

An exploration of the relationship between poor
parent-child attachment and callous-
unemotional traits in a sample of high-risk
young offenders

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Overview

Part one is a systematic literature review examining the relationship between poor attachment and psychopathic traits. The review is split into two distinct areas: literature examining the parent-child relationship and psychopathy is discussed first, followed by research from the psychoanalytic field utilising object relations and Rorschach methods.

Part two is an empirical paper exploring the relationships between poor parent-child attachment and callous-unemotional traits in a sample of high risk young offenders. This research was completed as part of a joint project (statement of joint research in appendix 1) with Ruth Dawson, which examined a range of risk factors associated with callous-unemotional traits in young offenders.

Part three is a critical appraisal of the research process. It contains a brief outline of my interest in the research area and a discussion about the selection of measures of attachment, callous-unemotional traits and delinquency, paying particular attention to issues around the use of self-report methods. It also includes a reflection on some of the issues associated with working in Secure Training Centres (STC's) and some personal reflections on working with young offenders.

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Part 1: Literature Review

Was Bowlby right? Is there a relationship between insecure attachment and the development of psychopathic traits?

Abstract

This literature review aimed to examine the evidence for a link between insecure attachment and the development of psychopathy. Systematic searches of electronic databases were conducted (PsychINFO, Medline, EMBASE) for relevant papers published up until December 2010. Studies specifically examining attachment and psychopathy were extremely limited therefore the review examined attachment in a broader sense and incorporated literature looking at the relationship between psychopathy and parental bonding, parental warmth and object relations, including literature utilising the Rorschach inkblot test. A total of fourteen studies examining these factors met the inclusion criteria and were included in the review. A detailed critical review of all these studies was conducted paying particular attention to methodological flaws. The research reviewed appears to point to a link between the quality of the parent child relationship and psychopathic traits and these early results suggest that there are grounds to pursue research in this field. The Rorschach studies in particular suggest that an inability to form attachments may be a core feature of psychopathy, and the early research using the AAI seems to lend further support to this given findings indicative of a lack of secure attachment in psychopathic offenders. However, to date there have been no rigorous studies conducted to high empirical standards to address this question and the research remains at a very rudimentary stage. A significant limitation of research in this field is the cross sectional design and more longitudinal research is required to look at this relationship more effectively. Psychopathy is a complex disorder and appears to be the result of an interaction or combination of many risk factors. This review discusses potential directions for future research in this field.

Introduction

The concept of psychopathy has a long history in clinical psychology research and is one that has fascinated researchers for many years. There has been much debate around what characteristics make up a psychopathic personality. Current conceptualisations of psychopathy in adults, based on both clinical and empirical work, suggest that it is a personality disorder defined by a specific constellation of interpersonal, affective and behavioural characteristics (Hare, 1993, 1998; Hart & Hare, 1998). Affectively, psychopathic adults typically display shallow emotions and are unable to form strong emotional bonds with others. Interpersonally, they have an arrogant and deceitful style involving a narcissistic view of themselves and are often manipulative and cold-hearted with others. Behaviourally, they show an impulsive and irresponsible style and often engage in risk taking behaviours and are likely to be involved in criminal and antisocial activity. There is a strong association between psychopathy and criminal conduct (Blackburn, 1998). In fact adult psychopaths have been shown to be responsible for a disproportionate amount of crime in society and are amongst the most violent and persistent offenders (Forth & Burke 1998; Newman, Schmidt, & Voss, 1997). The pervasive nature and stability of psychopathic traits throughout adulthood has led some researchers to question whether its origins lie within an earlier point of development.

Hence, more recently, the concept of psychopathy has been extended into the child and adolescent field (Forth, Kosson & Hare, 1994; Frick, 1998). Research has shown that within youth that develop severe patterns of aggressive and antisocial behaviour, there are subgroups that show distinct causal processes leading to their problem behaviour (Frick & White, 2008). In particular recent research has focussed on the presence or absence of callous-unemotional (CU) traits as one way of defining subgroups of

antisocial youth. Callous unemotional traits represent a dimension of behaviour that is characterised by superficial charm and lack of guilt and empathy. These are characteristics considered as primary in clinical descriptions of adult psychopathy. Callous unemotional traits have been shown to be relatively stable throughout childhood and adolescence and they designate a group of youth with a particularly severe, aggressive and stable pattern of antisocial behaviour (Frick & White 2008). Youths with these traits have been associated with deficits in cognitive, emotional and personality characteristics as compared to other antisocial youth (Frick & White, 2008). The difference between individuals who are both psychopathic and antisocial and those who are antisocial but not psychopathic appears to be in the presence or absence of CU traits (Hare et al., 1991). Furthermore, young people with psychopathic traits have been found to differ from other antisocial youth in terms of the age of onset of their behavioural problems, the number of violent acts committed, the seriousness of their offences and the likelihood of recidivism (Forth & Burke 1998).

There have been many attempts to understand how psychopathic traits develop (Salekin, 2002), but even today the aetiology of psychopathic traits is not well known. However, insights from clinical accounts suggest that the emotional detachment shown by psychopathic individuals is so fundamental and pervasive that it is likely to originate from the first few months of a child's life, and that it is relatively independent of later inadequacies in the rearing environment (Saltaris, 2002). This raises the following questions. Are the development of psychopathic traits associated with early insecure attachment relationships? Furthermore, could the absence of empathic feelings so characteristic of psychopathic offenders be associated with such attachment problems?

Attachment theory, initially proposed by Bowlby (1969), places a great emphasis on the early relationship children have with their caregiver. At its core, attachment theory suggests that the quality of a child's attachment is a direct function of experiences with caregivers and, more specifically, the extent to which the caregiver is perceived to be a reliably available figure (Bowlby, 1988). Based on these early experiences in relationships with caregivers, children develop mental representations, or *internal working models* of close relationships, which serve to guide both their perceptions and expectations of future interactions, and also guide their own sense of worth and lovability in the context of those relationships. Further, attachment theories emphasise that the quality of the child's attachment to the parents will determine his or her eventual identification with parental values, beliefs, and standards (Brisch, 1999).

A number of longitudinal studies have shown that securely attached infants and toddlers do better later in life regarding: positive peer and parental relationships, self-esteem, independence and autonomy, impulse control, empathy and compassion, pro-social behaviour and greater resilience in the face of adversity (Main and Weston, 1981; Jacobson & Wille, 1986; Main, Kaplan, & Cassidy, 1985; Sroufe, Carlson, & Shulman, 1993). Secure attachment is a primary protective factor against the development of psychopathology, later violent and antisocial patterns of cognition, behaviour and interaction (Levy & Orlans, 2000). Conversely, insecure attachment has been shown to be a significant risk factor in the development of conduct disorder in children and adolescents (Greenberg, Speltz, & Deklyen, 1993). Furthermore, insecurely attached children, compared to securely attached children, are more likely to feel mistrust and anger towards their caregiver, fail to internalise the caregivers' values and to have less opportunity to develop the skills needed to regulate affect (Cummings & Davies, 1996). Bowlby (1973) asserts that insecure attachment may lead to disruptive behaviour

problems in childhood. He states that children with an avoidant attachment learn that expressing anger in response to a caregiver's unresponsive or intrusive behaviour will reduce the caregiver's proximity in stressful situations. They learn to redirect their anger towards the environment. Consequently, the result may be externalising behaviour of hostility and aggression. Since Bowlby's original formulation, research has indicated a link between insecure early attachments and antisocial behaviour in children (Greenberg et al., 1997). In particular insecure avoidant and disorganised attachments have been linked to early hostile behaviour problems (Lyons-Ruth, Alpern & Repacholi, 1993). Furthermore, the relationship between avoidant attachment and antisocial behaviour has been shown to be stronger in high-risk samples of children than in low risk samples (Greenberg, Speltz, & Deklyen, 1993).

Given the growing research linking attachment with criminality, conduct disorder and antisocial behaviour, it is surprising that the core issue of attachment is often overlooked with regards to psychopathy. The link between attachment and psychopathy was first proposed by Bowlby (1944) to explain the affectionless personality of juvenile thieves, for whom lack of warmth and disruptive childcare was thought to have created an absence of concern for others. Attachment theory suggests that children who fail to develop a secure attachment with their primary caregiver are not provided with the opportunity to learn how to be empathic and hence increases a child's risk for interpersonal difficulties, including psychopathic-like behaviour. According to Bowlby, children who fail to bond or connect with their caregiver develop internal working models of others as unworthy of trust, empathy and concern. This theory is supported by observations that preschooler's with insecure attachment exhibit fewer empathic responses compared with children who are securely attached to their caregivers (Kestenbaum, Farber, & Sroufe, 1989).

Despite this growing body of research, Saltaris (2002) has identified an important, as yet, unanswered question; “do relational factors captured by the attachment construct represent a general risk factor for antisocial behaviour, or do they provide insight into the core affective deficits exhibited by only a small subset of disturbed children” (p742). The majority of attachment research has focussed on predicting phenotypic manifestations of antisocial behaviour and criminal offending to the detriment of the emotions underlying the psychopathic condition (Saltaris, 2002). As such, little is known about the link between attachment and moral emotions in people with psychopathic traits.

In view of the theoretical evidence in support of the notion that early attachment may be linked to the development of psychopathic traits, the present literature review aims to address the following question: What is the evidence for a link between insecure attachment and the development of psychopathy? In addition this review will provide some advice on future directions for research in this area.

Method

Search strategy

Systematic searches of electronic databases were conducted (PsychINFO, Medline, EMBASE) for relevant papers published up until December 2010. The search was limited by language (the papers had to be in English). Initially the search terms “attachment” and “psychopathy” were used. However, it became clear that studies specifically examining attachment and psychopathy in both adult and youth populations were extremely limited. The lack of research in this area was surprising given the

substantial research assessing the relationship between attachment and the development of antisocial behaviour, conduct disorder and psychopathology in general. Given the paucity of research in this area the decision was made to look at attachment in a broader sense and to incorporate literature from areas related to the parent child relationship in the adult, adolescent and child populations. These included studies looking at the relationship between psychopathy and parental bonding, parental warmth and object relations (a term commonly associated with attachment field). In addition, literature utilising the Rorschach inkblot test (Rorschach, 1942) was also included. Rorschach studies are important because they enable the examination of interpersonal and affective aspects central to psychopathy and provide insight into the attachment capacity of psychopathic individuals.

It is important to note that different terms are used to describe psychopathy in different populations. The term callous-unemotional trait, developed by Frick (1999), is now widely used to describe psychopathic features in adolescent populations and as such was entered as an additional search term. Thus, combinations of the following search terms were entered: "attachment", "parental bonding", "Parental warmth", "object relations", "Rorschach", "psychopathy", "callous unemotional traits" and "psychopathic traits". In addition to electronic searches, the reference sections of all relevant studies were searched for further suitable studies. In combination, these search methods yielded a total of 122 papers. The abstracts and the papers were screened according to the inclusion criteria outlined below and as a result 14 studies were included in the review. Of these studies 5 examined attachment, 2 examined parental bonding, 2 examined parental warmth, 5 examined object relations (including Rorschach inkblot test).

Inclusion and exclusion criteria

The inclusion criteria were as follows: (1) Studies in peer reviewed journals (thesis dissertations and case studies were discounted); (2) Studies included standardised measures of psychopathy and the parent child relationship (attachment, object relations, parental bonding, parental warmth); (3) Studies included a standardised measure of psychopathy and the Rorschach inkblot test (4) Studies conducted in a range of settings and using a range of informants. (5) Studies in adult, child and adolescent populations.

As demonstrated by the search above there is a paucity of research examining the relationship between psychopathy and attachment. Furthermore, the research conducted to date is not of a high empirical standard. However, despite this it is important to review the research available in order to consider directions for future research. A detailed critical review of all these studies will follow, paying particular attention to methodological flaws. The review is split into two distinct areas: literature examining the parent-child relationship and psychopathy will be discussed first, followed by research from the psychoanalytic field utilising object relations and Rorschach methods.

Development and measurement of Psychopathy and attachment

John Bowlby first proposed the link between attachment and psychopathy in 1944. He studied the characters and home-life of 44 male and female juvenile thieves referred to a child guidance centre. He compared this group of young people with a group of 44 referred juveniles with no history of stealing or delinquent behaviour. The juvenile thieves were classified according to character and 14 were classified as “affectionless” (an inability to show concern or care for others). Bowlby found that this group of young

people were significantly more delinquent than the others and all but one were considered serious offenders. Most importantly, though, he found that the majority of the 'affectionless' group (12) had experienced prolonged separations from their caregivers in the first 5 years of their lives. In contrast, only 5 of the remaining 30 thieves and only two of the control group had suffered such separations, findings that were statistically significant. Thus, Bowlby concluded that prolonged mother-child separations are a significant contributing factor in the development of an affectionless character. This was an incredibly important study as it was one of the first to highlight the potential role of environmental factors and, more specifically, environmental factors in early infancy on the development of psychopathic traits.

This seminal work by Bowlby, although informative, predates the existence of reliable and valid methods for classifying psychopathy. In fact no formal assessments of psychopathy were conducted and classifications of character were based purely on clinical opinion. Furthermore, the 44 juvenile thieves described in the study were not the persistent violent offenders psychopathic personality has come to be associated with today, but instead had been convicted of only minor property offences and truancy. The conclusions drawn should therefore be viewed with caution. In fact Bowlby himself stressed that the causes of juvenile delinquency are multi-faceted and the result of an amalgamation of many factors.

Empirical investigation of this important clinical observation was slow to develop due to issues in adequate conceptualisation and measurement of both psychopathy and attachment. For many years descriptions of psychopathy were largely based on clinical accounts rather than on empirical research (Cleckley, 1941). The classification and definition of the disorder has been subject to much debate and consequently valid

empirical research and robust measures of psychopathy have been slow to develop. Harpur, Hare and Hakstian (1989) initially proposed a two-factor model of psychopathy: factor 1 reflecting interpersonal and affective aspects of psychopathy and factor 2 reflecting a 'chronically unstable and antisocial lifestyle'. However, more recently Hare (2003) has conceptualised psychopathy as having 4 independent factors: interpersonal, affective, impulsive and irresponsible style, and antisocial behaviour

Measures such as the Psychopathy Checklist Revised (PCL-R; Hare, 1991) for adults and an adolescent version, the PCL:YV (Forth, Kosson, & Hare, 2003) were developed to operationalise the prototypical traits and behaviours found among psychopaths, thus, allowing psychopathic traits to be assessed reliably. In its revised form the PCL-R is the most widely accepted instrument for assessing psychopathy in adult forensic populations (Fulero, 1995 in Loving and Russell). These measures have evolved with the conceptual changes and both the PCL-R (Hare, 2003) and PCL:YV (Forth, Kosson & Hare, 2003) reflect the four factor structure in their current forms.

Accurate measurement has also been a major issue in attachment research. For years the accurate measurement of attachment was confined to infant populations. Ainsworth and colleagues (1978) pioneering experimental investigations involving systematic observations of structured parent-child separations identified four distinct patterns of attachment: secure, avoidant, ambivalent and disorganised. Advances in the measurement of attachment beyond the childhood years have since made it possible to measure attachment in adolescent and adult populations. Based on the seminal work of Ainsworth and her colleagues, George, Kaplan and Main (1984) developed the Adult attachment Interview (AAI), a comprehensive, semi structured interview for adults about childhood attachment experiences and the meaning assigned to current attachment

related experiences (George et al., 1984, 1985, 1996). The AAI identifies four attachment styles: autonomous-secure (characterised by a clear valuing of attachment), dismissing-detached (characterised by derogation of attachment related experiences and little if any value placed on attachment relationships), preoccupied-entangled (characterised by a preoccupation of attachment experiences and attachment figures) and unresolved-disorganised (characterised by a breakdown in reasoning or a focus on experiences of abuse). These styles are considered to correspond to Ainsworth's childhood patterns of secure, avoidant, ambivalent and disorganised, respectively (Goodwin, 2003).

Results

Narrative interview attachment measures and psychopathy

In recent years research has sought to address whether specific types of insecure attachment are associated with different forms of psychopathology. Links have been made between avoidant attachments and conduct problems and disorganised attachment and aggression (Carlson, Sampson, & Sroufe, 2003; Sroufe, 2005). Furthermore, research has shown a link between attachment classification and specific DSM-IV diagnoses (American Psychiatric Association, 1994) of personality disorders (Fonagy et al., 1996). This has led some to question whether a dismissive (avoidant) style of attachment may be related to Psychopathy. Previous research has found that the dismissive style of attachment is more prevalent in populations of violent adult offenders (Van IJzendoorn et al., 1997; Fonagy, 1997). However, none of these studies included formal measures of psychopathy.

Greatly influenced by Bowlby's earlier work, Frodi, Dernevik, Sepa, Philipson and Bragesjo (2001) were the first to measure the occurrence of specific attachment styles

in criminal, psychopathic offenders. They examined whether the AAI could distinguish offenders' degree of psychopathy and also whether psychopathic offenders would be characterised by a dismissive (avoidant) attachment style. The sample consisted of 14 adult males incarcerated in a medium security prison. A screening version of the PCL-R, the PCL-SV (Hart, Cox & Hare, 1995) was used to measure psychopathy. With regard to attachment classification, none of the offenders in the sample were classified as having a secure attachment. Specifically, 64% (n= 9) of the offenders in the sample were classified as having a dismissive attachment style, suggestive of disturbance and disconnection in interpersonal relationships. Of the remaining sample, 36% were classified as either unresolved /disorganised (n=3) or cannot classify due to there being a combination of insecure attachment styles observed (n=2). The results lend support to previous research suggesting that secure attachment is virtually non-existent among personality disordered offenders (Van Ijzendoorn et. al. 1997). A major flaw in this study was the lack of a control group for comparison. However, it is useful to compare the results with previous research looking at attachment in samples of violent offenders. Fonagy et al (1997) studied violent offenders and found that 36% were classified as having a dismissive attachment style. However, psychopathy was not formally measured as part of the research. The representation of dismissive attachment in the psychopathic sample was much higher (64%) which may indicate that this style of attachment is a particular characteristic of psychopathic offenders. Examination of the histories of those classified with a dismissive attachment style revealed that many of them had been placed away from their parents for very long periods in early childhood. This is consistent with Bowlby's original conceptualisation of the development of psychopathic personality. It is important to note that, although this study demonstrated the occurrence of specific insecure attachment styles in this population, attachment classification did not distinguish degree of psychopathy. However, this could have been

due to the small sample size and the narrow range of psychopathy scores recorded in the sample. It is important to note that no statistical analysis was carried out and that this conclusion is drawn purely from observation of the descriptive data.

A particular strength of this study was its use of the AAI. The AAI is a robust, empirically validated scale and is considered the gold standard measure for assessing attachment in adults. The AAI has been used successfully in offending populations. One of the underlying principles of attachment theory is the idea that internal working models of attachment are to some extent outside of conscious awareness (Rutter, Kreppner and Sonuga-Barke, 2009). Two well known characteristics of psychopathic offenders are their ability to use deception and superficial charm. Such characteristics could imply an inability to reliably report experiences in relationships. The AAI is generally considered to be a measure of unconscious aspects of attachment related defences and behaviours. Furthermore, it pays attention to how things are said, the quality of examples about past relationships and experience and the coherence of the transcript overall to make attachment classifications. This demonstrates the importance of using measures such as the AAI to measure attachment rather than relying on self-report measures open to responding bias. There are currently no known studies looking at different attachment classifications in adolescents with psychopathic traits. The results from the study by Frodi et al (2002) are encouraging and research could be extended into the adolescent field by using AAI's adolescent counterpart, the CAI (Shmueli-Goetz, 2001)

In summary, the results of this study need to be interpreted with caution given that the study was predominantly descriptive in nature and lacked the sample size to draw firm conclusions about the roles of attachment in psychopathy. These early results are

encouraging however, and the finding that dismissive attachment styles are more pronounced in psychopathic offenders is in line with Bowlby's original conceptualisation of the disorder. Further research is needed to replicate these findings in larger samples of offenders with varying degrees of psychopathy.

Attachment and psychopathy in adolescent offending populations

Research examining the relationship between attachment and psychopathic traits in adolescence have utilised self-report measures of attachment. Three studies have examined the relationship between self-reported attachment to parents and psychopathic traits. A summary of these studies is shown in Table 1. All of these studies were conducted in youth offending populations. Two of these studies used the Inventory of Parent Peer Attachment (IPPA; Armsden and Greenberg, 1987), which is designed to assess adolescents' perceptions of their relationships with their parents and close friends. In its revised form the IPPA measures attachment with mother and father separately. It is important to note is that the IPPA does not address specific dimensions of attachment security or insecurity like narrative measures of attachment such as the AAI.

Kosson, Cyterski, Steurwald, Neumann and Walker-Mathews (2002) examined the association between psychopathic traits and attachment in delinquent adolescents as part of a wider study to assess the reliability and validity of the PCL-YV in adolescent males. The sample consisted of 83 delinquent male adolescents (mean age 14.5 years) currently on probation or in a short-term detention centre. The young people completed the parent attachment version of the IPPA. In addition, self-reported ratings of closeness to family and closeness of family in general were gained from parents and young people. Results revealed a significant negative correlation (-.33) between the

IPPA parent scale score and total PCL:YV scores, indicating that individuals with psychopathic traits are less closely attached to their parents. Further, they found that young people's ratings of closeness to their family were also negatively correlated with psychopathic traits. Adolescents who were rated highly on psychopathic traits also rated their families as less close in general. This was one of the first studies to examine associations between psychopathy, interpersonal behaviour and relationships in an adolescent sample.

These findings suggest that attachment difficulties are a feature of adolescents with psychopathic traits. However, casual conclusions regarding the influence of attachment on the development of psychopathic traits cannot be drawn due to the cross-sectional nature of the research. A strength of this study was its use of the IPPA. The IPPA is a reliable, well validated self-report measure of attachment (Crowell, Fraley & Shaver, 2008). IPPA scores have been shown to predict subjective well-being, and correlate highly with other verbal and non-verbal measures of attachment (Armsden and Greenberg, 1987; Rosenfarb, Becker & Khan, 1994). However, a reliance purely on self-report measures of attachment raises the potential for socially desirable responding and therefore less reliable results.

An important point to note about this research was that it excluded young people with disrupted care histories (i.e. in foster placements) from attachment analysis. In the context of their primary aim to validate the PCL:YV, this seems methodologically appropriate (i.e. homogeneity of groups), although in relation to a possible link between attachment and psychopathic traits, children with disrupted care histories might be expected to have more impaired attachment relationships and therefore possibly more psychopathic traits. Although the authors did not compare these two groups they did

report results of analysis including the whole sample. Rather unexpectedly the associations between attachment and psychopathy were similar but weaker. However, the method by which young people were excluded was very rudimentary. No detailed histories were taken; instead the authors only included participants who were accompanied by a parent to the interview, which they took to be indicative of a good care history. Therefore, these results should be interpreted with caution.

Flight and Forth (2007) built on the research by Kosson et al. (2002) and examined the relationship between psychopathic characteristics, and self reported attachment to caregivers and peers in violent young offenders. This is one of the few studies to examine psychopathy as a whole as well as looking at its different elements (Interpersonal, Affective, Lifestyle and Antisocial) as measured by the PCL:YV. Participants were 51 male adolescents incarcerated in institutions in Canada. All of the participants were serving sentences for violent offences. The results of this study were mixed with regard to the association between attachment and psychopathic traits. Results indicated that there was no significant relationship between attachment to mother and psychopathic traits with regard to total psychopathy score or individual factor scores. However, youths who scored high on psychopathic traits reported being less attached to their fathers (correlation of $-.32$). These results were in relation to total scores on the PCL:YV. Closer examination of how individual factors of psychopathy were related to attachment revealed that the only significant relationship was between the lifestyle factor and self-reported attachment with father, which were again, negatively correlated. Given the cross-sectional design of this study it is important that these findings are interpreted with caution as no conclusions about causal relations can be drawn. Nonetheless, these results do indicate that lack of attachment to a father figure, for male young offenders, may be related to higher ratings of psychopathy. A

further methodological consideration of this study is the relatively small sample size which limits the generalisability of the findings. In addition this research was conducted using a very high-risk sample and further research should be conducted in other populations in order to improve the generalisability of findings further.

Flight and Fourth (2007) examined attachment to mother and father separately and found that that only attachment to father seemed to be associated with psychopathic traits. In contrast to this Kosson et al. (2002) used the parent version of the IPPA, which looked at attachment to both parents combined. The differences in findings between these two studies raises the question that perceived attachment to the mother and father may have different effects on the child in terms of the development of psychopathic traits. For boys lack of attachment to the father may play a greater role in the development of psychopathic traits than attachment to mother and this is a question for future research. Further, these results indicate that poorer attachment to father in male young offenders may be more related to the development of the antisocial and behavioural features of psychopathy rather than the affective / interpersonal factor.

Holmqvist (2008) investigated associations between psychopathy and affect consciousness in 47 young criminal offenders (average age 17). The Attachment Scale Questionnaire (ASQ; Feeney, Noller, & Hanrahan, 1994) was included in the study as a measure of attachment. This questionnaire measures five dimensions of self-experienced attachment style; secure attachment, discomfort with closeness, relationship as secondary, need for approval and preoccupation with relationships. To measure psychopathic traits they used the PCL:SV. Results indicated that there were no significant associations between scores on the PCL:SV and any of the ASQ subscales. The authors did find moderate correlations between the callous /

unemotional factor on the PCL:SV and the subscales relationship as secondary (.36) and discomfort with closeness (.31), however, these results did not meet statistical significance. This may in part be due to the very small sample size. The author reported that the attrition rate was high and that only 18 participants completed this aspect of the study. This is perhaps a demonstration of the difficulties of engaging youth offending populations.

There is a debate concerning whether attachment patterns are best assessed with self-report or narrative interviews and whether these two methods converge on the same phenomena. Self-report measures assume that people can accurately describe their thoughts, feelings and behaviours in close relationships. There is a concern that, rather than measuring attachment, self-report questionnaires may simply measure attachment satisfaction (Bartholemew, 1994). A further criticism of self-report measures is that they measure only conscious processes, since people answer questions based on a conscious assessment of their feelings and behaviours in close relationships (Crowell, Fraley and Shaver, 2008). Conversely, narrative measures of attachment such as the AAI are considered to measure unconscious aspects of attachment behaviour and defences and are thus considered more comprehensive and reliable measures of attachment. It is disappointing that in the studies reviewed, only one utilised this gold standard narrative measure of attachment.

Table 1: Summary of the attachment and psychopathy studies reviewed

Study	Sample size	Age group	Sample type	Measures	Results
Flight and Forth (2008)	51	Adolescent	Forensic	IPPA PCL:YV	Youths who scored higher on psychopathic traits reported being less attached to their father but not their mother or peers.
Frodi, Dernevik, Sepa, Philipson and Bragesjo (2001)	24	Adult	Forensic	AAI PCL-R.	64% of the sample rated as having dismissing attachment. No secure attachment in the sample.
Holmqvist (2008)	47	Adolescent	Forensic	PCL:SV ASQ	No significant correlations between psychopathy scores and attachment were found.
Kosson, Cyterski, Steurwald, Neumann and Walker-Mathews (2002)	83	Adolescent	Forensic	IPPA PCL:YV	Results revealed that individuals with psychopathic traits are less closely attached to their parents. Young people who rated their family as less close had higher levels of psychopathic traits.

Note: IPPA = Inventory of Parent Peer Attachment (Armsden and Greenberg, 1987); PCL-YV = Psychopathy Checklist: Youth Version (Forth, Kosson, & Hare, 2003); AAI = Adult Attachment Interview (George, Kaplan & Main, 1984, 1985, 1996); PCL-R = Psychopathy Checklist Revised version (Hare, 1991); PCL:SV = Psychopathy Checklist Screening Version (Hart, Cox & Hare, 1995); ASQ = Attachment Scale questionnaire (Feeney, Noller, & Hanrahan, 1994).

Parental bonding and psychopathy

Parental bonding is a concept very closely related to attachment. Two studies have examined the relationship between parental bonding and psychopathy in adult community populations. A summary of these studies can be seen in Table 2. Kimbrel, Nelson-Grey & Mitchell (2007) examined the relationship between parental bonding and psychopathic traits in a sample of 181 undergraduate students. They used the parental bonding instrument (Parker et al, 1979) which consists of measures of parental care and parental overprotection. The study used Levenson's Self-Report Psychopathy Scale (LSRP; Levenson, Kiehl, & Fitzpatrick, 1995) to measure psychopathic traits. They found that low maternal care predicted high self-reported psychopathy scores. However, this was only true of the antisocial features of psychopathy and not the interpersonal / affective features. Again the reliance on self-report measures was a significant limitation of this study. Furthermore, the fact that this research was conducted within a student population limits the generalisability of the findings.

Gao, Raine, Chan, Venables and Mednick (2010) were the first to comprehensively examine the relationship between maternal and paternal bonding and psychopathic traits in a community sample of 333. In addition, they explored prospectively, whether children separated from their parents in the first three years of life were more likely to present with psychopathic-like personality 25 years later. In this component of the study the sample was comprised of two males and four females. The study also used the Parental Bonding Instrument. Psychopathic personality was measured using the Self-Report Psychopathy scale (SRP-II; Hare, 1991), a self-report version of the PCL-R. One of the positive aspects of this study was the fact that both total psychopathy scores and scores of both factors of psychopathy (interpersonal/affective and behaviour/antisocial lifestyle) were considered in the analysis. In addition they also controlled for the effects of physical abuse, a factor

previously associated with the development of psychopathic traits (Campbell, Porter and Santor, 2004).

The key finding from the study was that disrupted parental bonding was significantly associated with an increased level of adult psychopathic personality. They found that Low maternal care was the aspect of bonding most associated with psychopathic traits. This was true for total psychopathy scores and for both interpersonal/affective and behavioural/antisocial psychopathy scores. These associations remained significant following analysis to control for the effects of sex, social adversity, ethnicity and history of physical abuse. In contrast, there were no significant associations between paternal care and psychopathy. However, low paternal overprotection was significantly associated with both total psychopathy scores and the emotional detachment factor of psychopathy. These results remained significant even after the effects of maternal care were accounted for. These results are in contrast to Flight and Forth (2007) who found that for antisocial boy's lack of attachment with the father was most associated with psychopathic traits. However, Gao et al. (2010) used different measures, included adult males and females and was a community sample making direct comparison of the two studies difficult.

With regard to the prospective aspect of the study, results indicated that children who experienced separations from their parents before age three had significantly lower scores for perceived maternal care as adults compared to adults who had experienced no early separations. Furthermore, those adults separated from their parents by age three showed significantly higher total psychopathy scores and higher scores on the behavioural / antisocial psychopathy factor than adults who had not experienced any early separations. There were however, no differences between the groups in relation to the interpersonal/affective factor of psychopathy.

This particular result is in contrast to Bowlby's theory of attachment, which would have predicted more problems with the interpersonal / affective function in people who had experienced early separations.

One of the strengths of this study was that it looked at the impact of both maternal and paternal care on the development of psychopathic traits. Results indicate that low maternal care was the parental variable most strongly associated with both factors of psychopathy, perhaps an indication of the relatively greater impact of mothers on infants' emotional development. However, results also highlighted the potential role of paternal involvement in the development of psychopathic traits. Low paternal overprotection scores, which were associated with psychopathic traits in this study, reflect a lack of paternal supervision, monitoring and involvement. Such factors have previously been associated with the affective component of psychopathy (Farrington, 2006). Gao et al (2010) proposed that lack of involvement and monitoring might impair the child's capacity for bonding. Further, they suggest that the experience of a protective father may aid the emotional connection between father and child, which in turn may act as a protective factor in relation to the development of affective psychopathic traits.

In considering this study, the following points should be noted. First, self-report measures of both parental bonding and psychopathic traits were used increasing the likelihood of shared method variance. Second, the prospective aspect of this study was highlighted as strength by the authors, however, given the extremely small sample size (6) it is very difficult to draw any conclusions with regards to causality in relation to parental bonding and psychopathic traits. Finally, the study was conducted on a community sample in Mauritius making it culturally and ethnically unique and therefore findings may not necessarily generalise to western samples or to clinical populations.

Table 2. Summary of the parental bonding and psychopathy studies reviewed

Study	Sample size	Age group	Sample type	Measures	Results
Gao, Raine, Chan, Venables and Mednick (2010)	333	Adult	Community	PBI SRP-II	Parental bonding was significantly associated with psychopathic personality after taking into account sex, social adversity, ethnicity and abuse.
Kimbrel, Nelson-Grey & Mitchell (2007)	181	Adult	Community	PBI LSRP	Low maternal care predicted high self-reported psychopathy scores. This related to the antisocial features of psychopathy and not the interpersonal / affective features.

Note: PBI = Parental Bonding Instrument (Parker et al, 1979);SRP-II = Self-Report of Psychopathy-II (Harpur & Hare, unpublished instrument); Levenson's Self-Report Psychopathy Scale (LSRP; Levenson, Kiehl, & Fitzpatrick, 1995)

Parent-child relationships and psychopathic traits in child populations

Two studies have examined the parent-child relationship and the development of psychopathic traits in children. A summary of these can be seen in Table 3. Fite, Greening and Stoppelbein (2008) examined whether dimensions of parenting stress, were related to psychopathic-like traits in children. The sample consisted of 212 children aged 6-12 years who were admitted to an acute child in-patient unit for treatment. Parenting stress and psychopathic traits were measured using caregiver self-reports. The Parenting Stress Index (PSI; Abidin, 1995) used in the study includes a measure of attachment, which is designed to assess emotional closeness with the child. The Antisocial Process Screening Device (APSD; Frick & Hare, 2001) was used to measure psychopathic traits. The ASPD has three subscales, callous-unemotional, narcissism and impulsivity. As in other recent studies, both total APSD scores and scores of the individual factors were analysed.

The findings revealed that parenting stress overall did not predict the presence of psychopathic-like traits. However, parenting stress did relate significantly to callous-unemotional features even after the effects of aggressive behaviour were controlled. Inspection of specific sources of parenting stress revealed that it was the attachment element of parenting stress that accounted for the effect. Parents who reported more attachment difficulties with their children also reported that their child exhibited more psychopathic like traits, specifically the callous-unemotional features. These findings are consistent with Bowlby's theory of attachment, which suggests that failing to form an emotional bond with caregivers in infancy increases the child's risk for interpersonal difficulties including psychopathic like behaviour. In contrast to other studies attachment was not related to the impulsivity subscale of the APSD. The authors suggest that perhaps the behavioural features of the impulsivity scale are better explained by temperamental factors than by environmental influences.

The most apparent methodological flaw in this research is the cross-sectional design. As such the results need to be interpreted with caution and no conclusions regarding causality can be drawn. A significant strength of this study was the fact that it controlled for the effects of aggressive behaviour, a factor widely associated with insecure attachment (Lyons-Ruth, Alpern, & Repacholi, 1993). However, the measure of attachment used in this study was only one small element of scale measuring generic factors of parental stress. Future research should consider using a more robust measure of attachment. Furthermore, the restricted use of parent report measures in this study may have increased the risk of biased socially desirable responses.

Pardini, Lochman and Powell (2007) examined the relationship between parental warmth and callous-unemotional traits in a sample of 120 moderately to highly aggressive children aged between 9-12 years. Data was collected at two time points over the course of a year. Psychopathic traits were measured using the APSD and the Alabama Parenting questionnaire (APQ; Shelton, Frick and Wooton, 1996) was used as a measure of parental warmth and involvement. Results indicated that children who reported their parents as warm and involved tended to exhibit decreases in callous-unemotional traits and antisocial behaviour over time, suggesting that parental warmth may play a role in both dimensions of psychopathic traits. The authors note that interestingly this interaction was found only in relation to the child's report of parental warmth and involvement, not parent report of these behaviors. Therefore, it may be that the child's internal model of the parent-child relationship is particularly important for understanding the development of callous-unemotional traits in childhood. Another important finding in this study was that even children classified as low in anxiety showed decreases in callous unemotional traits over time when they reported their parents as warm and involved, suggesting

that higher levels of parental warmth and involvement may safeguard children who are low in anxiety from developing callous-unemotional traits. This study highlights the potential moderating role of parental warmth and has implications of early intervention as it suggests that callous unemotional traits are not immutable, at least in this young age group.

Several limitations in this study need to be taken into account. First, the study found that both callous-unemotional traits and antisocial behaviour were relatively stable over a 1 year time period. As such, the predictors found to be significant in the study might only explain small amounts of the variance after controlling for the stability of these constructs over time. Furthermore, this study utilised methods that examined rank order changes in callous unemotional traits and antisocial behaviour, not within individual changes in these characteristics and as such may not be a reflection of changes in callous traits in individual children but a reduction of callous traits in the sample as a whole. As with many of the other studies reviewed the design of this study means that casual interpretations cannot be drawn and the associations found may be better accounted for by other variables that have not been measured.

A further problem with research examining callous-unemotional traits in younger children concerns issues with accurate measurement of such traits. There are few well-validated measures of psychopathy in younger children and there are concerns about a reliance on mother reports as a measure of changes in psychopathic traits. Future research should utilise reports from several different sources i.e. both parents, teacher reports and observations.

It is important to pay attention to a new area of research that aims to explain a key deficit in psychopathy, the pervasive failure to attend to and emotionally respond to

emotionally relevant stimuli. Dadds, Jambrack, Pasalich, Hawes and Brennan (2010) hypothesise that this failure to attend to emotional stimuli begins early in life and is expressed as an inability to attend to the core emotional features of attachment figures. In order to test the hypothesis Dadds et al. (2010) conducted detailed observations of 92 boys (aged 5-16) with a primary diagnosis of conduct problems. Boys were classified as high or low in callous-unemotional traits, measured using the APSD. Detailed observations of parent child interactions (mother to child, child to mother, father to child and child to father) in a real life setting were conducted to assess levels of eye contact in both free play and emotional talk situations. Levels of warmth between the child and parents were also coded as part of the observations. Results indicated that compared with boys rated as low in callous-unemotional traits, boys with high callous-unemotional traits showed significantly more impairments in eye contact towards their parents. Interestingly, although mothers of high callous-unemotional boys did not show any impairment in eye contact, fathers of boys high in callous-unemotional traits had similar impairments in eye contact as their sons. This highlights the potential role of fathers in the development of callous-unemotional traits. A final important finding to note is that there was no significant relationship between level of eye contact and levels of warmth observed between parents and children indicating that the impairments in eye contact are not the result of the amount of contact and warmth between parents and their sons. Dadds et al. (2010) took this to mean that impairments in eye contact occur independently of the quality of the parent child relationship. However, this is a big assumption to make considering they did not measure all aspects of the quality of the parent child relationship. One of the weaknesses of this study was its failure to include a robust measure of attachment. This is an important factor to consider, as such a deficit could either be the result of, or result in, an insecure attachment style. An avoidant attachment style has been associated with conduct disordered children and psychopathy in adults (Frodi et al.,

2002). Furthermore, poor eye contact is one of the symptoms of an avoidant attachment style in infants and is also associated with Reactive attachment disorder. In order to tease out these relationships and answer questions regarding causality, studies need to be carried out with young infants using a longitudinal design to see whether these impairments are predictors for the development of psychopathic traits.

Table 3: Summary of parent-child relationship and psychopathic traits in child populations studies reviewed

Study	Sample size	Age group	Sample type	Measures	Results
Daads, Jambrak, Pasalich, Hawes, Brennan (2010)	92	Children and adolescents 5-16	Community Clinical	Quality of family environment scale Observations of warmth APSD	Compared with boys rated as low in callous-unemotional traits, boys with high callous-unemotional traits showed significantly more impairments in eye contact towards their parents. Impairments in eye contact occur independently of the quality of the parent child relationship
Fite, Greening and Stoppelbein (2008)	212	Children aged 6-12 years	Community Clinical	APSD PSI	Attachment difficulties were associated with high levels of callous/unemotional traits among the children.
Pardini, Lochman and Powell (2007)	120	Children aged 9-12 years	Clinical In-patient	APSD APQ	Children who reported their parents as warm and involved tended to exhibit decreases in callous-unemotional traits and antisocial behaviour over time

Note: APSD = Antisocial Process Screening Device (Frick & Hare, 2001); APQ; Shelton, Frick and Wooton, 1996); PSI = Parenting Stress Index; Abidin, 1995)

Object relations and psychopathy

Object relations theorists have hypothesised that a child's earliest and closest relationships have the greatest impact on the development of mental health and illness (Deklyen & Greenberg, 2008) and they were a great influence on Bowlby and the development of attachment theory. Several object relations' theorists have described the quality of object relations in psychopathic individuals (Gacono & Meloy, 1994; Gacono, Meloy, & Berg, 1992; Kernberg, 1992). However, as with research in the attachment field, empirical research with regard to psychopathy is limited. Object relations have traditionally been measured using the Rorschach test (Rorschach, 1942), and the Rorschach has been used extensively to assess adults with psychopathic personality. However, it is only recently, since the development of reliable assessments of psychopathy, such as the PCL-R (Hare, 1991) that studies using the Rorschach in this field can accurately tell us anything about the psychopathy phenomena.

The Rorschach inkblot method is one of the most frequently used clinical instruments for assessing personality functioning. More specifically the Rorschach assesses a persons' implicit cognitive representations, unconscious motives, and underlying mental organisation (Exner, 2003). A distinctive attribute of the Rorschach is its ability to identify variables that may be outside of an individual's awareness, thus affecting their ability to report (Exner, 1991). This is particularly important with psychopathic individuals whose reliability to self-report has been questioned. Gacono (2000) notes that because of these attributes, the Rorschach refines and contributes additional information to aid in the understanding of the clinical manifestation of psychopathic personality. The development of Exner's (1995, 2003) comprehensive scoring system (CS) has greatly improved the validity and reliability of the Rorschach as an assessment tool and it is based upon three

core methodological tenets: standardised administration, objective and reliable coding and a normative database (Weiner, 1998).

Research using the Rorschach with psychopathic populations has revealed a prototypical Rorschach profile which reveals, among other characteristics, the following: a pathologically narcissistic, grandiose and egocentric perception of the self (as evidenced by elevated reflection responses, Egocentricity index and *W:M* ratio); disinterest in others (evidenced by decreased Pure Human Content); incapacity for intimacy or attachment (evidenced by an absence of texture responses); a relative lack of guilt or remorse (as evidenced by a lack of Vista responses) (Loving & Russell, 2000). Rorschach studies are important because they allow us to look at the clinical manifestations of psychopathic personality. Furthermore they enable the assessment of interpersonal and affective deficits so central in psychopathic individuals and provide a unique insight into such individuals' attachment capacity. Recent research has shown that the Rorschach produces results highly compatible with attachment theory and that it can be used effectively to enhance clinicians understanding of attachment (Berant, 2009; Berant, Mikulincer, Shaver and Segal, 2005). Furthermore, specific variables of the Rorschach test, such as the texture response are thought to indicate difficulties with attachment. Cassella and Viglione (2009) found that there was strong similarity between the interpretive meaning of the three levels of the Texture response in the Rorschach and avoidant and ambivalent attachment styles.

Empirical studies using the Rorschach have looked at qualifying differences between antisocial and psychopathic offenders both in adult and adolescent populations. A summary of the studies reviewed can be seen in table 4. Gacono and Meloy (1991) were the first to empirically study the object relations of adult psychopaths. They compared the Rorschach inkblot responses of 42 prison

inmates with antisocial personality disorder classified as psychopathic using the PCL-R (Hare, 1991) to similar antisocial inmates who were not psychopathic. They found that offenders classified as psychopathic had lower levels of anxiety and attachment. More specifically the psychopathic offenders appeared to have a marked incapacity for genuine intimacy or attachment (as evidenced by a lack of texture responses) suggestive of severe disturbances in the attachment system. They suggest that the absence of anxiety shown by severe psychopaths could be biologically linked to their autonomic hyporeactivity and linked developmentally, to their inability to form attachments. However, this is speculative and was not tested as part of this study. Franks, Sreenivasan, Spray and Kirkish (2009) sought to extend the earlier findings of Gacono and Meloy (1994) by studying the Rorschach variables of 45 severely psychopathic violent offenders. They used the PCL-R to measure psychopathy and only included those who scored above 30, a score required for a high psychopathy classification. Participants had a history of committing at least two serious acts of violence against others resulting in serious bodily harm. In addition all participants were classified as psychiatrically stable using the British Psychiatric Rating Scale (BPRS; Overall & Gorham, 1962). Authors reported that a defining characteristic of the psychopathic offenders in the sample was a complete incapacity for attachment as evidenced by the complete lack of texture responses. A strength of this study was that they controlled for the effects of intelligence and mental health problems. However, the lack of a matched control group of violent offenders scoring below 30 on the PCL-R is a significant weakness and limits the conclusions that can be drawn with regard to attachment difficulties being a distinct aspect of the psychopathic group.

Brody and Rosenfeld (2001) aimed to extend the previous research using the Rorschach test in psychopathic offenders by using a more standardised measure of object relations, the Bell Object Relations Inventory (BORI; Bell, Becker & Billington,

1986). The questionnaire generates four subscale scores: Alienation (basic lack of trust, intimacy difficulties), Egocentricity (mistrust of others motivations, self centeredness), Insecure attachment (sensitivity to rejection and longings for closeness) and Social Incompetence (shyness and uncertainly in interacting with others). This measure has been widely used in studies of object relations functioning and personality disorder. The participants were 74 male offenders currently on probation following criminal conviction. The PCL-SV (Hart, Cox, & Hare, 1995) was used to measure psychopathy. They found that the object relations subscales egocentricity, insecure attachment and alienation were significantly positively associated with total psychopathy scores. The subscales alienation and egocentricity were related to both interpersonal/affective and behavioural factors of psychopathy. However, the insecure attachment subscale was only related to the behavioural factor of psychopathy. The authors conclude that object relations deficits comprise a significant component of psychopathy.

One of the weaknesses in this study was its reliance on self-report to measure object relations. The ability of psychopathic offenders to respond reliably to self-report has been questioned in the past (Loving & Russell, 2000). A further weakness was the failure to distinguish between high and low psychopathic groups. Only 27% of participants in the sample met the cut off score for a strong indication of psychopathy. Therefore these findings may not be a reflection of psychopathy per se but of object relations in antisocial offenders in general. Furthermore, the authors draw attention to the fact that the object relations profiles of this sample show similarities to individuals with narcissistic and borderline personality disorders. No formal assessments of mental health or personality were conducted as part of this research raising the possibility that this sample may be comprised of borderline and narcissistic individuals rather than those who are psychopathic. In order to draw firm conclusions regarding the object relations profiles of psychopathic offenders further

research controlling for mental health problems and separating high and low psychopathic individuals is needed.

The Rorschach and adolescents

Smith, Gacono and Kaufman (1997) were the first to examine Rorschach correlates in a sample of 48 psychopathic and non-psychopathic conduct disordered male adolescents. Using a version of the PCL-R modified for an adolescent sample they found that psychopathic adolescents exhibited significantly higher levels of egocentricity than their non-psychopathic counterparts indicating relatively higher levels of self-centeredness and narcissism in psychopathic youths. However, no significant differences were found between the two groups regarding a lack of attachment capacity (as evidenced by a relative lack of texture responses). In fact they found that both groups had particular deficits in attachment capacity relative to a normal sample. This is an interesting finding as it is in contrast to findings in adult populations outlined above. This study used a measure of psychopathic traits standardised on adult populations, which raises questions about the reliable classification of psychopathy in this sample.

Loving and Russell (2000) aimed to extend the Rorschach research in adolescents using this standardised measure of psychopathy to precisely define psychopathic groups. Participants were 66 adolescent boys who had been ordered to participate in psychological evaluation following arrests for violent crimes. Each participant was rated in terms of severity of psychopathic features using PCL-YV total scores. Participants were divided into three groups according to psychopathy level, severe (scores of 30 or greater), moderate (scores ranging from 20-29) and low (scores below 20). They found that the highly psychopathic group differed from the moderate and low psychopathy groups in terms of interpersonal variables. Results indicated that the high psychopathy group showed significantly more deficits in

interpersonal functioning than the moderate and low psychopathic groups. The highly psychopathic group provided responses (relative absence of texture responses) indicative of an inability or an unwillingness to engage in close, genuine interpersonal exchanges. These findings suggest that severely psychopathic adolescents have an inability to form genuine attachments with others. The authors state that this provides support for the notion that the interpersonal detachment and aversion to closeness frequently observed in the Rorschach results of adult psychopaths is also detectable in early adolescence. Furthermore, findings provide support for the use of the Rorschach as a method of detecting interpersonal detachment in adolescent offenders.

A consistent finding of research in psychopathic populations utilising the Rorschach method is the psychopathic individuals' lack of attachment capacity. An inability to form attachments and the discomfort with intimacy which are so characteristic of psychopathic individuals are also key features of the dismissive / avoidant insecure attachment style. As highlighted above recent research has indicated that the Rorschach can identify individuals who have an avoidant attachment style and it may be that findings reviewed above reflect this. People classified with an avoidant attachment style are more likely to use strategies that keep the attachment system down regulated in order to avoid the frustration and pain associated with an unavailable attachment figure. Pursuing this goal leads to a denial of attachment needs and an avoidance of intimacy in relationships (Mikulincer, 1995). Furthermore, avoidant strategies motivate people to deny personal imperfections and vulnerabilities and to maintain an overly positive, narcissistic self-facade, features that are consistent with the superficial nature of the psychopathic presentation. It would be interesting to see if there was an association between attachment classification on the AAI and the Rorschach indices in psychopathic

populations. This is a potential research area to pursue in the quest to understand the connection between attachment and psychopathy more fully.

The Rorschach test is unique in its ability to describe clinical manifestations in psychopathic personality. It provides us with a powerful insight into the internal interpersonal and affective world of the psychopath, for whom attachment relationships appear to be an alien concept. The research outlined above lends some support to the idea that the Rorschach can distinguish between psychopathic and non-psychopathic offenders. Findings using the Rorschach test in psychopathy research are relatively consistent and seem to reflect deficits as measured by the PCL-R, which is a well-validated measure of psychopathy. John Exner's comprehensive scoring system for the Rorschach provided detailed rules for administration and scoring, and an impressive set of norms for both children and adults. With the development of Exner's (1995, 2003) comprehensive scoring system, the Rorschach is considered by many as a valuable measurement scale, particularly in psychopathic offenders for whom an ability to report reliably is often questioned. However, despite its widespread use by clinicians, and Exner's comprehensive scoring system there is a strong debate about whether the Rorschach is a reliable and valid assessment measure. The Rorschach test has been strongly criticised as a measure within the field of clinical psychology and is widely considered a problematic instrument from a psychometric standpoint (Dawes, 1994; Lilienfeld, Wood and Garb 2006). Furthermore in a recent meta-analysis Wood, Lilienfeld, Nezworski, Garb, Allen, & Wildermuth (2010) provided evidence that raised serious questions about the reliability of the Rorschach to distinguish between psychopathic and non-psychopathic individuals. As such, the research presented in this review should be considered in light of these limitations.

Table 4: Summary of the object relations and psychopathy studies reviewed

Study	Sample size	Age group	Sample type	Measures	Results
Brody and Rosenfeld (2001)	74	Adults	Forensic	PCL-SV BORI	Object relations subscales egocentricity, insecure attachment and alienation were significantly positively associated with total psychopathy scores.
Franks, Sreenivasan, Spray and Kirkish (2009)	45	Adults	Forensic	Rorschach ink blot PCL-R	Highly psychopathic offenders were characterised by a complete lack of attachment capacity
Gacono and Meloy (1991)	42	Adults	Forensic	Rorschach ink blot PCL-R	Highly psychopathic offenders appeared to have a marked incapacity for genuine intimacy or attachment suggestive of severe disturbances in the attachment system
Loving and Russell (2000)	66	Adolescents	Forensic	Rorschach ink blot PCL:YV	Highly psychopathy adolescents showed significantly more deficits in interpersonal functioning than the moderate and low psychopathic adolescents suggesting that severely psychopathic adolescents have an inability to form genuine attachments with others.
Smith, Gacono and Kaufman (1997)	48	Adolescents	Community Clinical	Rorschach ink blot PCL-R	No significant differences were found between psychopathic and non-psychopathic adolescents regarding a lack of attachment capacity (as evidenced by a relative lack of texture responses). Both groups had particular deficits in attachment capacity relative to a normal sample.

Note: BORI = Bell Object Relations Inventory (Bell, Becker & Billington, 1986). PCL:YV = Psychopathy Checklist: Youth Version (Forth, Kosson, & Hare, 2003); PCL-R = Psychopathy Checklist Revised version (Hare, 1991); PCL:SV = Psychopathy Checklist Screening Version (Hart, Cox & Hare, 1995);

Discussion

The notion that an early insecure attachment could lead to the development of psychopathic traits is compelling and one that theoretically makes intuitive sense. There is general agreement in the field that attachment difficulties are associated with psychopathy (Blair, Mitchell & Blair, 2005). The pervasive nature of psychopathy and the chronic interpersonal and emotional deficits that form the core of the disorder suggest that its origin may lie within a breakdown of the early parent child relationship. Insecure attachment may be a seed, which once planted, grows strong roots, which then become entrenched over time. As evident in this review, empirical research aimed at testing this hypothesis is extremely limited and has been slow to develop due to issues with accurate classification and measurement of both attachment and psychopathy. These factors continue to impact upon developing research which aims to address this important question. The suggestion that insecure attachment is related to the development of psychopathy remains largely, a theoretical one.

Despite the problems highlighted in this field, the research reviewed here appears to point to a link between the quality of the parent child relationship and psychopathic traits. These early results suggest that there are grounds to pursue research in this field. The Rorschach studies in particular suggest that an inability to form attachments may be a core feature of psychopathy, and the early research using the AAI seems to lend further support to this given findings indicative of a lack of secure attachment in psychopathic offenders. However, to date there have been no rigorous studies conducted to high empirical standards to address this question and the research remains at a very rudimentary stage. An important first step for research in this field is to empirically establish whether there is a relationship between attachment and psychopathy. Studies using narrative measures of attachment such as the AAI in addition to the PCL-R would be useful to begin

answering this question. The AAI is the gold standard measure in the adult attachment field, yet rather disappointingly, only one study has utilised this measure to date. The use of narrative measures can also be extended into the adolescent field given the recent development of the CAI, which can reliably classify attachments styles in this population. Measures such as the AAI, CAI and Rorschach test which measure psychological variables that may be outside of an individuals awareness are of particular value with populations like psychopathic offenders for whom limited insight and an inclination to deceive may compromise the validity of self report data (Loving & Russell, 2000). Such measures can be used to compliment self-report and clinical observation. Crowell, Fraley and Shaver (2008) recommend that researchers interested in assessing the common variance in adolescents and adult attachment orientations should assess attachment variation across multiple relationship domains (parents, peers and romantic relationships) and should utilise a variety of methods (self report, interview).

An important point emerging from the literature reviewed is the idea that attachment may be differentially related to the different sub factors of psychopathy. Research has shown that familial influences may be more relevant to the interpersonal affective features of psychopathy (Factor 1), with societal influences being more relevant to antisocial lifestyle and behavioural features (Factor 2) (Marshall & Cooke, 1999). Future research needs to consider the impact of attachment on all aspects of psychopathy by splitting down the factors as part of analysis. Interpersonal and affective features of psychopathy are often overlooked in psychopathy research. Impairment in attachment relationship may be a key factor in the development of these features of psychopathy. These core features of psychopathy are incredibly important and emerging research shows that it is these features that predict the severity of the disorder rather than the behavioural / antisocial features. These offenders clearly represent a distinct group and therefore there are likely to be

distinct causal processes. As such it is important to consider offenders with psychopathic traits separately from delinquency or offenders in general. More specifically, this research field requires studies that compare groups of psychopathic and non-psychopathic offenders, which systematically examine attachment relationships alongside examining other important variables such as biological, individual, peer, school and neighbourhood factors. To date, there are no studies that have considered these factors together.

A significant limitation of research in this field is the cross sectional design. As such, conclusions regarding the casual nature of insecure attachment in relation to psychopathy cannot be drawn. Psychopathy is a complex disorder and appears to be the result of an interaction or combination of many risk factors. A common limitation in research looking at the relationship between attachment and psychopathy is a failure to take into account the potential effects of temperament or genetic influences on the development of psychopathy. There is a growing body of evidence to suggest a strong genetic component in the development of psychopathic traits (Viding, Blair, Moffit, & Plomin, 2005). Some research has shown that temperamental lack of fearful inhibition is related to the presence of psychopathic traits (Frick et al, 1999; Walker et al., 1991). Other research suggests psychopathic traits are associated with specific deficits in emotional processing, especially the ability to recognise fearful faces (Marsh & Blair, 2008; Munoz, 2009). Blair, Mitchell and Blair (2005) suggest that it is the underlying deficits in emotional processing that interferes with the development of attachment in psychopathic people rather than attachment being a causal factor in its own right. Taking a developmental psychopathology framework to design research to look at the relationship between psychopathy and attachment may be helpful. Dekylen & Greenberg (2008) state that attachment theory provides a developmental frame for understanding how care giving relationships influence processes thought to be

central to emerging psychopathology. Furthermore, they suggest that attachment becomes influential in the context of other risk factors within the child and family ecology. It may be that insecure attachment is one of a complex mix of risk factors that leads to the development of psychopathic traits.

Unfortunately, research at present is effectively split into two camps, those looking at genetic / temperamental influences and those considering social, familial and environmental factors. In order to develop a comprehensive understanding of the development of psychopathy and the differential effects of all these factors the two fields need to come together. Perhaps future genetic studies could include robust measures of attachment and take into account other important environmental factors that have been associated with psychopathy, for example, history of abuse and dysfunctional parenting practices (Campbell, Porter & Santor, 2004; Frick & White, 2008). Research in the future needs to take into account the complex nature of the psychopathic condition by utilising methods that examine a number of these factors and how they interact leading to the development of psychopathic traits (Frick & Viding, 2009). It will be particularly important for research to take into account the combined effects of temperament and attachment, with attention paid to potential mediators. As Saltaris (2002) has previously indicated, it will be important to test the hypothesis that temperamental fearlessness interacts with insecure attachment leading to the development of psychopathic traits. If attachment is shown to be a mediator, or a protective factor against the effects of a difficult temperament, this could have profound implications for early intervention which may help to counter the development of psychopathic traits. A developmental psychopathology approach can help define the various causal pathways that may lead to the development of psychopathic traits. In a multi risk factor conceptualisation of psychopathy each risk factor may contribute differently to each element of psychopathy. Future research

may be able to highlight a specific constellation of factors, that when occurring together, result in the development of psychopathic personality.

The concept of psychopathy has only recently been extended in adolescent and child populations and as such comprehensive measurement of these traits in young people have only recently been developed. With this new wave of research comes the possibility of testing the attachment hypothesis of psychopathy by conducting carefully designed longitudinal research. If attachment difficulties are found to be associated with psychopathy and if secure attachment acts as a mediator against the development of such traits this may have profound implications for intervention and treatment of psychopathic offenders. More importantly the question of early intervention becomes paramount given the evidence from adult populations which highlights the difficulty in treating psychopathic personality (Salekin, 2002). In addition, early identification of psychopathic traits and attachment difficulties in younger children could enable interventions at a stage in development before the roots of psychopathy are fully embedded.

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Part 2: Empirical paper

An exploration of the relationship between poor parent-child attachment and callous unemotional traits in a sample of high-risk young offenders

Abstract

Research looking at the relationship between attachment and the development of callous-unemotional traits is still very much in its infancy. The present study examined the association between parent child attachment and callous-unemotional traits in a sample of 60 high-risk young offenders aged 14-17. The participants completed several self-report questionnaires including the Inventory of Parent Peer Attachment (IPPA), the Inventory of Callous-unemotional traits (ICU) and a measure of delinquency. In addition, for the first time the present research aimed to explore whether callous-unemotional traits mediate the relationship between poor parent child attachment and delinquency. The key finding of this study was that poor child-mother attachment was associated with higher ratings of callous-unemotional traits and self-reported delinquency. Furthermore, poor maternal attachment and callous-unemotional traits were independent predictors of self-reported delinquency. However, callous unemotional traits were not found to mediate the relationship between poor maternal attachment and delinquency. With regard to paternal attachment, there were no significant findings in relations to callous-unemotional traits and delinquency. These findings lend support to the growing body of literature suggesting a link between poor parent-child attachment and callous-unemotional traits. However, further research is required to clearly establish the nature of this relationship and questions remain as to how these two factors interact with other factors leading to increased delinquency in young offenders. Limitations of the study are considered and directions for possible future research are discussed.

Introduction

Young offenders account for more than half of all violent crimes committed in the UK. Furthermore, statistics on the onset of serious and violent delinquency indicate that half of persistent juvenile offenders are actively offending by 12-13 years of age. However, most serious delinquent offenders have started their offending careers much earlier (Fonagy, 2003) and most serious youth antisocial behaviour is committed by a very small group of persistent adolescent offenders (Arnull et al., 2005). Consequently, Youth antisocial behaviour is a significant issue in today's society and in the U.K politicians are struggling to implement effective strategies to reduce antisocial behaviour in young people.

Research has shown that within youth that develop severe patterns of aggressive and antisocial behaviour, there are subgroups that show distinct causal processes leading to their problem behaviour (Frick & White, 2008). In particular recent research has focussed on the presence or absence of callous-unemotional (CU) traits as one way of defining subgroups of antisocial youth. CU traits refer to a specific affective and interpersonal style which is characterised by absence of guilt, failure to show empathy and a use of others for one's own gain. These are characteristics considered as primary in clinical descriptions of adult psychopathy (Hare, 1991). CU traits have been shown to be relatively stable throughout childhood and adolescence and they designate a group of youth with a particularly severe, aggressive and stable pattern of antisocial behaviour (Frick & White 2008). The difference between individuals who are both psychopathic and antisocial and those who are antisocial but not psychopathic appears to be in the presence or absence of CU traits (Hare, Hart & Harper 1991). Furthermore, longitudinal studies have shown that it is the callous unemotional aspect of psychopathy that predicts risk of long-term maladjustment (Hare, 1993), thus highlighting the importance of focussing on these traits in research in youth offending populations.

The concept of psychopathy in adolescents is relatively new and there has been some controversy over the use of the term “psychopathy” in reference to children and adolescents. Nonetheless, emerging evidence supports the validity of applying the construct to youth populations (Forth & Burke, 1998; Kosson, Cyterski, Steurwald, Neumann, & Walker-Mathews, 2002; Neumann, Kosson, Fourth, & Hare, 2006). A number of measures have been developed to detect the presence of psychopathic traits in adolescent populations, thus allowing psychopathy to be assessed reliably in this population. The most widely used measure is the Psychopathy Checklist Youth Version (PCL:YV; Forth, Kosson & Hare, 2003), which reflects the four factor structure of psychopathy (interpersonal, affective, impulsive and irresponsible style, and antisocial behaviour). However, given recent research developments regarding the importance of callous unemotional traits in adolescent populations, Frick and colleagues developed the Inventory of Callous–Unemotional Traits (ICU) to provide an efficient, reliable, and valid assessment of CU traits in samples of adolescents and younger children. The creation of these comprehensive assessment tools of psychopathic traits in children and adolescents opens up opportunities for researchers to examine the developmental origins of psychopathic traits.

Numerous attempts have been made to understand the development of psychopathic traits (Salekin, 2002), but the aetiological roots of psychopathy remain unclear. However, despite this there is an assumption that such traits, at least in part, have origins in early childhood (Rutter, 2005). Furthermore, the emotional detachment shown by psychopathic individuals is so fundamental and pervasive that it is likely to originate from very early in a child’s life and that it may be relatively independent of later inadequacies in the rearing environment (Saltaris, 2002). Saltaris (2002) has raised the following questions: could the development of psychopathic traits be associated with early insecure attachment relationships? And

could the absence of empathic feelings so characteristic of psychopathic offenders be associated with such attachment problems?

Attachment theory, proposed by John Bowlby (1969), places a great emphasis on the early relationship children have with their caregiver. At its core, attachment theory suggests that the quality of a child's attachment is a direct function of experiences with caregivers and more specifically, the extent to which the caregiver is perceived to be a reliably available figure (Bowlby, 1982). A number of longitudinal studies have shown that securely attached infants and toddlers do better later in life regarding: positive peer and parental relationships, self-esteem, independence and autonomy, impulse control, empathy and compassion, pro-social behaviour and greater resilience in the face of adversity (Jacobson & Wille, 1986; Main & Weston, 1981; Main, Kaplan, & Cassidy, 1985; Sroufe, Carlson, & Shulman, 1993). Secure attachment is a primary protective factor against the development of psychopathology, later violent and antisocial patterns of cognition, and behaviour and interaction (Levy & Orlans, 2000). Conversely, insecure attachment is a well established risk factor for the development of antisocial behaviour and conduct disorder children and adolescents (Deklyen, Speltz, & Greenberg, 1998; Macus & Betzer, 1996; Renken et al., 1989). More specifically, insecure avoidant and disorganised attachments have been linked to early hostile behaviour problems and conduct problems in adolescents (Aguilar, Sroufe, Egeland & Carlson, 2000; Lyons-Ruth, Alpern & Repacholi, 1993).

Despite this growing body of research linking attachment with antisocial behaviour the issue of attachment has been surprisingly overlooked with regard to psychopathy. The link between attachment and psychopathy was first proposed by Bowlby (1944) to explain the affectionless personality of juvenile thieves, for whom experience of a lack of warmth and disruptive childcare was thought to have created

an absence of concern for others. Attachment theory suggests that children who fail to develop a secure attachment with their primary caregiver do not have the opportunity to learn how to be empathic and hence increases a child's risk for interpersonal difficulties, including psychopathic-like behaviour. According to Bowlby (1969) this failure to bond leads to the development of 'internal working models' of others as unworthy of trust, empathy and concern. This theory is supported by observations that preschoolers with insecure attachment exhibit fewer empathic responses compared with children who are securely attached (Kestenbaum, Farber, & Sroufe, 1989).

Empirical investigation of the relationship between poor attachment and the development of callous-unemotional traits has been slow to develop due to issues in adequate conceptualisation and measurement of both psychopathy and attachment. However, although still extremely limited, there is an emerging body of empirical literature beginning to investigate this important theory.

Some limited work has been carried in the adult offending populations. Frodi, Dernevik, Sepa, Philipson and Bragesjo (2001) were the first to measure the occurrence of specific attachment styles in precisely defined psychopathic offenders. Using the Adult Attachment Interview (AAI; George, Kaplan & Main, 1984,1985,1996) they found that none of the 14 offenders in their sample were classified as having a secure attachment. More specifically they found an over representation of the avoidant-dismissing attachment style which is suggestive of disturbance and disconnection in interpersonal relationships. However, the results of this study need to be interpreted with caution given that the study was predominantly descriptive in nature and lacked the sample size to draw firm conclusions regarding the association between insecure attachment and psychopathy. In another study in the adult field, Gao, Raine, Chan, Venables and

Mednick (2010) found that disrupted parental bonding (a concept closely related to attachment) was significantly associated with an increased level of adult psychopathic personality. Low maternal care was the aspect of bonding most associated with psychopathy and this was true for both fundamental dimensions of psychopathy: the interpersonal/affective and behavioural/antisocial. With regard to the prospective aspect of the study, results indicated that children who experienced separations from their parents before age three had significantly lower scores for perceived maternal care as adults compared to adults who had experienced no early separations. Furthermore, those adults separated from their parents by age three showed significantly higher total psychopathy scores and higher scores on the behavioural / antisocial psychopathy factor than adults who had not experienced any early separations. This is an interesting finding however, the sample for this aspect of the study was extremely small (only 6), meaning no reliable conclusions can be drawn. It is also important to note that this research was conducted in a community sample in Mauritius thus limiting the generalisability of these findings.

Two studies have looked at aspects of the quality of the parental relationship and the development of psychopathic traits in younger children. Fite, Greening and Stoppelbein (2008) found that parents who reported more attachment difficulties with their children also reported that their children exhibited more psychopathic like traits, specifically the callous unemotional features. However, the reliance solely on parent report measures in this study may have led to biased or socially desirable responses. Pardini and Powell (2007) examined the relationships between parental warmth and callous unemotional traits in a sample of aggressive children aged between 9-12 years. Findings indicated that children who reported their parents as warm and involved tended to exhibit decreases in callous unemotional traits and antisocial behaviour over time, suggesting that parental warmth may play a role in both dimensions of psychopathic traits. However, it is important to note that neither

of these studies used well standardised measures of attachment, and hence the generalisability of these findings with regard to attachment is unfortunately limited.

Research examining the association between attachment and psychopathic traits in adolescents is also limited. Kosson, et al. (2002) were the first to examine the association between attachment and psychopathic traits in delinquent adolescents. They found a significant negative correlation ($r = -.33$) between the Inventory of Parent Peer Attachment (IPPA; Armsden & Greenberg, 1987) parent scale score and total PCL:YV scores, indicating that individuals with psychopathic traits are less closely attached to their parents. Further, they found that young people's ratings of closeness to their family were also negatively correlated with psychopathic traits. Adolescents who were rated highly on psychopathic traits also rated their families as less close in general. An important limitation of this study is that they did not analyse the PCL:YV factors separately, leaving questions open as to whether interpersonal and affective aspects of psychopathy were associated with a lack of closeness to parents. Flight and Forth (2007) built on the research by Kosson et al (2002) and investigated the relationship between psychopathic characteristics, and self reported attachment to caregivers and peers in violent young offenders. This is one of the few studies to examine psychopathy as a whole as well as looking at its different sub-factors (Interpersonal, Affective, Lifestyle and Antisocial) as measured by the PCL: YV (Forth, Kosson & Hare 2003). The results of this study were mixed; there was no significant relationship between attachment to mother and psychopathic traits, however, youths who scored high on psychopathic traits reported being less attached to their fathers. Analysis of individual factors of psychopathy revealed that the only significant relationship was between the lifestyle factor of psychopathy and self reported attachment with father, with greater antisociality associated with more negative father son relationships.

Current study

As described above, we know that there is a well established link between callous-unemotional traits and antisocial offending behaviour and that there is a theoretical basis to suggest that deficits in attachment may be an important factor in the development of callous-unemotional traits. Although the available research examining the relationship between callous unemotional traits and attachment is limited, the early findings are encouraging and suggest a need for further empirical investigation. The current research aims to do this by exploring the relationship between parent child attachment and callous-unemotional traits. In addition, following Bowlby's original hypothesis, the current study will explore whether the relationship between poor parent child attachment and antisocial behaviour is mediated by callous-unemotional traits in a group of high-risk incarcerated young offenders. Following previous research and theory the present study aimed to test the following hypotheses:

- (a) Young offenders who score highly on measures of callous unemotional traits will be more likely to show patterns of poor parent child attachment (both to mother and father) and will show elevated scores on self reported delinquency and risk for re-offending.

- (b) Poor parent child attachment influences the development of callous traits which in turn influences delinquency / antisocial behaviour. Therefore, callous traits act as a mediator between attachment and delinquency.

Method

Participants

Participants were 60 (30 male, 30 female) adolescents aged between 14 and 17 (mean age = 15.72; SD = 0.83). All participants were serving custodial sentences at a Secure Training Centre (STC) following a criminal conviction. Participants were serving sentences for a range of criminal offences including manslaughter, assault, possession of an offensive weapon, robbery, burglary and breach of supervision order. Details of participants' offending history can be seen in Table 1. Young people convicted of sexual offences and those diagnosed with a learning disability were excluded from the study. The racial composition of the sample was the following: White British (56.7%), White European (25%), Black Caribbean (5%), Black African (1.7%), Black Other (5%), White Black Caribbean (3.3%), White Black African (1.7%), White Black British (1.7%).

Table 1. *Participant's offending history*

Offending history	Mean	Standard Deviation
Total number of offences	6.75	4.15
Violent offences	2.73	2.24
Non-violent offences	4.02	3.99
Age of first contact with police	12.6	1.57

With permission from the participants, background information was collected from case records at the STC. With regard to family discord, the majority (91.7%) came from families where the parents were separated or divorced. In terms of social deprivation, 56% were considered to be from economically and socially disadvantaged backgrounds. A considerable proportion of the participants had

documented histories of maltreatment or abuse (35% witnessed domestic violence, 25 % physical abuse, 15% neglect, 8% sexual abuse, and 3% emotional abuse). A considerable percentage (17%) had experienced the loss of a parent through death or separation before the age of 8.

Power calculation (using G*Power 3.1, Faul et al., 2007) based on medium effect sizes indicated a minimum sample size of 68 was needed for power of 0.8 at an alpha of .05 (Cohen, 1992). Power calculation based on large effect sizes indicated a minimum sample size of 46 was needed for power of 0.8 at an alpha of .05 (Cohen, 1992).

Measures

Demographic information

With participants permission demographic information (SES, age, ethnicity, history of abuse and reading age) was gathered from records at the STC.

Callous-Unemotional Traits.

Callous-unemotional traits were measured using the Inventory of Callous-Unemotional Traits (ICU; Frick, 2004). Parent, teacher, and self-report versions of the ICU are available. The ICU is a self-report scale and consists of 24-items across 3 subscales. 11 items assess callousness (e.g. 'I do not care who I hurt to get what I want'); 8 items assess uncaring traits (e.g. 'I feel bad or guilty when I do something wrong') and 5 items assess unemotional traits (e.g. 'I hide my feelings from others'). Twelve positively worded items require reverse scoring before calculation of the total scores. ICU scores range from 0-72, with higher scores indicating higher levels of callous-unemotional traits. Essau et al., (2006) reported acceptable internal consistency for the ICU (coefficient $\alpha = .77$). In addition, acceptable internal consistency was reported for the callousness (coefficient $\alpha = .70$) and uncaring

subscales (coefficient $\alpha = .73$). The reported internal consistency for the unemotional subscale was marginal (coefficient $\alpha = .64$). In the current study the internal consistency for the self report youth ICU total and subscales were comparable to previous research (coefficient $\alpha = .79$; Callousness = .698; Uncaring = .735; Unemotional = .680). The teacher version of the ICU was completed by case workers of the young people in this study.

Parent-child attachment.

Attachment was measured using the Inventory of Parent and Peer Attachment: Mother, Father, Peer Version (IPPA; Armsden and Greenberg (1987). Given that this research was interested primarily in attachment with parents, the peer section of the questionnaire was not used. The IPPA is a well-standardised self-report instrument that assesses adolescents' perceptions of positive and negative affective/cognitive aspects of relationships with their parents. The IPPA assesses three dimensions of attachment: Degree of mutual trust (10 items e.g., "My mother respects my feelings"), quality of communication (10 items; e.g., "I like to get my mothers view on things I am concerned about"), and degree of anger and alienation (7 items; e.g. My mother expects too much from me"). Three-week test-retest reliability of the IPPA for the global score is reported as .90. Internal consistencies in previous research were .87 for mother and .89 for father (Armsden & Greenberg, 1987). In the current study the internal consistency for the self-report IPPA scales were very good (mother scale: coefficient $\alpha = .928$, father scale: coefficient $\alpha = .938$).

Delinquency and Offending

Self-reported delinquency was measured using an adapted version of the Study of people's experiences questionnaire (SPACE), a measure of delinquency used by Smith and McVie (2003). This measure was developed through extensive piloting in

the community on a large cohort of young people in a UK population. The 19 questions on the adapted scale used in the current study were related to a range of non-aggressive and aggressive delinquent behaviors including amongst others, fire setting, vandalism, assault and stealing (e.g. "During the last year did you use force, threats or a weapon to steal money or something else from somebody?"). Adolescents report on whether they have or have not engaged in delinquent acts and over the past year. In addition, adolescents reported on the frequency of any delinquent acts committed. However, this was not included in the analysis of this study due to the data being incomplete. A self reported delinquency score was obtained by summing the 19 items, with the highest possible score being 19. The internal consistency for the adapted version of the SPACE used in this study was good (Cronbach's $\alpha = .844$). A copy of the SPACE can be found in appendix 2.

The ASSET (Youth Justice Board, 2000) was used as an additional measure of severity of antisocial behaviour and risk of re-offending. The ASSET provides a structured assessment of the needs of young people who have offended and the degree of risk they present to themselves and others. It was developed by Oxford University's Centre for Criminological Research and was introduced as part of the standard YOT assessment from 1 April 2000. The ASSET assesses 12 risk factors that may contribute to offending behaviour (living arrangements, family life and relationships, education, training and employment, neighbourhood, lifestyle, substance use, physical health, emotional / mental health, perception of self and others, thinking and behaviour, attitudes to offending, motivation to change). The extent to which a factor is associated with the likelihood of further offending is rated on a 0-4 scale: 0 Not associated at all, 1 Slight, occasional or only a limited indirect association, 2 Moderate but definite association (could be a direct or indirect link. May be related to some offending, but not all. Tends to become offending related when combined with other factors), 3 Quite strongly associated (normally a direct

link, relevant to most types/occasions of his/her offending), 4 Very strongly associated (will be clearly and directly related to any offending by the young person. Will be a dominant factor in any cluster of offending-related problems). These scores are combined to provide a total score that reflects risk of offending. Scores range from 0-48 with higher scores reflecting a greater risk of re-offending. Regarding predictive validity, the ASSET total score has been shown to accurately predict the likelihood of reconviction. In addition, higher scores on the ASSET are indicative of a risk of repeat conviction and also the likelihood of more serious re-offending (Baker, Jones, Roberts and Merrington, 2004).

Social Desirability

The Lie scale from the Jesness Inventory (JI: Jesness, 1996) was used to assess socially desirable response sets. The scale was added at the end of the SPACE questionnaire (appendix 2). In this scale items are presented as statements and the participants were required to indicate whether statements are 'True' or 'False' (e.g. 'I never get angry at anybody' and 'I never lie'). Scores of 6 or above indicate a socially desirable response set (Pinsonneault, 1996).

Procedure

The UCL Research Ethics Committee granted approval for this study (letter in appendix 3). Participants were approached by assistant psychologists (AP'S) at the Secure Training Centre (STC) and were given a participation information sheet (appendix 4) explaining the study. Participants were informed that their participation was voluntary and that they could withdraw from the study at any time without giving a reason and that taking part in the study would not influence the care they receive at the STC. Importantly, participants were informed that all of their responses would be confidential, unless they disclosed details of previously unknown serious offences or information indicating that they or someone else was at risk of harm, in

which case staff at the STC would be informed. Either the researchers or the AP's at the STC gained informed consent from the young person after they had decided they would like to take part. For young people under 16, the Head of Care at the STC acting as 'loco parentis' (in accordance with section 20 of the Children's Act (1989) also gave informed consent in addition to the young person (Consent forms can be found in appendix 5).

Once consent had been gained from the young person, a time was set up for the questionnaires to be completed. This study was conducted jointly with one other UCL trainee clinical psychologist (Dawson, 2011). As such, as well as measures completed for the current study, the young people completed a self-report questionnaire about materialism and a risk taking computer task that lasted 20 minutes. The order in which the self-report questionnaires and computer task were administered was the same for each participant. At the beginning of the interview, young people were asked if they felt comfortable reading and completing the questionnaires independently. If young people informed researchers of a difficulty with reading, questionnaires were read aloud by the researcher. A researcher was present at all times to support the completion of the questionnaires and computer task. Young people were encouraged to ask questions throughout the session and to let the researcher know if they found any of the questions distressing. The measures took between 30-60 minutes to complete. In addition to the measures completed by the young person, a teacher version of the ICU was completed by each young person's case manager. Following completion of the measures each young person was thanked for their participation and were also entered into a prize draw for a chance to win one of three high street vouchers.

Results

Descriptive statistics and reliabilities

Descriptive statistics were calculated for each variable and a summary of the results can be seen in Table 2.

Table 2. *Descriptive statistics of main variables*

	Mean	Std. Deviation	Range	Maximum possible score
ICU Total	27.88	9.31	9-48	72
Callousness	10.22	4.79	3-22	24
Uncaring	10.08	4.40	2-19	24
Unemotional	7.58	3.26	1-15	24
IPPA mother	93.07	20.83	29-121	125
IPPA father	80.67	24.64	37-125	125
ASSET	24.33	6.75	9-38	46
SPACE	8.42	4.38	0-19	19

Preliminary analysis to test normality assumptions for all variables revealed that the IPPA mother scale had a significantly skewed distribution. The remaining variables fell within the normal limits. Transformations of the skewed variable did not result in normality assumptions being met. Given that the parametric assumption had been violated for the IPPA mother scale the decision was made to use non-parametric correlations when analysing this variable.

Caseworker reported ICU data was collected in addition to the youth self reported ICU. Preliminary analysis to test normality assumptions revealed that the unemotional and uncaring subscales were significantly skewed. Attempts to transform the variables did not result in normality assumptions being met. In addition, the caseworkers did not know the young people well and as such may not have been accurate in their report of callous unemotional traits. Therefore, the reliability of this scale was questionable and the decision was made to exclude it from the analysis.

To check for the influence of socially desirable responding, the lie scale from the Jesness Inventory (Jesness, 1993) was used. This scale provides cut-offs for responses that may be invalid in terms of 'faking good'. Only three participants scored above the cut off suggestive of invalid responses. Correlations were conducted to determine the impact of social desirability scores on the main variables. Social desirability was not significantly correlated with any of the outcome variables and therefore all participants were included in the overall analysis.

Demographic variables

Analyses were carried out in order to determine whether there were any effects of age, gender, SES on the main variables. Independent samples t-tests were carried out in relation to gender and no significant results were found for self reported delinquency (SPACE) ($t(58) = 1.893, p=.063$), callous-unemotional traits (ICU) ($t(58) = 0.816, p=.234$), or attachment (IPPA mother) ($t(49) = 1.156, p=.253$) and (IPPA father) ($t(47) = 0.220, p=.827$). Correlations were conducted on the remaining demographic variables and revealed that there were no significant associations with any of the main variables (See table 3 below). As such it was considered unnecessary to control for potential effects of age, gender, SES and history of abuse in the main analysis.

Table 3. *Correlations between demographic variables (age and SES) and ICU, attachment and self reported delinquency.*

Criterion	Age	SES
SPACE	-.154	-.091
IPPA Mother	.102	-.091
IPPA Father	.141	.095
ICU total	-.196	.093

Notes: Statistics reported are Pearson's correlation coefficient.

Correlation analysis

The first analysis employed was to test for the hypothesised relationship between attachment to parents and callous unemotional traits. As can be seen in Table 4, in line with the hypothesis self-reported attachment to mother was significantly negatively correlated with callous unemotional traits ($r_s = - .463, p < 0.01$). Analysis looking at the association between attachment to mother and ICU subscales showed that there were negative correlations with callousness uncaring and unemotional subscales of the ICU ($r_s = - .268, p < 0.05$ $r = - .338, p < 0.01$, $r_s = - .474, p < 0.01$ respectively).

With regard to self-reported attachment to father and callous unemotional traits, there was a trend indicating a relationship between the two, however, this was not statistically significant ($r = -.213, p = .071$). However, there was a significant negative correlation between attachment to father and the uncaring subscale of the ICU ($r = - .271, p < 0.05$).

In line with the hypothesis self reported attachment to mother was negatively correlated with self-reported delinquency ($r_s = -.294, p < 0.01$). Inconsistent with predictions, no association between self-reported attachment to father and self-reported delinquency was found ($r_s = -0.18, p = .452$).

Table 4. *Correlations between ICU total and subscale scores and attachment.*

Criterion	IPPA Mother	IPPA Father
ICU Total	-.463**	-.213
Callousness	-.268*	-.040
Uncaring	-.338**	-.271*
Unemotional	-.474**	-.196
SPACE	-.294**	-.007
ASSET	-.037	-.159

Notes: * $p < .05$ ** $P < .01$. Statistics reported in relation to IPPA mother are Spearman's Rho correlation coefficient. All other statistics reported are Pearson's correlation coefficient.

As shown in table 5, in line with previous findings there was a significant positive correlation between callous unemotional traits and self reported delinquency ($r = .337$, $p < 0.01$). Self reported delinquency was significantly correlated with callousness ($r = .437$, $p < 0.01$) but not with the uncaring and unemotional subscales of the ICU ($r = .103$, $p = .218$, $r = .182$, $p = .082$ respectively).

Although there was no significant correlation between offending risk and callous unemotional traits total score ($r = .082$, $p = .266$) there was a significant correlation between offending risk and the callousness subscale of the ICU ($r = .320$, $p < 0.01$). Given that offending risk was not correlated with attachment, no further analysis using this variable was conducted.

Table 5. *Correlations between ICU total score and subscales and self reported delinquency and offending risk*

Criterion	ICU total	Callousness	Uncaring	Unemotional
SPACE	.337**	.437**	.103	.182
ASSET (offending risk)	.093	.326**	-.069	-.121

Notes: * $p < .05$ ** $P < .01$. Statistics reported are Pearson's correlation coefficient.

Regression, mediation and interaction analyses

A simple regression analysis was conducted in order to examine how much of the variance in CU traits could be accounted for by poor mother-child attachment. The model was significant overall ($F(1, 55) = 9.67, p < .01$). The independent effect of attachment to mother was significant ($\beta = -.406, t(1) = -3.291, p < .01$) and the result indicated that self reported attachment to mother accounted for 17% (R^2 change = .165) of the variance in ICU total score.

A mediation analysis was conducted to test the hypothesis that the relationship between poor attachment and self-reported delinquency is mediated by callous-unemotional traits. The analysis was conducted using an SPSS script for simple mediation analysis (Preacher and Hayes, 2004). A Sobel test showed that there was no significant indirect pathway effect ($R^2 = 0.022, p = 0.10$) indicating that the relationship between attachment to mother and self-reported delinquency is not mediated by callous-unemotional traits. Figure 1 illustrates that the standardised regression coefficient between attachment to mother and self-reported delinquency decreased substantially when controlling for callous unemotional traits and that attachment to mother was a significant predictor of callous-unemotional traits.

Although callous-unemotional traits was no longer a significant predictor of self-reported delinquency when the effect of poor attachment to mother was controlled, there was a trend which approached statistical significance. The assumptions of regression including normality, multicollinearity, homoscedacity and singularity were checked and no violations were apparent.

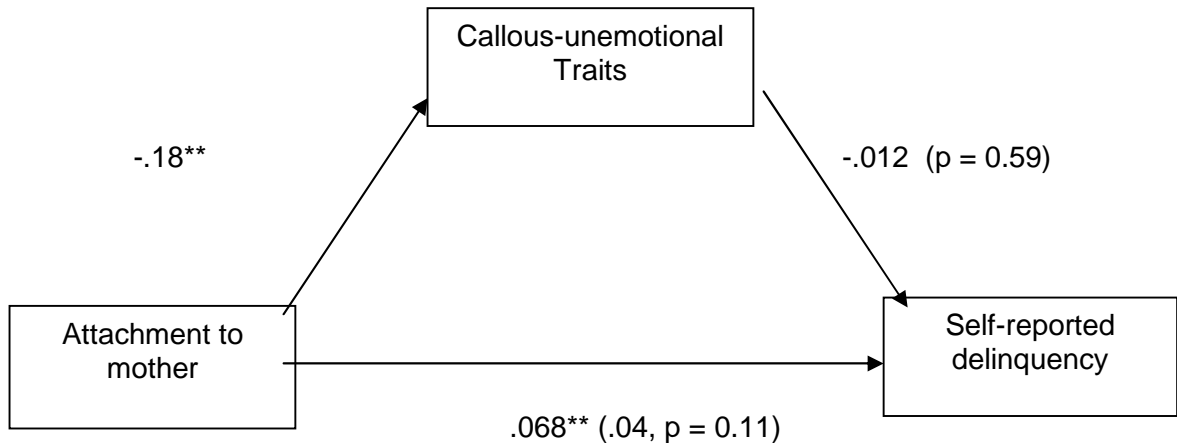


Figure 1. Standardised regression coefficients for the relationship between attachment to mother and self-reported delinquency as mediated by callous-unemotional traits. The standardised regression coefficient between attachment to mother and self-reported delinquency controlling for callous-unemotional traits is in parentheses.

$^{**}p < .01$

In order to test whether callous-unemotional traits moderated the relationship between poor maternal attachment and self reported delinquency a regression analysis with poor maternal attachment and callous-traits entered as an interaction term was conducted. The results of the regressions are shown in Table 6 below. Overall, the regression model was significant ($F(2, 56) = 5.235, p=.008$). Attachment to mother and youth reported callous-unemotional traits accounted for 16.2% of the variance in self-reported delinquency.

The Callous-Unemotional Traits X IPPA mother interaction term was then entered into block three of the self-reported antisocial behaviour regression model. As can be seen in Table 6, the addition of this interaction term did not lead to a significant increase in accounted for variance in self reported delinquency ($\Delta F_{3, 56} = 3.024, p = .088, \Delta R^2 = .045$).

Table 6. *Regressions predicting self-reported delinquency using callous-unemotional traits and attachment to mother (N=56).*

	<i>B</i>	<i>SE B</i>	β
Self-reported Delinquency (SPACE)			
Step 1			
Constant	8.2	.55	
IPPA mother (centred)	-.07	.03	-.32**
Step 2			
Constant	8.2	8.2	
IPPA mother (centred)	-.05	-.05	-.22
ICU total (centred)	.12	.12	.26
Step 3			
Constant	7.7	7.7	
IPPA mother (centred)	-.03	-.03	-.12
ICU total (centred)	.15	.15	.32*
ICU total*IPPA mother	-.01	-.01	-.23

*Note: IPPA = Inventory of Parent Peer Attachment ICU = Inventory of Callous Unemotional Traits. $\Delta R^2 = .105$ for step 1 ($p < .05$); $\Delta R^2 = .057$ for step 2 ($p = .060$); $\Delta R^2 = .045$ for step 3 ($p = .088$). * $p < .05$ ** $p < .01$*

Discussion

Research looking at the relationship between attachment and the development of callous-unemotional traits is still very much in its infancy. The aim of the present study was to extend this small but growing literature by examining the association between parent child attachment and callous-unemotional traits in a group of high-risk young offenders. A further aim was to examine whether callous-unemotional traits mediated the relationship between poor maternal attachment and delinquency.

Attachment, callous traits and delinquency

The key finding of this study was poor child-mother attachment was associated with higher ratings of callous-unemotional traits. In line with the hypothesis young people who reported poorer attachment relationships with their mothers rated themselves higher on callous-unemotional traits. Furthermore, a significant proportion of the variance in callous-unemotional traits was predicted by poor mother child attachment. This is perhaps a reflection of the relatively greater impact of mothers in the early emotional development of the child. This finding lends support to previous research, which has found that poor parental attachment, especially maternal attachment, is associated with an increase in psychopathic traits (Gao et al. 2010; Kosson et al. 2002). In addition, as hypothesised, poor attachment to mother was associated with higher self-reported delinquency. This finding is consistent with previous research, which has indicated that poor parent child attachment is an important risk factor for delinquent behaviour (Deklyen, Speltz, & Greenberg, 1998; Macus & Betzer, 1996; Renken et al., 1989). These findings are consistent with Bowlby's theory of attachment, which as outlined earlier proposes that failing to form a bond with the primary caregiver in infancy increases the child's risk for developing interpersonal difficulties, including the expression of delinquent behaviours. However, it is important to note that, in the present study, ratings of attachment were concurrent and longitudinal studies are needed to address the

impact of disrupted attachments in infancy on the development of callous-unemotional traits.

The findings regarding child-father attachment were very different. Contrary to the hypothesis, poor self reported attachment to father was not associated with higher ratings on callous-unemotional traits. However, although this effect was not statistically significant, there was a trend suggestive of a relationship. In addition, poor attachment to father was not related to self-reported delinquency. These findings are in contrast to previous research, which have implicated a poor child-father attachment in the development of antisocial behaviour and psychopathic traits (Enns, 2002; Farrington, 2006; Flight & Forth, 2007; Gao et al. 2010). More specifically lack of paternal involvement has been shown to be important, especially in relation to the interpersonal/affective aspect of psychopathy (Gao et al, 2010). Research has also shown that lack of attachment to a father figure is related to higher ratings on behavioural and antisocial features of psychopathy (Flight & Forth, 2007).

It is important to note that a considerable number of participants ($n = 11$) refused to complete the father section of the IPPA due to reasons such as; little or no contact with their fathers, or that the relationships were so poor that they did not feel comfortable answering questions in relation to it. Therefore, it is most likely that the results in this study are not an accurate reflection of father-child attachment in this population. This raises questions about the use of self-report measures of attachment, a point discussed in more detail later. It is well known that attachment to both the mother and father is important for psychological well-being (Rutter, 1982). However, the ways in which poor attachment to each of the parents affects the development of callous-unemotional traits remains unclear and the research is only just beginning to examine this relationship. It seems that it is important for parental

attachments to be considered separately in relation to callous-unemotional traits and further research taking into account paternal and maternal attachment is warranted.

The findings of the current study, consistent with previous research, demonstrate that poor child-mother attachment and higher callous-unemotional traits are important independent predictors of self-reported delinquency (Frick & White, 2008; Renken et al., 1989). However, contrary to the hypothesis, callous unemotional traits did not play a mediating role as it was no longer a significant predictor of self-reported delinquency when the effect of poor maternal attachment was controlled for. This is the first study to explore a mediation model of this kind. Although there was no significant mediation effect found in the present research, it is clear that callous-unemotional traits and poor mother-child attachment are important factors in independently predicting delinquency. In the current sample there were a range of scores with regard to callous unemotional-traits. Research suggests that young people high in callous-unemotional traits represent a subset of antisocial youth for whom the developmental trajectory towards antisocial offending is different (Frick & White, 2008; Moffitt, 1993;). It may be that poor maternal attachment is a more prominent risk factor in this small subset of offenders showing particularly high level of callous-unemotional traits as opposed to the antisocial youth offending population as whole. The fact that this sample was examined as a whole, including these two groups, is one possible explanation of the non-significant finding with regard to the mediating effects of callous unemotional traits. It is important that in future research these two groups should be considered separately.

A question remains as to how these factors relate to the development of antisocial and delinquent behaviour. Research has shown that a number of other important environmental variables have been associated with the development of callous-unemotional traits such as history of abuse, parental discord and harsh inconsistent

parenting practices (Campbell, Portor & Santor, 2008; Frick & White, 2008; Patterson, 1982). Therefore, a simple mediation analysis may not be able to accurately account for the relationship between callous-unemotional traits and delinquency due to the complex nature of the causal pathway. Research in this field is beginning to utilise statistical methods, which enables the examination of interactive models of antisocial behaviour, which take into account a number of risk factors (Butler, Fearon, Atkinson & Parker, 2007). An important next step for research will be to make use of interactive models, which can examine a range of potential mediators, as well as attachment, in the pathway from callous-unemotional traits to delinquency.

Limitations and directions for future research

The results of this study should be considered in light of its limitations. The sample size was relatively small. With a larger sample it would have been possible to split the groups and statistically compare offenders who scored highly on callous unemotional traits with those lower on callous unemotional traits. In addition it is possible that the non-significant findings regarding attachment to father and callous unemotional traits arose due to the reduced level of power, which increases the possibility of a type 2 error.

The present study relied predominantly on self-report measures gained from a single informant, which raises a number of important issues. Rutter (2005) has questioned the capacity of young people to make subjective judgments concerning their own levels of emotional concern and regard for other people's feelings in self-report measures of callous-unemotional traits. Given that this was a high-risk offending sample, high scores on measures of callous-unemotional traits were expected. However, contrary to expectations there were a range of scores with regard to callous unemotional traits indicative of heterogeneity in the sample. In fact

the mean total scores on the ICU in this sample were comparable to scores reported in community samples of adolescents (Essau, Sasagawa, & Frick, 2003). The relatively low scores found in the current study raises a question about the validity of the ICU in high-risk samples.

The reliability of self-report measures of attachment has also been questioned with suggestions that the most accurate way of capturing attachment relations is through the use of narrative interview measures such as the Adult Attachment Interview (AAI; George, Kaplan & Cassidy, 1985) or the Child Attachment Interview (CAI; Shmueli-Goetz, 2001). These methods may be preferable amongst individuals whose perceptions of themselves and their close relationships appear to be so distorted that they may not be capable of providing meaningful self-reports, which may be the case for psychopathic offenders (Bartholomew and Moretti, 2002). Furthermore, young offenders in general may hold an idealised view of relationships with key attachment figures (Howe, 2011) thus raising further questions about the reliability of self-reports in this population. In addition, the growing evidence to suggest an association between attachment and callous traits indicates that an examination of specific attachment patterns, using narrative measures will be an important next step for research in youth populations.

In addition to the issues outlined above, the reliance on self-report measures raises the possibility of shared method variance, which can lead to measurement error and inflate the relationship between independent and dependent variables. Future research in this area would benefit from using a multi-method approach involving a combination of objective and self-report measures in order to counter the effects of measurement error and other problems associated with a reliance on self-report.

Finally, a significant limitation of the present research was the cross-sectional design. As such, conclusions regarding the casual nature of poor mother-child attachment in relation to callous-unemotional traits cannot be drawn. There is general agreement in the field of psychopathy research that attachment deficits are a core component of the psychopathy phenomena. Indeed, Hare (1991) includes lack of attachment to significant others as a core feature of the disorder. However, a question remains as to whether environmental influences such as attachment deficits lead to the development of callous-unemotional / psychopathic traits or whether attachment deficits occur as a result of underlying temperamental or genetic factors. Theoretical formulations using attachment theory suggest that that poor attachment contributes to psychopathy by disrupting processes that lead to the development of morality and that those individuals who suffer a failure in bonding in early life fail to develop a capacity for empathy which can lead to antisocial behaviour later in life. In contrast other theories suggest that there is a biological predisposition for psychopathy such as a unique temperamental style and low behavioural inhibition that make the child more difficult to socialise and leads to problems in attachment relationships (Frick & Jackson, 1993; Kochanska, 1993).

There is also evidence to suggest a strong genetic component in the development of psychopathic traits (Viding, Blair, Moffit, & Plomin, 2005). Other research suggests callous-unemotional traits are associated with specific deficits in emotional processing, especially the ability to recognise fearful faces (Marsh & Blair, 2008; Munoz, 2009). Blair, Mitchell and Blair (2005) suggest that individuals with psychopathic traits present with attachment difficulties as a consequence of underlying emotional processing deficits. They state that individuals with psychopathy traits show impaired emotional learning and that it is this impairment interferes with the attachment process rather than attachment being a causal factor in its own right. There is a need for longitudinal research to investigate the interaction between temperamental vulnerabilities and caregiving factors such as

the quality of parent child attachment with attention paid to potential mediating factors. Perhaps future genetic studies could include robust measures of attachment (e.g. CAI) and take into account other important environmental factors that have been associated with callous-unemotional traits as aforementioned.

Attachment theory provides a developmental frame for understanding how care giving relationships influence processes thought to be central to emerging psychopathology (DeKlyen & Greenberg 2008). It will also be important to consider how attachment becomes influential in the context of other risk factors within the child and family ecology (DeKlyen & Greenberg, 2008). It is likely that poor attachment is one of a complex mix of risk factors that leads to the development of callous-unemotional traits and delinquency. A developmental psychopathology framework may be useful for research examining the relationship between psychopathy and attachment. Research in the future needs to utilise methods that examine a number of these factors and how they interact leading to the development of callous-unemotional traits (Frick and Viding, 2009).

Conclusions

This research lends support to the growing body of literature suggesting a link between attachment and callous-unemotional traits. This research field is still in its infancy and further research is required to clearly establish the nature of this relationship and questions remain as to how these two factors interact with other factors leading to increased delinquency in young offenders. These findings raise questions about the potential of environmental influences on the development of callous-unemotional traits and call into question a purely biological explanation of the etiology of callous unemotional traits (Frick & Viding, 2009). The significant findings with regard to poor attachment to mother and callous-unemotional traits as highlighted in the current research may have implications for the design of

interventions for children and adolescents displaying high levels of callous unemotional traits. Interventions aimed improving the quality of the parent child relationships may be especially important for the treatment of callous-unemotional traits. Furthermore, there is growing evidence to suggest that callous-unemotional can be targeted effectively through parenting interventions that include a focus on building warmth and responsiveness in the parent child relationship (Hawes & Dadds, 2007; Kolko et al. 2009; Lochman, Phillips, McElroy, & Pardini, 2005; Pardini & Lochman, 2003).

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Part 3: Critical Appraisal

Introduction

I will reflect on a number of aspects of the research process in this critical appraisal. First, I will briefly outline my interest in the research area. I will then discuss the selection of measures of attachment, callous-unemotional traits and delinquency paying particular the attention to issues around the use of self-report methods in general and more specifically the use of these methods with young offenders. I will then go on to consider some important factors associated with working in Secure Training Centres (STC's) including ethical approval and security requirements. Finally, I will give some personal reflections on working with young offenders.

Interest in the research area

I have been interested in child and adolescent psychology for many years. This interest has grown from my experiences of working directly with this client group and also from reflecting on my own childhood experiences and the differences in the relationships myself and my sisters have with our parents. One of the things I find most fascinating is the way that parental care in early childhood and the bond between parent and child effects later psychological functioning. Prior to clinical psychology training I worked as an assistant psychologist with young offenders in a Secure Training Centre (STC) and I was struck by how many of these young people were in the care system with very damaged parental relationships. In addition I noticed that their relationships with others, particularly care staff at the centre were ambivalent and at times very volatile. Yet at the same time I noticed that the 'hard' aggressive exterior often masked a scared vulnerable child trying to make sense of a very unpredictable world. I wondered whether their apparent inability to care about the feelings of others, particularly the victims of their crimes, derived partly from the lack of experiencing care in their own families. I became very interested in the work of John Bowlby (1944, 1969, 1988) and Peter Fonagy (1997) who have both linked early attachment difficulties with criminality and violent offending. When the time

came to decide on a thesis project I approached Dr Stephen Butler to discuss the feasibility of conducting a project looking at attachment in young offenders. We discussed the idea of examining the relationship between callous-unemotional traits and attachment in young offenders. When I began researching this topic I was truly surprised by the lack of empirical research in this area given its long theoretical history and as such I made the decision to pursue the topic for my clinical thesis.

Measurement issues

An integral part in the early stages of the design process for the current study was deciding on the appropriate instruments to measure attachment, callous-unemotional/psychopathic traits and delinquency. I will consider issues related to the use of self-report verses more objective measures of attachment, callous-unemotional traits and delinquency and will reflect upon some of the issues that arose with the measures used as part of the data collection process in the current study.

Attachment

Crowell, Farley & Shaver, (2008) advise that researchers should use assessment techniques that are most relevant to the kind of attachment process they want to study. In the present study I was interested in gaining adolescents perceptions of relationships with both parents and therefore the use of self-report measures seemed most appropriate. Furthermore, because this research was part of a joint project with multiple measures, an attachment measure that would be straightforward and quick to administer was required. The Inventory of Parent Peer Attachment (IPPA; Arnsden & Greenberg, 1987) was developed especially for use in adolescent populations and is said to tap the 'internal working model' of attachment figures in this population. The IPPA is a reliable and well-validated measure of attachment in adolescents, including young offenders and has been

widely used for research purposes (Coley & Mederios, 2007; Flight & Forth, 2007; McElhaney, Immese, Smith & Allen, 2006). In its revised version, the IPPA measures the adolescents' perception of attachment to mother and father separately. As such it was deemed an appropriate measure for the current project.

It is important to reflect upon several issues that arose during the course of the current study regarding the use of the IPPA. First, many of the young people found answering questions about their relationships with their parents very difficult. Several of the young people would not continue with the interview when they started completing the IPPA. Some young people seemed concerned that we were judging their parents and they were suspicious of our motives. This is demonstrated by a quote from one young man; "are you trying to say my mum is bad". Although care was taken to explain the nature of the questionnaires it was still too difficult for some of the young people. There was a particular issue with regard to the fathers. Eleven of the young people did not complete the questions related to attachment to father. A common response from young people was "he's shit, never been around so there's no point" and they refused to answer the questions. This was a difficult subject to ask young people about as many of them had absent fathers or parents who had passed away.

In contrast a considerable number of young people reported very positive perceptions of their relationships with their parents, especially their mothers on the IPPA. However, this was often contrary to the information documented in reports and notes, which stated difficulties in parental relationships. Attachment difficulties in delinquent young offenders are well documented (Aguilar, Sroufe, Egeland, & Carlson, 1989). Avoidant attachment in particular has been linked to conduct problems and antisocial behaviour (Greenberg, Speltz, & Deklyen, 1993). Avoidant adolescents are more likely to talk generally, vaguely, and often in idealised ways

about relationships with attachment figures as a defence against difficult memories (Howe, 2011). As such self-reported attachment measures may reflect such idealised views of key attachment relationships.

There is a debate in the attachment field concerning whether attachment patterns are best assessed using self-report or narrative interviews and whether these two methods converge on the same phenomena. One of the main issues with self-report measures is the assumption that people can accurately describe their thoughts, feelings and behaviours in close relationships. There is also a concern that rather than measuring attachment, self-report questionnaires may simply measure attachment satisfaction (Bartholomew, 1994). A further criticism of self-report measures is the idea that they measure only conscious processes, since people answer questions based on a conscious assessment of their feelings and behaviours in close relationships (Crowell, Fraley and Shaver, 2008). Conversely, narrative interview measures of attachment such as the Adult Attachment Interview (AAI; George, Kaplan & Main, 1984, 1985, 1996) and the Child Attachment Interview (CAI; Shmueli-Goetz, 2001) are considered to measure unconscious aspects of attachment behaviour and defences and are thus considered more comprehensive and reliable than self-report methods. Measures such as the AAI and CAI which measure psychological variables that may be outside of an individual's awareness may be of particular value with populations like psychopathic offenders, for whom limited insight and an inclination to deceive may compromise the validity of self-report data.

Perhaps future research in this field would benefit from using the CAI. The CAI is a semi-structured interview, in which children are asked to describe their relationships with their primary caregivers. Research suggests that the CAI is a reliable, valid, measure of child–parent attachment in children and adolescents (Shmueli-Goetz, Y.,

Target, M., Fonagy, P & Datta, A, 2008). Like its adult counterpart, the CAI is scored based on both verbal and non-verbal communications. Despite its strengths, the CAI has the substantial disadvantage of being a time-consuming protocol, requiring an interview that typically lasts from 30 minutes to 1 hour. In addition substantial time for transcription and coding is required. Ideally, I would have used the CAI in the current study. However this was not possible given its time consuming nature and the sample size required for power analysis in the current study.

Psychopathic traits

The use of terms such as psychopathy and psychopathic traits in child and adolescent populations is a controversial one and concerns have been raised about labelling children and adolescents 'psychopathic'. However, there is increasing evidence that this construct can be reliably applied to adolescent populations (Forth & Burke, 1998). Psychopathy is conceptualised as a developmental phenomena, which most likely has its roots in childhood (Rutter, 2005). Therefore, it is essential that these traits can be measured early in the developmental process in order to identify possible developmental precursors of the condition.

A number of measures of psychopathic traits have been developed in recent years for adolescent populations and they come in two main forms: self report (by the young person, parents and teachers) and interview plus file and collateral data. Selecting a measure for this research project was largely determined by the fact that we required a measure that was quick and easy to administer due to time constraints of the project. Therefore, the decision was made to use the self-report method. The two most commonly used self-report measures of psychopathic traits are the Antisocial Process Screening Device (APSD; Frick & Hare, 2001) and the Inventory of Callous-unemotional traits (ICU: Frick, 2004). The ASPD has been commonly used as a measure of psychopathic traits in child and adolescent

populations. However, it has been criticised for not accurately measuring callous unemotional traits, which are widely assumed to be at the heart of the psychopathic condition. The Inventory of callous-unemotional traits was developed in order to address some of the psychometric limitations of the ASPD and it provides a more extended and comprehensive assessment of callous-unemotional traits (Frick & White, 2008). Moreover, it has been and has been shown to be a reliable measure in both community and juvenile delinquent samples (Essau, Sasagawa, & Frick, 2006; Kimonis et al., 2008). Given these qualities, the decision was made to use the ICU in this study.

A number of issues arose during the course of the current study with regard to the ICU. First, on a practical note many of the young people struggled with the negatively worded items of the ICU. As such, researchers took time to explain the questionnaire fully before it was completed and asked the young people to take their time and read the questions carefully. Secondly, the average scores from the self-report ICU in the present study were equivalent to those found in community samples (Essau et al., 2006) which was unexpected given the fact that this was a high-risk sample. Although the ICU is a well-validated measure in community samples the relatively low scores found in the current study raises a question about its validity in high-risk samples. A further limitation of the current study was the reliance on the youth self-report ICU. Teacher and parent versions of the ICU are also available. Unfortunately, it was not possible to gain teacher rated or parent rated ICU scores in the current study. Although there are teachers within Secure Training Centres, the centre in which this research was conducted did not allow teachers to participate in the study. This is something that could be pursued by researchers in the future. In the current study case managers of the young people at the centre were able to complete the teacher version of the ICU. However, the reliability of these reports was questionable, as the caseworkers did not know the

young people well. The validity of parent and teacher reports of callous-unemotional traits in adolescents has been widely debated. Vasey, Kotov, Frick, and Loney (2005) found low agreement between self-report and teacher measures on the callous/unemotional (CU) traits. Low agreement among reporters is a common finding with respect to psychopathology but the problem seems unusually marked in the case of psychopathy (Rutter, 2005). In addition the validity of parent and teacher ratings of personality and behaviour variables have been shown to decrease during adolescence (Kamphaus & Frick, 1996). As such, the use of parent and teacher report measures should be carefully considered.

Finally, doubts about whether adolescents high on psychopathic traits are able to give valid self-reports (in light of their deceitfulness and conning) have been raised (Farrington, 2006). Rutter (2005) has questioned the capacity of young people to make subjective judgments concerning their own levels of emotional concern and regard for other people's feelings in self-report measures of callous-unemotional traits. In order to overcome some of the difficulties associated with self-report measures in this field, researchers could consider using the PCL:YV (Forth, Kosson, & Hare, 2003). The PCL:YV is the gold standard measure of psychopathic traits in youth populations and is used extensively in incarcerated samples of adolescents. The PCL:YV is completed by trained raters and utilises a 60–90 min semi-structured interview. Furthermore, it includes a thorough record review and information is gained from several sources. However, this measure is incredibly time intensive and requires specialist training to interpret. Given the time constraints of the current project and that the researchers had not been trained in the use of this tool it was not possible to use this measure in the current study.

Delinquency

The present study relied on a self-report measure of delinquency. A pure measure of delinquency and criminal activity was required for the research design. The SPACE (Smith & McVie 2003) was chosen because it included a range of delinquent behaviours from minor acts such as to more serious acts such as assault and is one of the few self-report measures of delinquency normed on a UK population. Furthermore, the internal consistency of the SPACE in the current study was very good. Another important note was the acceptability of the measure for the young people. The majority of young people were incredibly willing to answer questions about their criminal activities and it aided their engagement in the research process to administer this questionnaire early in the protocol.

The self-report technique is a valid and reliable way of measuring involvement in delinquent and criminal behaviour and has a well-established role in criminological research, especially research on the aetiology of delinquent and criminal behaviour (Thornberry & Krohn, 2000). Another commonly used measure of delinquency and offending is to use formal convictions (Vincent, Vitacco, Grisso, & Corrado, 2003). However, reliance on official sources of criminal activity introduces layers of potential bias between actual behaviour and the data and may result in underestimations of criminal activity. Self-report measures may better reflect the true level of criminal activity a young person has engaged in, as it measures all of the activities they haven't been convicted of. On reflection it may have been more comprehensive to combine self-reported delinquency scores with objective offending ratings to provide a composite score of criminal activity. However, this was not possible in the current study as we were unable to access this information from the national offending database.

Conducting research in secure training centres (STC's)

Secure training centres are purpose-built establishments for young offenders aged 12-17. There are only four of these centres across the UK. STC's accommodate vulnerable young people who are serving custodial sentences and they provide a high standard of social care, healthcare and education. It is important to consider some of the contexts in which STC's operate. A key organisation to be aware of when conducting research in STC's is the Youth Justice Board (YJB). The YJB is an executive non-departmental public body, which oversees the youth justice system in England and Wales. The main focus of the YJB is to reduce recidivism and prevent offending by children and young people under the age of 18. This focus is in line with government targets for reducing youth offending.

STC's are run by private security companies (such as G4S) under governmental contracts and as such are bound by statutory and contractual obligations. They are inspected annually by the Office for Standards in Education, Children's Services and Skills (Ofsted), a government department that inspects and regulates institutions in England who provide education to learners of all ages and providers of care for children and young people. These inspections are carried out unannounced and the findings are published in the public domain. In order to maintain government contracts, private companies must adhere to these contractual requirements. Therefore, within STC's education is the highest priority. In addition to these educational requirements there is an emphasis on targeting factors associated with recidivism. Independent clinical research examining subjects outside of these areas is difficult because they are not a priority for the centres. Furthermore, in my experience of working in STC's there is generally a lack of understanding and support for research within centre management teams adding further to the

complications of conducting independent research. Because of these factors it is often difficult for independent researchers to gain access to STC's.

Given these difficulties I thought it would be useful to reflect on how the current project was able to go ahead. In the planning stages of this project regular meetings were held with the lead psychologist within the centre who then championed the research in senior management meetings at the centre. A key factor in getting this research project off the ground was finding a balance between our needs from a research perspective and the priorities of the centre. One of the recommendations from a recent Ofsted inspection of the centre was to engage in more independent research. This combined with the fact that I had previously worked at the centre as an assistant psychologist and still had contact with the management team were crucial in getting the STC on board with the research project. It was also important for us to be flexible in when the data collection took place and given the priority placed on education, the decision was made to interview young people at the weekends, when they were not in education.

Another potential way into secure training centres for researchers is by contacting the YJB directly. The YJB welcomes and encourages academic research that will influence policy and practice at a national and local level. In fact the YJB Research Strategy includes making and maintaining links with the academic research community a priority. However, the YJB tends to commission projects based on government recommendations, therefore it might be useful for researchers to think about what these priorities are. A recent report by the Children's Commissioner highlighted the lack of thought about mental health in secure care for children. The report highlighted the fact that there is limited understanding of child and adolescent development and that little attention is paid to the crucial importance of relationships in both supporting emotional well-being and managing challenging behaviour

(Berelowitz, 2011). Reports such as this may provide opportunities for clinical research in STC's in the future. However, it is important to highlight, that due to recent decisions made in government, the duties of the YJB will soon be integrated into the Ministry of Justice and, as such, the future of this research strategy is uncertain.

Finally, it is important to note the security requirements necessary for working in STC's. We were required to inform The Youth Justice Board about the research and their permission was required to make sure contractual obligations were met with regard to vetting procedures. As part of this contract, security checks were required in order to gain access to the centre and to conduct face to face interviews with the young people. Enhanced Criminal Records Bureau (CRB) checks were required, however, in this case the CRB check completed as part of clinical training was accepted. However, in addition to this further criminal records check from Disclosure Scotland were required. These security checks take time to complete and therefore need to be considered early in the research process.

Ethical application process

Gaining ethical approval is a vital component of the research process. However, it is a process that can be fraught with challenges, and these challenges are even more apparent when conducting research with vulnerable populations. As such, I thought it would be useful to highlight the difficulties I faced during this process and to reflect on how these difficulties were overcome in order to help researchers who would like to pursue research in Secure Training Centres (STC's) in the future.

The main challenge regarding ethics for this project was establishing where to gain ethical approval from. There was a distinct lack of clarity about what rules applied to research being conducted in STC's. It seemed that STC's were being confused with

Young Offender Institutions (YOI'S). Therefore, it is important to outline the distinctions between these two types of secure accommodation. STC's are different from young offender institutions (YOI's) in that they have a higher staff to young person ratio and are smaller in size. The crucial difference to be aware of in terms of ethical approval is that YOI's are run by Her Majesty's Prison Service. This means that the National Research and Ethical Service (NRES) provide research ethics cover for them through the Integrated Research Application System (IRAS). However, because STC's are run by private security firms they are exempt from NHS and governmental ethics procedures. This point is made clear in NRES guidance (2007) on research in prison populations which states that:

"Except in Scotland, any application in which the research participants include prisoners should be allocated through Central allocation system (CAS) to the Research ethics committee (REC) flagged by NRES Head Office to review such research. In this case a prisoner is defined as any inmate of the prison services of England and Wales, Scotland or Northern Ireland. This does not include patients detained under the Mental Health Act at special hospitals or other psychiatric secure units, or juvenile offenders detained in local authority secure accommodation or secure training centres" (p 13).

Consequently, for research to take place in STC'S, permission needs to be gained directly from the STC manager and the YJB. Once this is agreed ethical approval can be gained through a University ethics committee or other certified ethics board.

Consent was a further issue that arose as part of the ethical process. All young people aged 16 and over are deemed to have the capacity to consent to participate in research without the need for parental consent. However, for young people under the age of 16, parental consent is usually required. Many of the young people who

participated in this research project were in local authority care or had poor relationships with their parents. It was highlighted in the planning stages of the research by the STC that many of the young people would not want their parents to be contacted. An important point to highlight is that legally the STC can make decisions about young people in their care as the STC's act as 'loco parentis'. Therefore, the decision was made that for young people under the age of 16 to participate in the study, the STC acting as 'loco parentis' was required to give informed consent in addition to consent from the young people themselves.

Once these issues were clarified the ethics process was relatively straight forward and the UCL research ethics committee agreed to review the current research application. In addition to gaining ethical approval from UCL it is important to note that because this research was conducted with a vulnerable population, UCL provided sponsorship and the appropriate insurance and indemnity cover.

This ethical approval process has raised a serious issue about private organisations running services for vulnerable young people. NHS and university ethical procedures are very thorough and are there to safeguard vulnerable people taking part in research. The National Research Ethics Service (NRES) has a dual mission: "to protect the rights, safety, dignity and well-being of research participants; and to facilitate and promote ethical research that is of potential benefit to participants, science and society" (NRES, 2011). Young offenders in STC's are an extremely vulnerable population and it seems that they may not be afforded the same protection because private security firms control the centres.

Working with young offenders and the importance of clinical skills

Working with young offenders in secure accommodation can be an intimidating prospect. However, being able to draw upon my previous experience of working as

an assistant psychologist in a STC proved extremely valuable during the data collection phase of this research project. The young people presented in many different ways during the interviews. Some were keen to know more about the project and wanted to chat, while others were quiet and just wanted to get on with the questionnaires. Clinical skill was key to judging how much to engage with the young person and knowing when to give them space. However, some of the young people were a challenge to engage in the room. Occasionally young people initially agreed to participate, and then said “this is shit I don’t want to do it anymore” and they were escorted back to their unit by custody officers. Some of the young people found the process difficult, especially the questionnaires relating to relationships with parents. Drawing on clinical skills such as establishing a rapport, empathic listening and taking a warm and engaging stance was useful with the more challenging young people. However, there were times when clinical skills were not enough and the young people disengaged. This was unusual though and on the whole the young people were generally polite and engaged in the process.

Overall, the young people were quite willing to engage in the process. Many of the young people were keen to hear more about why we were doing the research and were keen to hear about the results when the research was complete. The majority of the young people responded positively to our introduction that the research was being conducted in order to prevent young people from getting involved in crime in the future. The young people also responded well to having a choice about participation and that they had the right to withdraw at any time, which was made explicit at the beginning of the interview. For these young people having a choice is something they are not often afforded and many of the young people seemed to really appreciate this stance.

One of the most challenging parts of the research process was reading through the case histories of the young people. Most of them came from incredibly deprived families and communities. Furthermore, many had experienced abuse, domestic violence and poor parenting. I was struck by the level of distress in some of the young people and helplessness they felt with regard to offending. One example demonstrating this was a conversation I had with a 14 year old boy who said to me “I really want to stop offending Lisa but I don’t know how, it really makes me feel bad but there is nobody to help”. When young people appeared upset in the session we offered them the opportunity to talk with a key worker following the session and also passed the details on to the psychology team within the centre so the young person could be referred if they wanted to talk about these things in more depth. Clinical work of this nature is highly emotive and I coped with these experiences by gaining support from my co-researcher and fellow clinical psychology trainees.

Final reflections and conclusion

From the beginning I was aware that this was an ambitious clinical research project and at times balancing the research with the demands of clinical training was very challenging. The process of data collection was both time and energy intensive, given the challenging population and this was compounded further by the necessity to travel outside of London to the centre. The fact that this was a joint research project with another clinical psychology trainee was valuable as we were able to share the data collection and give each other moral support. Young offenders are a challenging population to work with in a research context and, as highlighted here, there are a number of issues concerning accurate measurement of constructs important in understanding the aetiology of antisocial behaviour. However, I truly valued the opportunity to conduct an innovative research project in a clinical population, which is notoriously difficult to gain access to. I hope that my reflections

on this research process will encourage the continued research in STC's in the future.

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Appendix 1.

Statement of joint research

Statement of shared research

This thesis was completed as part of a joint project with Ruth Dawson, supervised by Dr Stephen Butler. The research project examined a range of risk factors associated with callous-unemotional traits in young offenders. The title for Ruth's project was the following:

Testing and interactive model of antisocial behaviour: What are the roles of callous-unemotional traits, materialism and risk taking in young offenders? (Dawson, 2011)

Ideas were shared in the planning stages. Recruitment and ethical approval for the project were carried out jointly. Ruth and I shared the data collection process, each conducting roughly half of the interviews. Data entry was also carried out jointly, however, data analysis was completed independently. The individual research projects were written up independently.

Appendix 2.

The adapted version of the study of people's experiences questionnaire (SPACE)

Your Last Year

These questions are about things that have happened and things that you may have done in the last year. You are reminded that your responses are strictly confidential.

1. **During the last year, did you travel on a bus or train without paying enough money or using some else's pass?**

Yes – answer question in box below No – go to next question



How many times did you do this in the last year? (tick ONE box only)					
<input type="checkbox"/> Once	<input type="checkbox"/> Twice	<input type="checkbox"/> 3 times	<input type="checkbox"/> 4 times	<input type="checkbox"/> 5 times	
<input type="checkbox"/> Between 6 and 10 times		<input type="checkbox"/> More than 10 times			

2. **During the last year, did you write or spray paint on property that did not belong to you (e.g. a phone box, car, building or bus shelter)?**

Yes – answer question in box below No – go to next question



How many times did you do this in the last year? (tick ONE box only)					
<input type="checkbox"/> Once	<input type="checkbox"/> Twice	<input type="checkbox"/> 3 times	<input type="checkbox"/> 4 times	<input type="checkbox"/> 5 times	
<input type="checkbox"/> Between 6 and 10 times		<input type="checkbox"/> More than 10 times			

3. **During the last year, did you steal money or something else from home?**

Yes – answer question in box below No – go to next question



How many times did you do this in the last year? (tick ONE box only)					
<input type="checkbox"/> Once	<input type="checkbox"/> Twice	<input type="checkbox"/> 3 times	<input type="checkbox"/> 4 times	<input type="checkbox"/> 5 times	
<input type="checkbox"/> Between 6 and 10 times		<input type="checkbox"/> More than 10 times			

4. **During the last year, did you sign someone else's name to get money or other things you wanted?**

Yes – answer question in box below No – go to next question



How many times did you do this in the last year? (tick ONE box only)					
<input type="checkbox"/> Once	<input type="checkbox"/> Twice	<input type="checkbox"/> 3 times	<input type="checkbox"/> 4 times	<input type="checkbox"/> 5 times	
<input type="checkbox"/> Between 6 and 10 times		<input type="checkbox"/> More than 10 times			

5. **During the last year**, did you use force, threats or a weapon to steal money or something else from somebody?

Yes – answer question in box below No – go to next question



How many times did you do this in the last year? (tick ONE box only)					
<input type="checkbox"/> Once	<input type="checkbox"/> Twice	<input type="checkbox"/> 3 times	<input type="checkbox"/> 4 times	<input type="checkbox"/> 5 times	
<input type="checkbox"/> Between 6 and 10 times		<input type="checkbox"/> More than 10 times			

6. **During the last year**, did you steal something from a shop or store?

Yes – answer question in box below No – go to next question



How many times did you do this in the last year? (tick ONE box only)					
<input type="checkbox"/> Once	<input type="checkbox"/> Twice	<input type="checkbox"/> 3 times	<input type="checkbox"/> 4 times	<input type="checkbox"/> 5 times	
<input type="checkbox"/> Between 6 and 10 times		<input type="checkbox"/> More than 10 times			

7. **During the last year**, did you break into a car or van to try and steal something out of it?

Yes – answer question in box below No – go to next question



How many times did you do this in the last year? (tick ONE box only)					
<input type="checkbox"/> Once	<input type="checkbox"/> Twice	<input type="checkbox"/> 3 times	<input type="checkbox"/> 4 times	<input type="checkbox"/> 5 times	
<input type="checkbox"/> Between 6 and 10 times		<input type="checkbox"/> More than 10 times			

8. **During the last year**, were you noisy or cheeky in a public place so that people complained or you got into trouble? (DON'T include things you did at school)

Yes – answer question in box below No – go to next question



How many times did you do this in the last year? (tick ONE box only)					
<input type="checkbox"/> Once	<input type="checkbox"/> Twice	<input type="checkbox"/> 3 times	<input type="checkbox"/> 4 times	<input type="checkbox"/> 5 times	
<input type="checkbox"/> Between 6 and 10 times		<input type="checkbox"/> More than 10 times			

9. **During the last year**, did you ride in a stolen car or van or on a stolen motorbike?

Yes – answer question in box below No – go to next question



How many times did you do this in the last year? (tick ONE box only)					
<input type="checkbox"/> Once	<input type="checkbox"/> Twice	<input type="checkbox"/> 3 times	<input type="checkbox"/> 4 times	<input type="checkbox"/> 5 times	
<input type="checkbox"/> Between 6 and 10 times		<input type="checkbox"/> More than 10 times			

10 **During the last year**, did you steal money or something else from school?

Yes – answer question in box below No – go to next question



How many times did you do this in the last year? (tick ONE box only)				
<input type="checkbox"/> Once	<input type="checkbox"/> Twice	<input type="checkbox"/> 3 times	<input type="checkbox"/> 4 times	<input type="checkbox"/> 5 times
<input type="checkbox"/> Between 6 and 10 times	<input type="checkbox"/> More than 10 times			

11 **During the last year**, did you break into a house or building to steal something?

Yes – answer question in box below No – go to next question



How many times did you do this in the last year? (tick ONE box only)				
<input type="checkbox"/> Once	<input type="checkbox"/> Twice	<input type="checkbox"/> 3 times	<input type="checkbox"/> 4 times	<input type="checkbox"/> 5 times
<input type="checkbox"/> Between 6 and 10 times	<input type="checkbox"/> More than 10 times			

12 **During the last year**, did you damage or destroy property that did not belong to you on purpose (e.g. windows, cars or street lights)?

Yes – answer question in box below No – go to next question



How many times did you do this in the last year? (tick ONE box only)				
<input type="checkbox"/> Once	<input type="checkbox"/> Twice	<input type="checkbox"/> 3 times	<input type="checkbox"/> 4 times	<input type="checkbox"/> 5 times
<input type="checkbox"/> Between 6 and 10 times	<input type="checkbox"/> More than 10 times			

13 **During the last year**, did you set fire or try to set fire to something on purpose (e.g. a school, bus shelter, house etc)?

Yes – answer question in box below No – go to next question



How many times did you do this in the last year? (tick ONE box only)				
<input type="checkbox"/> Once	<input type="checkbox"/> Twice	<input type="checkbox"/> 3 times	<input type="checkbox"/> 4 times	<input type="checkbox"/> 5 times
<input type="checkbox"/> Between 6 and 10 times	<input type="checkbox"/> More than 10 times			

14 **During the last year**, did you carry a knife or other weapon with you for protection or in case it was needed in a fight?

Yes – answer question in box below No – go to next question



How many times did you do this in the last year? (tick ONE box only)					
<input type="checkbox"/> Once	<input type="checkbox"/> Twice	<input type="checkbox"/> 3 times	<input type="checkbox"/> 4 times	<input type="checkbox"/> 5 times	
<input type="checkbox"/> Between 6 and 10 times		<input type="checkbox"/> More than 10 times			

15 **During the last year**, did you hurt or injure any animals or birds on purpose?

(DON'T include insects)

Yes – answer question in box below No – go to next question



How many times did you do this in the last year? (tick ONE box only)					
<input type="checkbox"/> Once	<input type="checkbox"/> Twice	<input type="checkbox"/> 3 times	<input type="checkbox"/> 4 times	<input type="checkbox"/> 5 times	
<input type="checkbox"/> Between 6 and 10 times		<input type="checkbox"/> More than 10 times			

16 **During the last year**, did you hit or pick on someone because of their race or skin colour?

Yes – answer question in box below No – go to next question



How many times did you do this in the last year? (tick ONE box only)					
<input type="checkbox"/> Once	<input type="checkbox"/> Twice	<input type="checkbox"/> 3 times	<input type="checkbox"/> 4 times	<input type="checkbox"/> 5 times	
<input type="checkbox"/> Between 6 and 10 times		<input type="checkbox"/> More than 10 times			

17 **During the last year**, did you hit, kick or punch a brother or sister on purpose? (DON'T include play fighting)

Yes – answer question in box below No – go to next question



How many times did you do this in the last year? (tick ONE box only)					
<input type="checkbox"/> Once	<input type="checkbox"/> Twice	<input type="checkbox"/> 3 times	<input type="checkbox"/> 4 times	<input type="checkbox"/> 5 times	
<input type="checkbox"/> Between 6 and 10 times		<input type="checkbox"/> More than 10 times			

18 **During the last year, did you hit, kick or punch someone else on purpose (fight with them)?** (DON'T include brothers, sisters or play fighting)

Yes – answer question in box below No – go to next question



<p>How many times did you do this in the last year? (tick ONE box only)</p> <p><input type="checkbox"/> Once <input type="checkbox"/> Twice <input type="checkbox"/> 3 times <input type="checkbox"/> 4 times <input type="checkbox"/> 5 times</p> <p><input type="checkbox"/> Between 6 and 10 times <input type="checkbox"/> More than 10 times</p>

19 **During the last year, did you sell an illegal drug to someone?**

Yes – answer questions in box below No – go to next question



<p>a. How many times did you do this in the last year? (tick ONE box only)</p> <p><input type="checkbox"/> Once <input type="checkbox"/> Twice <input type="checkbox"/> 3 times <input type="checkbox"/> 4 times <input type="checkbox"/> 5 times</p> <p><input type="checkbox"/> Between 6 and 10 times <input type="checkbox"/> More than 10 times</p> <p>b. What kind of drugs did you sell in the last year? (please write in)</p> <p>_____</p>
--

Some questions about you:

1. I never lie

True False

2. Once in a while I get angry

True False

3. I like everyone I know

True False

4. I never get angry at anybody

True False

5. I am liked by everybody who knows me

True False

6. I am always nice to everyone

True False

7. My life at home is always happy

True False

8. I am always kind

True False

9. Sometimes I don't like school or work

True False

Appendix 3.

Ethics approval letter from UCL research Ethics Committee.



Dr Stephen Butler
Sub-Department of Clinical Health Psychology
University College London
Gower Street
London
WC1E 6BT

25 June 2010

Dear Dr Butler

Notification of Ethical Approval:

Ethics Application: 2404/001: Exploring risk factors for antisocial behaviour in young offenders

I am pleased to confirm that, further to your satisfactory responses to the Committee's comments, your study has been approved by the UCL Research Ethics Committee for the duration of the study (i.e. until October 2011).

Approval is subject to the following conditions:

1. You must seek Chair's approval for proposed amendments to the research for which this approval has been given. Ethical approval is specific to this project and must not be treated as applicable to research of a similar nature. Each research project is reviewed separately and if there are significant changes to the research protocol you should seek confirmation of continued ethical approval by completing the 'Amendment Approval Request Form'.

The form identified above can be accessed by logging on to the ethics website homepage: <http://www.grad.ucl.ac.uk/ethics/> and clicking on the button marked 'Key Responsibilities of the Researcher Following Approval'.

2. It is your responsibility to report to the Committee any unanticipated problems or adverse events involving risks to participants or others. Both non-serious and serious adverse events must be reported.

Reporting Non-Serious Adverse Events

For non-serious adverse events you will need to inform Dr Angela Poulter, Ethics Committee Administrator (ethics@ucl.ac.uk), within ten days of an adverse incident occurring and provide a full written report that should include any amendments to the participant information sheet and study protocol. The Chair or Vice-Chair of the Ethics Committee will confirm that the incident is non-serious and report to the Committee at the next meeting. The final view of the Committee will be communicated to you.

Reporting Serious Adverse Events

The Ethics Committee should be notified of all serious adverse events via the Ethics Committee Administrator immediately the incident occurs. Where the adverse incident is unexpected and serious, the Chair or Vice-Chair will decide whether the study should be terminated pending the opinion of an independent expert. The adverse event will be considered at the next Committee meeting and a decision will be made on the need to change the information leaflet and/or study protocol.

On completion of the research you must submit a brief report (a maximum of two sides of A4) of your findings/concluding comments to the Committee, which includes in particular issues relating to the ethical implications of the research.

Yours sincerely

A handwritten signature in black ink, appearing to read 'John Birch', with a large initial 'J' and 'B'.

Sir John Birch
Chair of the UCL Research Ethics Committee

Cc: Miss Lisa Smith; Ms Ruth Dawson, UCL Division of Psychology and Language Sciences
Mr David Wilson, Joint UCLH/UCL Biomedical Research Unit

Appendix 4.

Participant information sheets

1. Participant information sheet for young people under 16 years of age
2. Participant information sheet for young people over 16
3. Information sheet for the Secure Training Centre

Information Sheet for young people under 16 years old

Title: Finding out some of the reasons young people get involved in crime

Name, Work Address and Contact Details of the Researchers	Lisa Smith and Ruth Dawson, Sub- Department of Clinical Health Psychology, University College London, Gower Street, London, WC1E 6BT. ruthandlisastudy@yahoo.co.uk
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You are being invited to take part in a research study. You should only take part if you want to, it is up to you. You will not lose out if you choose not to take part. Before you decide whether you want to take part, it is important for you to read the following information carefully so that you understand why the research is being done and what it will involve. Ask us if there is anything that is not clear or if you would like more information.

What are the researchers trying to find out?

We are asking if you want to join in a research project to find the answer to the question 'What are some of the reasons that young people get involved in crime?'

It has been suggested that a number of things may play a vital role in influencing whether young people get involved in crime. We want to look more closely at what some of these things are. The findings may be able to help young people who get involved in crime.

What will I be asked to do if I take part?

You will be interviewed by one of the researchers who will complete five questionnaires with you. After this you will be asked to do a task on a computer. One of the questionnaires will ask about your beliefs about the importance of material things. One of the questionnaires will ask you about your involvement in different types of criminal activity. Another questionnaire will ask you about your character and two questionnaires will ask about the type of relationships you have with people. The computer task is a simple task where you will be asked to do things like pressing a button to inflate a balloon on the screen. In total you will be spending about 1 hour with the researchers. Another important part of the study involves the researchers getting

information about your criminal history and history in general from your files at the centre.

Why have I been asked to take part?

You have been invited to join our study because you are a young person currently living in this secure training centre. We hope that around 80 young people will choose to participate in the project. Other young people in the centre has been asked too.

Do I have to take part?

No. It is up to you. We will ask you for your consent and then ask if you will sign a form. If you are under 16 years old we will also ask a senior member of staff from Rainsbrook to sign a consent form to say that you can participate in the project. We will give you a copy of this information sheet and your signed consent form to keep. You are free to stop taking part at any time in the research without giving a reason. If you decide to stop, this will not affect the care you receive at Rainsbrook.

Will my answers be shared with anyone else?

No, all your answers will be made anonymous and kept confidential. This means that it will only be used for the project and will not be seen by other people in the centre. The only time we would tell a member of staff at Rainsbrook about what you tell us in the interviews is if it is about you being at risk of being hurt, others are at risk of being hurt or you tell us about a serious, violent or sexual crime that you have done, for example, an armed robbery or a stabbing that has not been recorded before.

The written information will be locked away and access will be restricted to the project researchers. Information kept on the computer will be coded by a number a system so that you can not be identified. All data will be collected and stored in accordance with the Data Protection Act 1998. The information will not be used for any other purpose.

What are possible good and bad things about taking part?

Everyone will be entered in a raffle as a thank you for taking part. This will give you a chance of winning a voucher for a high street shop (either: £25, £20 or £15). Everyone who takes part will also have the chance to win a gift voucher worth £10 if they gain the highest score on the computer task.

It is very unlikely but sometimes people get upset in interviews. If any of the questions make you feel upset, you can refuse to answer. You can also talk to Lisa or Ruth (the researchers) or your key worker so that they can help you if you are upset.

Who can I talk to if I have more questions?

If you have any other questions, you can contact Lisa and Ruth by e-mail (ruthandlisastudy@yahoo.co.uk) or you can ask your key worker to pass on a question.

Will I hear about what the research finds out?

Yes, can ask to be told about what the research finds out and you will be able to ask questions if you want to.

Who has said that this project can go ahead?

Before any research goes ahead it has to be checked by a research ethics committee. They make sure that the research is fair. This study has been checked and given the go ahead by the University College London Research Ethics Committee.

Who are we?

Our names are Lisa Smith and Ruth Dawson. We are both Doctoral research students at University College London.

Thank you for reading this information sheet

Information Sheet for young people over 16 years old

Title: Finding out some of the reasons young people get involved in crime

Name, Work Address and Contact
Details of the Researchers

Lisa Smith and Ruth Dawson, Sub-
Department of Clinical Health Psychology,
University College London, Gower Street,
London, WC1E 6BT.

ruthandlisastudy@yahoo.co.uk

You are being invited to take part in a research study. You should only take part if you want to, it is your decision. You will not lose out if you choose not to take part. Before you decide whether you want to take part, it is important for you to read the following information carefully so that you understand why the research is being carried out and what it will involve. Ask us if there is anything that you do not understand or if you would like more information.

What are the researchers trying to find out?

We are asking if you want to join in a research project to find the answer to the question 'What are some of the reasons that young people get involved in crime?'

It has been suggested that a number of things may play a vital role in influencing whether young people get involved in crime. We want to look more closely at what some of these things are. The findings may be able to help young people who get involved in crime.

What will I be asked to do if I take part?

You will be interviewed by one of the researchers who will complete five questionnaires with you. After this you will be asked to complete a task on a computer. One of the questionnaires will ask about your beliefs about the importance of material things. One of the questionnaires will ask you about your involvement in different types of criminal activity. Another questionnaire will ask you about your character and two questionnaires will ask about the type of relationships you have with people. The computer task is a simple task where you will be asked to do things like pressing a button to inflate a balloon on the screen. In total you will be spending about 1 hour with the researchers.

Another important part of the study involves the researchers getting information about your criminal history and history in general from your files at the centre.

Why have I been asked to take part?

You have been invited to join our study because you are a young person currently living in this secure training centre. We hope that around 80 young people will choose to participate in the project. Other young people in the centre has been asked too.

Do I have to take part?

No. It is your decision. We will ask you for your consent and then ask if you will sign a form. We will give you a copy of this information sheet and your signed consent form to keep. You are free to stop taking part at any time in the research without giving a reason. If you decide to stop, this will not affect the care you receive at Rainsbrook.

Will my answers be shared with anyone else?

No, all your answers will be made anonymous and kept confidential. This means that it will only be used for the project and will not be seen by other people in the centre. The only time we would tell a member of staff at Rainsbrook about what you tell us in the interviews is if it is about you being at risk of being hurt, others are at risk of being hurt or you tell us about a serious, violent or sexual crime that you have done, for example, an armed robbery or a stabbing that has not been recorded before.

The written information will be locked away and access will be restricted to the project researchers. Information kept on the computer will be coded by a number a system so that you can not be identified. All data will be collected and stored in accordance with the Data Protection Act 1998. The information will not be used for any other purpose.

What are possible good and bad things about taking part?

Everyone will be entered in a raffle as a thank you for taking part. This will give you a chance of winning a voucher for a high street shop (either: £25, £20 or £15). Everyone who takes part will also have the chance to win a gift voucher worth £10 if they gain the highest score on the computer task.

It is very unlikely but sometimes people get upset in interviews. If any of the questions make you feel upset, you can refuse to answer. You can also talk to Lisa or Ruth (the researchers) or your key worker so that they can help you if you are upset.

Who can I talk to if I have more questions?

If you have any other questions, you can contact Lisa and Ruth by e-mail (ruthandlisastudy@yahoo.co.uk) or you can ask your key worker to pass on a question.

Will I hear about what the research finds out?

Yes, can ask to be told about what the research finds out and you will be able to ask questions if you want to.

Who has said that this project can go ahead?

Before any research goes ahead it has to be checked by a research ethics committee. They make sure that the research is fair. This study has been checked by the University College London research ethics committee.

Who are we?

Our names are Lisa Smith and Ruth Dawson. We are both Doctoral research students at University College London.

Thank you for reading this information sheet

Information Sheet for Secure Training Centre

Title: Finding out some of the reasons young people get involved in crime

Name, Work Address and Contact Details of the Researchers

Lisa Smith and Ruth Dawson, Sub-Department of Clinical Health Psychology, University College London, Gower Street, London, WC1E 6BT.

ruthandlisastudy@yahoo.co.uk

Young people are being invited to take part in a research project at Rainsbrook Secure Training Centre. Given that Rainsbrook acts as 'Loco Parentis' for the young people it is essential that we gain informed consent from a named person in the centre in order for young people under 16 years of age to take part. It is only when consent has been gained from the centre and the young person themselves that the young person will be able to participate in the research project. It is important for you to read the following information carefully. They should only participate if they want to; choosing not to take part will not disadvantage them in any way. Ask us if there is anything that is not clear or you would like more information.

What are the researchers trying to find out?

We are asking young people who have committed crimes and are being detained at Rainsbrook to join in a research project to find the answer to the question 'What are some of the reasons that young people get involved in crime?'

It has been suggested that a number of things may play a vital role in influencing whether young people get involved in crime. We want to look more closely at what some of these things are. The findings may be able to help young people who get involved in crime.

What will the young people be asked to do?

They will be asked to attend an interview with the researchers and will complete five questionnaires. They will also be asked to do a task on a computer. One of the questionnaires will ask about their beliefs about the importance of material things. The other questionnaires will ask about their participation in criminal activity, their personality characteristics and the types of relationships they have with people. The computer task is a simple task where they will be asked to do things like pressing a button to inflate a balloon on the screen. This will take about an hour of their time. The young person's teacher or key worker will also be asked to fill in a questionnaire about them. The researchers will also be collecting information such as background information and offence history, from the young person's file at the centre.

Do the young people have to take part?

No. A named person in Rainsbrook who are acting as their 'Loco Parentis' and the young person can decide whether they take part. If a named person in Rainsbrook decides that a young person can take part they will need to sign a consent form acting as their 'Loco Parentis'. The young person also needs to sign a consent form in order to take part. The young person will be free to withdraw from the study at any time if they wish to do so.

Will information collected for the study be shared with anyone else?

No, all the information gathered for the study will be kept safely and confidential. The data will be anonymised and no data on individual young people will be shared in any way with people in the centre. The only time we would tell a member of staff at Rainsbrook about what the young people tell us in the interviews is if it is about them being at risk of being hurt, others are at risk of being hurt or if they tell us about a serious, violent or sexual crime that they have done, for example, an armed robbery or a stabbing that has not been recorded before. All data will be collected and stored in accordance with the Data Protection Act 1998.

What are possible risks and benefits of taking part?

All of the young people who take part in the research will be entered in a raffle as a thank you for taking part. This will mean they have the chance to win a voucher for a high street shop (either: £25, £20 or £15). They will also have the chance to win a gift voucher worth £10 if they gain the highest score on the computer task.

Although it is unlikely, if any of the questions make the young people feel upset, they will be encouraged to come and talk to Lisa or Ruth (the researchers) or their key worker at the centre so that they can provide help.

Will I be informed about what the research finds out?

Yes, Rainsbrook will be provided with a summary of what the research finds out.

Who can I contact for more information?

If you have more questions, you can contact Lisa and Ruth by e-mail (ruthandlisastudy@yahoo.co.uk) or by post (see address at head of this sheet).

Who has said that this project can go ahead?

Before any research goes ahead it has to be checked by a research ethics committee. They make sure that the research is fair. This study has been checked and given approval to go ahead by the University College London Research Ethics Committee.

Who are we?

Our names are Lisa Smith and Ruth Dawson. We are both Doctoral research students at University College London.

Thank you for reading this information sheet

Appendix 5.

Participant consent forms

1. Consent form for young people under 16
2. Consent form for young people over 16
3. Consent form for Head of care to sign on behalf of young people under 16

Informed Consent Form

for young people under 16 years old

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Project: **Finding out some of the reasons young people get involved in crime**

Thank you for your interest in taking part in this research. If you have any questions about the consent form or explanation already given to you, please ask the researchers before you to decide whether you would like to participate.

Researchers: Ruth Dawson and Lisa Smith

Supervised by: Dr Stephen Butler (University College London) and Kerry Heathcote (Chartered Psychologist at Rainsbrook STC)

Participant's statement I..... (print your full name in capital letters)

Have read the information sheet	YES	NO
Understand what the research is about	YES	NO
Have been able to ask questions about the research and am pleased with how my questions have been answered	YES	NO
Agree that my file can be read by the researchers in order to get any background information necessary for the research and give permission for the researchers to have access to my notes	YES	NO
Understand that I can change my mind about taking part and can withdraw from the study at any time without giving a reason	YES	NO
Understand that whether or not I take part will not	YES	NO

make any difference to my treatment in the centre

Agree to take part in the study

YES

NO

Signed.....

Signature of witnessing staff/researcher

.....Date.....

CONFIDENTIALITY AND DATA PROTECTION

- Information from the study will be kept in a locked filing cabinet
- Information kept on computer will be coded so that individual names cannot be identified
- This study complies with the Data Protection Act (1998).

You will be given a copy of this Consent Form to keep and refer to at any time.

Informed Consent Form

for young people over 16 years old

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Project: **Finding out some of the reasons young people get involved in crime**

Thank you for your interest in taking part in this research. If you have any questions about the consent form or explanation already given to you, please ask the researchers before you to decide whether you would like to participate.

Researchers: Ruth Dawson and Lisa Smith

Supervised by: Dr Stephen Butler (University College London) and Kerry Heathcote (Chartered Psychologist at Rainsbrook STC)

Participant's statement I..... (print your full name in capital letters)

Have read the information sheet YES NO

Understand what the research is about YES NO

Have been able to ask questions about the research YES NO

and I am pleased with how my questions have been answered

Agree that my file can be read by the researchers YES NO

in order to get any background information necessary

for the research and give permission for the researchers

to have access to my notes.

Understand that I can change my mind about taking part YES NO

and can withdraw from the study at any time without giving a reason.

Understand that whether or not I take part will not YES NO

make any difference to my treatment in the centre

Agree to take part in the study

YES

NO

Signed.....

Signature of witnessing staff/researcher

.....Date.....

CONFIDENTIALITY AND DATA PROTECTION

- Information from the study will be kept in a locked filing cabinet
- Information kept on computer will be coded so that individual names cannot be identified
- This study complies with the Data Protection Act (1998).

You will be given a copy of this Consent Form to keep and refer to at any time.

Informed Consent Form for

Rainsbrook Secure Training Centre acting as 'Loco Parentis' of young people under 16

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Project: **Finding out some of the reasons young people get involved in crime**

Researchers: Ruth Dawson and Lisa Smith

Supervised by: Dr Stephen Butler (University College London) and Kerry Heathcote (Chartered Psychologist at Rainsbrook STC)

I..... (print your full name)

Have read the information sheet	YES	NO
Understand that whether or not the young person takes part it will not make any difference to their treatment	YES	NO
Understand what the research is about	YES	NO
Have been able to ask questions about the research and I am satisfied with how my questions have been answered	YES	NO
Agree that the young persons file can be read by the researchers in order to get any background information	YES	NO
Agree that the young person can take part in the study necessary for the research and give permission for the researchers to have access to the young persons notes in the centre	YES	NO
Understand that the young person can withdraw from the study at any time without giving a reason	YES	NO
That the young person can take part in the study	YES	NO

Signed.....Date.....

Job Title.....

CONFIDENTIALITY AND DATA PROTECTION

- Information from the study will be kept in a locked filing cabinet
- Information kept on computer will be coded so that individual names cannot be identified
- This study complies with the Data Protection Act (1998).

You will be given a copy of this Consent Form to keep and refer to at any time.