UNIVERSITY OF SOUTHAMPTON

FACULTY OF SOCIAL AND HUMAN SCIENCES

School of Psychology

THE ROLE OF ATTACHMENT IN ADULT MENTAL HEALTH DIFFICULTIES FOLLOWING THE EXPERIENCE OF CHILDHOOD ABUSE

By

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This thesis is submitted in partial fulfilment of the degree of Doctor in Clinical Psychology

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ABSTRACT

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Child abuse is recognised to contribute to the development of adult mental health problems and personality disorders. The role of attachment in this relationship is widely acknowledged, but not well understood. A systematic review of the literature investigated studies considering the role of adult attachment in symptoms of PTSD in populations which had experienced child abuse. Different attachment styles, particularly 'negative model of self' were shown to be associated with PTSD. Moderating and mediating roles of attachment was observed across some, but not all studies. The influence of different forms of abuse and attachment figures were observed and discussed with relation to limitations of studies and clinical implications.

Prevalence rates of child abuse, mental health difficulties, personality disorders and emotion dysregulation are high in the homeless population. Although associated with these factors, the relationship with attachment has not been researched. The empirical paper used a cross sectional design to investigate the presence of personality constructs associated with self-control, and, the role of attachment with these factors. Ninety-one participants completed self-report measures, identifying high levels of ego under-control and ego-resiliency. Results showed significant correlations across the majority of variables. Bootstrapping methodology suggested anxious attachment mediated the relationship between child abuse and emotion dysregulation. Further analysis showed emotion dysregulation mediated the relationship between anxious and avoidant attachment, and, self-control. These findings provide further support for the role of attachment in mental health problems and personality disorders, and, previous research recognising the importance of individual factors influencing the experience of being homelessness.

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DISCLAIMER

I, the undersigned confirm that the work I have presented as my thesis is entirely my own. Reference to, quotations from, and discussion of the work of any other person has been correctly acknowledged within the work in accordance with University guidelines for production of a thesis.

Emma Selwood

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VOLUME ONE: LITERATURE REVIEW

UNIVERSITY OF SOUTHAMPTON

FACULTY OF SOCIAL AND HUMAN SCIENCES

School of Psychology

THE ROLE OF ATTACHMENT IN SYMPTOMS OF PTSD FOLLOWING THE EXPERIENCE OF CHILDHOOD ABUSE

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VOLUME ONE: LITERATURE REVIEW

THE ROLE OF ATTACHMENT IN SYMPTOMS OF PTSD FOLLOWING THE EXPERIENCE OF CHILDHOOD ABUSE

INTRODUCTION

Childhood abuse has significant long term consequences on psychological wellbeing and functioning. The literature recognises its role in wide ranging physical and mental health problems and behavioural difficulties (Kendall-Tackett, 2002). It is particularly associated with Post Traumatic Stress Disorder (PTSD; Briere, 1988). Poor attachment has been identified as a significant vulnerability factor in this relationship (Herman, 1992). The impact of child abuse on attachment difficulties in childhood has been the focus of widespread investigation and interventions (Lyons-Ruth, Alpen & Repacholi, 1993). In adult populations high levels of insecure attachment have been observed and associated with mental health problems (Bakermans-Kranenburg & van IJzendoor, 2009). Research into adult mental health difficulties associated with childhood abuse and attachment has primarily focussed on the diagnosis of Borderline Personality Disorder (BPD). The role of attachment with symptoms of PTSD following different trauma experiences is also recognised (de Zulueta, 2009). However, although relationships between childhood abuse, PTSD, and, attachment, have been widely proposed, understanding of the processes involved are limited (Lim, Adams & Lilley, 2012). This study therefore aims to investigate the relationship between adult attachment and symptoms of PTSD in populations which have experienced child abuse.

Child abuse

Child abuse is recognised by the UK Government guidance Working Together to Safeguard Children (2006) to include sexual abuse (CSA), physical abuse (CPA), emotional abuse (CEA) and neglect. Sexual and physical abuse, are the most recognised and researched forms of child abuse. Sexual abuse may be perpetrated by individuals within (intra-familial) or external (extra-familial) to the child's family. Physical abuse is more associated with caregiver relationships and frequently coexists with domestic

violence (Montgomery, Ramchandani, Gardner, & Bjornstad, 2009). Emotional abuse and neglect relate to negative child-carer interactions which do not involve physical contact with the child. They are connected more directly with psychological maltreatment and have historically been harder to recognise and define (Glaser, 2002). Although different forms of child abuse can occur separately, it is widely recognised that different forms of abuse often occur concurrently. Research with children has shown that 90% of children who had been physically abused or neglected had also experienced emotional abuse and that this was more predictive of negative outcomes than the severity of abuse (Claussen & Crittenden, 1991).

The experience of child abuse is influenced by interpersonal and environmental factors. Interpersonal factors associated with the experience of child abuse include levels of parental conflict (Edwards & Alexander, 1992), reduced family support (Freidrich, Beilke & Urquiza, 1987), and poor family cohesion (Willard, Mollerstrom, Patchner & Milner, 1992). Economic conditions have been shown to influence rates of child abuse (Berger, 2005; Paxson & Waldfogel, 2002; Waldfogel, 2005), and, poverty, community violence and belonging to a marginalised ethnic or social group have been widely associated with exposure to trauma, with a longitudinal study showing poverty increased parental stress in high risk populations (Sroufe, Egeland, & Kreutzer, 1990).

There are significant long term, negative consequences to the experience of child abuse, including physical and mental health, and psychosocial adjustment difficulties. Child abuse is related to later problems in adulthood with relationships (Coleman & Widom, 2004), and disorders identified by the Diagnostic and Statistical Manual of Disorders 5 (DSM-5: American Psychological Society, 2013), particularly anxiety disorders, depression, alcohol and substance misuse (MacMillan, Fleming, & Streiner, 2001; Weich, Patterson, Shaw, & Stewart-Brown, 2009), personality disorders (Bierer et al., 2003), and, self-harm and suicidal behaviour (Rhodes et al., 2013).

The relationship between child abuse and trauma

One of the main diagnostic criteria associated with the experience of child abuse is Post Traumatic Stress Disorder (PTSD: Briere, 1988). This is characterised by repeated experiencing of a traumatic event (unwanted intrusion of trauma related material into

thoughts, mental images and dreams), avoidance of internal and external reminders by the numbing of responsiveness to, or reduced involvement with the external world (trauma related avoidance), and, autonomic, affective and cognitive indicators of hyperarousal (American Psychological Society, 2013).

In addition to directly influencing PTSD symptoms (Copeland, Keeler, Angold & Costello, 2007), child abuse has been linked to increased probability of exposure to stressful life events (Kearney, Wechsler, Kaur & Lemos-Miller, 2010), and the development of PTSD following exposure to later stressful life experiences (Brewin, Andrews & Valentine, 2000). Research suggests that approximately one third of cases of PTSD are chronic (Kessler, 2000). In the normal population the lifetime prevalence of PTSD is between 7.8% and 20% (Breslau, Andreski & Pelesa, 1991; Kessler, Sonnega, Brommet & Nelson, 1995; Perkonigg, Kessler, Storz & Wittchen, 2000). However, following interpersonal trauma such as abuse, rates of 38.8% have been observed (Resnick, Kilpatrick, Dansky, Saunders & Best, 1993).

The literature distinguishes between two types of trauma. 'Type I' trauma relates to the experience of an unexpected single incident (e.g. traumatic accidents, single events of abuse or assault, natural disaster and terrorist attacks), whereas "Type II" or "complex" trauma is associated with on-going sexual, physical and emotional abuse including domestic violence, war, and genocide (Terr, 1991). Complex trauma is defined as "exposure to severe stressors that are repetitive and prolonged, involve harm or abandonment by caregivers or ostensibly responsible adults, and, occur at developmentally vulnerable times in the victim's life" (Ford & Courtois, 2009, p.13). This experience is hypothesised to compromise self-regulation, self-integrity and attachment security.

The concept of attachment

Childhood attachment

Attachment theory proposes that individuals have an innate biological instinct to seek out physical and psychological proximity to attachment figures when they feel threatened (Bowlby, 1969). Attachment behaviours include searching for and maintaining physical proximity, seeking comfort when needed, experiencing distress with prolonged separation and relying on the attachment figure as a secure base from which to explore (Hazan &

Diamond, 2000). During infancy the primary attachment figure is usually the mother, on whom an infant is entirely dependent for survival. Attachment theory proposes that the availability and responsiveness of attachment figures enables the child to develop a sense of safety and wellbeing. Through the experience of their caregivers' responses to their approaches for protection and reassurance when frightened or in need, a child develops templates of internal working models (IWM) which effect personality and are associated with different attachment styles and affect-regulation strategies (Bowlby, 1973; Mikulincer & Shaver, 2003). These guide the individual's beliefs about the self and others, and influence expectations regarding past, present and future relationship interactions. Individuals with loving, nurturing, warm and consistent experiences of care develop a sense of self-worth and trust in the availability and responsiveness of others, which promotes positive working models of the self and others. Secure attachment styles enable the development of effective emotional regulation strategies through the provision of appropriate support enabling the child to learn strategies to tolerate distressing emotions (Cassidy, 1994) and use their attachment figures as a 'secure base' from which they can separate and safely explore the world (Bowlby, 1973).

Observing interactions between infants and their parents, Ainsworth and colleagues (1978) developed the Strange Situation Procedure, from which they identified three main attachment styles. These were secure, insecure-avoidant and insecure-resistant/ambivalent. Individuals with a secure attachment style were observed to have experienced caregivers who responded sensitively and consistently to their needs and were able to support the child in containing their emotions. Avoidant and ambivalent attachment styles were associated with insecurity and anxiety regarding the availability of their attachment figure. Individuals with ambivalent attachment styles experienced caregivers who responded unpredictably with a mixture of acceptance and rejection when the child was in distress, and as such the children were unable to be contained by the caregiver's response. Avoidant attachment styles were associated with caregivers who consistently failed to respond to the needs of the child and hence the child was reluctant to seek comfort from them. A disorganised/disoriented avoidant attachment style was later identified to describe children who did not respond consistently in any way to their caregiver (Main & Solomon, 1986). Children exposed to child abuse have been identified as having high levels of insecure attachment, particularly disorganised attachment (Crittenden, 1992; Lyons-Ruth & Block, 1996). These have been shown to influence the

modulation of physiological stress responses (Gunnar & Cheatham, 2003; Gunnar & Quevedo, 2007) and behavioural difficulties (Keller et al., 2005).

Adult attachment

Attachment theory proposes that the IWM's formed in childhood are believed to form a prototype which is used in adult relationships (Fraley, 2002). The application of attachment theory to adult relationships initially focussed on romantic attachment, reflecting similar patterns of attachment styles to those seen in children (Hazan & Shaver, 1987). The primary attachment response is to seek proximity to an attachment figure. When this is not perceived to be a viable option, secondary responses are engaged. As a result of the inconsistent feedback, anxiously attached individuals use a hyper-activation strategy in which levels of emotions are increased in an effort to obtain the support of the attachment figure (Mikulincer & Shaver, 2003). In personal relationships they are hypothesised to crave closeness and are hypersensitive to threats of rejection or abandonment and the unavailability of attachment figures. These individuals are proposed to have a negative model of the self and positive view of the other (Griffin & Bartholomew, 1994). In contrast, individuals with avoidant attachment styles have not learnt that expressing emotions leads to support and hence they deactivate the attachment system and minimise the expression of emotions which are directed away from conscious awareness (Mikulincer & Shaver, 2003). Individuals with dismissing attachment representation are believed to have positive view of self, but negative view of other. Their experience of others causes negative expectations leading to avoidance of closeness with others, which is maintained by an increased value of independence and denial of the importance of others. Individuals with fearful avoidant attachment representations are characterised by negative view of both self and other. They are reliant on others for their sense of self-worth but avoid close relationships for fear of rejection or loss (Bartholomew & Horowitz, 1991).

Assessment of attachment

Measurement of adult attachment has been carried out using interview or self-report questionnaires. The former has developed from developmental psychology. It uses the Adult Attachment Interview (AAI: Main, Kaplan, Cassidy, Bretherton & Waters, 1985) which is a semi-structured interview designed to measure the same constructs as those observed in child attachments. By assessing adult narratives of positive and negative

attachment experiences in childhood, through the observation of deactivating and hyper-activating strategies interviewers are able to identify secure, avoidant, ambivalent and disorganised attachments. In adults these are labelled autonomous, dismissing, preoccupied and unresolved attachment, respectively (Ainsworth & Eichberg, 1991). This measure is highly correlated with measures of parent and infant interactions (Waters, Crowell, Elliot, Corcoran & Treboux, 2002), is based on the early parent-child relationships, and assumes all attachment relationships are related to one underlying representational model.

Although some self-report measures have been shown to correlate well with the AAI, they are believed to measure different attachment types (Roisman, 2009). In contrast to the AAI, self-report measures rely on conscious reports of the individual's attachment experiences and are able to measure attachment styles associated with particular relationships allowing for more than one representational model. Initially the Attachment Self-Report (ASR: Hazan & Shaver, 1987) was used to measure secure, anxious/ambivalent, and avoidant styles in adult relationships (Hazan & Shaver, 1987). Attachment styles were then proposed to be part of a two dimensional construct of anxious and avoidant attachment, associated with the different IWMs of the self and others (Bartholomew & Horowitz, 1991). The Relationship Questionnaire (RQ: Bartholomew & Horowitz, 1991) and Relationship Scales Questionnaire (RSQ: Griffin & Bartholomew, 1994) were designed to measure this. It is argued there is insufficient evidence to support the comparison of internal working models with categorical variables measured through self-report attachment scales, and hence, currently literature promotes the use of dimensional measures of attachment which do not restrict the individual response to one categorical style or another. The Experiences in Close Relationships Questionnaire (ECR-R: Fraley, Walker & Brennan, 2000) provides a measure of the two dimensions of anxious and avoidant attachment styles for adult romantic relationships, widely recognised in the literature (Mikulincer & Shaver, 2007).

Attachment organisation

It is suggested that an individual's attachment style remains relatively stable across their lifetime and over time the internal working model may become increasingly resistant to change (Bowlby, 1973). However secure attachments can become insecure following challenging life experiences. Although insecure attachments are rarely observed to

become more secure, it is recognised that individuals can develop secure attachments following negative life and insecure relationship experiences (Mikulincer & Shaver, 2007). Earned security relates to the development of secure attachment from insecure attachment. Factors associated with the change from insecure to secure attachment styles include socioeconomic background and relationships with alternative support figures. Research in this area is limited, with criticism of the reliance on retrospective data (Saunders, 2011).

Bowlby (1969/1982) hypothesised that individuals develop different working models for different relationships which are organised hierarchically. In childhood primary attachment figures are generally caregivers. However throughout life individuals develop other attachment relationships which may provide comfort and support in different environments (Mikulincer & Shaver, 2007). In adolescence and adulthood the primary attachment figures may change from primary caregivers to friends and romantic partners (Alex & Land, 1999). Current literature suggests attachment orientations for specific relationships are organised under relationship domain representations which are organised under a single global attachment working model (Mikulincer & Shaver, 2007).
The literature relating to adult attachment suggests the development of different attachment models across relationships, which may change across the lifetime. These may therefore differentially influence outcomes associated with mental health and behaviour difficulties, including symptoms of PTSD.

Aim of the review

Although the relationship between attachment and symptoms of trauma is widely acknowledged, to date there has been no systematic review of the relationship between these variables in populations which have been abused in childhood. This paper will therefore provide a systematic review of the empirical literature investigating the role of attachment with symptoms of PSTD in populations which have experienced child abuse.

Research into mental health difficulties associated with childhood abuse and attachment has primarily focussed on the diagnosis of Borderline Personality Disorder (BPD). Please refer to Agrawal, Gunderson, Holmes and Lyons-Ruth (2004) for a review. A study investigating the role of attachment and BPD recognised different attachment styles to be

associated with distinct symptoms within the diagnosis (Levy, Meehan, Weber, Reynoso & Clarkin, 2005). As such, in addition to PTSD diagnosis, specific symptoms will also be investigated, and measures which additionally consider other trauma symptoms associated with the effects of long term abuse will be incorporated into the review to ensure maximum coverage of the evidence. Previous reviews relating to child abuse have generally focussed on one particular form of abuse (Alexander, Anderson, Brand, Schaeffer, Grelling, & Kretz, 1998; Brown, 2003; Whiffen & McIntosh, 2005). This review will consider all forms of child abuse, both collectively and individually, as research is increasingly suggesting that each form of abuse may have different impacts on the attachment system and mental health outcomes (Riggs, 2010). Literature also suggests attachment styles developed in childhood remain relatively robust over time. However across their lifespan, individuals develop and prioritise different attachment figures, which are represented in attachment models proposed to be organised hierarchically (Milkunicer & Shaver, 2007). Therefore when conducting attachment research with adults it is important to consider different attachment relationships. As such this review additionally aims to consider the organisation of attachment models by investigating the influence of different attachment relationships associated with trauma symptoms.

SYSTEMATIC REVIEW

Search strategy

Google scholar was initially used to identify literature reviews relating to the topics of child abuse, adult attachment and trauma. A systematic search of the literature was then conducted with the aim of identifying empirical studies examining the role of adult attachment and post-traumatic stress disorder symptoms in populations which had experienced child abuse. Using the online databases PsycInfo, PsycArticles and Web of Science a search was conducted using the subject terms 'child abuse' OR 'neglect' OR 'physical abuse' OR 'sexual abuse' OR 'emotional abuse' AND 'attachment' OR 'attachment behaviour' AND 'trauma' OR 'trauma symptoms' OR 'post-traumatic stress' OR 'traumatic symptoms' OR 'PTSD'. Citation indexes and reference sections were then searched to identify any other appropriate papers. Experts in the field were also contacted to verify the novelty of this review topic. The results were then narrowed by language (English), publication type (peer reviewed journal only) and the age of the population (adults 18 years and older). The initial search yielded 278 papers which were published between 1998 and 2013. This date was selected as it followed a review highlighting the influence of the attachment relationship for understanding the potential long term impact of child abuse (Page, 1999). A second search of abstracts within the database, using identical terms and parameters to the above search was then carried out to clarify if items met the inclusion criteria.

Inclusion and exclusion criteria

To be included in this review articles had to conform to the following criteria: (a) the article was published in English, (b) the sample consisted of adults aged 18-60 who had reported experience of child abuse, (c) a measure of adult attachment through interview or self-report, (d) a measure of trauma symptoms.

Papers were excluded if the sample population was forensic (e.g. child abusers), or were investigating adult relationships based on interpersonal violence in adulthood, intergenerational transmission across families, or parent child relationships in childhood. These did not address the issues pertinent to this study. A total of 22 studies retrieved met the inclusion criteria.

Characteristics of the studies

Of the studies identified, four used inpatient samples (two of which used the same population), eight used community samples recruited due to mental health difficulties or the experience of child abuse (two used the same sample), one used an opportunistic community sample, and the other nine used student samples. Child abuse measures included specific questions about abuse experiences or questionnaires designed to identify a range of abuse experiences. The majority of papers identified attachment styles through the use of a wide range of self-report attachment measures, relating to a primary attachment figure or romantic partner. Two used structured interviews. Symptoms of PTSD were recognised through the diagnosis of PTSD by a clinician, or, self-report questionnaires designed to measure symptoms of PTSD specifically, or trauma symptoms associated with the experience of child abuse.

This review of the empirical literature relating to child abuse, attachment and symptoms of PTSD begins by providing an outline of the levels of child abuse reported by the different populations in the studies reviewed. Due to the variety of measures used across the studies identified this review will describe each paper individually within sections according to the outcomes associated with the role of attachment styles, the type of abuse, and attachment relationships. Please refer to Appendix A for a table of the papers reviewed.

Prevalence of child abuse

The levels of reported child abuse varied considerably across the different sample populations in the studies identified. The highest levels of child abuse were observed in the inpatient samples with the majority of participants recording multiple types of abuse. Within the papers reviewed, Riggs, Paulson, Tunnell, Sahl, Atkinson and Ross (2007b) observed the highest levels of child sexual and physical abuse, with 91% of their sample reporting a history of sexual abuse. Allen, Coyne and Huntoon (1998) and Stalker, Gebotys, and Harper (2005) included measures of emotional abuse within their studies and showed this to be the most prevailing form of abuse, occurring individually or with CPA and CSA. The study by Stalker and colleagues (2005) showed multiple forms of abuse were most prevalent with combined sexual, physical and emotional abuse reported by 61% of the sample. The study by Riggs and colleagues (2007b) investigated the

perpetrators and severity of abuse with results suggesting that chronic levels of severe abuse were widespread in inpatient populations. Of the participants that identified experiencing sexual abuse, a third stated the perpetrator was in the immediate family and almost half reported three or more perpetrators. Stalker and colleagues (2005) supported this pattern of findings showing high levels of abuse within the immediate family and identifying the perpetrators as the mother (52%), father (62%), brother/stepbrother (37%) and uncles (22%).

The majority of the studies which recruited community samples based on experiences of child abuse or mental health diagnoses did not identify the perpetrators of abuse. However, Stovall-McClough and Cloitre (2006) investigated a community sample of women who self-referred for a study of PTSD following sexual or physical abuse. The perpetrators of abuse were identified to be the father (28%), a trusted family member (18%), a trusted person outside of the family (30%), or a sibling (13%). No participants in this sample identified the mother as the perpetrator of sexual abuse, but both parents were equally identified as perpetrators of physical abuse.

Lower levels of child abuse were reported in the remaining community samples reviewed. In a community sample recruited at random in the street, 25% reported CSA and 19.2% reported CPA (Twaite & Rodriguez-Sredniki, 2004). The other studies using non clinical samples were carried out with student populations, which were primarily female. These showed much lower levels of abuse. For example, in a study with female students Sandberg (2010) reported 64% of participants were not abused, and only 2% had experienced more than two types of abuse. With regards to perpetrators of abuse Roche, Runtz and Hunter (1999) observed higher levels of extra-familial (17%) than intra-familial (10%), CSA.

The role of attachment styles

The papers studied in this review (see Appendix A) suggested insecure adult attachment was strongly related to higher levels of trauma symptoms in adults who had experienced child abuse. Particular attachment styles were shown to be associated with symptoms of PTSD, as described in the studies below.

Allen and colleagues (1998) carried out one of the first studies investigating the relationship between child abuse, attachment and symptoms of PTSD. This study recruited an inpatient population treated for trauma related diagnoses, with histories of CSA, and identified the following attachment styles within the population: 6.7% secure, 11.5% dismissing, 9.6 % preoccupied, and 66.7 % fearful. This study used the Adult Attachment Scale (AAS; Collins, 1996) which measured 'closeness', 'dependency' and 'anxiety'. These were combined to represent 'secure', 'preoccupied', 'dismissing' and 'fearful' attachment styles. High levels in the 'closeness' and 'dependency' and low levels of 'anxiety' were related to attachment security. Insecure attachment styles were associated with low 'closeness' and 'dependency' and high 'anxiety'. Emotional, sexual and physical abuse, and emotional and physical neglect, were negatively related to positive loading on 'dependency' and negative loading on 'anxiety', suggesting lower levels of all forms of abuse and neglect were associated with measures of increased secure attachment, which were associated with lower scores of PTSD. Within these results there was an assumption of secure attachment from high scores in 'dependency' and low scores in 'anxiety'. However, it did not include high 'closeness' which was the criteria identified for secure attachment.

Riggs and colleagues (2007b) also used the AAI with an inpatient population being treated for trauma, with histories of child abuse including chronic sexual and physical abuse. Results showed the attachment styles across the population were 7.5% 'secure', 5% 'dismissing', 5% 'preoccupied', and 80% 'unresolved'. This study compared the use of the AAI with the ECR-R self-report measures. Using an algorithm to convert the dimensional measures into categories, similar patterns of attachment across the population were observed identifying 5% 'secure', 17.5% 'dismissing', 20% 'preoccupied', and 57.5% 'fearful' attachment style. PTSD diagnosis was shown to be significantly higher for negative 'model of self' and negative 'model of other', compared to positive 'model of self' and 'model of other'. The AAI showed that the 'unresolved trauma' attachment category was specifically associated with PTSD diagnosis and dissociation. The same population in another study showed attachment 'anxiety' and attachment 'avoidance' using ECR-R significantly predicted PTSD, accounting for 26% of the variance (Riggs, Sahl, Greenwald, Atkinson, Paulson & Ross, 2007a).

Muller, Sicoli and Lemieux (2000) recruited a community sample of individuals with a history of CPA/CSA and showed attachment styles across the population to be 24%

'secure', 42% 'dismissing', 12% 'preoccupied' and 21% 'fearful'. 'Positive view of self', as measured by RSQ, was associated with low PTSD symptoms. Levels of PTSD were significantly higher for 'fearful' than 'secure' and 'dismissing' attachment. A significant relationship was observed between 'negative view of self' and PTSD, though not for 'negative view of other' and PTSD, suggesting a 'negative view of self' was most highly associated with PTSD.

A community sample of individuals who had experienced institutional abuse in childhood was investigated by Carr and colleagues (2009). Using the ECR for romantic attachment participants identified the following attachment styles: 17% 'secure', 27% 'dismissive', 13 % 'preoccupied' and 44% 'fearful'. Measuring symptoms of trauma using the Trauma Symptom Inventory (TSI: Briere, 1995) the total score, showed 'secure' and 'dismissive' attachment style were significantly lower than 'preoccupied' and 'fearful' attachment styles. Using dimensional measures of 'anxious' and 'avoidant' attachment on the ECR, significant relationships were observed across both dimensions for TSI total scores. This study considered a range of psychopathologies and showed the 'fearful' attachment was associated with more mental health problems that any other attachment style. Another study with the same sample (Carr et al., 2010) showed measures of sexual and emotional abuse, and total child maltreatment (including physical and emotional neglect and physical abuse) significantly correlated with trauma symptoms. However, no significant relationships were observed between trauma symptoms and physical abuse or neglect. Although this study did not directly compare attachment style with symptoms of trauma it may be important to consider that 99% of the population had identified experiencing physical abuse, suggesting this was the norm in this environment. As such the experience of physical abuse may not have been associated with the development of attachment styles associated with negative 'view of self' as the experience was one shared with others and not related to the individual's negative view of themselves.

A study with a university population of female students, divided into CPA and non CPA groups, highlighted the role of 'model of self' in the relationship with PTSD (McLewin & Muller, 2006). Positive 'model of self' and 'model of other' were correlated with lower traumatic stress symptoms as measured by the Trauma Symptom Checklist-40 (TSC- 40; Brier & Runtz 1989; Elliot & Briere, 1992). 'Model of self' was shown to be the strongest predictor of PTSD and this finding was true across the whole sample as well as within the group of those reporting abuse and the group of those not reporting abuse.

These studies were able to identify significant relationships and influences of particular attachment styles and PTSD, in different populations. However, only one study directly compared attachment and symptoms of PTSD within an abused population. Using the AAI, Stovall-McClough and Cloitre (2006) studied a community sample of women who had experienced physical or sexual abuse. The results showed that individuals who developed PTSD symptoms were seven times more likely to have an 'unresolved' attachment style than those who did not have PTSD. Individuals with an 'unresolved' attachment style were significantly more likely to have a PTSD diagnosis than individuals with 'secure' and 'dismissing', but not 'preoccupied', attachment style. Analysis of specific PTSD symptoms showed 'unresolved' status was associated with high PTSD total, and symptoms of avoidance, but not intrusion or arousal, or dissociation. This study proposed that the relative disorganisation of thought associated with unresolved status may be a risk factor for PTSD. Although this study was limited by a smaller sample size than other studies reviewed (30 participants in each group), these results suggest that the avoidance subscale, which is most widely associated with behaviour in the maintenance cycle of PTSD, was most influenced by attachment style.

Specific trauma symptoms were also investigated in a study with female undergraduate students which compared CSA and non CSA groups (Roche et al., 1999). Measuring attachment models of 'self' and 'other' with trauma symptoms measured by the TSI, symptoms of trauma were shown to be ten times higher for attachments with negative 'models of the self'. Using regression analysis this study demonstrated the 'model of self' was predictive of all trauma symptoms associated with the TSI. The 'model of other' was predictive of fewer symptoms. This study also carried out a mediation analysis and showed attachment mediated the relationship between CSA and all trauma symptoms.

The mediating role of attachment was also shown in another study with an opportunistic community sample (Twaite & Rodriguez-Srednicki, 2004). Recruiting people in the streets of New York, symptoms of PTSD specifically associated with the September 11th terrorist attack were measured and showed individuals reporting experience of CSA or CPA had significantly higher levels of PTSD. Attachment style was also shown to mediate the relationship between people who had experience of CPA and CSA, and, trauma symptoms. Dissociation was also shown to mediate the relationship between 'secure' attachment and PTSD symptoms. This study used a measure of 'secure'

attachment as measured by ‘confidence in self’ and ‘others’ using the Attachment Style Questionnaire (ASQ: Feeney, Noller & Hanrahan, 1994), which may limit interpretation of the results as measures of ‘secure’ attachment are not widely acknowledged in the literature (Milkunicer & Shaver, 2007).

Another study with female students used a composite measure of child trauma combining sexual abuse, physical abuse and sexual victimization (Sandberg, 2010). Due to lack of significant relationships for all variables, this study did not carry out mediation analyses. However, using hierarchical regression analysis to test for moderation, different levels of ‘dismissing’ attachment were measured and showed ‘dismissing’ attachment moderated the relationship between the composite measure of child trauma, and, post traumatic symptoms. ‘Fearful’ attachment was shown to moderate the relationship between childhood trauma and dissociation. The composite measure included sexual victimization which may be more associated with later stages of development and unrelated to closer caregiving relationships, and hence may be different to the concept of child abuse.

Although the mediating and moderating role of attachment was observed, the influence of attachment between child abuse and trauma symptoms was not evident across all studies. In a community sample of individuals who had experienced CSA within the home environment, attachment was not shown to significantly add to amount of variance in the relationship between abuse and post-traumatic symptoms (Alexander, Anderson, Brand, Schaffer, Grelling & Kretz, 1998). Using the Impact of Events Scale (IES; Horowitz, Wilner & Alvarez, 1979) and identifying the abuse as the traumatic event to be measured, this study considered other diagnostic categories, and showed that abuse severity uniquely explained symptoms of PTSD (intrusiveness and avoidance) when compared to other diagnostic categories. Regression analysis identified severity of abuse and early age of onset were associated with intrusive thoughts. Although the Family Attachment Interview (Bartholomew & Horowitz, 1991) used to identify attachment categories with this population has not been widely used, and the PTSD symptoms associated with the abuse were low in this sample and not comparable to clinical norms, this does suggest the type of abuse being considered may influence the role of attachment.

The role of abuse

Other studies identified in this review (e.g. Riggs et al., 2007a; Allen et al., 1998) considered the various forms and experiences of abuse and their association with PTSD symptoms. An inpatient sample of individuals with trauma histories showed multi-type abuse was predictive of PTSD diagnosis (Riggs et al., 2007a). Comparison with the diagnosis of other anxiety disorders suggested that the multi-type abuse experiences were more associated with PTSD symptoms than other anxiety disorders. Another inpatient sample showed all forms of abuse, and especially sexual abuse, were associated with high scores of PTSD (Allen et al., 1998). This suggests different and multiple forms of child abuse may exert a more direct effect on trauma symptoms.

The experience of abuse was also shown to influence the relationship with attachment styles. Levels of insecure attachment were shown to be higher in populations which had experienced abuse across more settings. Carr and colleagues (2010) compared participants who had experienced institutional abuse in the institution only, with those who also experienced abuse in the home prior to institutionalisation. Those who had experienced abuse during institutionalisation and in their family beforehand, showed significantly lower 'secure' attachment.

Consideration of a range of abuse experiences enabled further investigation of the role of attachment on symptoms of PTSD. A study with female undergraduates, considering a range of interpersonal (IPT) and non-interpersonal (NIPT) traumas showed 'anxious' attachment, measured using the ECR partially mediated the relationship between 'adolescent or adult sexual victimisation' and PTSD (Sandberg, Suess & Heaton, 2010). This study also showed that 'avoidant' and 'anxious' attachment were positively correlated with post traumatic symptoms but were not significantly associated with all forms of abuse. There were no significant correlations with 'physical abuse' and 'family violence', and, 'avoidant' or 'anxious' attachment. Significant correlations were observed between 'childhood sexual abuse' and 'adolescent or adult sexual victimisation', and 'anxious' attachment, but not 'avoidant' attachment. Interestingly, 'anxious' attachment, though associated with different forms of interpersonal trauma, did not mediate any forms of non-interpersonal trauma (e.g. natural disaster, accidents) highlighting the significance of attachment in interpersonal trauma as opposed to non-interpersonal trauma. When considering the results of this study, it is important to note

that child abuse items were only part of the traumatic experiences being studied and the level of severity of abuse may have influenced the results. Sexual abuse, for example, was identified by the presence or absence of the "touching of sexual organs". Other studies reviewed utilised stricter criteria relating to levels and severity of abuse. Regarding trauma symptoms, this study asked individuals to identify the number of times they had experienced different life events and measured post-traumatic stress symptoms according to being "bothered by stressful life events" and levels of symptoms were low and not specifically attached to experiences.

IPT with NIPT were compared in another study and showed higher levels of 'anxious' and 'avoidant' attachment and PTSD severity in the former group, compared to the latter (Lim, Adams & Lilly, 2012). A significant positive relationship between abuse and PTSD was observed with 'avoidant' but not 'anxious' attachment. This study also showed a mediating role of self-worth between 'avoidant' attachment and PTSD in individuals with experience of IPT, but not with 'anxious' attachment. This highlights the potentially significant role of cognitions with relation to 'avoidant' attachment in PTSD. Caution is required when considering results across both these studies as experiences of child abuse was grouped with a variety of other interpersonal traumas, many of which may be associated with adulthood e.g. sexual victimisation may relate to adult experiences.

Another student population study, with low levels of abuse and attachment insecurity, failed to identify a mediating relationship for attachment between an overall measure of childhood trauma (including emotional, physical and sexual abuse, emotional and physical neglect) and overall score of trauma symptoms using the TSI (Browne & Winkleman, 2007). In this study childhood trauma was shown to influence both attachment dimensions but these did not influence trauma symptoms. In this model the strongest predictor of overall post-traumatic stress symptoms was cognitive distortion. 'Model of self' was related to cognitive distortion which mediated the relationship between childhood trauma and total trauma symptoms, providing further support for a more indirect relationship between attachment and trauma.

Different types of childhood trauma were also compared in a mostly female sample, using a more robust design which included structural equation modelling and bootstrap analysis (Muller, Thornback & Bedi, 2012). Attachment was measured using an overall

attachment insecurity variable, which was shown to fully mediate the effects of psychological abuse and physical abuse on trauma related symptom when these variables were looked at individually. This measure of attachment insecurity also partially mediated the relationship between family violence and trauma symptoms. These child trauma variables were then looked at simultaneously and showed attachment only mediated the relationship between psychological maltreatment and trauma related symptoms. When psychological maltreatment was removed the other two forms of abuse did not mediate the relationship. This demonstrated the salient role of attachment in moderating the link between trauma symptoms and emotional abuse, but not other forms of abuse. This study also investigated the influence of different abuse types in the population and found that physical abuse did not predict trauma symptoms, but psychological abuse did. Other studies comparing different forms of abuse also identified psychological abuse as the largest predictor of psychopathology (McLewin & Muller, 2006). These studies suggest that the attachment relationship with trauma symptoms may be complex, influenced by attachment style, type of child abuse experienced and cognitions.

The role of attachment relationships

Another significant factor in the experience of trauma symptoms observed in the papers reviewed (see Appendix A) was the relationship to the abuser. Individuals with intra-familial abuse had significantly higher scores of trauma symptoms as measured by the TSI than the extra-familial abuse group (Roche et al., 1999). The relationship with the perpetrator was also related to attachment; the closer the caregiver relationship of the abuser, the greater the level of attachment insecurity. In this sample of undergraduate females those that had been sexually abused by someone within their families, were less 'secure', more 'fearful' and less 'dismissing', than those abused by someone outside of their family. Significantly, higher levels of negative 'model of self' and lower positive 'model of self' were observed in the intra-familial than extra-familial abuse and no abuse groups. However another paper reviewed did not support these findings. Research with a community sample of individuals who had experienced intra-familial CSA suggested scores on 'fearful', 'preoccupied' and 'dismissing' attachment were not significantly predicted by the relationship with perpetrator e.g. father, cousin etc. (Alexander et al.,

1998). This study also demonstrated that retrospective accounts of CSA identified females abused by their fathers had more secure attachments than those abused by people outside of their family. When considering the findings of Alexander and colleagues (1998) it is important to observe that attachment style was measured by unspecified attachment relationships. Therefore individuals who experienced sexual abuse may have had positive attachment relationships with other primary attachment figures which influenced their overall attachment style.

The studies described so far in this review measured only one attachment relationship identifying romantic partner, close adult or relationship with parent. However, other studies, described below, considered different attachment relationships suggesting these may exert differential influences on symptoms of trauma.

Peleikis, Mykletun and Dahl (2004) compared groups with experience of CSA and those which reported none, from a population of outpatients who had previously been treated for anxiety and depression. Participants were required to recall Family Background Risk Factors (FBRF), including their relationship with their mother and father when they were a child. Although not a widely recognised measure of attachment, the Intimate Bond Measure (IBM; Wilhelm, Brownhill & Boyce: Wilhelm & Parker, 1988) was also used to measure the quality of the bond with the individual's current intimate partner, considering 'care' and 'control'. Levels of 'care' were associated with consideration, warmth, companionship and affection, and levels of 'control' with intrusiveness, criticism, dominant attitudes and behaviours. The former was suggestive of more secure attachment behaviours, and the latter with more insecure attachment behaviours. The results showed the group which had experienced CSA had higher levels of PTSD and worse childhood atmosphere and relationship to parents. There were no significant differences between groups for intimate bond. This was the only study which failed to identify significant differences in attachment between abused and non-abused groups. This may suggest current relationships were not influenced by experience of CSA. However only individuals in relationships completed the IBM and as such the study may have focused on individuals with fewer difficulties with attachment. Also the participants in this study were recruited from a population who had received treatment and may have developed attachment relationships with the therapist, which may have influenced their attachment representations at a more global level. In addition, the measures used were

primarily associated with attachment quality rather than style, and relied on retrospective beliefs about experiences.

Maternal, paternal and peer relationships were considered in a study with a very large sample size obtained from a national survey of Axis I disorders (Lauterbach, Koch & Pater, 2007). Comparisons were made across groups which had experienced trauma or no trauma, trauma with no PTSD or trauma with PTSD, and late onset trauma or early onset trauma (under 18 years of age at time of the event(s)). The latter were assumed to be associated with experiences more akin to child abuse. Parental relationship quality was measured by characteristics associated with attachment including 'closeness', 'understanding' and 'likelihood of confiding'. Across these groups significant differences were observed for trauma, trauma with PTSD, and early onset trauma, respectively associating these with more negative attachment relationships in maternal, paternal and peer relationships. Although this paper provided evidence of the relationship between attachment relationships and trauma symptoms, the results need to be considered with caution. The attachment measure was cited as a measure of social support, and though it measured items relating to attachment, the relationships were measured retrospectively asking participants to recall their childhood relationships. The measure of peer relationships was calculated by the quantity of friends rather than attachment characteristics. Also, no direct measures of childhood abuse were taken, only inferred.

Direct measures of child abuse and trauma symptoms were used in other studies in this review considering attachment styles across different relationships (e.g. Reinert & Edwards, 2009; Aspelmeier et al., 2006). A large student sample with an equal number of males and females, was used to investigate different attachment relationships, and compared groups according to gender (Reinert & Edwards, 2009). Attachment style was calculated by adapting a measure used to identify attachment to God. 'Anxious' and 'avoidant' attachment to each parent was calculated and an 'overall attachment' score was obtained by adding together the subscales of 'anxious' and 'avoidant' attachment. Trauma symptoms were measured under the subscales of anxiety, depression, sleep disturbances and dissociation. In females 'avoidant' attachment to mother was shown to moderate the relationship between verbal and physical maltreatment by father and symptoms of trauma. Attachment to father did not moderate the relationship between verbal and physical maltreatment by mother and symptoms of trauma. In males, no moderation for attachment relationships with either mother or father between either form

of abuse and trauma symptoms was observed. 'Overall attachment' to mother moderated symptoms of depression, dissociation and sexual problems in females verbally maltreated by fathers and trauma symptoms. Physical maltreatment by father and trauma symptoms was moderated by mother attachment for depression, and sexual problems in particular. These results highlight the importance of the attachment relationship with the mother in females, in particular 'avoidant' attachment. This study also demonstrated significant relationships between all trauma symptoms and attachment measures across both parental relationships with verbal maltreatment. Less significant relationships were observed with physical maltreatment. This supports the previously cited study by McLewin and Muller (2006) indicating that psychological forms of abuse may have more influence on trauma symptoms. The measures used in this study are also retrospective in nature with regards to the experience of abuse by each parent, and the attachment measure used is an adaptation of a measure designed for another attachment relationship and is not widely recognised or validated. Of note with regard to this review, although this study considered different symptoms associated with trauma, those symptoms particularly identified were not related to specific symptoms of PTSD.

Further consideration of the relationship between attachment relationships and specific trauma symptoms was possible through a study in which attachment in 'close adult', and 'parent' and 'peer' relationships was measured in a sample of female students comparing groups which had been sexually abused with those who had not (Aspelmeier et al., 2007). 'Close adult' relationships, measured using the RQ, demonstrated higher levels of 'secure' attachment and lower levels of 'preoccupied' and 'fearful' attachment were associated with lower levels of trauma across the 'self', 'dysphoria' and 'trauma' subscales of the TSI. 'Dismissing' attachment was not significantly correlated with trauma symptoms. The Inventory of Peer and Parent Attachment (IPPA: Armsden & Greenberg, 1987) was used to measure the quality of attachment to peers and parents, through the measurement of 'trust', 'communication' and 'alienation'. High levels of the first two variables and low levels of the latter were associated with secure attachment. Comparison of ten attachment measures across parent-child, peer and close adult relationships, and the subscales of the TSI showed significant interactions using hierarchical regressions. Parent and peer 'alienation' were the strongest predictors of overall trauma symptoms, producing large effect sizes explaining of 24% and 23% of the variance respectively. 'Trust' and 'communication' for both relationships had a smaller

medium effect, with higher levels of ‘trust’ and’ communication’ associated with lower trauma symptoms. Close adult attachment ‘security’, was shown to moderate the relationship between CSA and TSI ‘dysphoria’. ‘Dysphoria’ was the measure of emotions such as anger, irritability, depression and anxious arousal levels. This relationship was also observed for the non CSA group, in which the relationship was stronger.

Furthermore, Aspelmeier and colleagues (2007), showed that peer communication moderated the relationship between CSA and TSI ‘self’, showing people with more secure attachment according to ‘communication’ with peers, had fewer trauma symptoms associated with impaired self-reference, sexual concerns, dysfunctional sexual behaviour, tension reduction, and anger and irritability. Parental ‘alienation’ was shown to moderate the relationship between CSA and TSI ‘dysphoria’. Of note, the relationship between parental attachment and CSA had a stronger effect than CSA and peer attachment. However these attachment styles were not always the most influential with regards to trauma symptoms suggesting that although parental attachment relationships may be most significantly associated with the experience of child abuse, this relationship may not be the most significant with regards to current trauma symptoms. Comparison of CSA and non CSA groups showed a stronger relationship for latter group with lower levels of parental ‘alienation’ associated with fewer dysphoric symptoms. No moderation relationships were observed with the TSI ‘trauma’ subscale, such as intrusive thoughts, avoidant behaviour and dissociative cognitive strategies to regulate thoughts and emotions. This suggests that attachment may be more important in moderating the relationship between child abuse and other trauma symptoms associated with this experience, than it is in moderating the relationship between child abuse and PTSD specific symptoms. This study also showed that the moderating role of attachment with symptoms of dysphoria was more significant within the non-abuse population. This group showed significantly higher secure attachment, and lower insecure attachment than the abused group. This may be indicative of the importance of attachment relationships to the regulation of emotions for people with more secure attachment styles. Although this study considered a number of current attachment relationships, and identified different attachment styles, the measures used need to be considered when interpreting the results. The IPPA identified secure and insecure attachment style by low or high scores on the subscales of ‘trust’, ‘communication’ and ‘alienation’ and did not consider

the dimensional measures of attachment recommended by the literature (Mikulincer & Shaver, 2007).

Although these studies (Peleikis et al., 2004; Lauterbach et al., 2007; Reinert & Edwards, 2009; Aspelmeier et al., 2006) measured different attachment relationships and showed this could influence the relationship with trauma symptoms, only one study in the review asked participants to identify their 'primary' attachment figure themselves. The study, with an inpatient sample, investigated the influence of attachment on the outcome of treatment for trauma (Stalker et al., 2005). Within the total sample 13% stated they did not currently have a primary attachment figure. Of the remaining sample 72% named a partner, 20% named a friend, and 5% a sibling, sponsor or professional helper. The results demonstrated that higher scores on feared loss of attachment figure were associated with less significant reduction in PTSD scores following six week inpatient intervention based on community group work. It is important to note that the intervention provided involved a group format in which factors associated with attachment relationships, such as social skills, would be highly salient. Consideration of the participant's identification of their primary attachment figure was a particular strength of this study, recognising a range of attachment relationships which need to be considered when conducting research in this field.

CRITICAL REVIEW AND DISCUSSION

Summary of empirical results

This review identified high levels of numerous forms of abuse, particularly in clinical samples, with higher levels of abuse, and abuse across more domains associated with increased levels of symptoms of PTSD (Allen et al., 1998), and attachment insecurity (Carr et al., 2010). Low levels of attachment security and high levels of attachment insecurity were associated with increased levels of trauma symptoms in populations which had experienced child abuse. Attachment styles most associated with PTSD symptoms were 'unresolved trauma' using the AAI, or 'fearful' attachment using categorical self-report measures. These were associated with dimensional models of 'self' and 'other'. Negative 'model of self' was particularly associated with symptoms of PTSD. Current literature proposes the use of dimensional measures of 'anxious' and 'avoidant' attachment, which were both shown to correlate positively with trauma symptoms.

Although correlational relationships between attachment and symptoms of PTSD were widely supported, investigation of the mediating and moderating role of attachment between child abuse and trauma symptoms showed inconsistent results. No relationship, or relationships with a range of different attachment styles and relationships, trauma symptoms and experiences of child abuse were identified. In addition, one study which compared abused and non-abused groups suggested that the mediating role of attachment was more significant in individuals who had not been abused (Aspelmeier et al., 2007). This may be indicative of a more complicated relationship between attachment and post-traumatic symptoms in individuals who have experienced child abuse. Results suggested that the relationship between attachment and symptoms of PTSD was influenced by a number of variables including attachment relationship, form of abuse and cognitive processes. Evidence of the mediating role of cognitive distortions (Browne & Winkleman, 2007) and self-worth (Lim at al., 2012) between different attachment styles and symptoms of PTSD, suggest a more indirect relationship between these factors, which may be influenced by behaviours or cognitions associated with specific secondary attachment responses.

The majority of research identified in this review focussed on sexual and physical abuse either separately or concurrently, with both inpatient and community samples. No papers

directly measured neglect. Several papers recognised the presence of emotional abuse, however, this was rarely investigated directly. The study by Muller and colleagues (2012) highlighted the importance of emotional abuse and its relationship with attachment insecurity and the mediating role of attachment in the relationship between child abuse and trauma symptoms. Literature suggests abuse does not occur in isolation, and more than one form of abuse is usually present. It may be that attachment style is most influenced by the experience of emotional abuse.

Limitations and considerations for future research

The wide variety of assessment tools used, variables measured, and inconsistencies in results have made it difficult to make comparisons and draw conclusions from the papers reviewed. Post-traumatic stress was measured according to trauma symptoms associated with PTSD criteria, or by long term trauma symptoms measured by self-report checklists. Both showed significant relationships with child abuse and attachment styles, and differences in subscales and symptoms of PTSD were associated with different attachment styles and forms of child abuse across some, but not all, variables. Although some of the studies investigated a wide range of trauma experiences, the majority focussed on different forms of childhood abuse and did not consider later traumatic experiences. As child abuse is associated with increased risk of stressful life events (Kearney et al., 2007) this may have been a confounding variable.

The papers reviewed primarily focussed on one form of child abuse, usually sexual abuse. Some papers did investigate more than one form, and demonstrated that the experience of abuse was rarely isolated. In the majority of cases other forms of abuse were also present, with higher numbers of different forms of abuse associated with increased trauma symptoms and insecure attachment. Future research would benefit from measures of all forms of abuse, especially emotional abuse, as research comparing this to other forms of abuse suggests it has the most significant impact of PTSD symptoms and is the most associated with attachment. The absence of measures of emotional abuse and neglect did not allow for this to be considered in the analysis and therefore may have had a confounding influence.

Two studies assessed attachment style using interview measures. All others used self-report measures. There was considerable diversity in the measures used and the way attachment styles were calculated. The majority of the studies used categorical measures inferring models of 'self' and' other' associated with IWMs. However literature suggests there is limited evidence for this association, and dimensional models based on 'anxious' and 'avoidant' attachment are currently the most widely supported measure of attachment (Mikulincer & Shaver, 2007). Further research using dimensional measures of attachment, investigating the specific symptoms associated with the attachment styles is required.

This review showed relationships with different attachment figures influenced symptoms of PTSD. Although it is proposed that at times of stress individuals return to their initial attachment patterns observed with parents, changes in IWMs across the lifespan resulting from different experiences and relationships, may cause a change in attachment responses which may positively influence outcome (Bowlby, 1973). Direct comparison of different attachment relationships may therefore be important. Within this review the majority of studies focused on an adult romantic relationship or close adult relationship. Others used retrospective accounts of relationships to parents. Although there was evidence of different abuse experiences and attachment relationships influencing trauma symptoms the research base would benefit from consideration of a range of attachment figures. Many of the studies considered one attachment figure, whereas a measure of global attachment which includes a range of attachment relationships may be beneficial to identify the influence of different relationships on symptoms of PTSD and the long term influence of child abuse on these variables. The Relationship Structures Questionnaire (RSQ; Fraley, Niendenthal, Marks, & Vicary, 2006) identifies a range of attachment styles which can be investigated separately or as part of a global measure.

Cognitive processes are higher mental processes, such as perception, memory, language, problem solving, and abstract thinking (Gerrig & Zimbardo, 2002). Cognitive distortions and self-worth are mental processes which were identified as mediating variables between attachment and trauma symptoms (Browne & Winkleman, 2007; Lim et al, 2012). Future research would benefit from investigation into the role of cognitive processes and other factors influencing the indirect relationship between the different attachment styles and symptoms of PTSD. These may include emotion dysregulation (Mikulincer & Shaver,

2008) and social support (Brewin, Andrews & Valentine, 2000), which have also been associated with different attachment styles and PTSD symptoms.

All studies used a cross sectional research design, and correlational data. This does not allow for the inference of causality. Future research would benefit from prospective longitudinal design to address this. Studies also relied heavily on retrospective and self-report measures which have been shown to be influenced by experience of child abuse (Fersusson, Horwood & Woodward, 2000) and attachment styles (Cassidy, 1994). Future research may benefit from the use of behavioural and physiological measures to help identify attachment styles (Mikulincer & Shaver, 2007). Also, a number studies in this review failed to identify an attachment mediation relationship between child abuse and trauma symptomology based on the Baron and Kenny (1987) model. However, current research suggests bootstrapping methodology is more robust, and as such would be a viable alternative strategy for the analysis of these variables (Hayes, 2009).

The studies covered in this literature review included inpatient, community and student populations with participants which were primarily, or entirely female. There is evidence of gender differences in the presentation of PTSD and the influence of attachment (Reinert & Edwards, 2007). As such more research is needed into the experience of male populations. Socio-demographic factors have also been linked to child abuse, attachment insecurity and PTSD symptoms. Complex trauma includes experiences of individuals and communities which relate to chronic economic and ethnic difficulties, victims of political oppression, re-victimised children and adults, homelessness, and incarceration (Courtois & Ford, 2007). Future research should consider these populations.

Clinical implications

The studies reviewed in this paper have highlighted the role of adult attachment on symptoms of PTSD with people who have experienced child abuse. Theories of PTSD suggest that traumatic experiences change the individual's perception of themselves, others and the world, as safe (Ehlers & Clark, 2000; Janoff-Bulman, 1992). Although inconclusive, there was evidence of an important relationship between attachment and PTSD particularly with relation to negative 'model of the self'. Cognitive distortions were also noted to influence the mediating role of attachment between child abuse and

trauma symptoms. As such individual or group work with people who are experiencing trauma symptoms needs to consider the individual's view of the self and address their beliefs. This can be directly addressed through treatment with Cognitive Behavioural Therapies (CBT). Trauma-Focussed Cognitive Behavioural Therapy (TF-CBT) is recommend for the treatment of trauma (NICE, 2005) for adults and children (Cohen, Mannarino & Debllinger, 2006), and, Dialectical Behaviour Therapy (DBT) is widely endorsed for individuals who have difficulty regulating emotions and may have experienced invalidating home environments as children (Linehan, 1993).

Although causation cannot be determined from the papers reviewed, the long term negative sequelae associated with child abuse highlight the importance of addressing these factors as early as possible to prevent their potential long term impact. There is growing literature and empirical evidence to suggest that attachment styles and internal working models of attachment can be changed. Comparison of current adult attachment relationships showed that attachment relationship influenced the relationship between child abuse and trauma symptoms, suggesting different attachment relationships may influence trauma outcomes (Aspelmeier et al., 2007). There is evidence of earned security in individuals who identified insecure attachments in childhood (Saunders, 2011), and changes in attachment measures within therapeutic relationships (Smith, 2010) and following interventions (Elklit, 2009). Evidence that certain attachment relationships could moderate the harmful effect of abuse suggests focussing on developing positive attachment experiences will be important in reducing the negative effects of child abuse. Clinical and research literature indicates that a good quality therapeutic alliance is related to more positive therapeutic outcomes, independent of the type of therapy delivered (Martin, Garske & Davis, 2000). It is suggested that long term therapy may be particularly useful with individuals who have experienced complex trauma as it provides the individual with an alternative support figure with whom they can develop a trusting relationship and allow them to develop more positive views of themselves (Egeland, Jacobvitz & Sroufe, 1988).

Association with earned security and higher levels of socioeconomic status and opportunities for more positive experiences (Saunders, 2011) highlights the more systemic factors which may be influencing the maintenance of insecure attachment styles. This may include perceptions of opportunities but also the general availability of positive experiences which may contribute to challenging beliefs about self and others. As such

wider systemic factors may also need to be considered when supporting individuals with difficulties associated with child abuse, attachment and PTSD.

CONCLUSION

This study aimed to review the current empirical literature to investigate the role of attachment on post-traumatic stress symptoms in individuals who had experienced child abuse. Results suggest significant relationships between the experience of physical, sexual and emotional abuse, and insecure attachment style and trauma symptoms. Overall dimensional measures with high levels of 'anxious' and 'avoidant' attachment, and 'negative model of self', and, categorical measures of 'unresolved' trauma and 'fearful' attachment, appear to be most significantly related to symptoms of trauma. Comparison of different forms of child abuse, suggest that emotional abuse may be the most significant predictor of symptoms of PTSD with the greatest influence on insecure attachment styles. Future research needs to further distinguish between different attachment styles and relationships, and symptoms of PTSD following child abuse. It also needs to consider other variables which may influence the indirect relationship.

VOLUME TWO: EMPIRICAL PAPER

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THE RELATIONSHIP BETWEEN CHILDHOOD ABUSE, ATTACHMENT, EMOTION DYSREGULATION AND SELF CONTROL IN THE HOMLESS POPULATION

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INTRODUCTION

Homelessness

Homelessness is a significant problem in the United Kingdom. Government statistics show increasing levels over the last few years, with current figures identifying 53,130 households in temporary accommodation (DCLG, 2013). The homeless population is recognised as a heterogeneous group (Victor, 1997), influenced by complex environmental and individual factors (Morrell-Bellai, Goering & Boydell, 2000). Government strategies have primarily focussed on 'macro' level interventions to address social and economic issues (Jarrett, 2010). However, the role of 'micro' level, individual factors in chronic homelessness is increasingly being recognised.

Within the homeless population there is a high prevalence of mental health problems and personality disorders (Foster, Gable & Buckley, 2012; Gill, Meltzer, Hinds & Petticrew, 1996; Fischer & Breakey, 1991). Research suggests approximately 30-50% of the homeless population experience at least one mental illness (Buhrich, Hodder & Teeson, 2000; Danczuck, 2000). High levels of maladaptive behaviours are widely recognised in this population, including drug and alcohol abuse, aggression, risky sexual behaviour, self-harm and suicidal behaviours (Goldstein, Luther, & Haas, 2012; Clatts, Goldsamt, Yi & Gwadz 2005; Gilders, 1997). Levels of substance misuse are around 70% (Goering, Tolomiczenco, Sheldon, Boydell & Wasylenki, 2002) and between 10-20% of the population have a dual diagnosis (Drake, Osher & Wallach, 1991). These factors contribute to the development and maintenance of the homeless status and influence the individual's ability to respond to and engage with the support and interventions available (Maguire, Johnson, Vostanis, Keats & Remington, 2009).

Childhood abuse and homelessness

Childhood adversity is shown to be linked with an increased likelihood of homelessness (Aliverdinia & Pridemore, 2012; Craig & Hodson, 1998). The experience of childhood abuse is associated with the development of various mental health problems, including complex post-traumatic stress disorder (Courtois, 2004), internalising and externalising disorders (Muller, Thornbak & Bedi, 2012; Malone, Westen & Levendosky, 2011) and maladaptive behaviours including substance abuse, deliberate self-harm, risky sexual behaviours and eating disturbances (Reinhart & Edwards, 2009; Gratz, Conrad & Roemer, 2002; Batten, Follette & Aban, 2001; Zanarini, Ruser, Frankenburg, Hennen & Gunderson, 2000).

Research with the homeless population suggests the widespread experience of trauma (Larkin & Park, 2012; Martijn & Sharpe, 2006; Buchrich, Hodder & Teesson, 2000). Levels of childhood trauma, including, physical, sexual, and emotional abuse and neglect are comparative to clinical groups, with levels approximately twice that of the general population (Maguire, Keats & Sambrook, 2006; Ryan, Kilmer, Cauce, Watanabe & Hoyte, 2000). In this population childhood abuse has been linked with increased rates of psychopathology (Christensen, Hodgkins, Garces, Estlund, Miller & Touchton, 2005; Blankertz, Cnaan & Freedman, 1993) and vulnerability to behaviours associated with complex and chronic psychological difficulties (Merrill, Thomsen, Sinclair, Gold & Milner, 2001). The relationship between childhood abuse and maladaptive behaviours has been indicated to be mediated by difficulties in emotion regulation (Day, 2010).

Emotion dysregulation and homelessness

Emotion regulation is a broad concept which has been defined in different ways (Ehring & Quack, 2010). It is broadly described as the ability to identify, evaluate and modify the experience and expression of affect. Gratz and Roemer (2004) conceptualised four key dimensions of emotion regulation. These are: 1) the awareness and understanding of ones emotions, 2) acceptance of negative emotions, 3) the ability to successfully engage in goal directed behaviour and control impulsive behaviour when experiencing negative emotions, and 4) the ability to use emotion regulation strategies appropriate to the environment. Research investigating the use of emotion regulation strategies has widely

used this model and the Difficulties in Emotion Regulation Scale (DERS) designed specifically to measure these factors (Bardeen, Fergus & Orcutt, 2012).

Difficulties with emotion regulation, also known as emotion dysregulation, have been associated with increased vulnerability to adult mental health difficulties and problematic behaviours widely observed in the homeless population. These include depression (Gross & John, 2003), anxiety (Cisler, Olaunji, Feldner & Forsyth, 2010), post-traumatic stress disorder (Tull, Barett, McMillan & Roemer, 2007), bipolar disorder (Johnson, 2005), borderline personality disorder (Gratz, Rosenthal, Tull, Lejuez & Gunderson, 2006), substance abuse (Kun & Demetrovics, 2010), deliberate self-harm (Buckholdt, Parra & Jobe-Shields, 2009; Briere & Gil. 1998; Gratz, 2003) and aggressive behaviour (Bushman, Baumeister & Phillips, 2001).

Current literature suggests difficulty regulating emotions in adulthood is one of the enduring consequences of childhood abuse and interpersonal trauma (Burns, Jackson & Harding, 2010; Ehring & Quack, 2010). It is proposed that the experience of childhood abuse may disrupt the development of adaptive emotion regulation strategies which enable an individual to function effectively in their environment (Cloitre, Miranda, Stoval-McClogh & Han, 2005). Emotion regulation difficulties have been identified as a variable influencing the relationship between abuse and psychological difficulties (Stevens, Gerhart, Goldsmith, Heath, Chesney & Hobfoll, 2013) and have been linked to behavioural avoidance and functional impairment in victims of childhood abuse (Gratz, Bornovalova, Delany-Brumsey, Nick & Lejuez, 2007). Emotion regulation difficulties have been reported in the homeless population and have been identified as a mediating variable between, childhood trauma and aggression (Couldrey, 2010), and, childhood trauma and maladaptive behaviours (Day, 2012).

Self-control and homelessness

The terms emotion regulation, emotion control, self-regulation, and self-control are used interchangeably in the literature on the capacity of individuals to self-regulate emotions (Kokkonen & Pulkkinen, 1999). Self-control refers to the ability to over-ride or change internal responses, and, disrupt tendencies and prevent engagement in maladaptive behaviours (Tangney, Baumeister & Boone, 2004). It is related to traits of attentiveness,

sociability and resistance/reactivity (Kokkonen & Pulkkinen, 1999; McCrae & Costa, 1990). It is distinct from emotion dysregulation (Gratz & Roemer, 2004) and is hypothesised to be of primary importance in the use of emotion regulation strategies such as goal directed behaviours (Mikulincer & Shaver, 2007).

Effective self-control is associated with high levels of ego resiliency, characterised by individuals who are socially skilled, assertive and positive, with an ability to be flexible and select alternative responses to different situations. In contrast individuals with low levels of resiliency have shown chaotic and diffuse, or, stiff and perseverative, responses to stressful situations (Block & Kremen, 1996). Individuals with limited self-control skills are believed to maintain rigid patterns of interpersonal behaviours and defences associated with psychopathology (Keisler, 1996). It is proposed that when faced with a difficult emotion, individuals with difficulties with self-control are either unable to contain their emotional experience or they do not allow the emotion to be fully experienced. Individuals who engage in behaviours associated with the former are identified as under controllers, and the latter as over controllers (Block, 2002; Block & Block, 1980). Both have characteristics which in certain situations may be maladaptive (Letzring, Block & Funder, 2005). Under control is identified by dis-inhibition and chaotic, angry, intense relationships, and over-control with rigid inhibition and distant, aloof, cautious relationships.

Low self-control has been associated with violence, drug abuse and homelessness (Baron, 2003). Although previously associated with positive outcomes, increasingly the literature is recognising that over-controlling behaviours, in which impulse and emotion are contained across situations, may be maladaptive and high levels of emotion under or over control suggest limited availability of alternative responses to different situations (Letzring, et al., 2005). It is proposed that over-controlled and under-controlled disorders may parallel internalizing and externalising disorders associated with maladaptive behaviours and psychopathology observed in individuals with a history of childhood trauma or several mental health diagnoses (Lynch, in press). Research comparing prevalence rates of personality disorders in the homeless population identified a range of internalizing and externalising disorders. Results showed high levels of depressive (16%), anti-social (13%) and borderline (13%) personalities in the hostel population, and, dependent (35%), depressive (30%), paranoid (25%), passive aggressive (25%) and

avoidant (25%) personalities, in the street homeless (Munawar, 2009). Evidence of individuals with personalities associated with over and under control suggests an investigation of these aspects of self-control may be important in understanding the difficulties and challenges faced by this population.

Attachment and homelessness

Insecure attachment styles have been associated with psychopathology and maladaptive behaviours (Shorey & Snyder, 2006), with a recent meta-analysis showing higher levels in clinical populations with internalizing and externalizing disorders (van IJzendoorn & Bakermans-Kranenburg, 2008; Gutterman-Steinmetz & Crowell, 2006). Insecure attachment styles have also been associated with difficulties in emotion regulation (Cloitre, Stovall-McClough, Zorbas & Charuvastra, 2008; Milkulincer & Shaver, 2007) and are recognised to mediate the variability of functioning of a range of psychological and interpersonal symptomology experienced by adults following childhood adversity (Muller et al., 2012; Bifulco, Moran, Ball & Lillie, 2002), including the presence of personality disorder symptomology (Herman, Perry & van der Kolk, 1989).

Attachment theory recognises attachment as a biologically based behavioural response used by individuals to obtain a sense of felt security. It defines an attachment style as a pattern of relational expectations, emotions and behaviours (Shaver & Mikulincer, 2002) which develop in childhood through relationships with primary caregivers, and continue to develop throughout a person's life. Through their experiences an individual develops "internal working models" which influence their expectations, beliefs and behaviours of themselves, others and the world. The attachment style and representations that develop can become habitual and impact on strategies used to regulate emotions (Bowlby, 1988). They are shown to directly or indirectly affect behaviour, emotion regulation and social attribution (Gutterman-Steinmetz & Crowell, 2006).

Individuals who have experienced positive relationships with primary caregivers who are responsive to their needs develop secure attachment styles. However, individuals who have experienced child abuse are more likely to develop insecure attachment styles as their experiences of relationships with their primary caregivers will not have provided

consistent, validating and containing experiences, leading to more negative internal working models of themselves and/or others (Page, 1999).

Attachment styles are measured along anxious and avoidant dimensions (Bartholomew & Horowitz, 1991). Anxious attachment is associated with intense worry about the availability of attachment figures. When exposed to situations which are perceived to be stressful, the attachment system is hyperactivated, and increased emotions and hypersensitive proximity seeking reactions are used to obtain closeness and safety from others. Individuals with avoidant attachment style deactivate their attachment system by reducing the experience of their emotions. They show a preference for emotional and interpersonal distance, and a lack of comfort with dependence on others, devaluing their need for relationships and demonstrating high levels of self-reliance. Rigid adherence to these strategies across situations may respectively result in ongoing interpersonal conflict and loss of relationships, loneliness and reduced social supports (Tasca et al., 2009).

Attachment is therefore influential in the regulation of emotions and interpersonal characteristics (Mikulincer & Shaver, 2007). The behaviours associated with anxious and avoidant attachment compare with those observed in individuals with high levels of under and over control respectively, and have been associated with self-control (Skowron & Dendy, 2004). However, the relationship between attachment and self-control, have not been widely researched in adults. Further empirical evidence to support the theories of adult attachment, and emotion regulation and self-control, in populations with high levels of mental health and behavioural difficulties in adulthood is required. Within the homeless population there is limited research into the role of attachment, although preliminary evidence indicates low levels of secure attachment (Aliverdinia & Pridemore, 2012; Taylor-Seehafer, Jacobvitz & Steiker, 2008). As such, further investigation into the levels of insecure attachment, and its influence on the factors proposed to lead to and maintain homelessness, such as emotion regulation difficulties and self-control, is highly salient.

Formulation of Current Study

Understanding the factors that lead to, and maintain, homelessness is crucial to ensure appropriate interventions. Childhood trauma and emotion dysregulation have been

identified as strong risk factors of later psychopathology and maladaptive behaviours widely reported in the homeless population. However the relationship between these factors is poorly understood and many questions still exist concerning the underlying mechanisms involved. Attachment theory provides a strong basis for understanding the relationship between these two variables, as well as the more pervasive responses related to over and under control, and ego resiliency.

Treatments for emotion dysregulation currently focus on developing an individuals' ability to enhance self-control. However, they are not designed to develop skills for challenging over control. Research with Dialectical Behavioural Therapy has prioritised treatment of under-controlled disorders or populations (Lynch, Cheavens, Cukrowicz, Thorp, Bronner, & Beyer, 2007). It is therefore important to identify whether, within the homeless population, distinct self-control profiles will emerge as this may influence both the pathway and the treatments available. In addition, investigation of the role of attachment in this relationship is important as this may contribute to the development and maintenance of the responses observed, and as such may require more attention in the provision of intervention.

Current literature highlights the need to provide more empirical support for emotion regulation and adult attachment theories, including the relationships of specific attachment dimensions (Brenning, Soennens, Braet & Bosmans, 2012; Milkunicer & Shaver, 2007) and their concurrent personality characteristics (Kokkonen & Pulkkinen, 1999). As such this study intends to extend current research to increase psychological understanding of the potential pathways and maintaining factors associated with homelessness by testing the following hypotheses:

Hypothesis 1: There will be significant relationships between childhood abuse, insecure attachment and emotion dysregulation. Within this population there will also be high levels of over and under control, and low levels of ego resiliency, which will have significant relationships with childhood abuse and insecure attachment styles.

Hypothesis 2: The relationship between childhood abuse and emotion dysregulation will be mediated by insecure attachment styles (anxious and avoidant). The relationship between childhood abuse and under-control will be mediated through anxious attachment, and by over control through avoidant attachment.

METHODOLOGY

Participants

Participants were an opportunity sample recruited from third sector organisations in Southampton supporting homeless individuals. These included an assessment centre and four hostels offering longer term support. All individuals accessing the services who lacked a permanent place to live, and were registered as a resident at a homeless hostel were eligible to participate in the study. Individuals were excluded if they had memory deficits influencing their ability to recall childhood experiences (e.g. medium to severe cognitive impairments from degenerative disorders or acquired brain injury), or were unable to understand written and spoken English (due to lack of availability of interpreters). Data collection took place over twelve sessions and participants were not excluded for current use of drugs or alcohol.

A Bootstrap methodology was proposed to test for indirect effects in the mediation models. The empirical estimates calculated for mediation models of bias corrected bootstrapping, to achieve .8 power, indicated a required sample size of 71. Due to mediation analysis often being underpowered an increase of at least 10% was included to identify sample size, suggesting a minimum of 79 participants (Fritz & McKinnon, 2007).

Demographic characteristics

A total of 109 homeless individuals aged between 18-66 years were recruited for the study. Overall 18 participants were excluded from the statistical analysis because they did not meet the inclusion criteria (*N* = 8: 7.3%), failed to complete all the questionnaires (*N* = 6: 5.5%) or their responses appeared untrustworthy (*N* = 4: 4.4%). The majority of excluded participants were white British (*N* = 12. 67%), males (*N* = 14, 78%), aged 36.7 years, living in homeless hostels (*N* = 12. 67%). Differences between ethnicity and accommodation status between the total sample recruited and those included in the statistical analysis were related to the inclusion criteria (e.g. living in own accommodation, English language skills).

Table 1 shows the demographic characteristics of the final sample (*N* = 91). The majority of participants were white British (*N* = 80: 87.9%), males *(N* = 72: 79.1%), with an average age of 36.5 years (SD = 11.1), living in homeless hostels (*N* =77: 84.6%).

Table 1. Demographic characteristics of the final sample (*N* = 91).

	N	Frequency (%)
Age		
18-25	17	18.7
26-35	28	13.8
36-49	34	37.4
50+	12	13.2
Gender		
Male	72	79.1
Female	19	20.9
Ethnicity		
White British	80	87.9
White Irish	2	2.2
White Other	3	3.3
White & Black Caribbean	1	1.1
White & Black African	1	1.1
White & Asian	1	1.1
Indian	1	1.1
Other	2	2.2
Accommodation Status		
Sleeping on the streets	3	3.3
Staying in a shelter	1	1.1
Staying on a friends sofa	2	2.2
Staying in homeless hostel	77	84.6
Overcrowded housing	2	2.2
Other	6	6.6
Age at first episode of homelessness		
<18	10	11
18-25	26	28.6
26-35	25	27.5
36-49	22	24.2
50+	7	7.7

Number of episodes of homelessness		
One	33	36.3
2-5	29	31.9
6-10	24	26.4
11-19	1	1.1
20+	2	2.2
Not stated	2	2.2
Length of current episode of homelessness		
< 1 month	7	7.7
1-6 months	41	45.1
7-12 months	12	13.2
1-5 years	24	26.4
5+ years	3	3.3
Not stated	4	4.4

Measures

Demographic information

Participants completed a demographic form responding to questions about age, gender, ethnicity, and accommodation status.

Childhood abuse

Child Abuse and Trauma Scale (CATS: Sanders & Becker-Lausen, 1995). The CATS is a 38 item self-report questionnaire used to identify the frequency and extent of childhood abuse. Presented as a home environment questionnaire, it measures the subjective reports of negative home environment/neglect (14 items), childhood emotional abuse (seven items), punishment/physical abuse (six items) and sexual abuse (six items). Participants are requested to indicate, on a four point likert scale, from never (0) to always (4), how frequently each of a range of traumatic experiences happened to them during their childhood and adolescence. This provides a total score and individual scores on each of the four subscales, where higher scores reflect increased severity of abusive experience. The measure has been found to have adequate psychometric properties with test-retest reliability (r =.71 to .91), concurrent validity (r =.24 to .41) and internal consistency (α=

.63 to .88) (Kent & Waller, 1998; Sanders & Becker-Lausen, 1995). This measure has been used in previous research investigating psychological difficulties and covers a range of traumatic childhood experiences. Items are worded in a deliberately mild manner to reduce the risk of distress. As such this was identified as the most appropriate measure for this population.

Emotion dysregulation

Difficulties in Emotion Regulation Scale (DERS: Gratz & Roemer, 2004). The DERS is a 36 item self-report measure that assesses individuals' typical level of emotion dysregulation across six subscales: Non acceptance of emotion; inability to engage in goal directed behaviour; difficulties controlling impulsive behaviours when distressed; limited access to emotion regulation strategies perceived as effective; lack of emotional awareness and lack of emotional clarity. Participants are asked to indicate how often the items apply to themselves on a likert scale from 1 (almost never) to 5 (almost always). Overall emotion regulation scores are obtained by summing the subscale scores, with higher scores representing increased difficulties with emotional regulation. The DERS is a widely used measure of emotion dysregulation with established psychometric properties, including adequate overall internal consistency ($\alpha = .93$), and test-retest reliability ($\rho = .88$) (Gratz & Roemer, 2004).

Self-control

Ego-undercontrol (EUC) and ego-resiliency (EUR) self-report scales (see Block & Kremen, 1996). These questionnaires were designed to be used together to identify an individual's level of self-control, measuring over and under control, and ego resiliency. The *ego under control scale* has 37 items. This is a measure of ego control which is used to identify over and under controlled individuals. It assesses the expression/inhibition of impulse associated with under-controlled and over-controlled individuals, respectively. High scores correspond with under control, and are negatively related to items definitive of over-control (Letzring et al., 2005).

The *ego resiliency scale* has 14 items. It measures the ability of an individual to respond flexibly and modify their ego control responses according to the demands of the situation. High scores correspond with high levels of ego resiliency, which are considered to be predictive of more adaptive functioning and social skills.

Both measures use a four-point response scale ranging from 1 (disagree very strongly) to 4 (agree very strongly). Final scores are obtained by reverse coding the appropriate items and computing a mean for each scale. The scales have been shown to have adequate validity and reliability (Letzring et al., 2005). Individuals with high over or under control, and low ego resiliency are predicted to represent individuals with more rigid personality structures associated with personality disorders.

Adult attachment

Relationship Structures Questionnaire (RSQ; Fraley, Niendenthal, Marks, & Vicary, 2006). This is a 36 item self- report questionnaire derived from the ECR-R (ECR-R; Fraley, Waller, & Brennan, 2000). It assesses the anxious and avoidant dimensions of attachment across four different relational contexts: mother, father, romantic partner, and best friend. Anxious attachment statements identify feelings of fear of abandonment and strong desires for interpersonal closeness. Avoidant attachment statements relate to discomfort with closeness, dependence, and intimate self-disclosure. Participants respond to items on a seven-point Likert-type scale from 1 (strongly disagree) to 7 (strongly agree). A composite index of global attachment scores of anxiety and avoidance dimensions is calculated by taking the means of the attachment anxiety and the attachment avoidance subscales from the different relationships. Internal consistency for both the anxiety and the avoidance scales is greater than or equal to .89 (Fraley et al., 2006).

Design and procedure

This study used a within subjects, cross sectional correlational design. Ethical approval for the research was given by the University of Southampton, School of Psychology, Ethics Committee (Appendix B) and sponsored and insured by The University of Southampton Research and Development Committee.

Recruitment

Service managers of the hostels were approached directly to outline the purpose of the study and obtain consent to approach service users. Posters (Appendix C) and flyers (Appendix D) were placed in the hostels inviting individuals to participate in a research study. Information sheets (Appendix E) were provided to staff and individuals accessing the hostels explaining the purpose of the study and stating the dates and times the

researchers would be visiting. The recruitment and assessment took place in five homeless agencies, across twelve sessions, each lasting four hours on average. It was carried out by two researchers conducting separate research projects. The two projects were presented as one to reduce participant burden and increase the potential sample size.

Assessment

On the day of assessment researchers were provided with personal alarms or walkie-talkies to contact staff if any risk issues developed. Individuals signed up and came to meet with the researchers in designated rooms. Assessment was delivered in one to one or group format with a maximum of eight people at a time. An information sheet was accompanied by a verbal explanation of the study (Appendix F) which highlighted confidentiality, voluntary participation and the sensitive nature of some of the questions. Participants were asked to complete consent (Appendix G) and screening forms (Appendix H) to identify the level of support required. A questionnaire pack was then presented (Appendix I). This included a demographics form and the questionnaires combined from the two studies, mixed at random. To ensure anonymity and confidentiality a unique identity number was allocated to each questionnaire pack. Completion of questionnaire packs lasted approximately 50 minutes. Researchers were available throughout to answer any questions, clarify meaning and provide support as necessary. Individuals unable or unwilling to complete the questionnaires individually were read the questions aloud or offered an interview format. A separate room was available to ensure confidentiality. Upon completion the questionnaires were placed in a sealed envelope and participants were given a £10 food voucher. A debrief was provided verbally and in written form (Appendix J), providing contact details for any further questions and organisations providing support in the event of the experience of any distress.

Ethical Considerations

Due to the vulnerability of the population and sensitive nature of some of the questions, strategies to identify and reduce distress were prioritised. These included repeated clarification of the nature of the questionnaires throughout recruitment and assessment by verbal and written means. Measures of distress rated on a visual analogue scale from ‘not at all upset’ to ‘very upset’, were completed at the beginning and end of questionnaires to identify any individuals experiencing distress. At the end of the questionnaire pack, a

'mood repair' task (Appendix K) was provided. This involved the presentation of four comic strips which the participants were requested to rate from 1 (not funny at all) to 4 (very funny). Participants were also informed that if there were any concerns about themselves or the well-being of others, staff would be informed so they could provide any support necessary. Individuals identified as distressed were reported back to staff members so they could follow up with further support. A Clinical Psychologist experienced with working with the homeless population was available for consultation if high levels of distress were reported and one to one support if necessary. As with previous research using similar questionnaires with this population, there were no reports of changes in levels of distress following participation (Stanley, 2010; Willoughby, 2010).

RESULTS

Statistical analysis strategy

Data analysis for descriptive and inferential statistics was conducted using the Statistical Packages for Social Sciences (SPSS) Version 21. Preliminary analysis was used to prepare the data, establish descriptive statistics and explore variable distributions to identify assumptions required for inferential statistical analysis. The main hypotheses were tested using correlational analysis to identify the relationships between all the variables, and bootstrapping methodology to examine for indirect effects within mediation models. Bootstrapping is recommended in place of the previously used Baron and Kenny (1986) causal steps and Sobel (1986) test approach. It does not assume normal distribution and has demonstrated greater power when testing for indirect effect with multiple mediation models (Hayes, 2009). In addition to the main hypotheses, further analysis used correlations to investigate the relationship between the emotion dysregulation subscale scores and adult attachment dimensions. Bootstrapping analysis then examined the potential mediation effects of emotion dysregulation between adult attachment styles and self-control.

Preliminary analysis

Data was initially investigated for accuracy of data entry, systematic missing data and identification of outliers. Data were observed to be missing at random, and mean substitution was used where fewer than 5% of the sample was missing (Tabachnick & Fidel, 2001). Four outliers were identified using boxplots, but were not removed as they represented severe cases. The distribution of the final data was explored using plots of skewness and kurtosis, and Kolmogorov-Smirnov tests, to establish whether data met assumptions for normality, and therefore the use of parametric tests. Normal distribution was shown for the total scores of all measures.

Descriptive statistics

Means and Chronbach's alpha coefficients calculated for all the measures total scores and subscale scores are shown in Table 2. Acceptable levels of reliability were observed across measures, with the majority above .8 suggesting high levels of reliability for total scores (Field, 2009). The DERS Goals and Clarity subscales were below .7 suggesting poor internal consistency and as such should be considered with caution.

Table 2. Reliability and mean scores

	α	M (SD)	Range
Childhood Trauma (CATS)			
Neglect	0.919	1.72 (1.01)	0-4
Emotional Abuse	0.905	1.80 (1.08)	0-4
Physical Abuse	0.778	1.98 (0.91)	0-4
Sexual Abuse	0.838	.68 (0.89)	0-4
Total CATS	0.959	1.56 (0.86)	0-4
Emotion Dysregulation (DERS)			
Non accept	0.828	2.54 (0.94)	1-5
Goals	0.561	3.00 (0.74)	1-5
Impulse	0.809	2.59 (0.87)	1-5
Aware	0.793	2.97 (0.85)	1-5
Strategies	0.793	2.61 (0.78)	1-5
Clarity	0.621	2.57 (0.77)	1-5
Total DERS	0.872	2.71 (0.52)	1-5
Ego Under Control (EUC)			
Total EUC	0.817	3.00 (3.67)	1-4
Ego Resiliency (EUR)			
Total EUR	0.782	2.84 (0.46)	1-4
Adult Attachment (RS)			
Global Avoidant Attachment	0.858	3.63 (1.04)	1-7
Global Anxious Attachment	0.842	3.19 (1.43)	1-7

Childhood abuse

The high total CATS score (M = 1.56, SD = .86) is consistent with previous research with this population (Stanley, 2010), showing levels to be considerably higher than those observed in non-clinical samples (M = .39 to .91, SD = .06 to .66; Kent & Waller, 1998; Patti, 1999; Sander & Becker-Lausen, 1995). Comparison with clinical samples suggest individuals diagnosed with multiple personality disorders have higher levels (DSM III-R; APA, 1987; M = 2.7, SD = .84; Sanders & Becker-Lausen, 1995), and other clinical

samples, such as bulimic women have lower levels (*M* = 1.29 SD = .82; Hartt & Waller, 2002).

Within this sample childhood physical abuse had the highest mean score, followed by emotional abuse and neglect, which were only slightly lower. Sexual abuse was reported by 58% of participants. Other studies have observed rates of 3-36% within the general population (Finklhor, 1994) and 40-71% within clinical populations, including individuals with Borderline Personality Disorder (BPD) diagnosis (Zanarini & Frankenburg, 1997).

Emotion dysregulation

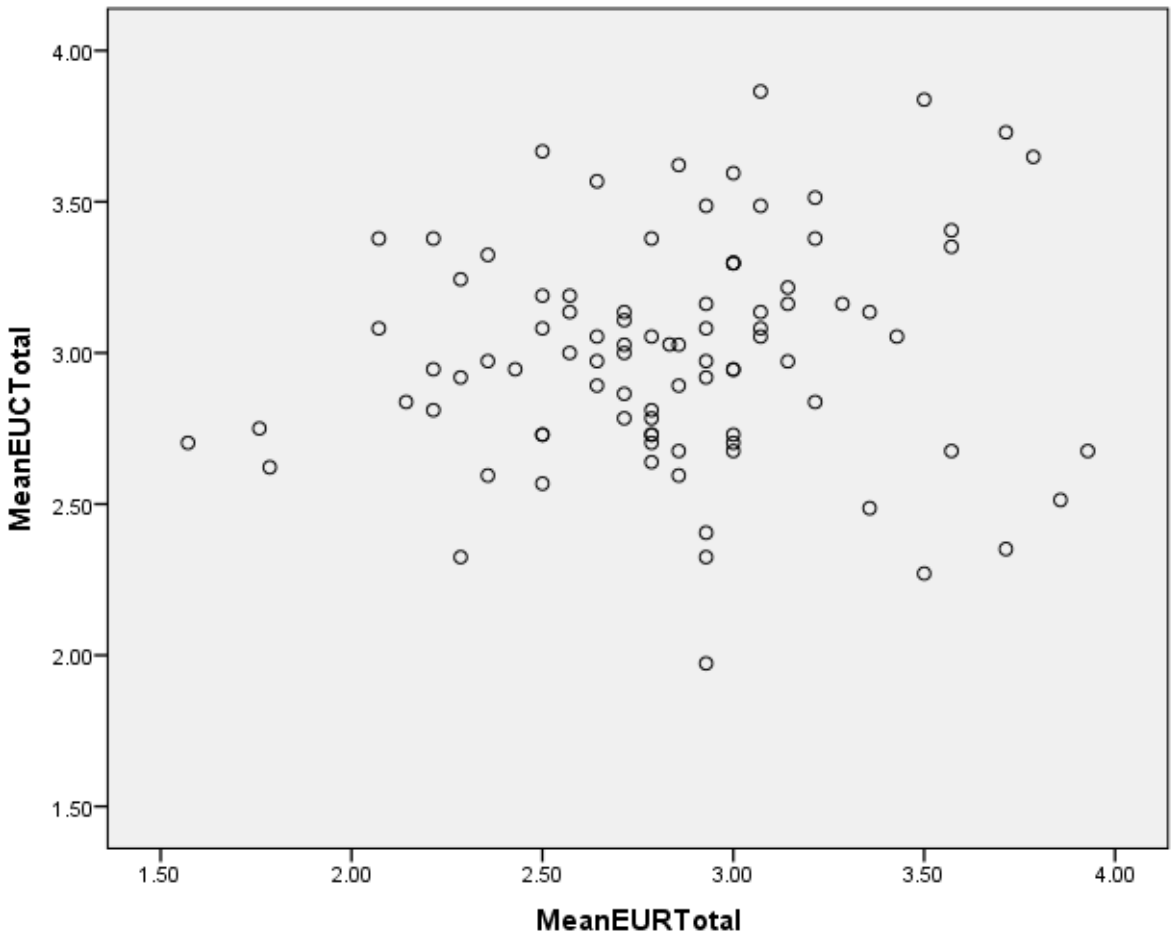
The DERS showed high mean scores across all subscales, with the highest mean score observed for the goals subscale (*M* = 3.00, SD = .74). The total score (*M* = 2.71, SD = .52) was similar to levels observed in previous research with homeless populations (*M*= 2.81, SD= -.59) (Couldrey, 2010). These figures are higher than those observed in non-clinical samples reporting experiences of trauma (*M* = 2.43, SD = 0.74) (Tull, Barrett, McMillan & Roemer, 2007) and no history of self-harm (*M* = 2.11, SD =.58) or history of self-harm (*M* = 2.43, SD= .55) (Gratz & Roemer, 2008). Substance abusers with no BPD diagnosis (*M* = 2.11, SD=.49) also reported lower levels. However those with diagnosis of BPD demonstrated comparative levels to this sample (*M* =2.80 SD = .73) (Gratz, Tull, Baruch, Bornovalova & Lejuez, 2008).

Self-control

The mean score of the EUC suggests high levels of under control in this population (*M* = 3.00, SD = 3.67). The total score for the EUR scale also shows scores higher than the median (*M* = 2.84, SD = 0.86). Non-clinical populations demonstrated lower mean scores for EUC (*M* = 2.64, SD = .31) and higher mean scores for EUR (*M* = 3.05, SD = .34) (Letzring et al., 2005). There are currently no studies with clinical samples available for comparison.

A scatter-plot divided into quadrants according to high and low ego resiliency, and high and low ego under-control, based on mid points of the scales, was used to demonstrate population distribution. This identified that the majority of this sample scored highly on emotional under control and high ego resiliency.

Figure 1. Scatterplot of mean ego under-control and ego resiliency scores.



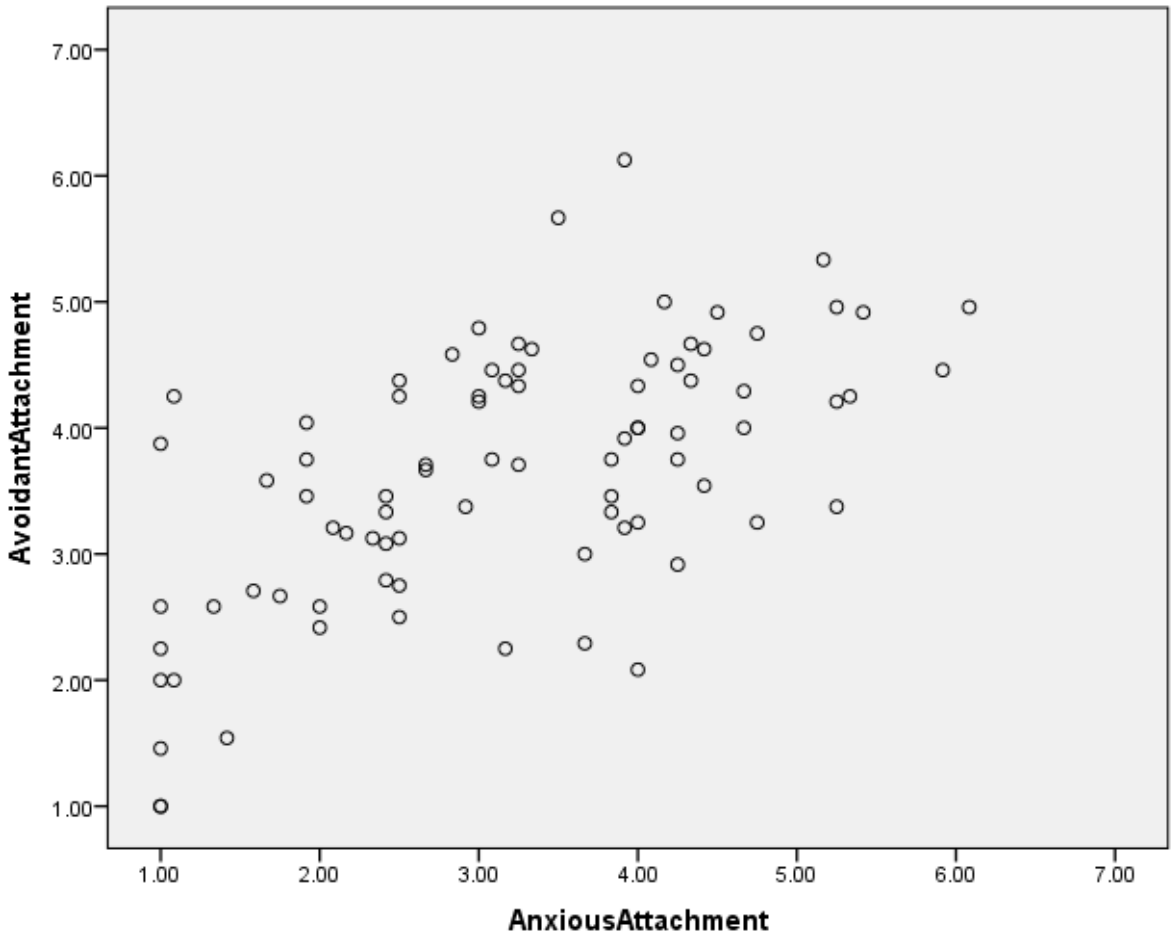
Note: EUR = Ego Resiliency Scale, EUC = Ego Under Control Scale.

Adult attachment

The global scores of insecure attachment were high. Scores of global avoidance (*M* = 3.63, SD = 1.80) were slightly higher than global anxious (*M* = 3.19, SD = 1.43). A recent doctoral thesis with a student population identified considerably lower scores for anxious (*M* = 1.95, SD = .82) and avoidant attachment (*M* = 2.66, SD = .98) (Arikan, in press). Lower scores were also identified for a large non clinical online sample for global anxious (*M* = 2.53, SD = 1.19) and global avoidant (*M* = 3.18, SD = .96) attachment (Fraley, Heffernan, Vicary, & Brumbaugh, 2011). This author was unable to identify any studies with clinical samples with which to compare results.

Figure 2 presents a scatter-plot of population scores for anxious and avoidant attachment. This shows a diverse distribution, suggesting an association between anxious and avoidant attachment, and few high anxious low avoidant, and high avoidant low anxious attachment styles.

Figure 2. Scatterplot of the distribution of anxious and avoidant attachment scores.



Correlations between childhood abuse, attachment, emotion dysregulation and self-control

Pearson correlation coefficients were calculated to identify the relationships between variables. Table 3 shows the correlations between the variables of the main hypotheses. Specific relationships are highlighted below.

Table 3. Pearson's Correlations among child abuse, attachment, emotion dysregulation and self-control (*N* = 88*)*.

Variables	1	2	3	4	5
CATS					
1.Total	-				
RS					
2. Global Avoidant	.572**	-			
3. Global Anxious	.536**	.611**	-		
DERS					
4. Total	.512**	.352**	.438**	-	
EUC					
5. Total	.105	-.032	.106	.217*	-
EUR					
6. Total	-.010	-.130	.038	-.133	.117

Note: CATS = Child Abuse and Trauma Scale, RS = Relationship Structures Questionnaire, DERS = Difficulties in Emotion Regulation Scale, EUC = Ego Under Control Scale, EUR = Ego Resilience Scale, *$p < .05$, ** $p < .01$.

Childhood abuse and emotion dysregulation

The results showed that there were significant positive correlations between total CAT and total DERS ($r = .500$, $p = .000$) suggesting that experiencing greater levels of childhood trauma was associated with higher degrees of emotion regulation difficulties.

Childhood abuse and self-control

There were no significant correlations between childhood abuse and ego under control ($r = .136$, $p = .207$) or ego resiliency ($r = .002$, $p = .988$).

Childhood abuse and adult attachment

The results showed that there were significant positive correlations between total CATS and total global avoidant attachment (r = .572, p = .000) and global anxious attachment (r = .536, p = .000).

Adult attachment and emotion dysregulation

The results showed that there were significant positive correlations between total DERS and total global avoidant attachment (r = .352, p = .001) and global anxious attachment (r = .438, p = .000).

Adult attachment and self-control

There were no significant correlations between global avoidant attachment, and ego under control (r = -.032, p = .773) or ego resiliency (r = -.130, p = .236), or, global anxious attachment, and ego under control (r = -.106, p = .337) or ego resiliency (r = -.038, p = .734). Although not significant, the results suggest the direction of the relationships is in the direction predicted, with high levels of avoidant attachment associated with low levels of under control, and high levels of anxious attachment associated with high levels of under control. High levels of emotional resiliency were associated with low levels of global attachment anxiety and avoidance.

The mediating effect of adult attachment

Four mediation models were proposed to test the hypothesis that adult attachment mediates the relationship between childhood abuse and emotion dysregulation, and, childhood abuse and self-control. The significance of the mediated path was tested using Bootstrapping methodology for indirect effect using an SPSS macro developed by Preacher and Hayes (2008). This method relies on analysing large numbers of repetitive computations from the overall data set to estimate the shape of the statistics sampling distribution. It calculates bias corrected and accelerated bootstrapping intervals for the whole data from random amounts of indirect effects. A significant indirect effect is indicated if the 95% confidence interval does not include zero. This method does not make any assumptions about the sampling distribution and is currently considered the most robust for measuring indirect effect of mediating variables (Hayes, 2009).

Figure 3. Mediation Model

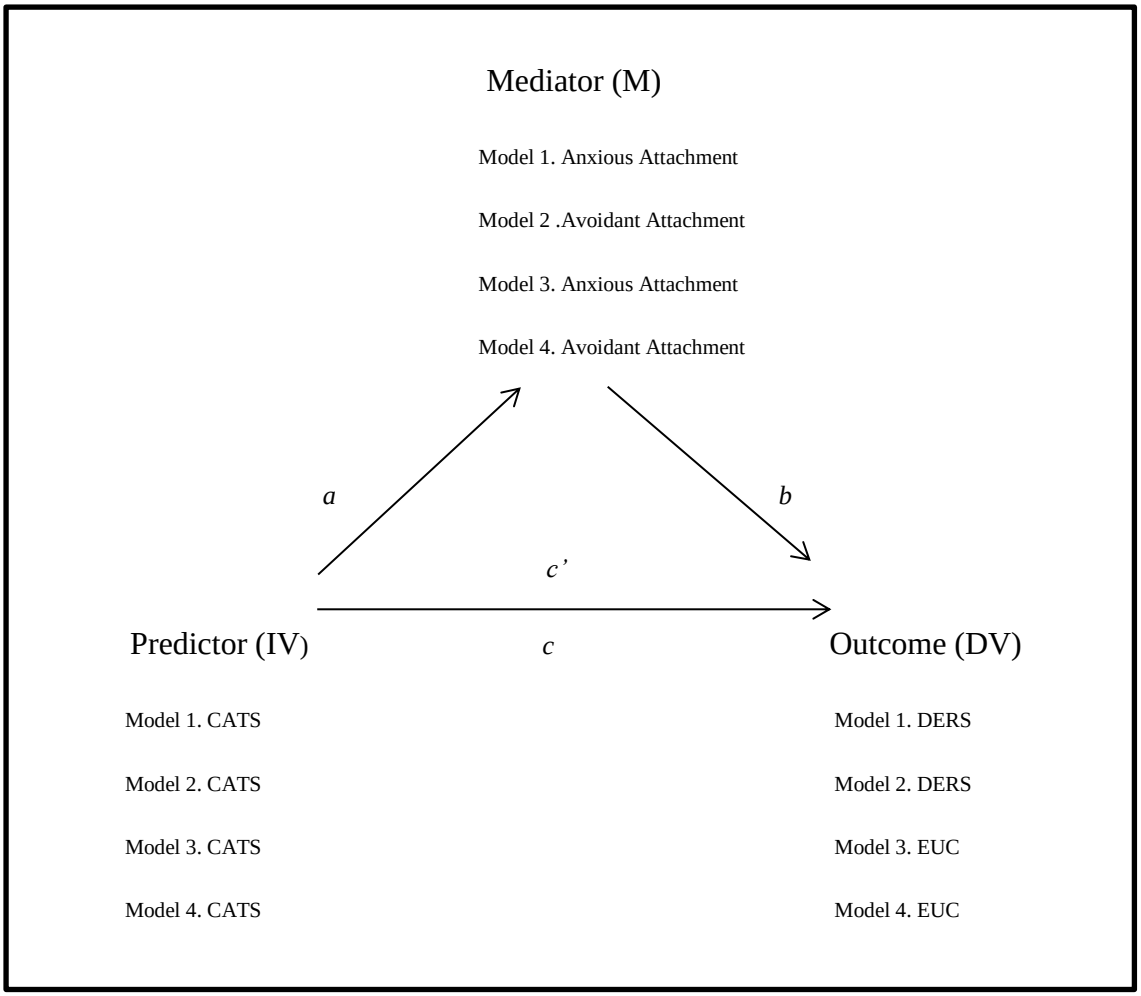


Table 4 (page 69) shows the variables of the four mediation models proposed with the results of the analysis. Global anxious attachment was shown to mediate the relationship between child abuse and emotion dysregulation, with a significant indirect effect through the mediator being observed (point estimate = .068, 95% confidence interval (CI) of .0003 to .1617) with the bootstrapping procedure (using 5000 bootstrap resamples). However, no significant indirect effect through the mediator was observed for adult avoidant attachment (point estimate = .0264, 95% confidence interval (CI) of -.0419 to .0909). No significant indirect effects through the mediator were found for the relationship between childhood trauma and under-control when the mediator was avoidant attachment (point estimate = -.0422, 95% confidence interval (CI) of -.1138 to .0153) or anxious attachment (point estimate = .0043, 95% confidence interval (CI) of -.0472 to .0752).

Table 4. Bootstrapping results for main hypotheses, with RS Global Anxious Attachment (M) mediating the relation between CATS (IV) and DERS (DV).

				Effect of IV on *M*	Effect of *M* on DV	Total effects	Direct effects	Indirect effects	95% CI Bias corrected	
Mediation Model	Independent variable (*IV*)	Dependent variable *(DV)*	Mediator *(M)*	*Coeff (SE)*	*Coeff (SE)*	*Coeff (SE)*	*Coeff (SE)*	*Coeff (SE)*	Lower	Upper
1.	CATS Total	DERS Total	RSGlobal Avoidance	.4308 (.0686)**	0.612 (.0863)	.2882 (.0531)**	.2618 (.049)**	.0264 (.0333)	-0.0419	0.091
2.	CATS Total	DERS Total	RS Global Anxious	.2552 (.0450)**	.2705 (.1286)*	.2777 (.0528)**	.2087 (0613)**	0.069 (.0404)	0.0003	0.162
3.	CATS Total	EUC Total	RS Global Avoidance	.4308 (.0686)**	-.0978 (.0723)	.0651 (.0448)	.1073 (.0544)	-.0422 (.0316)	-.1138	0.015
4.	CATS Total	EUC Total	RS Global Anxious	.2552 (.0450)**	.0169 (.1119)	.0733 (.0448)	.06902 (.0533)	.0043 (.0306)	-.0472	0.08

Note: CATS = Child Abuse and Trauma Scale, RS = Relationship Structures Questionnaire, DERS = Difficulties in Emotion Regulation Scale , EUC = Ego Under Control Scale, IV = Independent variable, BCa = Bias corrected and accelerated bootstrapping confidence intervals, 5000 bootstrap samples; CI = Confidence interval, *p < .05, ** p < .01

Table 5. Bootstrapping results with emotion dysregulation (M) mediating the relation between adult attachment (IV) and self-control (DV).

				Effect of IV on *M*	Effect of *M* on DV	Total effects	Direct effects	Indirect effects	95% CI Bias corrected	
Mediation Model	Independent variable *(IV)*	Dependent variable (*DV)*	Mediator *(M)*	*Coeff (SE)*	*Coeff (SE)*	*Coeff (SE)*	*Coeff (SE)*	*Coeff (SE)*	Lower	Upper
5.	RS Avoidant Attachment	EUC Total	DERS Total	.2604 (.0761)**	.2563 (.0818)**	-.0173 (.0597)	-.0840 (.0312)	0.0667 (.0312)	0.0204	1.463
6.	RS Anxious Attachment	EUC Total	DERS Total	.5019 (.1137)**	.2689 (.0864)**	.0904 (.0935)	-.0446 (.0989)	.1349 (.0573)	0.0413	0.2745

Note: RS = Relationship Structures Questionnaire, DERS = Difficulties in Emotion Regulation Scale, EUC = Ego Under Control Scale, IV = Independent variable, BCa = Bias corrected and accelerated bootstrapping confidence intervals, 5000 bootstrap samples; CI = Confidence interval, *p < .05, ** p < .01

Further analysis

There is evidence that attachment dimensions are associated with different emotion regulation strategies in adults (Mikulincer & Shaver, 2007) and current literature suggests that research should investigate the specific aspects of emotion regulation affected by the experience of childhood trauma (Ehring & Quack, 2010). As such further investigation into the relationships between specific emotion regulation subscales and attachment and self-control were carried out. Figure 4 (Appendix L) shows the results of the correlations. Global avoidant and global anxious attachment showed positive relationships across the DERS subscales of strategies, goal, clarity and impulse. However, only global anxious attachment showed any relationship with non-acceptance of emotions (r =.321, p = .003), and neither global anxious (r = .048, p = .665) or global avoidant attachment style (r = .185, p = .089) was correlated with the subscale of awareness. However, a negative relationship was observed for ego resiliency and DERS Awareness (r = -.365, p = .000) suggesting less difficulty in emotional awareness was associated with more ego resiliency.

The results did not show any relationship between attachment and self-control. However, research indicates that emotion dysregulation influences self-regulation (Tice, Bratlavsky & Baumiester, 2001) and has been shown to mediate the relationship between attachment and adult symptomology (Benoit, Bouthillierb, Moss, Rousseauc & Brunet, 2010). Following the initial data analysis, positive correlations were observed between total DERS and EUC total (r = .217, p = .040). To investigate the possible mediating role of emotion dysregulation between attachment and emotional control, two further mediation models were tested. The results are shown in Table 5 (page 69).

Emotion dysregulation showed an indirect effect on the relationship between global avoidant attachment style and ego under control (point estimate = .0667, 95% CI=-.0204 and CI=-.1463), and global anxious attachment and ego under-control (point estimate = .135, 95% CI=.0413 and .2745). Participants who indicated high levels of global anxious attachment were more likely to have high levels of emotion dysregulation, and through high levels of emotion dysregulation, were more likely to have high level of ego under-control. Individual's with high levels of global avoidant attachment also showed high levels of emotion dysregulation which were significantly related to ego under-control.

DISCUSSION

The study aimed to investigate the role of adult attachment in the relationship between child abuse, and emotion dysregulation and self-control, in the homeless population. As hypothesised, the results showed significant positive correlations between the experience of child abuse, anxious and avoidant attachment and emotion dysregulation. The presence of personality constructs relating to self-control were also explored, and identified the majority of the population had high levels of ego under control and ego resiliency. Contrary to expectations no significant relationships were observed with the measures of the constructs of self-control, and child abuse or anxious or avoidant attachment.

Analysis of the four mediation models initially proposed showed only anxious attachment mediated the relationship between child abuse and emotion dysregulation. Further analysis considered the relationship between the attachment dimensions and emotion dysregulation subscales, identifying 'acceptance' of emotions to be particularly associated with anxious attachment. The relationship between both attachment dimensions and self-control was shown to be mediated by emotion dysregulation.

Interpretation of key findings

The role of attachment

The results of this study are consistent with previous research within this population identifying high levels, and relationships, between childhood abuse and emotion dysregulation (Stanley, 2010; Couldrey, 2010). This research added to the current empirical literature by identifying high levels of insecure attachment across both anxious and avoidant domains, which were shown to be associated with childhood abuse and emotion dysregulation. Anxious attachment was shown to have an indirect effect on the relationship between childhood abuse and emotion dysregulation. However, avoidant attachment was not, supporting empirical research with adults and children showing that relationships with avoidant attachment are typically less pronounced than anxious attachments (Brenning et al., 2012). This may be due to the nature of the strategies used by the alternate attachment styles, whereby anxious attachment involves an increase in emotions and prioritises engagement with other people to regulate their emotions, and, avoidant attachment devalues emotions and promotes withdrawal and isolation. Anxious individuals are theorised to prioritize attachment goals over other life tasks, whereas

avoidant people try to inhibit or exclude thoughts or feelings suggestive of vulnerability or dependence and divert their attention from threatening and attachment related information (Milkulincer & Shaver, 2007).

There has been limited research into the individual strategies associated with emotion regulation difficulties (Ehring & Quack, 2010). This investigation showed emotion dysregulation subscales of strategies, clarity, goals and impulse were associated with both insecure attachment styles. However neither attachment style was associated with awareness of emotions, and, only anxious attachment was related to deficits in acceptance of emotions.

Non-significant relationships with awareness have previously been identified with adult populations with histories of childhood abuse and adult mental health difficulties. This has led to the proposal that awareness may not be part of the same construct as emotion dysregulation and should be removed from this measure (Bardeen et al., 2012). Non acceptance of emotions is identified as the "tendency to experience negative emotions in response to one's own emotions" (Gratz & Roemer, 2004, p.42). The relationship between high levels of non-acceptance of emotions and anxious attachment may therefore reflect the increased levels of emotions hypothesised in the 'hyperactivation' of the attachment system, compared to 'deactivation' of the attachment system with avoidantly attached individuals for whom no relationship was identified (Mikulincer & Shaver, 2007).

The role of self-control

This study also investigated the presence of different personality constructs associated with mental health difficulties, namely, over and under control and ego resiliency. Although not predicted, the results showed the majority of this sample of the homeless population demonstrated high levels of under-control, and high levels of ego resiliency. Support for the presence of adaptive flexibility in this population was presented in previous research identifying resiliency as a moderating factor in the relationship between childhood trauma and maladaptive coping strategies (Willoughby, 2010). Anti-social and borderline personality disorders, which are considered disorders of under control (Lynch, in press) have also been identified as being prevalent in the homeless hostel population. In comparison, depressive, passive aggressive and avoidant personalities (associated with

characteristics of over control) were prevalent in the street homeless (Munawar, 2009). As such, these results may represent these individual factors being associated with the homeless hostel population. High levels of resiliency may be a reflection of the hostel population, who have managed to successfully maintain their tenancies through their ability to flexibly adapt to numerous challenging life situations. Under-controllers are identified as being more socially skilled and charming, compared to over-controllers who lack expression and present as aloof in social situations (Lezring et al., 2005). These characteristics may make the availability and provision of support more accessible (Lynch, in press). Previous research has also suggested low self-control may be a predictor of homelessness, as under-controllers dislike activities which require planning, delayed gratification and organised activities, and, avoid settings that involve restrictions (Baron, 2003), and, may be more inclined to engage in deviant behaviours which may lead to homelessness (Gottfredson & Hirshi, 1990).

No significant relationships were observed between childhood abuse or attachment style, and, self-control. Although not significant, the direction of the relationship suggested there was a negative relationship with avoidant attachment and under-control, and a positive relationship with anxious attachment. It is suggested that inhibition in adulthood may be associated with more steps in the attachment activation system, which may take place intrapsychically rather than behaviourally (Mikulincer & Shaver, 2007). As such, avoidant attachment styles associated with the inhibited response of over-controllers may be harder to recognise. This suggests more research is required to identify the complexity of factors involved in this process.

Further analysis of the data using mediation models showed the relationship between anxious and avoidant attachment, and self-control, was mediated by emotional dysregulation. Over and under control are respectively described as the inhibition or expression of impulse, and are associated with particular personality characteristics (Letzring et al., 2005). This highlights the importance of emotional dysregulation with regards to impulsivity, which is widely recognised as a predictive factor in various mental health difficulties (Crowell, Beauchaine & Linehan, 2009). A negative relationship between high ego resiliency and low awareness of emotions deficits was also observed, suggesting awareness of emotions may be related to the ability to flexibly respond according to the demands of the situation. This may also provide preliminary support that

the variable of awareness is not part of the same construct as emotional dysregulation (Bardeen et al., 2012).

Strengths and limitations

This study contributes to the literature on homelessness, providing further support for the influence of childhood abuse and emotion dysregulation in this population. In addition this research has demonstrated the presence of insecure attachment and its relationship with these variables. Constructs of over and under control, and ego resiliency have not previously been investigated in the homeless population. This research aimed to identify to which levels these constructs were present, based on the hypothesis that more rigid behavioural responses and limited flexibility may be associated with disorders of over and under control (Lynch, in press) which have been observed in the homeless population (Munawar, 2009). This study was able to empirically investigate the role of attachment and these constructs of emotion control, and highlighted the importance of the influence of relational factors when considering individual factors associated with homelessness.

The use of a cross sectional design and correlational analysis is a limitation of this study as it is not possible to infer causality (Field, 2009). The measures used may also confine the interpretation of the results. This study failed to identify many individuals with high levels of over control. This may be due to limitations of the measure used. Although the EUC is recognised as a measure of over-control, it is primarily a measure of under-control (Letzring et al., 2005). Items relating to over control are not associated with any negative connotations and as such are not fully representative of the construct, and may be failing to identify this population. This study also used an opportunistic sample which may have introduced a sampling bias. Over control is associated with high levels of social desirability and aloof, distant personal styles (Lynch, in press) and therefore individuals with this personality construct may have been less inclined to participate in the study.

This study did not identify a mediating role of avoidant attachment, and failed to identify direct relationships between childhood abuse or attachment style, and self-control. Although there may be a complexity of factors associated with these relationships, including temperament (Lynch, in press), this may have been influenced by the study

relying solely on the use of self-report measures, which were affected by different attachment styles. Individuals with avoidant attachment style defensively exclude attachment related information and have difficulty identifying negative feelings as their responses are designed to direct emotional responses away from consciousness (Cassidy, 1994). They minimise the impact of their historical experiences (Alexander, 1998) and their defensive style may make them less inclined to share personal information (Rothbard & Shaver, 1994; Dozier, 1990). As such the use of self- report questionnaires for attachment, which measure conscious processes, may have benefitted from additional behavioural or physiological measures (Milkunicer & Shaver, 2007). The Adult Attachment Interview (AAI: George, Kaplan & Main, 1985) is proposed to identify unconscious attachment processes. It also provides a categorical measure of attachment styles, specifically identifying disorganised attachment, which is shown to be more prevalent in people with trauma experiences and personality disorders (Efron, 2006; Fonagy, Target & Gergely, 2000). However, this questionnaire relates to parent-child relationships in particular, rather than current global attachment in adult relationships. The self-report Relationship Structures Questionnaire (Fraley et al., 2006) used, enables assessment of global attachment and is recommended for research into broader trait like measures of personality (Fraley, Vicary, Brumbaugh & Roisman, 2011). This provides a dimensional measure of attachment, which is recognised to have more validity and is considered preferable to categorical measures (Fraley &Waller, 1998).

Another limitation of this study was the absence of certain measures, in particular mood, which may have been a confounding variable with the variables being investigated. Depression and anxiety have been shown to be associated with attachment style (Maganska, Gallagher & Miranda, 2013). Diagnosis of personality disorders was also not measured due to potential participant burden. However, this would have been useful to identify the role of these variables in different personality presentations. The study also failed to look at other experiences of trauma experienced at different stages in life (e.g. many participants referred to their experience in army or fights). Although higher levels of emotion regulation difficulties have been identified after childhood trauma, than later traumas (Ehring & Quack, 2010), it is important to consider this as a confounding variable. Another important factor was the lack of recorded evidence for current and historical use of drugs and alcohol. If used as a strategy to regulate emotions, these may

have influenced the individual's normal responses and therefore their identification with particular personality traits and behaviours.

Characteristics of this population may also have influenced the validity of responses. The participant's ability to complete questionnaires was influenced by previous and current experiences e.g. a number of participants stated that they had not experienced conventional family lives, had lived in foster care or did not know their parents, and, negative relationships with attachment figures were observed to cause emotional responses which may have influenced scoring. Although levels of literacy were assessed, clarification of the meaning of questions was also required on numerous occasions, especially when double negative statements were used. Although this may influence the individuals perception of confidentiality, future research with this population may need to consider the use of an interview style approach to ensure comprehension, and the containment of emotions and impulsive responses, and therefore the validity of responses. Difficulties with validity of responses is increasingly being recognised in research, however consensus on how to address this issues remain unresolved (Meade & Craig, 2012).

Clinical implications

The high prevalence rates of insecure attachment and emotion dysregulation, and their role in self-control highlight the importance of addressing each of these factors in the homeless population.

Attachment styles are important to consider in the provision of support for individuals who are homeless. Individual's attachment styles influence their ability to modulate their emotions, but also their relationships and ability to engage with other individuals. Insecure attachment styles influence engagement with support (Muller, Gragtmans & Baker, 2008), personal (Kilmann, Finch, Parnell & Downer, 2013) and therapeutic relationships, (Smith, Msetfi, & Golding, 2010) and outcomes (Stalker, Gebotys & Harper, 2005). As such therapeutic interventions may need to provide more focus on the role of individual relationships, and the specific responses associated with each attachment style may therefore need to be considered when designing interventions.

Although both insecure attachment styles were associated with emotion regulation difficulties, differences in the mediating roles and specific emotion regulation strategies suggests treatments may benefit from focussing on different areas. Previous research has suggested that therapy with individuals with attachment anxiety should focus on impulse regulation and reflective functioning, and, with avoidantly attached individuals should focus on gradual exposure to affective expression and interpersonal connectedness in the therapeutic relationship (Tasca et al., 2009). The therapeutic relationship can provide a 'secure base' from which individuals can explore alternative experiences and challenge previously held beliefs (Bowlby, 1998). Internal working models developed through attachment experiences can change over time due to opportunities to experience different situations and relationships (Pinquart, Feußner & Ahnert, 2012). The chronic patterns of thoughts and behaviours which may be maintaining homelessness may therefore be addressed by challenging them in a safe environment. Interventions focussing on attachment have been shown to be beneficial in therapy and changes in attachment have been observed following therapeutic interventions (Elklit, 2009). The individual's environment may also be adapted to consider the needs of their attachment system. The presence of maladaptive behaviours in anxiously attached individuals may be addressed by considering the use of interventions that enhance attachment security (e.g. presence of support staff). This may be less beneficial for individuals with avoidant attachment styles (Ainsworth et al., 1978).

This research has highlighted the significant role of deficits in emotion regulation in this population. Acceptance of emotions has been identified as an important factor to address mental health problems and is central to a number of therapies, including Acceptance and Commitment Therapy (ACT; Hayes et al., 1996) and DBT (Linehan, 1993). The latter is currently the most widely recognised therapy to address emotion regulation difficulties and the development of skills. A new model of DBT proposes that treatment techniques should distinguish between over and under control, focussing interventions on the different deficits associated with each (Lynch, in press). This study identified high levels of under-control in the hostel homeless population suggesting that strategies associated with emotion dysregulation and impulse control would be particularly salient. This research also suggests that emotional awareness may not be a symptom of deficits in skills, but rather is associated with ego resiliency. This form of adaptive flexibility is associated with resiliency which is widely accepted as a protective factor for mental

health and maladaptive behaviours (Willoughby, 2010), and should therefore be incorporated into therapy.

Directions for future research

The relationship between constructs of personality and emotion regulation, have been identified in this research. However, further investigation into the relationship between over and under control and personality disorder is necessary. This could include identification of specific skills and deficits associated with the symptoms observed, including specific emotional regulation strategies. Recently low emotional clarity and awareness were shown to be associated with aggressive behaviour (Cohn, Jacupcak, Seibert, Zeichner & Hilderbrandt, 2010) and different forms of emotion dysregulation were associated with mood disorders and externalizing disorders (Aldoa, 2010). Impulsivity is widely recognised as an important personality construct in the understanding and diagnosis of personality disorders and mental health difficulties (Whiteside & Lynam, 2001). This aspect of emotion dysregulation was significantly associated with interpersonal factors in this research and would benefit from further investigation, particularly with regards to the most appropriate treatment options. Further investigation into emotional control would also benefit from the development of improved measures of over control (Tangney et al., 2004).

This research also highlighted the complexity and variety of factors which may be associated with difficulties observed in the homeless population. Independent factors associated with these outcomes, including other forms of adverse experiences in childhood and adulthood (e.g. trauma, loss) and temperament (Lynch, in press), need further investigation.

The role of insecure attachment in the deficits observed in this population highlights the importance of attachment relationships. Adults have a wide range of potential attachment figures. It is therefore important to consider the people in their environment. In addition to primary attachment figures, future research may consider the role of other significant attachment figures such as support workers. The influence of traumatic experiences at

different life stages and the longer term effects on the attachment system would also benefit from further investigation.

Research with individuals diagnosed with BPD has shown different symptoms have been associated with particular attachment styles (Mikulincer & Shaver, 2007), which may support a more transdiagnostic approach to intervention. Further investigation into the influence of attachment styles and specific mental health disorders is important for understanding the mechanisms involved and the development of interventions. This may include investigation into the internal working models and cognitions associated with this population.

It is also important to investigate other groups within the homeless population to identify individual factors which may be influencing them. For example research with the street homeless has identified traits associated with over control (Munawar, 2009), whereas this study has identified high levels of under control and high resiliency in the hostel population.

Ethical considerations were paramount in this study. Although no increased levels of distress were reported, due to deficits in emotion regulation, including clarity, further research investigating the outcome, such as the increased use of rumination or maladaptive behaviours following participation in research may be important. Also, research in this area is primarily correlational. More robust methods including longitudinal studies would help clarify the directionality of these variables.

CONCLUSION

This research demonstrates the importance of considering individual and relational factors in the homeless population. High levels of child abuse, insecure attachment across both attachment style dimensions, and emotion regulation deficits were observed. Within this homeless population high levels of under control and ego resiliency were also observed. Anxious attachment was shown to mediate the relationship between child abuse and emotion dysregulation, and, emotion dysregulation was shown to mediate the relationship between anxious and avoidant attachment, and self-control. This highlights the importance of addressing these areas when considering the provision of support for individuals in the homeless population and designing interventions to challenge the development and maintenance of chronic homelessness associated with individual factors. Interventions prioritising the development of skills lacking with these constructs may be particularly relevant.

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APPENDICES

Appendix A: Table of Literature Review Studies

Study	Participants	Research Measures	Summary of Results
Allen, Coyne & Huntoon (1998)	117 female inpatients admitted for trauma related disorders	Child Trauma Questionnaire (CTQ: Bernstein & Fink, 1994) -measure of physical, sexual, emotional abuse and physical and emotional neglect; Adult Attachment Scale Revised (AAQ: Collins, 1996); Millon Multiaxial Clinical Inventory- III (MCMI III: Millon, 1994) – PTSD symptoms	Low levels of abuse and neglect are associated with higher levels of secure attachment (higher dependency, lower anxiety). Secure attachment associated with PTSD (high closeness and dependency, and low anxiety).
Alexander, Anderson, Brand, Schaffer, Grelling & Kretz (1998)	92 females from the community recruited according to experience of CSA within the home	Interview for experience of sexual abuse; Family Attachment Relationship Interview (Bartholomew & Horowitz, 1991); Impact of Events Scale (IES: Horowitz, Wilner & Alvarez, 1979).	Abuse was not significantly related with attachment. Abuse and PTSD were significantly related. Attachment did not significantly add to the variance of the relationship between CSA and PTSD symptoms. Abuse severity was significantly associated with PTSD symptoms (intrusive thoughts and avoidance of memories)
Roche, Runtz & Hunter (1999)	307 female undergraduates. Compared CSA v non CSA	Modified questions about experience of CSA (Finklehor, 1979); Relationship Questionnaire (RQ: Bartholomew & Horowitz, 1991) - identifying attachment categories and converting to dimensional models of self and other; Trauma Symptom Inventory (TSI: Briere, 1995)	Significant relationship between CSA and trauma symptoms, and negative model of self and trauma symptoms. Attachment mediated the relationship between CSA and trauma symptoms. CSA group had significantly higher scores for defensive avoidance, impaired self-reliance and intrusive experiences.
Muller, Sicoli & Lemieux (2000)	24 male, 42 female community sample with experience of physical or sexual abuse	Record of Maltreatment Experiences (ROME: Wolfe & McGee, 1994) –measures psychological abuse, physical abuse, domestic violence; Relationship Structure Questionnaire (RSQ: Griffin & Bartholomew, 1994) - identifying attachment categories and converting into dimensional models of self and other; PTSD Symptom Checklist (Southwick et al., 1993).	PTSD symptoms were significantly higher for fearful attachment. Significant correlation between PTSD and negative view of self but not negative view of other. Fearful and preoccupied attachment significantly associated with higher level of PTSD symptoms.

Study	Participants	Research Measures	Summary of Results
Muller & Lemieux (2000)	Same sample as above	Same as above	No additional evidence.
Twaite & Rodriguez-Srednicki (2004)	284 opportunistic sample form the street. Compared CPA/CSA and non CPA/CSA	Abuse History Questionnaire; Attachment Style Questionnaire (ASQ: Feeney, Noller &, Hanrahan, 1994) - used only the subscale of 'confidence in self and others' as measure of secure attachment; Impact of Events Scale (IES: Horowitz, Wilner & Alvarez, 1979) - for attack on world trade centre.	Secure attachment mediated the relationship between CPA/CSA and PTSD symptoms.
Peleikis, Mykletun & Dahl (2004)	112 female outpatients treated previously for anxiety or depression. Compared CSA v non CSA	Questions about CSA experience; Family Background Risk Factors (FBRF); Intimate Bond Measure (IBM: Wilhelm, Brownhill & Boyce: Wilhelm & Parker, 1988) - measures quality of current relationship to partner by measuring 'care' and 'control'; MINI International Neuropsychiatry Interview for DSM IV Axis I (Lecrubier & Sheehan, 1999).	CSA associated with higher risk of PTSD and worse childhood atmosphere and relationships with parents. Quality of current attachment not associated with CSA. Relationship with parent and family background risk factors associated with increased symptoms of PTSD.
Stalker, Gebotys, Harper (2005)	117 female inpatients receiving treatment for trauma related disorders with histories of all forms of abuse	Interview to identify sexual, physical and emotional abuse and abuser; Reciprocal Attachment Questionnaire (RAQ: West & Sheldon, 1988) - primary attachment figure. Avoidant Attachment Questionnaire (AAQ: West & Sheldon-Keller, 1994) - lack of attachment figure; Modified PTSD Symptom Scale Self Report (MPSS-SR; Falsetti, 1997) - Frequency and severity of PTSD symptoms	Attachment insecurity influenced outcome of treatment for PTSD. Type of abuse did not influence outcome.

Study	Participants	Research Measures	Summary of Results
McLewin & Muller (2006)	956 undergraduates. Compared CPA v non CPA v all	ROME ; Relationship Structure Questionnaire (RSQ) and Relationship Questionnaire (RQ) - combined to get dimensional models of self and other; Trauma Symptom Inventory (TSC-40; Briere & Runtz, 1989).	View of self was biggest predictor of PTSD. Psychological abuse and violence associated with PTSD, not physical abuse. Psychological and physical abuse associated with self and other.
Stovall-McClough & Cloitre (2006)	Female participants self- referred for study of PTSD following CPA or CSA. Compared PTSD (30) v non PTSD (30)	Questions about physical or sexual abuse; Adult Attachment Interview (AAI: George et al, 1996); Clinician Administered Post Traumatic Scale for DSM IV (CAPS: Blake et al., 1990)	PTSD group seven times more likely to have unresolved attachment status. Unresolved trauma status associated with high levels of avoidance and total PTSD symptoms, not intrusions or arousal.
Aspelmeier et al (2006)	324 female undergraduates. Compared CSA v non CSA	Questions about CSA; Relationship Questionnaire (RQ); Inventory of Parent and Peer Attachment (IPPA: Armsden & Greenberg, 1987) - Quality of attachment to peers and parents, measuring secure attachment by trust, communication and alienation; Trauma Symptom Inventory (TSI) – Subscales of self, dysphoria and trauma.	Relationship between CSA and parental attachment relationship were strongest. Trauma symptoms most strongly associated with parent and peer alienation.
Riggs, Sahl, Greenwald, Atkinson, Paulson & Ross (2007a)	80 mixed patients treated for trauma	Interview for abuse; Early Family Environment (FES: Moos & Moos, 2002); Experiences in Close Relationships Questionnaire (ECR; Brennan et al., 1998); Millon Multiaxial Clinical Inventory –III (MCMI-III)	Multi-type abuse predictive of PTSD. Significant relationship between anxious and avoidant attachment and PTSD.

Study	Participants	Research Measures	Summary of Results
Riggs, Paulson, Tunnell, Sahl, Atkinson & Ross (2007b)	Same population as Riggs et al, (2007a)	Interview for early abuse; Experiences in Close Relationship (ECR); Adult Attachment Interview (AAI); Millon Multiaxial Clinical Inventory –III (MCMI-III)	High levels of fearful and unresolved attachment. Low levels of secure, negative self and other attachment, associated with PTSD.
Browne & Winkleman (2007)	219 mixed undergraduates.	Child Trauma Questionnaire (CTQ : Bernstein & Fink, 1994) Relationship Structure Questionnaire (RSQ): Trauma Symptom Inventory (TSI) - Total scores	Relationship between childhood trauma and trauma symptoms not mediated by attachment but by cognitive distortions.
Lauterbach, Koch & Pater (2007)	5877 individuals from a national Comorbidity Survey for Axis I disorders. Compared trauma v no trauma; trauma no PTSD v trauma PTSD; early onset PTSD v late onset PTSD	Questionnaire of range of life experiences including sexual molestation, CPA, neglect; Measure of maternal and paternal support, and peer support, in childhood; Diagnostic Interview for Axis I disorders using revised Diagnostic Interview Schedule of PTSD (DIS: Breslau, Davis, Andreski & Peterson, 1991).	Significantly higher parental and peer support across the different trauma groups.
Carr, Flanagan, Dooley, Fitzpatrick, Flanagan-Howard, Shelvin, Tierney, White, Daly & Egan (2009)	247 participant who had experienced institutional abuse	Interview to identify abuse; Experiences in Close Relationships (ECR); Trauma symptom Inventory (TSI) - Total	Anxious and avoidant attachment significantly related to trauma symptoms. Secure and dismissing attachment significantly less trauma symptoms than preoccupied and fearful attachment.

Study	Participants	Research Measures	Summary of Results
Reinert & Edwards (2009)	274 mixed undergraduates	Child Mistreatment Scale (Briere & Runtz, 1988) - measuring physical and verbal abuse by mother and father; Adapted Attachment to God Questionnaire (Rowatt & Kilpartick, 2002) - for past mother and father and overall insecure attachment; Trauma symptom Checklist-40 (TSC-40).	Verbal and physical abuse significantly related to trauma and attachment. Significant relationship between all verbal abuse and trauma symptoms, but not all physical symptoms. Avoidant attachment to mother moderated relationship between verbal and physical abuse by father and trauma symptoms.
Carr, Flanagan, Dooley, Fitzpatrick, Flanagan-Howard, Shelvin, Tierney, White, Daly & Egan (2010)	Same population as Carr et al. (2009)	Same as Carr et al. (2009)	No additional results.
Sandberg (2010)	199 female undergraduates. Compared abuse experiences (CSA v CPA v sexual victimisation v non)	Questions about abuse - CSA, CPA, Sexual victimisation; Relationships Questionnaire (RQ) ; PTSD Checklist (PCL-C: Weathers, Litz, Herman, Huska & Keane, 1993).	Attachment not a mediator between abuse and PTSD. Dismissing attachment moderated the relationship between composite of abuse and victimisation and trauma symptoms.
Sandberg, Suess & Heaton (2010)	224 female undergraduates	Traumatic Life Events Questionnaire (TLEQ: Kubany et al, 2000) - yes/no answers to traumatic events e.g. sexual abuse, domestic violence; Experiences in Close Relationships (ECR); PTSD Checklist (PCL-C).	Anxious and avoidant attachment significantly related to PTSD. Anxious attachment mediated adolescent/adult sexual victimisation and trauma symptoms.
Muller, Thornback & Bedi (2012)	876 undergraduate students	ROME; Relationship Questionnaire (RQ) ; Relationship Scales Questionnaire (RSQ); TSC-40.	Attachment mediates the relationship between abuse and trauma symptoms, particularly psychological abuse.

Study	Participants	Research Measures	Summary of Results
Lim, Adams & Lilly (2012)	288 undergraduates. Compared interpersonal trauma and non-interpersonal trauma	Traumatic Life Events Questionnaire (TLEQ); Experiences in close relationships Questionnaire (ECR-R; Fraley, Waller & Brennan, 2000); Post-Traumatic Stress Diagnostic Scale (PDS: Foa, 1995).	Significantly higher anxious and avoidant attachment and PTSD symptoms in IPT than NIPT. In IPT group the relationship between avoidant attachment and PTSD were mediated by self-worth.

Appendix B: Ethical approval

Research Governance Feedback on your Ethics Submission (Ethics ID:4253)

ERGO [ergo@soton.ac.uk]
Sent:23 October 2012 16:14
To: Selwood E.

Submission Number 4253:
Submission Title The relationship between trauma, attachment and emotional control in homelessness (Amendment 1):
The Research Governance Office has reviewed and approved your submission

You can begin your research unless you are still awaiting specific Health and Safety approval (e.g. for a Genetic or Biological Materials Risk Assessment) or external ethics review (e.g. NRES).The following comments have been made:

"I can confirm that the amendment detailed in the Ethics Submission will be covered by the University of Southampton Insurance Programme. "

ERGO : Ethics and Research Governance Online
http://www.ergo.soton.ac.uk

DO NOT REPLY TO THIS EMAIL

Appendix C: Poster

Would you like to take part in a research study?

And receive a

£10

FOOD VOUCHER

To find out more please take a flyer or speak to a member of staff

We are Trainee Clinical Psychologists. We are hoping that our research will help develop understanding of some of the difficulties that homeless people face and contribute to improving the support services available to you.

Appendix D: Flyer

A study looking at the psychological experiences of homeless people

Researchers: Laura Bohane, Emma Selwood, Dr. Nick Maguire

Would you like to take part in a research study and receive a....

£10 FOOD VOUCHER FOR ASDA

What is the study about?

- Looking at the psychological experiences and behaviours of homeless people
- This may help us to improve services for homeless people

What happens if I take part?

- You will be asked to complete some questionnaires, which will take between an hour and an hour and a half
- You can do this on your own, or with one of the researchers
- Two researchers will be there to explain the study to help you if you need it
- To thank you for taking part, you will be offered a £10 food voucher

Want to take part?

- **Please ask a member of staff for an information leaflet**
- **We will come here to do the study**
- **The dates and times that we will be coming are below**
- **Please turn up at a time below to take part**

Dates	Time

Appendix E: Information Sheet

UNIVERSITY OF Southampton

A study investigating the psychological experiences of people who are homeless

Laura Bohane, Emma Selwood and Dr Nick Maguire

Information for Staff

We are Trainee Clinical Psychologists at the University of Southampton. As part of our qualification we undertake a research study investigating an area of our interest within the field of Clinical Psychology.

Aim of study

Our study aims to increase the psychological understanding of the potential pathways and maintaining factors associated with homelessness. We are hoping that people using your service may be interested in participating in this study.

We are looking into how individual personality traits and life experiences influence behaviours associated with homelessness. In particular we are focussing on a theory which suggests that the experience of homelessness may be influenced by emotional control – this may include over or under control.

What does it involve?

Participants will be asked to complete a set of questionnaires. These will be asking questions about:

- Previous life experiences
- Relationships with others
- Behaviours that people engage in
- Personality traits
- Ways of managing situations

Questionnaires will be completed independently by the participants, and not shared with anyone else. These can be completed in a group format or 1-1 if participants have difficulty reading.

It is possible that some questions may bring up emotional responses as they are about the individual's personal experiences and some participants may need extra support from staff afterwards.

Completion of these questionnaires should take approximately an hour, and no more than an hour and a half, and participants will be given a £10 Asda food voucher once finished to thank them for their participation.

Once the study is complete, we will provide you with feedback on the results. If you have any questions please do not hesitate to contact us.

Laura Bohane: lab1g10@soton.ac.uk Emma Selwood: es2g10@soton.ac.uk

Appendix F: Verbal Script

UNIVERSITY OF Southampton
School of Psychology

A study investigating the psychological experiences of people who are homeless

Laura Bohane, Emma Selwood and Dr Nick Maguire

Verbal Script for Research Participants

We are Laura Bohane and Emma Selwood, Trainee Clinical Psychologists from the University of Southampton. We are requesting your participation in a study regarding the experiences and personality characteristics of homeless people and the difficulties that they have faced. This will involve completing a number of questionnaires, which should take between an hour and an hour and a half. These will be asking questions about:

- Previous life experiences
- Relationships with others
- Personality traits
- Behaviours that you engage in
- Ways of managing situations

Some questions will relate to personal or stressful childhood experiences.

You will be asked to choose whether to complete the questionnaires alone, with help, or in an interview style format. Personal information will not be released to or viewed by anyone other than researchers involved in this project. Results of this study will not include your name or any other identifying characteristics.

Your completion of the questionnaires will be taken as evidence of your giving informed consent to participate in this study and for your data to be used for the purposes of research, and that you understand that published results of this research project will maintain your confidentially.

Your participation is voluntary and you may withdraw your participation at any time. If you have any questions please ask them now.

If you have questions about your rights as a participant in this research, or if you feel that you have been placed at risk, you may contact the Chair of the Ethics Committee, Psychology, University of Southampton, Southampton, SO17 1BJ. Phone: +44 (0)23 8059 4663, email slb1n10@soton.ac.uk

Appendix G: Participant Consent Form

UNIVERSITY OF Southampton

A study investigating the psychological experiences of people who are homeless

Laura Bohane, Emma Selwood and Dr Nick Maguire

Consent Form

Please initial the box(es) if you agree with the statement(s):

I have read and understood the information sheet (20.08.2012; version 2.0) and have had the opportunity to ask questions about the study.	☐
I agree to take part in this research project and agree for my data to be used for the purpose of this study	☐
I understand my participation is voluntary and I may withdraw at any time without my legal rights being affected	☐

Data Protection

I understand that information collected about me during my participation in this study will be stored on a password protected computer and that this information will only be used for the purpose of this study. All files containing any personal data will be made anonymous.

Name of participant (print name)……

Signature of participant……..

Date……

Appendix H: Screening Form

A study investigating the psychological experiences of people who are homeless

Laura Bohane, Emma Selwood and Dr Nick Maguire

SCREENING FORM

ARE YOU ABLE TO READ ONE OF THE DAILY NEWSPAPERS (E.G. THE MIRROR, THE INDEPENDENT)?

☐ **YES** ☐ **NO**

ARE YOU ABLE TO FILL IN YOUR OWN BENEFIT FORMS WITHOUT ANY HELP/SUPPORT?

☐ **YES** ☐ **NO**

FOR THIS STUDY, HOW WOULD YOU PREFER TO FILL IN THE QUESTIONNAIRES?

Please tick one box. You will be able to change your mind on the day, if you wish.

☐ FILL IN QUESTIONNAIRES BY MYSELF

☐ FILL IN QUESTIONNAIRES WITH SOME HELP

☐ FILL IN QUESTIONNAIRES IN AN INTERVIEW

Appendix I: Questionnaire Pack

INFORMATION ABOUT YOU (demographics form)

1. What is your current age? _____

2. Are you male or female? **(please tick)** ☐ Male ☐ Female

3. What is your ethnicity? **(please tick one box)**

White British ☐	White & Black Caribbean ☐	Indian ☐	Chinese ☐
White Irish ☐	White & Black African ☐	Pakistani ☐	Caribbean ☐
White other ☐	White & Asian ☐	Bangladeshi ☐	Black African ☐
	White & Other ☐	Asian other ☐	Other ☐

4. What is your current circumstance with regards to accommodation? **(please tick one box)**

Sleeping on the streets ☐	Staying in a squat ☐	Staying in a shelter ☐
In derelict buildings ☐	Staying on friends sofa's ☐	Staying in homeless hostel ☐
Other outdoor _____ ☐	Overcrowded housing ☐	Other _____

5. When was the first time you became homeless? Approximate date _____

6. How old were you when you first became homeless? Approximate age _____

7. How many different times you have been homeless? Approximately _____ times

8. How long have you been homeless this time? Approximately ____ years _____ months

Home Environment Questionnaire (CAT)

In responding to the following questions, please circle the appropriate number according to the following definitions:

0 = never 1 = rarely 2 = sometimes 3 = very often 4 = always

To illustrate, here is a hypothetical question:

Did your parents criticize you when you were young? 0 (1) 2 3 4

If you were rarely criticized, you should circle number 1. Please answer all the questions below.

	0 = never	1 = rarely	2 = sometimes	3 = very often	4 = always
1. Did your parents ridicule you?	0	1	2	3	4
2. Did you ever seek outside help or guidance because of problems in your home?	0	1	2	3	4
3. Did your parents verbally abuse each other?	0	1	2	3	4
4. Were you expected to follow a strict code of behaviour in your home?	0	1	2	3	4
5. When you were punished as a child or teenager, did you understand the reason you were punished?	0	1	2	3	4
6. When you didn't follow the rules of the house, how often were you severely punished?	0	1	2	3	4
7. As a child did you feel unwanted or emotionally neglected?	0	1	2	3	4
8. Did your parents insult you or call you names?	0	1	2	3	4
9. Before you were 14, did you engage in any sexual activity with an adult?	0	1	2	3	4
10. Were your parents unhappy with each other?	0	1	2	3	4
11. Were your parents unwilling to attend any of your school-related activities?	0	1	2	3	4
12. As a child were you punished in unusual ways (e.g., being locked in a closet for a long time or being tied up)?	0	1	2	3	4
13. Were there traumatic or upsetting sexual experiences when you were a child or teenager that you couldn't speak to adults about?	0	1	2	3	4
14. Did you ever think you wanted to leave your family and live with another family?	0	1	2	3	4
15. Did you ever witness the sexual mistreatment of another family member?	0	1	2	3	4

16. Did you ever think seriously about running away from home?	0	1	2	3	4
17. Did you witness the physical mistreatment of another family member?	0	1	2	3	4
18. When you were punished as a child or teenager, did you feel the punishment was deserved?	0	1	2	3	4
19. As a child or teenager, did you feel disliked by either of your parents?	0	1	2	3	4
20. How often did your parents get really angry with you?	0	1	2	3	4
21. As a child did you feel that your home was charged with the possibility of unpredictable physical violence?	0	1	2	3	4
22. Did you feel comfortable bringing friends home to visit?	0	1	2	3	4
23. Did you feel safe living at home?	0	1	2	3	4
24. When you were punished as a child or teenager, did you feel "the punishment fit the crime"?	0	1	2	3	4
25. Did your parents ever verbally lash out at you when you did not expect it?	0	1	2	3	4
26. Did you have traumatic sexual experiences as a child or teenager?	0	1	2	3	4
27. Were you lonely as a child?	0	1	2	3	4
28. Did your parents yell at you?	0	1	2	3	4
29. When either of your parents was intoxicated, were you ever afraid of being sexually mistreated?	0	1	2	3	4
30. Did you ever wish for a friend to share your life?	0	1	2	3	4
31. How often were you left at home alone as a child?	0	1	2	3	4
32. Did your parents blame you for things you didn't do?	0	1	2	3	4
33. To what extent did either of your parents drink heavily or abuse drugs?	0	1	2	3	4
34. Did your parents ever hit or beat you when you did not expect it?	0	1	2	3	4
35. Did your relationship with your parents ever involve a sexual experience?	0	1	2	3	4
36. As a child, did you have to take care of yourself before you were old enough?	0	1	2	3	4
37. Were you physically mistreated as a child or teenager?	0	1	2	3	4
38. Was your childhood stressful?	0	1	2	3	4

Relationships Structures (RS) Questionnaire

This questionnaire is designed to assess the way in which you mentally represent important people in your life. You'll be asked to answer questions about your parents, your romantic partners, and your friends. Please indicate the extent to which you agree or disagree with each statement by putting a tick a number for each item.

Please answer the following 10 questions about your
<u>mother or a mother-like figure</u>

1. It helps to turn to this person in times of need. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
2. I usually discuss my problems and concerns with this person. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
3. I talk things over with this person. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
4. I find it easy to depend on this person. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
5. I don't feel comfortable opening up to this person. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
6. I prefer not to show this person how I feel deep down. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
7. I often worry that this person doesn't really care for me. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
8. I'm afraid that this person may abandon me. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
9. I worry that this person won't care about me as much as I care about him or her. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree

Please answer the following 10 questions about your

<u>father or a father-like figure.</u>

1. It helps to turn to this person in times of need. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
2. I usually discuss my problems and concerns with this person. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
3. I talk things over with this person. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
4. I find it easy to depend on this person. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
5. I don't feel comfortable opening up to this person. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
6. I prefer not to show this person how I feel deep down. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
7. I often worry that this person doesn't really care for me. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
8. I'm afraid that this person may abandon me. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
9. I worry that this person won't care about me as much as I care about him or her. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree

Please answer the following 10 questions about your
<u>dating or marital partner</u>.

If you are not currently in a dating or marital relationship with someone, answer these questions with respect to a former partner or a relationship that you would like to have with someone.

1. It helps to turn to this person in times of need. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
2. I usually discuss my problems and concerns with this person. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
3. I talk things over with this person. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
4. I find it easy to depend on this person. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
5. I don't feel comfortable opening up to this person. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
6. I prefer not to show this person how I feel deep down. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
7. I often worry that this person doesn't really care for me. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
8. I'm afraid that this person may abandon me. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
9. I worry that this person won't care about me as much as I care about him or her. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree

Please answer the following 10 questions about your
<u>best friend</u>

1. It helps to turn to this person in times of need. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
2. I usually discuss my problems and concerns with this person. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
3. I talk things over with this person. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
4. I find it easy to depend on this person. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
5. I don't feel comfortable opening up to this person. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
6. I prefer not to show this person how I feel deep down. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
7. I often worry that this person doesn't really care for me. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
8. I'm afraid that this person may abandon me. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree
9. I worry that this person won't care about me as much as I care about him or her. 1 □ 2□ 3□ 4□ 5□ 6□ 7□ Strongly disagree Strongly agree

EMOTIONS Questionnaire (DERS)

Please circle the number which best represents how you feel about the following statements:

	1= almost never	2= sometimes	3 = about half	4 = most of the time	5 = almost always
1. I am clear about my feelings	1	2	3	4	5
2. I pay attention to how I feel	1	2	3	4	5
3. I experience my emotions as overwhelming and out of control	1	1	2	3	4
4. I have no idea how I am feeling	1	2	3	4	5
5. I have difficulty making sense out of my feelings	1	2	3	4	5
6. I am attentive to my feelings	1	2	3	4	5
7. I know exactly how I am feeling	1	2	3	4	5
8. I care about what I am feeling	1	2	3	4	5
9. I am confused about how I feel	1	2	3	4	5
10. When I'm upset, I acknowledge my emotions	1	2	3	4	5
11. When I'm upset, I become angry with myself for feeling that way	1	2	3	4	5
12. When I'm upset, I become embarrassed for feeling that way	1	2	3	4	5
13. When I'm upset, I have difficulty getting work done	1	2	3	4	5
14. When I'm upset, I become out of control	1	2	3	4	5
15. When I'm upset, I believe that I will remain that way for a long time	1	2	3	4	5
16. When I'm upset, I believe that I'll end up feeling very depressed	1	2	3	4	5
17. When I'm upset, I believe that my feelings are valid and important	1	2	3	4	5
18. When I'm upset, I have difficulty focusing on other things	1	2	3	4	5
19. When I'm upset, I feel out of control.	1	2	3	4	5
20. When I'm upset, I can still get things done.	1	2	3	4	5
21. When I'm upset, I feel ashamed with myself for feeling that way.	1	2	3	4	5
22. When I'm upset, I know that I can find a way to eventually feel better	1	2	3	4	5

23. When I'm upset, I feel like I am weak.	1	2	3	4	5
24. When I'm upset, I feel like I can remain in control of my behaviours	1	2	3	4	5
25. When I'm upset, I feel guilty for feeling that way.	1	2	3	4	5
26. When I'm upset, I have difficulty concentrating	1	2	3	4	5
27. When I'm upset, I have difficulty controlling my behaviours.	1	2	3	4	5
28. When I'm upset, I believe there is nothing I can do to make myself feel better.	1	2	3	4	5
29. When I'm upset, I become irritated with myself for feeling that way	1	2	3	4	5
30. When I'm upset, I start to feel very bad about myself.	1	2	3	4	5
31. When I'm upset, I believe that wallowing in it is all I can do	1	2	3	4	5
32. When I'm upset, I lose control over my behaviours.	1	2	3	4	5
33. When I'm upset, I have difficulty thinking about anything else.	1	2	3	4	5
34. When I'm upset, I take time to figure out what I'm really feeling.	1	2	3	4	5
35. When I'm upset, it takes me a long time to feel better.	1	2	3	4	5
36. When I'm upset, my emotions feel overwhelming	1	2	3	4	5

EUC

Please rate the following statements by circling the number that corresponds to the degree you either agree or disagree with the statement.

	Disagree very strongly			*Agree very strongly*
1. I tend to buy things on impulse.	1	2	3	4
2. I become impatient when I have to wait for something.	1	2	3	4
3. I often say and do things on the spur of the moment, without stopping to think.	1	2	3	4
4. I can remember ‘‘playing sick’’ to get out of something.	1	2	3	4
5. I have often had to take orders from someone who did not know as much as I did.	1	2	3	4
6. When I get bored, I like to stir up some excitement.	1	2	3	4
7. Some of my family have quick tempers.	1	2	3	4
8. People consider me a spontaneous, devil-may-care person.	1	2	3	4
9. I often get involved in things I later wish I could get out of.	1	2	3	4
10. I have been known to do unusual things on a dare.	1	2	3	4
11. I have sometimes stayed away from another person because I thought I might do or say something that I might regret afterwards.	1	2	3	4
12. I do not always tell the truth.	1	2	3	4
13. My way of doing things can be misunderstood or bother others.	1	2	3	4
14. Sometimes I rather enjoy going against the rules and doing things I am not supposed to.	1	2	3	4
15. At times, I am tempted to do or say something that others would think inappropriate.	1	2	3	4
16. At times I have very much wanted to leave home.	1	2	3	4
17. I would like to be a journalist.	1	2	3	4
18. I like to flirt.	1	2	3	4
19. Some of my family have habits that bother and annoy me very much.	1	2	3	4
20. At times I have worn myself out by undertaking too much.	1	2	3	4
21. In a group of people I would not be embarrassed to be called on to start a discussion or give an opinion about something I know well.	1	2	3	4

22. I would like to wear expensive clothes.	1	2	3	4
23. I am against giving money to beggars.	1	2	3	4
24. It is unusual for me to express strong approval or disapproval of the actions of others.	1	2	3	4
25. I like to stop and think things over before I do them.	1	2	3	4
26. I don't like to start a project until I know exactly how to proceed.	1	2	3	4
27. I finish one activity or project before starting another.	1	2	3	4
28. I am steady and planful rather than unpredictable and impulsive.	1	2	3	4
29. On the whole, I am a cautious person.	1	2	3	4
30. I do not let too many things get in the way of my work.	1	2	3	4
31. I keep out of trouble at all costs.	1	2	3	4
32. I consider a matter from every viewpoint before I make a decision.	1	2	3	4
33. I am easily downed in an argument.	1	2	3	4
34. I have never done anything dangerous for the fun of it.	1	2	3	4
35. My conduct is largely controlled by the customs of those about me .	1	2	3	4
36. It makes me uncomfortable to put on a stunt at a party even when others are doing the same sort of thing.	1	2	3	4
37. I find it hard to make small talk when I meet new people.	1	2	3	4

EUR

Please rate the following statements by circling the number that corresponds to the degree you either agree or disagree with the statement.

	Disagree very strongly			*Agree very strongly*
1. I am generous with my friends.	1	2	3	4
2. I quickly get over and recover from being startled.	1	2	3	4
3. I enjoy dealing with new and unusual situations.	1	2	3	4
4. I usually succeed in making a favorable impression on people.	1	2	3	4
5. I enjoy trying new foods I have never tasted before.	1	2	3	4
6. I am regarded as a very energetic person.	1	2	3	4
7. I like to take different paths to familiar places.	1	2	3	4
8. I am more curious than most people	1	2	3	4
9. Most of the people I meet are likeable.	1	2	3	4
10. I usually think carefully about something before acting.	1	2	3	4
11. I like to do new and different things.	1	2	3	4
12. My daily life is full of things that keep me interested.	1	2	3	4
13. I would be willing to describe myself as a pretty ‘‘strong personality.	1	2	3	4
14. I get over my anger at someone reasonably quickly.	1	2	3	4

Appendix J: Debrief Sheet

UNIVERSITY OF Southampton
School of Psychology

A study investigating the psychological experiences of people who are homeless

Laura Bohane, Emma Selwood and Dr Nick Maguire

Participant Debriefing Sheet

Thank you for taking part in our study, during which you completed some questionnaires asking you about your personality, the things that you do and feel, and your past experiences.

The information that you have provided will be used to understand more about people who are homeless, including what may lead to them becoming homeless, and the type of help or support that may be useful to them. This might be useful in the future to help other people who are homeless, or help people avoid becoming homeless in the first place.

Once again, the results of this study will not include your name or any other identifying characteristics. The research did not use deception.

When the research is finished, a summary of the main findings will be provided to the hostels/outreach centre. If you wish to see this, you can ask staff to show you. If you have any further questions please contact Laura Bohane (lab1g10@soton.ac.uk) or Emma Selwood (es2g10@soton.ac.uk) or Dr Nick Maguire (Nick.Maguire@soton.ac.uk or 023 8059 7760).

Because some of the questions have asked about difficult things that might have happened in the past, you might feel upset. If so, you might find it useful to talk to someone about this. You could talk to us, staff at the hostel/outreach service, your doctor, or maybe a friend.

Here are two groups that can also give you advice.

- Samaritans: Samaritans gives confidential non-judgemental emotional support, 24 hours a day for people who are feeling upset. 08457 90 90 90.
- Shelter: Shelter is a charity that gives advice, information and advocacy to people in housing need. Their free housing advice helpline is 0808 800 4444.

Thank you for your participation in this research.

Signature _____ Date _____

If you have questions about your rights as a participant in this research, or if you feel that you have been placed at risk, you may contact the Chair of the Ethics Committee, Psychology, University of Southampton, Southampton, SO17 1BJ. Phone: +44 (0)23 8059 4663, email slb1n10@soton.ac.uk

Appendix K: Mood Repair Task

UNIVERSITY OF Southampton

A study investigating the psychological experiences of people who are homeless

Laura Bohane, Emma Selwood and Dr Nick Maguire

INSTRUCTIONS

This is an optional task which can be completed any time after taking part in the research study. Please read each of the jokes below and rate how funny you found each one on the scale provided.

Not funny at all 1_____2_____3_____4 Very funny

Not funny at all 1_____2_____3_____4 Very funny

Not funny at all 1_____2_____3_____4 Very funny

Appendix L: Diagram of Correlations

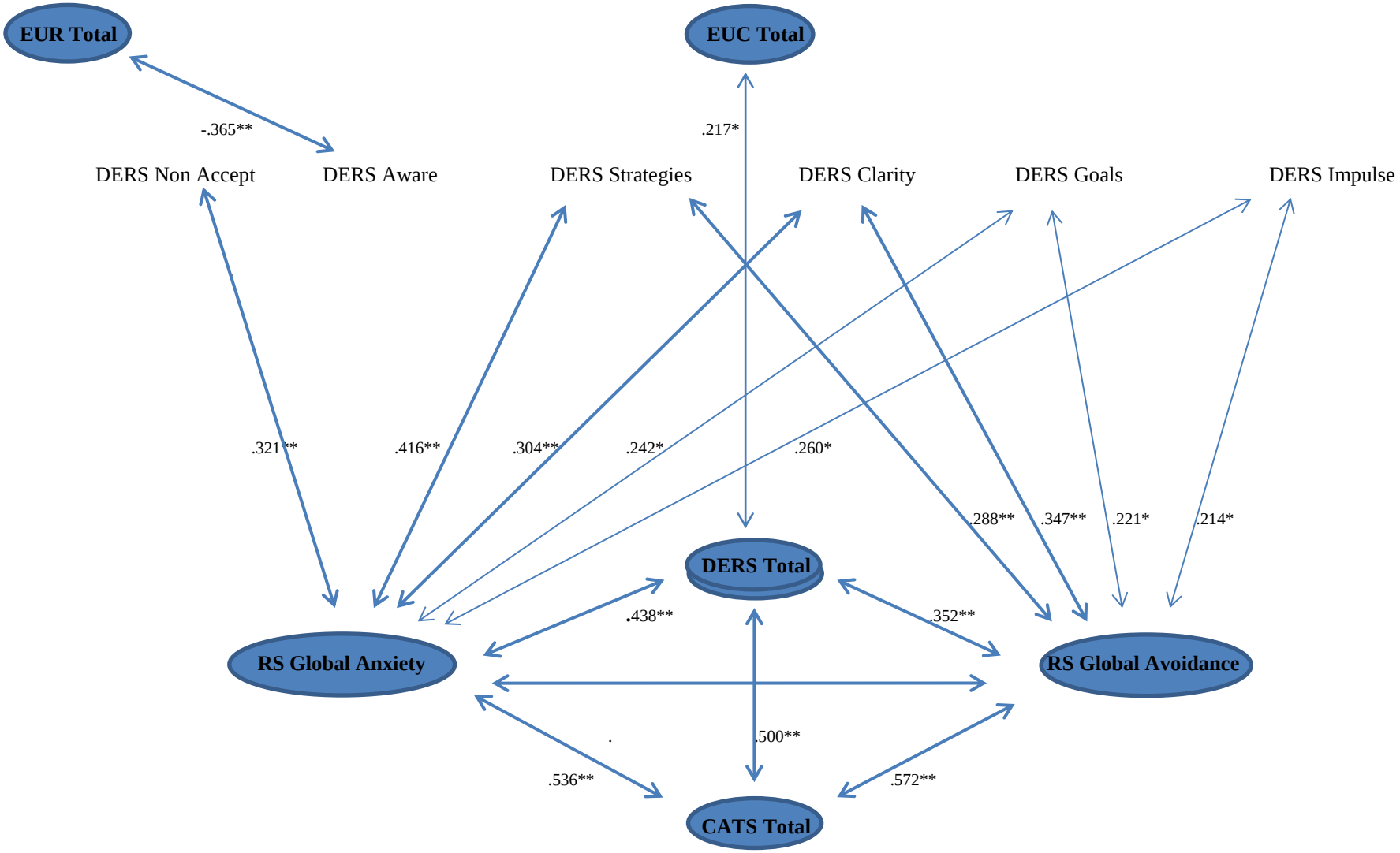

Figure 4. Model of correlations.

Note: ——— **Correlation is significant at .01 level, ——— * Correlation significant at .05 level; CAT = Child Abuse and Trauma Scale, RS = Relationship Structures Questionnaire, DERS = Difficulties in Emotion Regulation Scale, EUC = Ego Under Control Scale, ER = Ego Resiliency Scale.