	1	2	3	4	5
2.	He was concerned about my worries........	1	2	3	4	5
3.	He was interested in how I did at school..	1	2	3	4	5
4.	He made me feel unwanted................	1	2	3	4	5
5.	He tried to make me feel better when I was upset.......................	1	2	3	4	5
6.	He was very critical of me..............	1	2	3	4	5
7.	He would leave me unsupervised before I was 10 years old........................	1	2	3	4	5
8.	He would usually have time to talk to me	1	2	3	4	5
9.	At times he made me feel I was a nuisance	1	2	3	4	5
10.	He often picked on me unfairly...........	1	2	3	4	5
11.	He was there if I needed him............	1	2	3	4	5
12.	He was interested in who my friends were	1	2	3	4	5
13.	He was concerned about my whereabouts..	1	2	3	4	5
14.	He cared for me when I was ill..........	1	2	3	4	5
15.	He neglected my basic needs (e.g. food and clothes)	1	2	3	4	5
16.	He did not like me as much as my brothers and sisters............................ (Leave blank if no siblings)	1	2	3	4	5

Do you want to add anything about your father?.......................................

....

5. **CLOSE RELATIONSHIPS IN CHILDHOOD**
(Please circle as appropriate)

When you were a child or teenager, were there any **ADULTS** you could go to with your problems or to discuss your feelings? **YES/ NO**

IF YES: Who was that?
(Circle more than one if relevant)

1. Mother/ mother figure
2. Father/ father figure
3. Other relative
4. Family friend
5. Teacher, vicar, etc
6. Other (describe)................................

Do you want to note anything about the relationship(s)?..

Were there other **CHILDREN/TEENAGERS** your age that you could discuss your problems and feelings with? **YES/NO**

IF YES: Who was that?
(Circle more than one if relevant)

1. Sister
2. Brother
3. Other relative
4. Close friend
5. Other less close friend(s)
6. Other person (describe)....................

Do you want to note anything about the relationship(s)?......................................

Who would you describe as the **TWO CLOSEST** people to you as a child/teenager?
(Circle up to two)

1. Mother/ mother figure
2. Father/ father figure
3. Sister or brother
4. Other relative
5. Family friend (adult)
6. Friend your age
7. Other (describe).................

Do you want to note anything about the relationship(s)?.........................

6. PHYSICAL PUNISHMENT BEFORE AGE 17 BY PARENT FIGURE OR OTHER HOUSEHOLD MEMBER

When you were a child or teenager were you ever hit repeatedly with an implement (such as a belt or stick) or punched, kicked or burnt by someone in the household?
YES/ NO

IF NO THEN SKIP TO 7 OVERLEAF:

IF 'YES'	MOTHER FIGURE	FATHER FIGURE
How old were you when it began?	**AGE........**	**AGE........**
Did the hitting happen on more than one occasion?	**YES/ NO**	**YES/ NO**
How were you hit?	**1.Belt or stick** **2.Punched/kicked** **3.Hit with hand** **4.Other**	**1.Belt or stick** **2.Punched/kicked** **3.Hit with hand** **4.Other**
Were you ever injured e.g. bruises, black eyes, broken limbs?	**YES/ NO**	**YES/ NO**
Was this person so angry they seemed out of control?	**YES/ NO**	**YES/ NO**

Can you describe these experiences?

....

....

Did you experience this from anyone else in the household? **YES/ NO**

IF YES: DESCRIBE BELOW

....

7. UNWANTED SEXUAL EXPERIENCES BEFORE AGE 17

(Please circle as appropriate)

When you were a child or teenager did you ever have any unwanted sexual experiences? **YES/ NO/ UNSURE**

Did anyone force you or persuade you have sexual intercourse against your wishes before age 17? **YES/ NO/ UNSURE**

Can you think of any upsetting sexual experiences before age 17 with a related adult or someone in authority e.g.teacher? **YES/ NO/ UNSURE**

IF NONE THEN SKIP TO 8 OVERLEAF.

IF 'YES' OR 'UNSURE' TO ABOVE THEN COMPLETE THE FOLLOWING:

	FIRST EXPERIENCE	**OTHER EXPERIENCE**
How old were you when it began?	**AGE**	**AGE** ....
Was the other person someone you knew?	**YES/ NO**	**YES/ NO**
Was the other person a relative?	**YES/ NO**	**YES/ NO**
Did the other person live in your household?	**YES/ NO**	**YES/ NO**
Did this person do it to you on more than one occasion?	**YES/ NO**	**YES/ NO**
Did it involve touching private parts of your body?	**YES/ NO**	**YES/ NO**
Did it involve touching private parts of the other persons body?	**YES/ NO**	**YES/ NO**
Did it involve sexual intercourse?	**YES/ NO**	**YES/ NO**

Can you describe these experiences?

....

8. **YOUR CURRENT RELATIONSHIPS AND WORK**
(Please circle or write in answer)

YOUR PARTNER: Do you have a partner? **YES/ NO**

IF YES: Are you currently living with your partner?
1. No
2. Yes, cohabiting
3. Yes, married

Does your partner work?
0. No
1. Student only
2. Part-time employment
3. Full-time employment

IF YES: What is your partner's job? (Describe below)

....

YOUR CHILDREN: Do you have children? **YES/ NO / EXPECTING FIRST BABY**

IF YES: How many children do you have?..........

How many are currently living with you?..........

How old is your eldest child?.............

How old is your youngest child?............

Do any of your partner's children live with you? YES/NO
(i.e. your stepchildren)

YOUR EMPLOYMENT: Are you currently in employment?
0. No
1. Student only
2. Part-time employment
3. Full-time employment

IF YES: What is your job? (Describe below)

....

OTHER INFORMATION: Your gender: MALE/ FEMALE

Your current age:..............

Today's date:...................

Thank you for your help with this questionnaire. We realise that it is difficult to give a true picture of your true childhood experience in a questionnaire, so if you have any comments you would like to add, please write them below.

Your response will be treated in the strictest confidence.