Exploring the Role of Attachment Representation in Academic Achievement and Mental Health of Looked After Children

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Abstract

Looked after Children (LAC) are widely recognised as the most vulnerable group of children within education (DECP, 2006). Chapter 1 explores the research related to LAC and their academic achievement (AA) and mental health outcomes. Furthermore, it explores the theoretical model of attachment theory (Bowlby, 1969; 1973; 1980; 1988) and the role of attachment as a protective factor for LAC. It outlines research that has investigated the influence of attachment on anxiety, depression and AA for school aged children. It aims to specifically extend current research and understanding by exploring the mediating role of secure attachment representation (AR) in the relationship between the effect of being in care on AA and mental health outcome. A range of risk, resilience and developmental pathways (e.g. Bowlby, 1988; Carlson, 1988 Sroufe; 1988) are outlined in order to investigate the potential role of AR as a protective factor for LAC in addition to a proposed model of mediation to be directly tested in Chapter 2. The review further addresses limitations in the current field and discusses potential areas for development.

Chapter 2 presents an empirical study that aimed to extend current research and understanding to explore the mediating role of AR on LAC's AA, anxiety and depression. In addition, the study aimed to investigate whether factors such as number of foster placements and duration of being in care influenced AA and mental health. Thirty children (aged 6 to 8 years old) were assigned to two groups consisting of LAC and non-LAC. All children completed story stem assessment of their AR. Foster carers/parents completed measures of each child's anxiety, depression and reactive attachment disorder (RAD). In addition, teachers provided the most recent AA scores for reading, writing and mathematics. The results showed that secure AR fully mediated the effect of being in care on reading and writing AA. Further results indicated that LAC who had experienced a higher number of placements also demonstrated higher insecure, defensive avoidant and disorganised AR, depression scores and RAD behaviour and lower secure AR, reading, writing and mathematics scores. The results are discussed within the theoretical framework whilst drawing comparisons to previous research. Limitations are discussed in addition to practical implications for future research and Educational Psychology practice.

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Abbreviations

AA = Academic Achievement

ANOVA = Analysis of Variance

AR = Attachment Representation

B = Standardised regression coefficient

B = Unstandardised regression coefficient

DAI = Disturbances of Attachment Interview

DCSF = Department for Children Schools and Families

DECP = Division of Educational and Child Psychology

DfES = Department for Education and Skills

DSM-IV = Diagnostics and Statistical Manual – Version IV

ICD = International Classification of Diseases

LA = Local Authority

LAC = Looked After Children

IWM = Internal Working Model

M = Mean

N = Total number

NSPCC = National Society for the Prevention of Cruelty to Children

NSST = Narrative Story Stem Technique

PAPA = Preschool Age Psychiatric Assessment

RAD = Reactive Attachment Disorder

RCADS-P = Revised Child Anxiety and Depression Scale – Parent/carer version

RPQ = Relationship Problems Questionnaire

SE B = Standard error for unstandardised regression coefficient

SEN = Special Educational Needs

SENCO = Special Educational Needs Coordinator

SES = Social Economic Status

SD = Standard Deviation

SSAP = Story Stem Assessment Profile

TA = Teaching Assistant

WIAT-II = Weschler Intelligence Attainment Test Version II

WHO = World Health Organisation

χ^2 = Chi Square

Chapter 1. Literature Review

The role of Attachment Representation in Academic Achievement and Mental Health of Looked After Children - A Literature Review

1.1 Introduction

There are currently over 65,000 looked after children (LAC) in England (NSPCC, 2012). Under the Children Act (1989), the term LAC, is used to describe a child who is looked after by a local authority (LA) if he or she is in their care or is provided with accommodation for more than 24 hours by the LA (see Appendix A for distinct categories of LAC). Overall, the foremost reason why children in England are taken into care is because of abuse or neglect (DCSF, 2009). In total, 73% of LAC are in a foster care placement and 10% of these children had three or more placements during 2010 (DSCF, 2009). Out of the 65,000 children in the care of LAs, 56% were boys and 44 % were girls (DCSF, 2009). The majority of LAC (39%) were aged between 10 and 15 years old, whereas 6% were under 1 year old, 17% aged between 1 and 4 years old, 17% aged between 5 and 9 years old and 21% aged 16 and over.

LAC are recognised as the most vulnerable group within education (Division of Education and Child Psychology [DECP], 2006). They are considered to be a highly vulnerable population (Kools & Kennedy, 2003; Vig, Chinitz & Shulman, 2000) particularly because a significant proportion of LAC have experienced some form of maltreatment. Child maltreatment is often referred to as "child abuse and neglect" and includes all forms of physical and emotional ill-treatment, sexual abuse, neglect and exploitation that results in actual or potential harm to the child's health, development or dignity (World Health Organisation [WHO], 2012). Neglect has been described as the most serious type of child maltreatment and the least understood (Crittenden, 1999) and generally refers to the absence of parental care and the chronic failure to meet children's basic needs (DfES, 2006). Neglect is the most common reason for inclusion on the child protection register in the UK (NSPCC, 2007).

It is clear that LAC are a vulnerable population due to the high prevalence rate of maltreatment. There are a number of other factors, however, which also increase their vulnerability. For example, maltreatment followed by the consequent removal from parents to live in foster care can be a traumatic event in itself that may affect the immediate and future social, emotional and behavioural development and mental health of children (Bowlby, 1988; Bruskas, 2008, Dozier, Albus, Fisher and Sepulveda, 2002; Schneider and Phares, 2005; Vig et al., 2005). Through clinical practice and a review of the literature, Bruskas (2008) highlighted that the majority of LAC experience feelings of confusion, apprehension, fear of

the unknown, loss, sadness, anxiety and stress when they first enter into the care system. A survey by the children's rights director for England also raised concerns regarding how unaware and unprepared children are when they enter care (OFSTED, 2010). The report asked 50 children aged between 6 and 16 years old, who had recently come into care, to provide their views though a web survey. It found that over half of children that entered care did not realise they were being separated from their families until it had happened. It also highlighted the often traumatic circumstances that surround the transition of children entering care and the sense of fear and apprehension that they feel at this time. Children who have been subject to maltreatment not only suffer the pain of maltreatment but also loss and separation from their birth parents (OFSTED, 2010).

This literature review will discuss and critically evaluate empirical evidence that has explored the link between attachment behaviour and attachment representation (AR), mental health and academic achievement (AA) for LAC. Due to the high prevalence of maltreatment in the LAC population research that has investigated the impact of maltreatment on areas of mental health and AA will also be included in this review. This critical review will require an exploration of attachment theory and the implications that different attachment behaviours and ARs have for child development, including mental health and AA. In addition, it will explore the concepts of risk and resilience for LAC, with particular reference to security of AR as a protective factor for LAC. Lastly, the review will synthesise previous theory and research to propose a new model of secure AR as a protective factor against mental health and lower AA. It will also conclude by discussing future developments for research and relevant application to Educational Psychology (EP) practice.

1.2. Attachment Theory

Researchers have applied attachment theory to explore the impact of maltreatment on children's developmental outcomes (Bowlby, 1988; Granot & Mayseless, 2001; Green & Goldwyn, 2002; Thompson, 2000; Sroufe, 2000; Sroufe, Carlson, Levy & Egeland, 1999). Bowlby (1973, 1980) theorised that the nature and quality of the attachment relationship between primary caregiver and child is largely determined by the caregiver's emotional availability and responsiveness to the child's driving need for a secure base. According to Bowlby (1969) children develop internal representations of themselves, others and relationships based on their experiences with their caregivers through parent-child interaction

in infancy which influence later development. As language and higher order thought processes develop in childhood these attachment styles are proposed to become encapsulated in cognitive representations of how people behave within social relationships (Clark and Symons, 2009).

Bowlby (1973, 1980) stated that infants form a repertoire of behavioural skills and affective responses that reflect, reinforce and modify these internal representations in subsequent interactions (Bowlby, 1988; Finzi, Cohen, Sapir & Weizman, 2001). In attachment theory terms, they are the child's "internal working models" (IWMs) or "ARs" (Bowlby, 1969). The terms "IWMs" and "ARs" are used interchangeably throughout the literature and research; henceforth the term "ARs" will be used to encompass both concepts. It is important to note that ARs refer to the cognitive, internal model of relationships in contrast to attachment behaviours which refer to the observable, behavioural features of an attachment relationship between infant and caregiver. For example, an infant's cognitive perception that they are worthless and unworthy of love from caregivers indicates an insecure AR (Bowlby, 1969) whereas an infant displaying distressed behaviour (i.e. crying) upon separation and reunion with their caregiver indicates an insecure attachment behaviour (Ainsworth, Blehar, Waters and Wall, 1978).

1.2.1 Attachment representations

ARs are key linking mechanisms between early attachment relationship experiences and later relationship functioning (Bowlby, 1988). However, individual differences have been found in attachment behaviours and ARs which have the potential to differentially impact developmental outcomes. For example, based on the Strange Situation procedure, Ainsworth et al. (1978) described individual differences in attachment in terms of observable behaviours. Ainsworth et al. (1978) proposed three main categories of attachment styles – secure, insecure-avoidant and insecure-anxious/ambivalent. Secure attachment is characterised by comfort with closeness and separateness, avoidant attachment by excessive self-reliance and distance from the caregiver and anxious/ambivalent attachment by seeking contact and inability to endure even short periods of separation alternating with anger towards the caregiver (Ainsworth et al., 1978). Ainsworth et al. (1978) claimed that attachment patterns can lead to individual differences throughout development as individual attachment styles have a distinct impact on all emotional relationships that contain an attachment component (including relationships between siblings and romantic partners).

1.2.2 Disorganised attachment representations

Researchers have identified a group of infants whose attachment behaviour is not organised or adaptive. These infants appear to be unable to form developmentally appropriate relationships with their parents/carers. George (1996) argued that these children have ARs which are incoherent and chaotic. This group of children are referred to as group "D" or "disorganised" by Main and Solomon (1990). When the attachment system is activated in these children (e.g. in stressful situations or when the parent leaves) their behaviour indicated that they are caught in irresolvable conflict. It has been hypothesised that attachment disorganisation is caused by frightening and extremely insensitive parental behaviour (Hesse and Main, 2006; Lyons-Ruth, Bronfman and Parsons, 1999). According to Hesse and Main (2006), children who have developed a disorganised attachment style are caught in an unsolvable paradox as their attachment figure and potential source of comfort is at the same time a source of unpredictable fear. During the Strange Situation (Ainsworth et al., 1978) procedure, when the parent and child were reunited, children who have developed a disorganised attachment displayed fearful, disorganised, conflicted and/or depressed behaviour (Main and Solomon, 1990).

These individual differences are similarly found within children's ARs. For example, a child who has experienced supportive parents who are emotionally available is likely to have developed an AR of others as helpful and responsive, as well as a model of the self as worthy and valued (Jacobsen & Hofmann, 1997). Therefore, children with these secure ARs tend to approach new experiences with confidence and trust. On the other hand, children who have experienced rejection or neglect have been found to develop insecure ARs which lead them to display feelings of apprehension and rejection because they do not believe they will be responded to in a sensitive manner (Jacobsen & Hofmann, 1997). Drawing from attachment theory, it has been suggested that children who experience abusive or insensitive caregiving are likely to develop negative representations of their caregivers (i.e. that they are rejecting), and corresponding negative representations of themselves (i.e. that they are unworthy of affection). These insecure representations of self and others in turn, provide evidence that an insecure attachment relationship may have been formed (George, 1996; Toth, Cicccetti, Macfie, Maughan &Vanmeenen, 2000).

Meins (2008) noted, however, that very few studies have investigated the longitudinal links between attachment behaviours and children's later development with reference to their

AR. For example, only a small number of studies have reported modest associations between strange situation classification (Ainsworth et al., 1978) in infancy and children's ARs in preschool and school years (Bar-Haim, Sutton, Fox & Marvin, 2000; Bretherton, Ridgeway & Cassidy, 1990; Cassidy, 1988; Steele & Steele, 2005). Main, Kaplan and Cassidy (1985) however, reported that secure attachment behaviours measured using the strange situation procedure (Ainsworth et al., 1978) at age 12 months were also significantly associated with secure ARs at age 6 years (measured using a narrative story stem technique, NSST). The following proportion of the literature review will explore methods of measurement of AR, with particular reference to NSSTs which are a method of individual assessment using family doll figures and structured story stems (Page, 2001).

1.2.3 Assessment of attachment representations

In infancy, researchers are able to investigate attachment through behavioural observation (e.g. the Strange Situation; Ainsworth et al., 1978). Beyond infancy, however, ARs can be examined with projective measures such as NSSTs (George, 1996). For example, research has typically used NSSTs in middle childhood, with children aged between four and nine (Clark & Symons, 2009; George, 1996; Hodges & Steele, 2000; Jacobsen & Hofmann, 1997) to identify children's ARs. Solomon and George (1999) stated that the use of narrative and story-telling tasks provide a tool for accessing the representational world of young and school aged children which draw upon their internal representational models developed through experiences with caregivers. The stories elicited using these NSSTs are viewed as reflective of the child's past and current caregiving experiences (Bretherton & Munholland, 1999).

Researchers have acknowledged that ARs are an important focus of research as they provide a new insight into the social-cognitive processes among children with attachment difficulties (Minnis, Green, O'Connor, Liew, Glaser, Taylor et al., 2009). Page (2001) conducted a narrative literature review of 11 studies which used NSSTs to assess the validity of using NSSTs to assess ARs in children aged between 18 months and 6 years. Page (2001) concluded that NSSTs provide an in depth understanding of children's narratives in terms of their ARs. In particular, children's responses to this technique provided information regarding their expectations of relationships with attachment figures and their overall ability to resolve problems and express emotion. In addition, Hillman (2011) concluded that the

Story Stem Assessment Profile (SSAP) in particular, is robust in terms of its reliability and validity. Hillman (2011) stated that the maltreated sample showed a very negative and disorganised set of representations compared to the other two samples (a non maltreated standardisation sample and non maltreated early placed into adoption sample). This is supported by a range of previous research which has also underlined the use of NSSTs in identifying quantifiable differences in AR across different samples of maltreated versus non maltreated children (e.g. Buchsbaum et al., 1992; McCrone et al., 1994; MacFie et al., 1999). Furthermore, Page (2001) concluded that NSST was useful, valid tool for measuring AR in middle childhood (5 to 11 years old) as often children of this age are too old to engage in the Strange Situation Procedure (Ainsworth et al., 1987) and too young to complete self-report measures of attachment. Therefore, much less is known about AR and adaptive functioning in middle childhood (Granot & Mayseless, 2001).

Granot & Mayseless (2001) argued that further research within "middle childhood" (5 to 11 years old) is warranted as this stage of development is characterised by qualitative changes which result in the child being confronted with new tasks of adjustment to the school environment (Ruble, 1983) and the initiation and maintenance of social relationships with peers (Dodge, 1997). Furthermore, assessment of attachment difficulties during middle childhood can lead to an identification of need and early intervention which can be delivered and supported by both home and school.

1.2.4 Assessing attachment representations in looked after children and maltreated samples

The use of the NSST has been extended from normative samples to maltreated samples of children. This research allowed for direct comparison of ARs in children who have and have not experienced maltreatment. For example, Buchsbaum, Toth, Clyman, Cicchetti and Emde (1992) used a NSST with 100 children aged between four and five years old from low socioeconomic backgrounds that had experienced physical, sexual and emotional abuse and neglect. Buchsbaum et al (1992) did not, however, indicate whether the maltreated group were LAC. A comparison group of non-maltreated children were matched for age, gender and race. Buchsbaum et al. (1992) presented the findings using a case approach to highlight the types of responses given by maltreated and non-maltreated children. The authors argued that a case-by-case comparison of the responses illustrated the differences in ARs and planned to publish empirical analyses of the data in the future. However, no

further empirical data were published which has failed to allow for more detailed and robust analyses of the data.

Despite the lack of empirical data, Buchsbaum et al.'s (1992) findings suggested that the narrative responses of maltreated children revealed different themes than the non-maltreated children. They suggested that the maltreated children's narratives tended to involve more themes of inappropriate aggression, neglect and sexualised behaviour. Their responses also included more negative self statements and a lack of people coming to the aid of the injured doll (indicators of insecure AR) and more statements of child parent role reversal (indicators of disorganised AR). However, there are some important limitations to Buchsaum et al.'s (1992) research. Firstly, the authors did not describe how they compared the two groups of children. The results indicated that a qualitative method was used which compared themes from the NSSTs. However no information regarding the type of analysis (such as inductive or deductive thematic analysis) was provided, neither was any data relating to the codes or themes which they used to compare the narratives. Finally, the authors selected four cases to report in the article. There was no further explanation as to why these four cases studies were selected and this may have led their conclusions to be subject to experimental bias.

An investigation conducted by Hodges, Steele, Hillman, Henderson and Neil (2000) also examined the impact of abuse upon children's ARs of self, others and relationships. Hodges et al. (2000) described how NSSTs of ARs can be used as part of an individual clinical assessment by providing an illustration of a case study. Secondly, the article detailed some preliminary findings which compared four groups of children aged between 6 and 8 years old – recently adopted children, fostered children (clinical group), children from disadvantaged backgrounds (matched comparison group) and middle class, first born children. Hodges et al. (2000) emphasised that these findings are preliminary and therefore did not provide specific details such as the number of children in each group. The findings are presented in relation to codes which resulted from the narrative Story Stem Assessment Profile (SSAP). Four construct scores (security, insecurity, disorganisation and defensive avoidance) were formed from assigning these codes into the corresponding category. Hodges et al.'s (2000) preliminary findings indicated that fostered children scored lower than both comparison groups on indicators of security. Furthermore, fostered children scored more highly than all other groups on indicators of insecurity and disorganised AR.

Despite the authors presenting figures to illustrate these findings, no statistical analyses of data were included and it is unclear whether the differences between fostered children, adopted and comparison children were statistically significant. It is anticipated that when Hodges et al. (2000) publish the follow up study, they will include more detailed data which will be an important addition to the research in this area. Hodges et al. (2000) were contacted when writing this literature review and reported that the follow up study is currently still in the process of completion.

Similarly to Hodges et al. (2000), Toth et al. (2000) also conducted an investigation to examine narrative ARs in maltreated and comparable non-maltreated children. The maltreated group had experienced a range of types of maltreatment including neglect, physical and sexual abuse. The maltreated group were known to social services but still lived with their birth families, therefore not LAC. Toth et al. (2000) completed a longitudinal study over one year with children aged between three and four years old. Children's narratives were elicited through administration of the Attachment Story-Stem Completion Task (Bretherton, Ridgeway and Cassidy, 1990). Narratives were administered at time 1 and approximately one year later, at time 2. At time 1, maltreated children's narratives had fewer representations of positive parents than did the narratives of non-maltreated children. In addition, the physically abused group's narratives had more representations of controlling parents than the neglected group. Toth et al. (2000) also investigated the longitudinal aspect of ARs and found that parent representations were relatively stable across time. At time 2, the narratives of maltreated children contained fewer positive self-representations than the narratives of non-maltreated children. Overall, maltreated children were consistently more negative with respect to their representation of self and parent.

Toth et al. (2000) highlighted that a key limitation of their study was the absence of assessment of infant attachment classification – for example through the use of the Strange Situation (Ainsworth et al., 1978) procedure. Toth et al. (2000) used the Attachment Story-Stem Completion Task (Bretherton et al.1990) to assess ARs. This assessment provided information on children's ARs – but not any specific attachment category. Other story stem assessments such as the Story Stem Assessment Profile (SSAP; Hodges, Steele, Hillman, Henderson and Kaniuk, 2003) involve coding systems that can be organised into four key constructs of security, insecurity, disorganisation and defensive avoidance. These construct scores can be useful in determining a child's overall level of AR, in addition to using the data for comparisons in research (Steele et al., 2003).

Overall, the research presented by Toth et al. (2000); Hodges et al. (2000) and Buchsaum et al. (1992) suggested that LAC in foster care and children who have been subject to maltreatment are more likely than their non LAC and non-maltreated peers to have developed negative and insecure ARs of themselves and others. These findings are, however, only the first step in understanding the impact of maltreatment and/or being in care on ARs. Future research would benefit from using quantitative data which can empirically compare groups to provide a better understanding of the differences between children who have experienced maltreatment (including those in care) and children who have not. In addition, longitudinal studies would increase understanding of the stability of ARs throughout infancy, middle childhood, adolescence and adulthood.

1.2.5 Attachment disorganisation and looked after children and maltreated samples

Some narrative assessments, such as the SSAP (Hodges et al., 2000) are able to provide indicators of secure, insecure, avoidant and disorganised AR. The ability to accurately measure all types of AR is vitally important to expand knowledge and understanding of the implication of individual differences of AR on developmental outcomes. Minnis, Rabe-Hesketh and Wolkind (2002) described the understanding and description of disorganisation as one of the most significant developments in attachment theory. Researchers have demonstrated that disorganised attachment is most present in maltreated children. For example, disorganisation has been found in 80% of maltreated children (Carlson, Cicchetti, Barnett and Braunwald, 1989; Lyons-Ruth, 1996) but ranges from 15 to 30 % in middle class samples at low risk for maltreatment (van Ijzendoorn, Schuengel & Bakermans-Kranenhurg, 1999; Ainsworth & Eichberg, 1991).

Borelli, David, Crowley and Mayes (2010) argued that research has neglected to examine the relationship between disorganised attachment in middle childhood because of the lack of available measurement. Similarly, Cyr, Euser, Bakermans-Kranenburg and Ijzendoorn (2010) conducted a meta-analytic study of 55 studies with 4,792 children to examine the differential impact of maltreatment on attachment security and disorganisation. However, LAC were excluded from the study. Cyr et al. (2010) commented that the number of studies examining attachment of maltreatment is small. The authors found only 10 studies with validated measures of attachment that examined attachment security, 7 of which also examined disorganised attachment. Cyr et al.'s (2010) meta-analysis of the literature

demonstrated that maltreated children showed less secure attachment and more disorganised attachment than other high-risk children. Zeanah (1996) suggested that attachment disorganisation is the only insecure attachment category which is approaching pathology in its own right. Importantly, however, Minnis et al. (2009) and Zeanah and Smyke (2008) stated that none of the insecure categories of attachment are considered to be a clinical disorder but are rather, a pattern of relationship functioning that confers later psychosocial risk.

Disorganised attachment has also been described as a risk factor for psychopathology in high risk groups, particularly in children who have been subject to maltreatment (DeKlyen & Greenberg, 2008; Green & Goldwyn, 2002; Zeanah, Keyes & Settles, 2003). Researchers have also noted the distinctions and similarities between classifying attachment into categories and disorders of attachment (O'Connor & Zeanah, 2003; Sroufe, 1997; Zeanah & Emde, 1994). Furthermore, Green (2003) suggested that Reactive Attachment Disorder (RAD) may represent an extreme form of disorganised attachment classification. Zeanah (1996) argued that there may be an overlap between disorganised attachment style and RAD, inhibited type, however this is as yet unproven. The term "RAD" comprises of two distinct phenotypes; "inhibited" and "disinhibited" (American Psychiatric Association, 1994; WHO, 1992). The DSM-IV and ICD classifications both state that RAD is associated with early maltreatment and characterised by disinhibited behaviour (indiscriminately sociable towards strangers) or by inhibited (withdrawn, hyper vigilant) behaviour (Minnis et al., 2009).

More recently, researchers have examined the validity of criteria for disinhibited and inhibited RAD (Gleason, Fox, Drury, Smyke, Egger, Nelson et al. 2011). Gleason et al. (2011) followed 187 children from baseline (mean age 21 months) to 54 months who had previously lived in institutions for young children in Romania and subsequently moved to foster care. Gleason et al. (2011) compared rates of disinhibited and inhibited RAD to another group of Romanian children who lived with their biological parents (controls). The child's caregiver was asked to complete the Disturbances of Attachment Interview (DAI) in order to measure signs of RAD and the Preschool Age Psychiatric Assessment (PAPA) to assess mental health. Gleason et al., (2011) found that nearly half of children categorised with disinhibited RAD had organised attachment classifications, and were associated with higher level of attention and impulsive difficulties. Whereas children classified with inhibited RAD were more likely to meet criteria for depressive symptoms. Furthermore, disinhibited RAD showed a very different pattern of findings compared to the inhibited type. For example,

disinhibited RAD persisted over time for the foster care group, whereas inhibited RAD descreased (Gleason et al., 2011). Limitations of the study, however, include the low number of participants with inhibited RAD which limited statistical analyses and raises further questions whether the threshold level for diagnosis is too high (Gleason et al., 2011).

DeJong (2010) argued that further research is needed to investigate both the strength of attachment in addition to the pattern of attachment disorganization and security. Minde (2003), for example, questioned whether attachment problems represent a continuum, with RAD merging seamlessly into disorganisation and then into other forms of insecure attachment. Fraley and Spieker (2003) noted that a dimensional approach to measuring attachment may be more helpful than a categorical approach; however, preliminary research has not supported this spectrum of attachment concept. For example, Minnis et al. (2009) designed a questionnaire to measure RAD symptoms and used this in conjunction with a NSST of ARs in school-age children. Attachment narratives were compared between two groups of children – one group with a diagnosis of RAD who were also in foster care, and a control group of comparison children. Minnis et al. (2009) reported that 30% of children diagnosed with RAD were also rated as securely attached. In addition, within the maltreated group, children were more likely to be insecure-disorganised than children in the comparison group, without a history of maltreatment. Minnis et al. (2009) concluded that these findings highlighted that RAD is not the same as attachment insecurity. DeJong (2010) further added that these findings raise a number of questions, including the possibility that RAD is not a purely attachment related phenomenon.

RAD has been recognised in the psychiatric classification systems for over 30 years, however, it remains a poorly understood phenotype. Researchers are continuing to debate the link between RAD and attachment insecurity and this debate is likely to continue until a more conclusive construct can be agreed (Green & Goldwyn, 2002; Minnis et al., 2009; O'Connor & Zeanah, 2003). The complex and dynamic interactions between past abuse and current caregiving environment has an entirely unique impact on each child individually. Further research is clearly warranted in order to better understand the construct of disorganisation and RAD in order to support children who present with these difficulties, their current caregivers and school staff.

The evidence presented thus far has highlighted the important role of the NSST in assessing ARs in middle childhood. The function of the NSST in identifying indicators of

disorganised AR has also been discussed. The complexities regarding diagnosis of RAD and comparisons to disorganised attachment has also been explored which leads now onto an exploration of the impact of attachment on mental health in general for LAC.

1.3. The impact of attachment on mental health

The relationship among insecure attachment and psychopathology has long been predicted (Bowlby, 1969; Erickson, Egeland & Pianta, 1985), although further investigations into the link between attachment styles and mental health are needed to provide a strong evidence base. From the earliest development of attachment theory, Bowlby (1944) was concerned with both the normal trajectory of attachment relationships and the potential implications of atypical patterns of attachment. Sroufe, Carlson, Levy and Egeland (1999) highlighted that Bowlby's theory was not only a theory of outcome, but also a theory of process. Attachment theory postulated that early experience not only frames later experience, but it is also transformed by these later experiences.

This proposed dynamic systems theory of psychopathology was based on a complex interaction of elements over the course of development. Within attachment theory, psychopathology is considered as a developmental construction which has resulted from an ongoing transactive process as the evolving person interacts with their environment (Atkinson, 2004). The person not only transforms the environment but is also transformed by it (Sroufe et al., 1999). Bowlby proposed that insecure attachment is an adaptive response to a consistently unresponsive caregiver (Bowlby, 1988). However, despite insecure attachment providing a function in terms of ensuring proximity to the caregiver, it may put the child at risk for maladaptive symptoms later in life (Borelli et al., 2010). Egeland and Carlson (2003) outlined the theoretical links between attachment theory and psychopathology, in particular – anxiety and depression.

1.3.1 Attachment theory and anxiety

Anxiety is one of the most prevalent forms of psychopathology in children and adolescents (Albano, Chorpita and Barlow, 2003; Bittner et al., 2007). Theories of the etiology of anxiety disorders in children and adolescents include genetically based concepts (Biederman, Rosenbaum, Bolduc, Faraone & Hirshfeld, 1991) in addition to theories which emphasise the role of temperament (Kagan, 1994). Bowlby's (1972) attachment theory posits

that anxiety evolves from distortions in the adaptive functioning of anxiety in early development. The anxiety which is produced when an infant is separated from its primary caregiver in the first year of life serves an important evolutionary and survival too (Atkinson, 2004). Anxiety prompts an infant to become distressed and leads to proximity seeking behaviour that, in turn, elicits help from the caregiver in the form of practical support and emotional regulation which protects the child from physical and emotional harm (Bowlby, 1972). Therefore, separation distress may be adaptive in the context of responsive, sensitive caregiving (Egeland and Carlson, 2003). However, when a child's caregiver is unresponsive or inconsistent to their signals of distress, the child may become chronically vigilant and anxiety may become a response pattern which is generalised to multiple sources of fear which Bowlby (1972) argued may lead the child to become more vulnerable to developing anxiety disorders.

Research which has investigated the relationship between attachment patterns and anxiety disorders is particularly important when considering the outcomes of children who have been subject to maltreatment and subsequently in care. With attachment theory in mind, children who have been subject to extremely inconsistent, neglectful and/or abusive parenting may be more likely to develop anxiety disorders. For example, Colonnesi et al. (2010) conducted a meta-analysis of 46 studies that empirically examined the relationship between insecure attachment and anxiety in children between 1 and 18 years old. In addition, Colonnesi et al. (2010) examined factors (or moderators) that influenced the relation between attachment and anxiety; such as socioeconomic status, attachment measure, risk population and age of assessment. In total, the meta-analysis resulted in 46 studies published between 1984 and 2010 which included 8,907 children. The results demonstrated that insecure attachment and anxiety were moderately associated, with a medium effect size of $r = .30$. Furthermore, moderator analyses indicated that insecure-ambivalent attachment showed a stronger association with anxiety. In addition, Colonnesi et al.'s (2010) results demonstrated a stronger relationship between attachment and anxiety was apparent when both measured using questionnaires, when the informant was a child and when attachment was assessed in terms of ARs.

1.3.2 Attachment theory and depression

Central to Bowlby's (1972) theory of socioemotional development was the concept of childhood experience of separation and loss in the production of defence mechanisms and depressive symptoms (Atkinson, 2004). Bowlby (1972) conceptualised depression in terms of early core experiences of hopelessness or helplessness resulting from loss and the resulting continual difficulty in making and maintaining emotional bonds and relationships with others. Furthermore, Bowlby (1972) argued that child and adolescent mood states (including depression) resulted from schemas and expectations about the self and others developed through early caregiving experiences – also known as "ARs".

Shortly after Bowlby developed his theory of attachment, Aaron Beck proposed a hypothesis which argued that the affective, motivational and physical symptoms of depression were primarily a product of the way an individual perceives himself, the world and the future (Beck 1967, 1987). Beck (1967, 1987) also proposed that an individual develops a self-concept which reflects their representations of the self, world and future based on the attitudes and opinions communicated to them by important caregivers during childhood. Theorists and researchers have commented on the similarities between Beck's concept of schemas and Bowlby's notion of ARs (Barrett & Holmes, 2001; Ingram, 2001; Williams & Riskind, 2004). Morley and Moran (2011) argued that attachment theory has provided a useful framework for exploring the developmental foundations of cognitive vulnerabilities to depression. Morley and Moran (2011) confirmed suggestions emerging from adult literature that there may be a link between attachment style and the development of the self and responses to challenging situations (Cassidy, 1988; Sroufe, 2005; Johnson, Dweck & Chen, 2007). Overall, the literature suggested that early experience in non-secure attachment relationships place children at-risk for developing a cognitive framework that increased their vulnerability to depression following stressful life events (Morley & Moran, 2011). Morley and Moran (2011) argued that there is an urgent need for research to specifically investigate the influence of attachment experience in infancy and the influence this may have on depression emerging in middle childhood. Furthermore, the literature has highlighted that children's cognitive vulnerability to depression increases after stressful events, therefore, it is vitally important to investigate the relationship between key risk factors (such as maltreatment) and the impact this may have on the onset of childhood depression.

1.3.3 Mental Health of Looked after Children and maltreated samples

DeJong (2010) highlighted that there are important challenges for researchers in the field of child maltreatment, LAC and attachment. One of these challenges is to improve the psychological support offered to children who come into care. Among LAC aged between 5 – 17 years old, 45% were assessed as having a mental health disorder and 12% of these children were diagnosed with emotional disorders such as anxiety and depression (Meltzer, Gatward, Corbin, Goodman & Ford, 2003). Despite their high risk, LAC are often excluded from epidemiological studies due to their high mobility and difficulties surrounding parental responsibility and informed consent (Rosenfeld et al. 1997; Heptinstall., 2000). Despite a lack of systematic research it is acknowledged that LAC have a high prevalence of mental health problems (Kelly, Allan, Roscoe & Herrick, 2003). For example, Dimigen et al., (1999) assessed the mental health needs of children, aged between 5 and 12 years (N = 89) after 6 weeks of entering the care system in Scotland. Dimigen et al. (1999) found that 30% displayed elevated levels of mental disorders including conduct disorder, depression, attention deficit hyperactive disorder (ADHD), autism and anxiety. Depression (28%) and conduct disorders (28%) were the most common identified disorders.

Allen, Combs-Orme, McCarter and Grossman (2000) also studied self-reported depressive symptoms in school-age children at the time of entry into foster care. Allen et al. (2000) administered the Children's Depression Inventory (CDI) to 160 school aged LAC to a comparison group of 60 urban African-American school children. The results demonstrated that children entering foster care had a significantly higher mean CDI scores than children in the comparison group. One limitation of Allen et al's (2000) study was the lack of a true control group. The authors compared children in care to children in published norms who were more suburban and Allen et al. (2000) acknowledged that the control group were possibly higher in socio-economic status than the children in foster care. Despite the difficulty in control group comparison, Allen et al. (2000) concluded that these results provided additional evidence which supported the recommendation that all children entering foster care should undertake a mental health screening.

1.3.4 Summary of anxiety and depression in Looked after Children

The evidence presented thus far highlights the vulnerability to anxiety and depression for LAC. Not only are LAC at more risk for developing insecure and disorganised attachment

styles (Carlson et al., 1989; Lyons-Ruth, 1996) but they are also more likely to develop anxiety and depression (Meltzer et al., 2003). Empirical evidence is beginning to emerge in the literature which supports Bowlby's (1972) theory of insecure attachment as a risk for psychopathology, however, more longitudinal evidence is needed with vulnerable populations, particularly LAC. The implications of a higher prevalence rate of anxiety and depression for LAC are potentially far reaching. Researchers have found evidence to indicate that children and adolescents who have higher levels of anxiety and depression are significantly more likely to have lower AA (Gumora & Arsenio, 2002; Frojd, 2008; Kessler, Foster, Saunders & Stang, 1995; Van Ameringen, Mancini & Farvolden, 2003). There is still no conclusive agreement, however, as to the specific role that anxiety and depression play in AA and the extent to which the relationship may be reciprocal. Researchers have more recently found evidence to suggest mechanisms, such as verbal working memory, may play a significant role in mediating the relationship between trait anxiety and AA in children aged 11 to 12 (Owens, Stevenson, Norgate & Hadwin, 2008). In addition to this, researchers have also strived to understand the influence of attachment styles and ARs on AA. Bergin and Bergin (2009) argued that attachment theory (Bowlby, 1972) has made an important contribution to school policy and understanding regarding past experience and its impact on AA. The following component of this literature review will discuss the role of attachment in AA, before exploring the relevance of this relationship to LAC.

1.4. The impact of attachment on academic achievement

Bergin and Bergin (2009) simply state that "attachment influences students' school success" for all children. However, the impact of attachment on school success for LAC may be even more apparent due to the past trauma and instability they have experienced. Despite this, few studies, have investigated the influence of attachment styles on AA for LAC.

Research has, however, demonstrated the link between attachment security and AA through infancy, middle childhood to adolescence in non-LAC. This effect has been found on pre-academic skills in children aged between 2 and 3 years old. For example, toddlers with an insecure attachment style have been found to have shorter attention spans and perform worse on cognitive tasks than secure toddlers (Frankel & Bates, 1990; Moss & St Laurent, 2001). During shared story book reading with their mothers, insecure toddlers were found to be less inclined to sit on their mother's lap and show less attention to the book (Bus & van IKzendoorn, 1997). Whereas, infants classed as securely attached using the Strange Situation

(Ainsworth et al., 1978) procedure showed more engagement during the shared story book reading activity (Bus & van IKzendoorn, 1997). These results link to similar research by Bus et al. (1997; 1988) which also demonstrated that securely attached preschoolers develop better reading or pre-reading skills and have better attitudes towards reading than insecurely attached preschoolers.

The relationship between attachment security and AA has also been found to continue into middle childhood. For example, Granot and Mayseless (2001) investigated the association between security of attachment and adaptive functioning (including AA, social, emotional and behavioural adjustment) in a sample of 113 children with a mean age of 10 years. The participants were asked to complete a self report measure of attachment security (Kerns, Klepac and Cole, 1996) and administered the Doll Story Completion task (Bretherton et al., 1990) which assessed ARs. From the latter measure, children's attachment style was classified as secure, avoidant, ambivalent or disorganised. Granot and Mayseless (2001) asked teachers to complete questionnaires which measured AA, emotional and social adjustment and frequency of behaviour problems. Correlation analyses and group comparisons (using an Analysis of Variance, ANOVA) indicated that children classified as securely attached had significantly higher levels of AA and more positive social, emotional and behavioural adjustment compared to the other attachment styles. In particular, children classified as avoidant and disorganised showed the poorest adjustment and lowest levels of AA. Granot and Mayseless (2001) suggested that these findings supported their argument for the usefulness of applying attachment theory to understand adjustment to school in middle childhood. Future longitudinal research is required in order to investigate whether attachment relationships are a precursor or consequence to school adjustment.

Researchers have strived to understand why parent-child attachment may predict AA. One of the most well recognised and frequently cited longitudinal studies which made a significant contribution to this understanding began in Minneapolis in the 1970s with low socio-econonic-status (SES) families (Sroufe, Fox and Pancake; 1983). Attachment was assessed using the Strange Situation (Ainsworth et al., 1978) at 12 and 18 months of age. Children's social interaction, behaviour and attainment was assessed again at age 3, 10 and 15 (Shulman, Elicker & Sroufe, 1994; Carlson, 1998). Overall, the Minesota study found that parent-child attachment was linked to several outcomes relevant to school success such as willingness to accept challenges and independence, social competence, emotion regulation, attention difficulties, psychopathology and delinquency. This study highlighted the complex

and far reaching effect that early attachment had on later social, emotional, behavioural and academic outcomes.

The research presented has so far highlighted the poorer academic outcomes for children who demonstrate insecure attachment styles. There has been very little research to date, however, which has specifically investigated if attachment style is a buffer or resilience factor for children in care, which serves to protect their AA against the potentially damaging effects of maltreatment. Future research is needed to examine if attachment style mediates the relationship between being "in care" and AA.

1.4.1 Academic achievement and looked after children

LAC are one of the lowest attaining groups nationally, and the gap between all pupils' attainment and the attainment of LAC widens further as pupils get older (DCSF, 2009). In 2009, the Department for Children Schools and Families (DCSF) published guidance for both primary and secondary schools to improving the attainment of LAC in school. This guidance reports that in 2009, 28% of LAC had statements of Special Educational Need (SEN), 12% had missed at least 25 days of school and 0.5% received a permanent exclusion (DCSF, 2009). In addition, 46% of LAC achieved a Level 4 or higher in English at the end of Key Stage 2, compared to 81% of all children. This is improving however, as in 2000; the proportion of LAC achieving this level was only 32%. In terms of mathematics, 44% of LAC achieved a Level 4 or higher at the end of Key Stage 2, compared to 79% of all children (DCSF, 2009). This pattern also continues through to GCSE grades as only 43% of LAC achieved five or more GCSEs at A* to G grade in 2009, compared to 92% of all children (DCSF, 2009). In addition, 14% of LAC achieved five or more GCSEs at A* to C grade, compared to 65% of all children. This figure has doubled in almost a decade however, as it has increased from 7% in 2000 (DCSF, 2009).

Research has highlighted that LAC typically demonstrate poorer outcomes in relation to AA (DECP, 2006; McClung and Gayle, 2010). A study conducted by Meltzer, Lader, Corbin, Goodman and Ford (2004) suggested that LAC are typically one year behind national standard expectations. National awareness regarding poor attainment outcomes for LAC has led to the Children Act (DfES, 2003) compelling all local authorities to prioritise the education of LAC. There has been a growing concern in the last decade regarding the poor educational achievement of many LAC by local authorities in the UK (Borland, Pearson, Hill,

Tisdall and Bloomfield, 1998; Jackson and McParlin, 2006; Maxwell, Sodha and Stanley., 2006).

Jackson, Whitehead and Wigford (2010) commented that despite the difficulties which LAC experience there are a small number who achieve positive outcomes. Maxwell et al. (2006) identified a range of underlying contributing factors for poor education achievement for LAC including placement instability, lack of sufficient support at home and school and lack of adequate support with emotional, mental and physical health and wellbeing. McClung and Gayle (2010) conducted research which explored the care factors that influence the educational achievement of LAC in two Scottish local authorities. A mixed-methods strategy was used to analyse both qualitative and quantitative data which consisted of 23 LAC discharged from care over a 5 year period. The participants were aged between 11 and 19 years old as the research specifically focused on experiences and achievement of secondary aged LAC. McClung and Gayle (2010) reported that overall, LAC's AA was poorer than their counterparts in the general school population. The empirical data also indicated that factors such as placement type, reason for becoming looked after and age of becoming looked after were significant in determining educational achievement. McClung and Gayle (2010) found that children who entered the care system at a younger age (under 12) and children living in foster care, as opposed to residential care, outperformed older children on levels of AA.

Researchers have also noted the influence of placement stability on AA. For example, Aldgate, Colton, Ghate and Heath (2007) explored the relationship between reading attainment of a group of LAC aged between 8 and 14 years old living in long-term foster care. The results suggested that children's early histories before care influenced their reading ability in middle childhood. However, interestingly Aldgate et al. (2007) also noted that some amelioration of early childhood experience may be found in stable foster home placement which has an expectation of permanence. It appears from Aldgate et al.'s (2007) findings, that the type of permanent placement seems less important than the actual expectation of stability.

A key problem with the presented research is that school difficulties may have been present before the child entered the care system. It is difficult, therefore, for research to accurately ascertain if the child's AA has been negatively impacted by the process of coming into care without directly measuring performance before and after the transition. Once in the

care system, many children experience moves of home and consequent school changes and on average, LAC move and change school five times whilst in care (Barnardo's, 2006).

The literature presented up to this point has highlighted the far reaching effects of maltreatment and consequent placement in care on children's AA and mental health outcomes. The following sections will examine potential mechanisms and processes that strive to explain the link between maltreatment, being in care and negative mental health and AA outcomes.

1.5. Risk and resilience factors for looked after children

Despite the difficulties they have experienced a small proportion of LAC, do achieve positive outcomes. Researchers are becoming increasingly interested in investigating the positive processes of resilience and protective factors which play a role in contributing to these positive outcomes (Rees, 2006; Jackson, Whitebread & Wigford, 2010). Resilience has been described as the capacity for positive functioning despite high-risk status, chronic stress or experience of severe trauma (Garmezy, 1993; Masten, Best and Garmezy, 1990). Egeland, Carlson and Sroufe (1993) outlined their conceptualisation of resiliency as acting as a *process* which the individual actively participates in. They suggested that in new situations, individuals rely on expectations derived from a history of interactions which in turn, influence how environmental stimuli are interpreted and organised. Furthermore, they argued that early experiences are critically important in shaping the way later experience is organised and interpreted.

Risk factors for poor developmental outcome have been identified as: abuse, bereavement, parental discord, maternal depression, separation from close individuals and domestic violence (Dent & Cameron, 2003). In contrast; protective factors are considered to play an important role in mitigating the potentially damaging effects of risk (Schoon & Bartley, 2008) and include a supportive relationship with a significant carer, effective parenting, supportive relationships, good educational experience and holding a religious belief (Fonagy, Steele, Higgitt & Target, 1994). For example, Jackson et al. (2010) investigated differences in levels of resilience for LAC compared to non-LAC aged between 11 and 14 years old who had statements of SEN for emotional and behavioural difficulties (EBD). All children completed questionnaires which measured their levels of self-perceptions and resilience. Academic attainment was also measured using the Weschler Intelligence Attainment Test Version 2 (WIAT-II). The findings indicated that LAC had significantly

lower levels of self-reported resilience and higher levels of risk factors compared to non-LAC (Jackson et al., 2010). However, these results must be generalised with caution as only a small sample size of 16 children participated who were from a distinct population (LAC with statements for EBD) and the paper lacked details of the precise areas of risk and resilience which differed between groups. Interestingly, Jackson et al. (2010) found that LAC had significantly higher levels of attainment scores than non-LAC which is contrary to government statistical releases (DCSF, 2009). The authors attributed this unexpected finding to their decision to include only children with recognised emotional and behaviour difficulties and that these difficulties may have acted as a confounding variable.

1.5.1 Resilience as a protective factor for LAC

A key question for researchers to address is whether ARs serve as a protective factor for LAC. This concept stems from the psychological framework of attachment theory, which is centred on the importance of early care giving relationships in determining future positive developmental pathways (Bowlby, 1988). The concept of developmental pathways suggests that secure attachments set an individual on a pathway that promotes mastery of developmental tasks, whereas insecure attachments are viewed as possible risk factors for dysfunctional outcomes and psychopathology (Bowlby, 1972; 1988; Sroufe, 1988). Furthermore, Egeland et al.'s (1993) concept of resiliency as a process (which involves constructing and interpreting new information based on past experience from early relationships) provides support for Bowlby's (1969) notion of the internal working model (IWM) of relationships or AR.

Since Bowlby (1988) first proposed the concept of developmental pathways there has been continued research and debate focused on the topic. For example, Carlson (1998) proposed and tested a mediation model which investigated the role of attachment disorganisation as a mediator between early caregiving environment and psychopathology in adolescence (Figure 1.1).

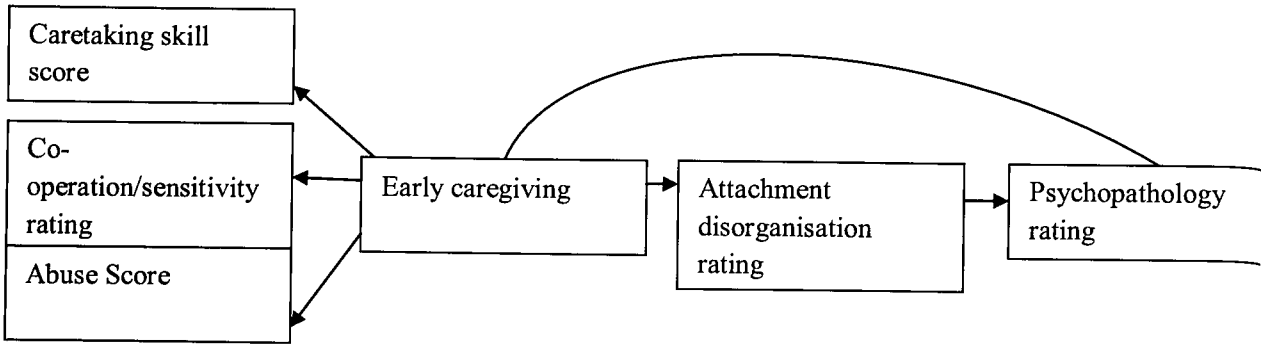


Figure 1.1. Attachment disorganisation as a mediator of relations between early caregiving environment and psychopathology ratings in adolescence.

Carlson (1998) tested the proposed model from a longitudinal perspective. A range of variables were measured (including maternal medical history, infant temperament, maternal caregiving quality, infant history of abuse and attachment disorganisation) from 24 months to 19 years with a total of 157 participants. Carlson (1998) reported that the results of regression analyses and structural modelling suggested that attachment disorganisation may mediate the effects of caregiving quality on later psychopathology. Carlson (1998) was unable, however, to test the mediating effect of attachment disorganisation between the relationship of previous abuse and psychopathology as they were provided with insufficient background information.

Carlson's (1998) research was able to highlight the potentially significant mediating role of attachment disorganisation in developmental outcome. However, caution should be taken with particular reference to Bowlby's (1998) original concept of the "developmental pathway". Within attachment theory, psychopathology is considered a developmental construction, resulting from an ongoing transactive process as the evolving person interacts with the environment (Sroufe et al., 1999). Therefore, the varying patterns of attachment represent "initiating conditions" as they play a dynamic role in pathological development because of the way in which the internal working model allows the person to engage with their environment by establishing tendencies and expectations. Sroufe et al., 1999) argued that these aspects of early experience may have a special role in the developmental process via the impact on basic neurophysiological and affective regulation.

Sroufe et al. (1998) and Clark and Clark (1998) both highlighted the importance of *change* when considering the relationship between ARs and outcomes. They agreed that change remains possible at numerous points in development. However, Clark and Clark (1998) proposed that under situations of stress, such effects might be reactivated and a greater

vulnerability may still remain. This has been supported by more recent research which has measured the stability of ARs from pre- to post adoption in children aged between 4 to 8 years old. For example, Hodges et al. (2003) have found that when children are adopted into loving, supportive homes their level of secure attachment begins to increase gradually with each year. However, levels of disorganised attachment remained relatively stable after adoption. This is important because it suggests that children develop new and existing positive sets of ARs in competition with the existing negative representations rather than replacing the new with the old. The old expectations and attitudes can therefore remain as vulnerabilities in that they can be easily triggered by events and interactions that seem to confirm their validity. It is therefore a vital task for adoptive parents to actively disconfirm these negative models that the children have brought with them and help them to build up competing models that eventually, may become the predominant ones.

1.6. Directions for future research

It is inherently difficult to assess the long-term effects of early experience on developmental outcome. Clearly, the core concept of attachment being a "dynamic process" highlights that there is not a linear, straightforward relationship. Rutter's (1989) proposition of the "chain" effects during development are important to note when addressing this issue. Rutter (1989) summarised that "life transitions have to be considered as both end products of past processes and instigators of future ones... as both independent and dependent variables" (p.46). This comment may be particularly pertinent in terms of LAC as when they enter the care system and become a "looked after child" this life changing transition has the potential to instigate a new pathway towards a more positive developmental outcome. It is vital that researchers and professionals understand and act upon the view that early social experiences by itself does not predestine the future. This is particularly important because if this view is accepted, children who have been subject to negative developmental outcomes will have lowered expectations and less opportunity for desirable interventions (Clark and Clark, 1998).

The studies presented in this literature review all have one common and over arching aim – to investigate factors which contribute towards positive developmental outcome for LAC. Throughout this literature review, there has been a central tenet of attachment theory (Bowlby, 1972; 1988) with particular reference to the role of attachment in determining

positive developmental outcome in terms of mental health and AA. There has yet, however, been a conclusive pathways model proposed which aims to investigate the mediatory role of ARs between the risk factor of being in care and outcomes such as AA and mental health. A key area for future research is to investigate if ARs act as a resiliency factor to buffer against the negative risks of being in care on AA and mental health. More research is needed to specifically investigate whether ARs are an underlying protective factor for LAC. A new model is proposed to highlight the protective role of secure AR on the risk factor of being "in care" on developing anxiety and depression and poor AA outcomes (Figure 1.2).

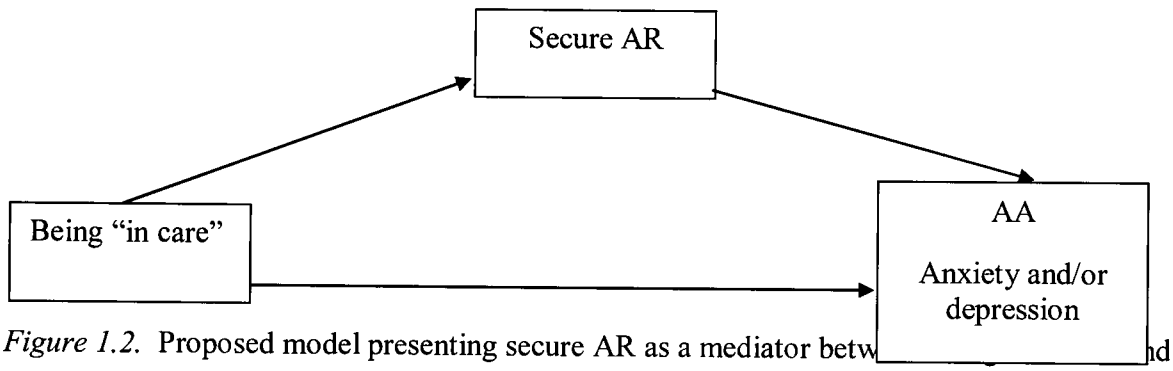


Figure 1.2. Proposed model presenting secure AR as a mediator betw[illegible]d academic achievement (AA) and anxiety and depression

There are many arguments why it is vital to continue to further knowledge and understanding in the field of LAC and their developmental outcomes – notably because they are one of the most vulnerable populations in today's society who have been identified as underachieving in school with higher rates of mental health difficulties. If researchers can identify resilience factors for these children, interventions and support can be tailored for those who live and work with these children to continue to develop these resilience factors. Perhaps more importantly, if an area (such as AR) is found to be a resilience and protective factor for LAC, those children with insecure and disorganised ARs can be identified and intervention and support can be put in place which can ensure that these children re-engage back onto a positive developmental pathway. Educational Psychology can play a vital role in identifying and highlighting the attachment needs of LAC. Furthermore, Educational Psychologists are well placed to liaise with carers and school staff to ensure that interventions are put in place to support these children's underlying needs in order for them to make progress, both academically and emotionally.

Chapter 2. Empirical Paper

An Investigation of the Role of Secure Attachment Representation as a Mediator in the relationship between Being in Care and Academic Achievement and Mental Health for Looked After Children

2.1. Introduction

The consequences of adverse childhood experiences are well documented, with LAC recognised as the most vulnerable group within education (Division of Educational and Child Psychology [DECP], 2006). It is generally acknowledged that the prevalence of mental health problems among LAC is higher than those in the general population. Stanley, Riordan and Alaszewski (2004) noted that the most comprehensive survey to date in the United Kingdom was undertaken by Meltzer et al., (2003) who utilised a sample of 1039 LAC aged between 5 – 17 years old from 134 English Local Authorities (LAs). Their research reported prevalence rates of 45% for mental health disorder which included 37% for conduct disorders; 12% for emotional disorders (anxiety and depression) and 7% for hyperactivity (Meltzer et al., 2003). Associations between being "in care" and increased mental health difficulties are also evident in the literature (e.g. Allen et al., 2000; Dimigen et al., 1999; Stanley et al., 2004).

LAC are also likely to have poorer academic achievement outcomes (e.g. Eckenrode, Laird & Doris, 1993; Meltzer et al., 2003). A number of factors have been proposed as partial explanations for poor educational outcomes for LAC (Harker, Dobel-Ober, Lawrence, Berridge & Sinclair, 2002). For example, LAC often face many educational obstacles due to frequent foster placement moves (Zetlin & Weinberg, 2004). These frequent placement moves can lead to the child missing many school days during the transition which in turn, impacts negatively on their attendance and long term academic achievement outcomes (Jones Harden, 2004; Kools & Kennedy, 2003; Leslie et al., 2003; Racusin, Maerlender, Sengupta, Isquith & Straus 2005; Zetlin, Weinberg & Kimm, 2005).

It is important, however, to recognise that being "looked after" does not inevitably lead to poorer educational outcomes (Harker et al., 2002). The prevalence rates reported by Meltzer et al. (2003) highlight that 60% of all LAC had some difficulty with either reading, mathematics or spelling as assessed by their teacher. This suggests that 40% of LAC do not have any difficulties. Indeed, when LAC are provided with supportive carers, a stable home and school placement, positive peer support and opportunities to develop out-of-school interests they can make positive educational progress (Jackson & Martin, 1998; Gilligan, 1999, 2001; Goddard, 2000; Martin & Jackson, 2002).

The concepts of risk and resilience have been explored widely with LAC and a number of key factors have been identified. For example, Dent and Cameron (2003) identified several risk factors for developmental outcome including abuse, bereavement,

parental discord, maternal depression, separation from close individuals and domestic violence. LAC who have suffered abuse and neglect face a multitude of risk factors which negatively influence social, emotional, behaviour and cognitive development (Schumacher, Slep & Heyman, 2001). In addition, research over the last two decades has indicated a strong association between frequent placement moves in foster care and poorer developmental outcomes (Taussig, 2001; Simms, Dubowitz and Szilagyi, 2000; Rubin, O'Reilly, Luan and Locall, 2007).

Resilience, however, has been described as the capacity for successful adaptation, positive functioning or competence despite prolonged trauma, abuse, stress and high-risk status (Garmezy, 1993; Masten et al., 1990). In addition, Rutter (1990) described resilience as the positive end of the distribution of developmental outcomes in a high risk population. Factors which promote resilience in children include family support, a supportive relationship with a significant carer, effective parenting, supportive peer relationships, good educational experience and holding a religious belief (Fonagy et al., 1994). More recent research has indicated that LAC aged between 11 and 14 years old have lower levels of self-reported resilience and higher levels of risk factors compared to non-LAC (Jackson et al., 2010). However, Atwool (2006) highlighted that resilience is not an isolated individual characteristic and involves both internal and external factors. Jackson et al.'s (2010) findings need to be considered in relation to specific resilience factors for LAC with particular investigation of how these factors may combine to produce protective effects (Luthar, Cicchetti & Becker, 2000). Attachment theory (Bowlby, 1973; 1977) has been proposed as a key contributor in the understanding of the process which underpins resilience (Atwoll, 2006; Doll & Lyon, 1998).

Bowlby (1973; 1977) theorised that the nature and quality of the attachment relationship are significantly determined by a "secure base" which consists of a caregiver being emotionally available and responsive to the child's needs. Attachment theory highlighted the infant's active participation in this process. Through being responsive and sensitive to the infant's needs, the infant is able to form a secure attachment which provides them with a base from which they can explore the world (Ainsworth, 1979; De Wolff & Van Ijzendoorn, 1997). Ainsworth et al. (1978) developed the Strange Situation Procedure in order to observe infant-caregiver dyads and operationalise attachment behaviours. Ainsworth at al. (1978) identified three patterns of attachment: secure, insecure-ambivalent and insecure-avoidant. In addition, Main et al. (1985) added a fourth "disorganised" category to

describe children in at-risk samples who displayed a disorganised pattern of responses when their caregiver returned after separation. It has been hypothesised that attachment disorganisation is caused by frightening and extremely insensitive parental behaviour (Hesse & Main, 2006; Lyons-Ruth, Bronfman & Parsons, 1999). According to Hesse and Main (2006), children who have developed a disorganised attachment style are caught in an unsolvable paradox as their attachment figure and potential source of comfort is at the same time a source of unpredictable fright. There is a general agreement throughout the literature that disorganised attachment appears in high-risk populations and is most likely to occur in abusive situations (Atwool, 2006; George, 1996). Researchers have also noted that an extreme form of disorganised attachment classification may manifest itself as "Reactive Attachment Disorder" (RAD; Green, 2003). The term "RAD" comprises of two distinct phenotypes; "inhibited" and "disinhibited" (World Health Organisation, 1992; American Psychiatric Association, 2000) and there is some argument that the inhibited subset of RAD may have a substantial overlap with disorganised attachment, however this link is yet to find empirical support. Limited empirical data exist regarding LAC and the prevalence of RAD symptoms. However, research has begun to demonstrate evidence to suggest that LAC are significantly more likely that non-LAC to score higher for RAD behaviour (Millward, Kennedy, Towlson & Minnis; 2006). There is an extensive literature, however, which indicates that children who come into the care system are significantly more likely to have insecure or disorganised attachments (Aldgate & Jones, 2006; Howe & Fearnley, 2003; McAuley, 2006 & Sinclair, van IJzendoorn et al., 1999; Wilson & Gibbs; 2005).

There is still no consensus in the literature in relation to the most accurate understanding and definition of each subset and category of attachment. Rutter, Kreppner and Sonuga-Barke (2009) argued that researchers should not view all the patterns of attachment through the lens of security/insecurity as there are significant difficulties in the conceptualisation and measurement of attachment after infancy. There is no consistent understanding of the exact distinctions between each subset of attachment and RAD. Therefore future research would benefit from assessing attachment in terms of security/insecurity and disorganisation as well as in terms of inhibited/disinhibited subtypes of RAD. Due to this current debate, when investigating developmental pathways, future research would benefit from ensuring that a range of attachment behaviours, including those which are indicative to RAD are measured to ensure that all aspects of attachment are included, regardless of classification.

A key component of attachment theory which attempts to explain the long-term impact of early attachment experiences is the concept of "internal working models" or "Attachment Representations" (ARs; Bowlby, 1969; 1973; 1980). These ARs form the foundation for the organisation and understanding of future experiences whilst shaping subjective reality (Howe, 1995; Bretherton, 1990; Crittenden, 1990; Main et al., 1985). These internal models are constructed through early experience of interaction, including the availability of others and in turn, the self as worth or unworthy of care. As such, they provide a basic context for subsequent interactions with the social environment (Sroufe, 1988). Children who have received less responsive or neglectful/abusive caregiving may have developed insecure AR which results in believing that the self is unworthy and unlovable and others are unreliable. This notion has important implications for infants who have experienced caregiving which has not been responsive to their needs, such as those children who have been subject to maltreatment and neglect. Children who have routinely experienced abuse, for example, may no longer represent these experiences as occasion-specific episodes but instead these experiences become part of children's automatic, internalised blue print for understanding the nature of future relationships and guide behaviour accordingly (Crittenden, 1994). Hodges et al., (2003) argued that narrative story stem assessments allow a child to display these non-conscious expectations in a displaced form as they allow the child to express verbal and non-verbal narratives. In addition, the use of play during assessments can provide access to memories and feelings which may not be expressed by verbal means only (Hodges et al., 2003).

Narrative story stem techniques (NSSTs) have been argued as a promising form of play assessment in research with maltreated children (Page, 2001). The nature of the assessment does not involve asking any direct questions which overcomes many difficulties with traditional interview techniques among high risk samples, such as LAC. Through the use of story stem assessments, children show less reluctance to share experiences and are able to portray their internal world in a displaced manner which is non-threatening to them (Buchsbaum et al., 1992; Steele et al., 1999; Warren, Emde & Sroufe, 2000). Research has consistently demonstrated that children who have experienced abusive or insensitive care-giving are likely to develop insecure attachments, negative ARs of themselves (Buchsbaum et al., 1992; Cicchetti & Lynch, 1995; McCrone, Egeland, Kalkoske & Carlson, 1994; Toth; MacFie, Cicchetti & Emde, 1997) and of their parents (Grych, Wachsmuth-Schaefer & Klockow, 2002; McCrone et al., 1994; MacFie et al., 1999). A marked difference has been

found throughout the research between different themes presented in the maltreated samples narratives. For example, Bauchsbaum et al., (1992) used a narrative story stem technique with 100 children aged between four and five years old from low socioeconomic backgrounds. A comparison group of maltreated children were matched for age, gender and race. Buchsbaum et al.'s (1992) found that maltreated children's narratives tended to involve more themes of inappropriate aggression, neglect and sexualised behaviour. Their responses also included more negative self statements and a lack of people coming to the aid of the injured doll – which are suggested to be indicators of insecure ARs. Children in the maltreated group also showed more statements of child parent role reversal which is suggested as an indicator of disorganised attachment.

Research has consistently confirmed that children in middle childhood who have been subject to maltreatment demonstrate more negative self and other statements during story stem assessments which indicates they have developed an insecure AR (Clark & Symons, 2009). There is a lack of research, however, which furthers knowledge into the mechanisms and processes underlying this finding. There have only been a handful of studies which have directly assessed the impact of insecure ARs on children's developmental outcomes in middle childhood (Clark & Symons, 2009; Hodges et al., 2000; Hodges et al., 2003; Jacobsen & Hofmann; 1997). The vast majority of research that has investigated the impact of attachment on mental health (e.g. Bar-Haim, Dan, Eshel & Sagi-Schwartz, 2007; Colonnesi et al., 2011; Graham & Easterbrooks, 2000) and academic achievement (e.g. Moss & St Laurent, 2000) has used observations of attachment behaviour (such as the Strange Situation Procedure, Ainsworth et al., 1978) and often failed to assess ARs. These representations guide the child's perceptions of present and future interactions (Bowlby, 1988) and arguably, they are an explicitly important component of the child's attachment particularly for those children who may have developed negative perceptions through past experiences of maltreatment. Main and Goldwyn (1991) stated that ARs have been hypothesised to be responsible for the intergenerational transmission of both secure and insecure attachment and for the problems that are associated with insecure attachment, such as anxiety and depression. Therefore, further research is warranted to explore the role of ARs in children's adaptive functioning, particularly vulnerable children who are at increased risk such as LAC.

There is a general agreement in the literature, however, that attachment styles as classified by the Strange Situation Procedure (Ainsworth et al., 1978) have a significant influence on development and key outcomes such as mental health; behaviour and academic

achievement. Insecure-ambivalent attachment has been consistently found to be a stronger predictor of anxiety than insecure-avoidant attachment (Bar-Haim et al., 2007; Bogels & Brechman-Touissant, 2006; Bowlby, 1973; Cassidy & Berlin, 1994; Manassiss, 2001). In a recent narrative review, Brumariu and Kerns (2010) reported evidence for a relationship between child attachment and internalising symptoms in childhood and adolescence. In total, 17 studies were investigated and the results demonstrated that among internalising problems, anxiety was most strongly related to attachment insecurity (Brumariu and Kerns, 2010). However, links between specific insecure attachment patterns and internalising problems were concluded to be difficult to evaluate and therefore not reported.

Furthermore, research has also found links between childhood depression and insecure attachment. Known risk factors for depression include family environments and parent rearing practices that are high in control and low in nurturance (Repetti, Taylor & Seeman, 2002). In addition, further parenting characteristics that include insensitivity, negativity and intrusiveness have also been found to be associated with childhood depression (Garber, Robinson & Valentiner, 1997; Rapee, 1997). The attachment relationship between parent and child is closely linked to parenting style (Gullone, Ollendick & King, 2006). However, researchers have argued that there has been very limited investigation of the role played by AR in the relationship between risk status and depression (Gullone et al., 2006). Only a handful of studies have included the assessment of attachment variables (e.g. Armsden, McCauley, Greenberg, Burke & Mitchell, 1990; Kobak, Sudler & Gamble, 1992; Muris, Meesters, van Melick & Zwambag, 2001). Furthermore, Gullone et al. (2006) also noted that research examining the relationship between depression and attachment during the childhood developmental period is almost totally non-existent. One exception, however, was a study completed by Graham and Easterbrooks (2000) who investigated the role of attachment security in school-aged children's vulnerability to depression. The sample included 85 children aged between 7 and 9 years old from a range of income levels. The results showed a significant relation between children's level of depression and security of attachment. Furthermore, a multiple regression analysis revealed that security of attachment accounted for 47% of the variability in children's depression scores. Graham and Easterbrooks (2000) argued that these results highlighted that secure attachment served as a buffer against childhood depression. In addition, more recent research has suggested that placement into foster care enables children to develop secure attachment, which in turn serves

as a protective factor against internalizing disorders in girls (McLauglin, Zeanah, Fox & Nelson, 2012).

The concept that attachment serves as a buffer against mental health problems clearly warrants further research. Furthermore, this notion must lead researchers to continue to explore what other protective or "buffer" effects attachment may have on all aspects of developmental outcome. For example, research and literature has consistently demonstrated a relationship between attachment security and positive academic achievement throughout infancy, middle childhood and adolescence (Frankel & Bates, 1990; Moss & St Laurent, 2001; Bus & van IKzendoom, 1997; Granot & Mayseless, 2001). There has been very little research to date, however, which has investigated the mediating role of ARs on academic achievement for high risk populations, such as LAC. A key question for researchers to address is whether ARs serve as a protective factor for this vulnerable population.

This study proposes to investigate the influence of AR on a number of key outcome variables related to LAC. It will explore the influence of insecure, secure, defensive avoidant and disorganised AR, in addition to inhibited and disinhibited RAD symptoms on LAC's mental health and AA. In addition, it will explore other known variables that are considered to be key influencing factors for LAC's outcomes – such as number of foster care placements and length of time in care. Throughout the literature, attachment style has been considered to influence mental health and AA significantly (e.g. Bergin & Bergin, 2009; Colonnesi et al., 2010; Erickson, Egeland & Pianta, 1985; Morley & Moran, 2011). More recent developments in assessment (notably NSSTs; Page, 2001) have allowed researchers to measure the influence of ARs on mental health and AA. Preliminary evidence has suggested that ARs are an important influencing factor on LAC's outcomes, and that they may play a key protective role for these children. Ultimately, these findings will enable a model of mediation to be tested in order to investigate the mediating role of AR on mental health and AA for LAC.

This study will mainly contribute to the field at a theoretical level and extend knowledge of the role of ARs in the relationship between anxiety, depression and AA for LAC. At a theoretical level, it is hoped that the story stem assessment used in this study to assess ARs will extend the current field, particularly by deepening the knowledge base of the role of ARs during middle childhood on mental health and AA. The story stem assessment is a useful tool for measuring ARs, including disorganised ARs, however it does not provide information pertaining to RAD behaviours. Research has suggested that RAD may represent

an extreme form of disorganised attachment classification (Green, 2003). Therefore, due to this current debate, the present study will measure both ARs and behaviours which are indicative of RAD in order to ensure that all attachment behaviours are included, regardless of classification and diagnostic label.

This study also has important practical implications. Firstly, it will examine the validity of using story stem assessments to measure ARs in middle childhood in high risk samples, particularly LAC. Secondly, if secure AR is found to serve as a protective factor against poor AA, anxiety and depression then interventions can be designed and tested which target attachment and mental health. For example, when children enter the care system, there may be an argument that they need to complete screening assessments for their mental health. Furthermore, all children entering care could also be required to complete an assessment of their AR. This would identify children who are "at risk" due to their increased levels of anxiety and depression and lower levels of secure AR. This information could then be integrated with the child's current AA scores to provide a comprehensive overview of their mental health, AA and ARs. EPs are well placed to support in the assessment and interpretation of this information and to support schools to implement early interventions to enhance the emotional wellbeing, mental health and AA of all LAC when they enter the care system. Following previous research, the following hypotheses are proposed, which are organised into three corresponding areas, according to theme.

Attachment related functioning

1. Rates of anxiety and depression will be positively correlated with RAD behaviours, insecure, disorganised and defensive avoidant ARs.
2. Secure ARs will be negatively correlated with anxiety, depression, RAD behaviours and number of foster care placements
3. Secure AR will be positively correlated with AA and disorganised, insecure and defensive avoidant AR will be negatively correlated with AA

Group differences

4. LAC will demonstrate higher levels of insecure, defensive avoidant and disorganised ARs compared to non-LAC
5. LAC will demonstrate lower levels of secure ARs compared to non-LAC.
6. LAC will demonstrate lower levels of AA compared to non-LAC.

7. LAC will demonstrate higher levels of anxiety, depression and RAD symptoms than non-LAC.

Mediation testing

8. That the negative association between being in care and anxiety, depression and AA will be mediated by secure AR.

2.2. Method

2.2.1 *Design*

A between group design was conducted with LAC currently in LA foster care compared to children who live at home with a biological parent (non-LAC). The independent variable (care type) had two levels – LAC vs non-LAC. The dependent variables were ARs, AA, RAD behaviours and anxiety and depression.

2.2.2 *Participants*

LAC participants. LAC were recruited from two LA fostering and adoption Social Services departments located in the South East of England. LAC attended six First and Primary Schools across the South East of England. Children with statements of SEN were not selected to participate as the AR measure has not been validated with this population. In total, 15 LAC participated, aged 6 to 8 years (mean age = 7.3 years; *sd* = .81; 8 females and 7 male). Number of foster placements ranged from 1 to 2 (mean = 1.33; *sd* = .49) and the duration that children had been in care ranged from 1 year 5 months to 3 years 7 months (mean = 1.5; *sd* = .78). All LAC had been taken into care due to neglect.

Non-LAC participants. Non-LAC were recruited from one First School located in the South East of England. Two schools were approached to participate, however, only one agreed to take part. The First School involved in the research was a large school for pupils aged between 4 to 8 years old, with children on roll ranging from 300 to 360. Within the school, the proportion of children with Special Education Needs (SEN) lies within the below average range (<10%; DfES, 1999).

Signed opt-in parental consent forms were received for 32 children in Year 1, 24 children in Year 2 and 19 children in Year 3. From these consent forms, 15 children were selected to participate, aged 6 to 8 years (mean age = 7.5 years; *sd* = .95; 8 females and 7 male). These children had no identified SEN, as identified by the SEN Code of Practice (DfES, 2001) and did not have statements of SEN. The children were selected to match age and gender of the LAC group.

2.2.3 *Materials*

Attachment representation (AR). In order to measure AR, the Story Stem Assessment Profile (SSAP; Hodges, Steele, Hillman, Henderson and Kaniuk, 2003) was used. The SSAP is a

story stem assessment which uses play based narratives to elicit children's representations of self, parents and attachment relationships, across a wide range of areas, including those areas central to the construct of security of attachment (Hodges et al., 2003). The SSAP involves individually working alongside a child using a series of "narrative stems" which act as the beginnings of stories, played out with dolls and animal figures and simultaneously spoken to engage the child. The adult then invites the child to "show me and tell me what happens next" and the child is encouraged to finish the story using verbal and nonverbal communication. It therefore, does not rely on verbal ability in order to accurately measure ARs (Hodges et al., 2003).

The SSAP is designed for use with children aged between 4 and 8 years old and consists of a set of 13 story stems which take approximately one hour to complete. The assessments are video recorded and transcribed in order to produce a script including "stage directions" which describe what the child does – and acts as the nonverbal narrative (Hodges and Steele, 2000). The interviewer then rates each story for the presence or absence of 32 themes, with each theme scored on a 3-point rating from 0 (not present) to 2 (definite/markedly present). The rating manual (Hodges, Hillman, Steele and Henderson, 2002) provides benchmarking criteria and examples. Hodges et al. (2003) indicated that this coding system has achieved good levels of reliability as all raters are trained and accredited using this system. The coding system can be roughly organised into six general headings, 1) quality of engagement, 2) disorganisation, 3) aggression, 4) child representation, 5) adult representation, 6) positive adaptation (Hodges et al., 2003).

RAD behaviour. In order to measure behaviours which indicate RAD the Relationship Problems Questionnaire – Parent version (RPQ; Minnis, Reekie, Young, O'Connor, Ronald, Gray and Plomin, 2007) was used. The RPQ parent is based on a previous checklist for RAD in clinical and general population samples of children aged between 5 and 16 years old (Minnis, Rabe-Hesketh and Wolkind, 2002; see Appendix B). The RPQ is a 10 item parent report questionnaire with an internal consistency (Cronbach's α) of 0.85 (Minnis et al., 2007). The RPQ has four possible responses ranging from 3 ("exactly like my child") to 0 ("not at all like my child"). Question responses include, "Is too physically close with strangers" and "Sometimes looks frozen with fear, without an obvious reason"). Question items are divided into the disinhibited (items 1, 2, 3 and 6) and inhibited (items 4, 5, 7, 8, 9 and 10) category of attachment disorders. Therefore, the disinhibited subscale total score ranges from 0 to 12 (with 12 indicating a higher level of disinhibition), and the inihibited subscale total score

ranges from 0 to 18 (with 18 indicating higher levels of inhibition). In addition, a total sum of all questions can also be used to indicate severity of RAD behaviour.

Anxiety and depression. In order to measure children's levels of anxiety and depression parents and carers were asked to complete the Revised Child Anxiety and Depression Scale – Parent/carer version (RCADS-P, Chorpita, Yim, Moffitt, Umemoto and Francis, 2000). The RCADS-P is a 47 item questionnaire composed of six subscales, 1) separation anxiety disorder, 2) social phobia, 3) generalised anxiety disorder, 4) obsessive-compulsive disorder, 5) panic disorder and 6) major depressive disorder. The RCADS-P provides an anxiety total score (sum of five anxiety subscales) and total score (sum of all six subscales). The RCADS-P asks parents/carers to rate items according to how often each applies to the child in question, with responses ranging from 0 – 3, corresponding to "never", "sometimes", "often" and "always". For example, questions include, "My child worries about things" and "My child feels worthless". Ebesutani, Bernstein, Nakamura, Chorpita and Weisz (2009) investigated the psychometric properties of the RCADS-P in a sample of 490 aged 6 to 19 years old and found that the RCADS-P demonstrated high internal consistency, convergent/divergent validity – including strong discriminate validity.

Academic Achievement (AA). Teacher Assessments (TAs) are conducted periodically throughout the year (November, March and June) measuring reading, writing and mathematics. Measures of AA were taken from the most recent TAs that were conducted prior to the child's participation in the research. In addition, children's scores on these academic tests will be compared to the national average expected level of achievement for their age group.

2.2.4 *Procedure*

The researcher obtained ethical approval from the Ethics Committee at the School of Psychology and Research Governance at the University of Southampton (RGO Reference: 741; Ethics ID: 597, Appendix C).

Non-LAC consent procedure. Head Teachers of the schools were contacted about the project and invited to arrange a meeting to discuss the research in more detail. From the two schools approached, one Head Teacher agreed to attend a meeting. Following the Head Teacher's agreement for the school to participate in the study, information and consent letters

(Appendix D) were sent to all parents of children in Year 1, 2 and 3. Once parental consent was returned, the researcher visited the school and completed the SSAP with each child.

LAC consent procedure. Team managers from two Fostering and Adoption teams located in the South East of England were contacted about the project and invited to meet with the researcher to discuss further details. Both team managers agreed to attend a meeting. One team manager also agreed for the researcher to make contact with corresponding social workers in the borough to identify children who were suitable to participate (aged between 6 and 8 years old and subject to non-section 20 care order; see Appendix A). LA team managers are legally able to provide consent for children who are cared for under a non-section 20 care order, however, it is also considered good practice for birth parents to be informed. Where possible, social workers contacted birth parents to inform them of the research project.

The second team manager requested the researcher to complete an additional LA Ethics Application. This application was then considered by the LA Ethics and Governance Board at a committee meeting. Once ethical approval was given the researcher was informed that the project could proceed. The researcher then met with the team manager again to identify social workers who were allocated to children who were suitable to participate in the study (e.g. between the ages of 6 to 8 years old and cared for under a non-section 20 care order).

The researcher was then given signed consent from both the team managers and social workers to complete the SSAP with the LAC in their schools (Appendix E). Prior to completing this measure, the researcher met with social workers to collect details regarding the LAC's current situation (Appendix F) and telephoned the foster carers to inform them of the research and the date they would be visiting the school to work with the child. In addition, the researcher requested the foster carer's addresses so they could be sent the consent form and the RCADS-P and RPQ questionnaires to complete with an enclosed stamped addressed envelope. On visiting the schools, the researcher also met with the Special Educational Needs Co-ordinator (SENCO) to collect the most recent TA scores to serve as the AA data for the project (see Appendix G for LAC consent procedures flow chart).

Individual assessment of attachment representation. Prior to the SSAP, participants were introduced to the study and the researcher read aloud the child assent script (Appendix H). At this point it was made clear to all children that it was their choice to take part it in the study

and if they did not want to they could return to class. Children were also shown the audio and visual recording equipment and given a choice if this was used to record the assessment. If they did not want to be recorded, the researcher informed them that notes could be taken instead, however no participants refused to be audio or visually recorded. The SSAP was then completed, which took approximately one hour. On completion, a debriefing statement was read aloud to the participants and a written copy was given to them to take home (Appendix I).

Once this measure had been completed, the researcher sent a letter to parents and foster carers (Appendix J) to inform them that their child had completed the assessment and to request further consent for completion of questionnaires (RCADS-P and RPQ) by the parent/foster carer. Once questionnaires had been returned, the researcher sent a second letter to the parent offering a time slot for a meeting with the researcher in school to give feedback of the child's SSAP and questionnaire scores (Appendix K) and the parent/carer debrief statement (Appendix L). The social workers were provided with written feedback of the child's SSAP (Appendix M). In addition, the researcher also met with the Special Educational Needs Co-ordinator (SENCO) to collect the most recent TA scores to serve as the AA data for the project.

2.3. Data Analysis

In order to explore the first hypothesis (that there will be a positive association between anxiety, depression, RAD behaviours and insecure, disorganised and defensive avoidant ARs) and the second hypothesis (that there will be a negative association between secure ARs and number of foster care placements) a series of bivariate correlation analyses were conducted. In order to explore hypotheses four to seven, a Mann-Whitney U test was used to explore differences between the LAC versus non-LAC group. Furthermore, regression analyses investigated the final hypothesis, that secure AR mediates the relationship between being "in care" (care type) and AA, anxiety and depression (Baron & Kenny, 1986; see Figure 1).

The regression followed a sequence detailed by a range of researchers (e.g. Graham & Easterbrooks, 2000; Frazier, Tix & Barron, 2004; Baron & Kenny, 1986). This analysis utilises correlation analyses, with particular interest being paid to any significant relationships between group, anxiety, depression, AA and ARs. This will then allow an exploration of the predictor variables with the proposed mediator (secure AR; see path *a* in Figure 2.1).

The following steps will then be followed according to Baron and Kenny (1986). Firstly, the independent variable (IV; care type) is required to predict the mediator (secure AR; path *a* in figure 2.1). Secondly, the IV is required to predict the dependent variable (DV; e.g. writing; path *c* in figure 2.1). Finally, the mediator must predict the DV whilst controlling for the IV (path *b* in figure 2.1). If the regression coefficient for the predictor variable (care type) on the outcome variable (e.g. AA) reduces after controlling for the mediator, then it is likely that the mediator (secure AR) has had an effect. If the regression coefficient is reduced to zero, perfect mediation has occurred. A significant reduction is described as partial mediation (Field, 2009). Furthermore, in order to examine whether the reduction is statistically significant, the sobel test is used (Preacher & Leonardelli, 2001, available from http://quantpsy.org/sobel/sobel.htm); which requires regression coefficients from the regression analyses in order to compute a test statistic.

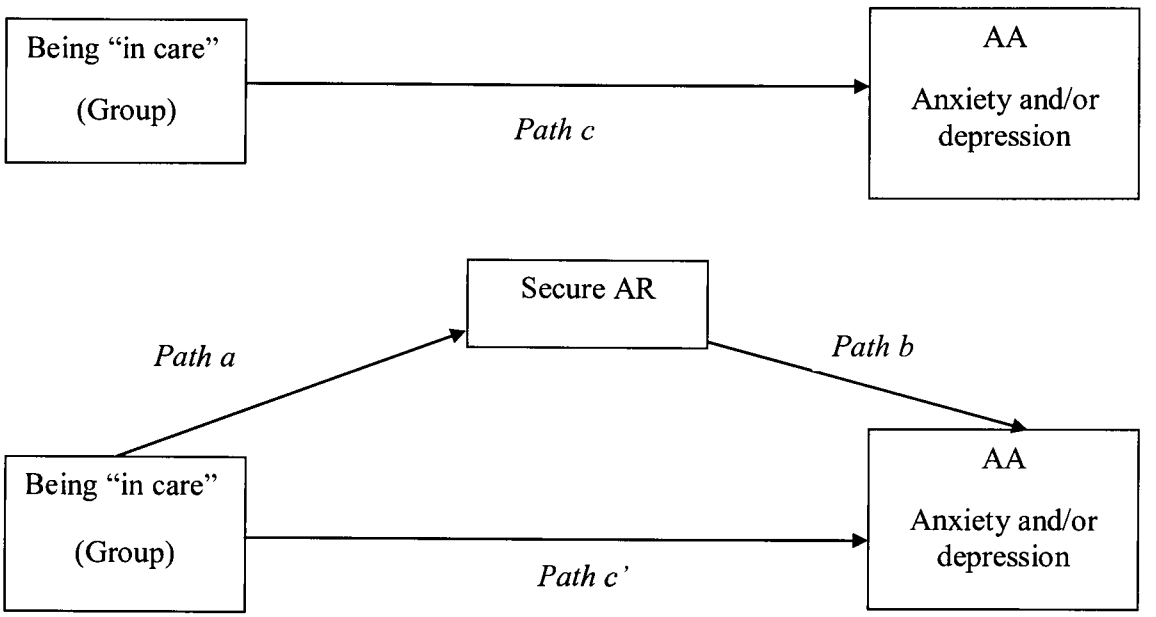


Figure 2.1. Proposed model presenting secure AR as a mediator between being "in care" and academic achievement (AA) and anxiety and depression

2.4. Results

Not all variables were normally distributed using the Shapiro Wilk analysis ($D(30)$= .00 to .47, $p < .05$). Due to the uneven distribution of variables and small sample size nonparametric analyses were performed on the data.

2.4.1 Descriptive Statistics

Anxiety and Depression measures. Table 2.1. shows the mean (M) and standard deviations (SDs) of the *T*-scores for each of the anxiety and depression variables across the whole sample. Table 2.2. displays the clinical ranges as identified in the RCADS user guide (Weiss & Chorpita, 2011) for both groups. In the present sample, between 80% and 97% fall in the "below borderline clinical threshold" range; 3% to 13% fall in the "at borderline clinical threshold" range and 0% to 7% fall in the "above borderline clinical threshold" range.

Table 2.1. *Mean (M), standard deviation (SD) and range for the anxiety and depression standardised scores*

	M	*SD*	Range
Total Anxiety and Depression	47.70	11.82	0-67
Total Anxiety	46.17	11.66	0-67
Separation Anxiety	47.73	12.56	0-69
Generalised Anxiety	49.70	12.88	0-70
Panic	46.07	14.64	0-98
Social Phobia	43.83	11.76	0-65
OCD	47.03	11.11	0-62
Depression	52.77	14.94	0-78

T Score (Mean 50, SD 10) RCADS-P = Revised Children's Anxiety and Depression Scale –Parent version

Table 2.2. *Percentages of the clinical range for total anxiety and depression, total anxiety and depression as identified by the RCADS-P user guide*

	Total Anxiety and Depression	Total Anxiety	Depression
Below borderline clinical threshold	97%	97%	80%
At borderline clinical threshold	3%	3%	13%
Above borderline clinical threshold	0%	0%	7%

2.4.2. Attachment measures. Table 2.3. displays the means and *SDs* for the AR measure and the RAD behaviours measure (RPQ) for data across the entire sample.

Table 2.3. *Mean (M), standard deviation (SD) and range for the Attachment Representation (AR) and Reactive Attachment Disorder (RAD) behaviour scores across entire sample*

	M	*SD*	Range
Security	4.59	2.14	1.86-9.39
Insecurity	1.09	.89	.23-3.93
Defensive/avoidance	.41	.46	.00-1.38
Disorganisation	.72	.80	.00-3.70
RPQ Total	4.73	6.23	.00-21
RPQ Inhibited	2.40	3.08	.00-10
RPQ Disinhibited	2.33	3.72	.00-12

RPQ = Relationship Problems Questionnaire (measure of RAD behaviours)

2.4.3. Academic Achievement measure. The descriptive statistics for AA are presented in Table 2.4. As the sample was spread across three year groups each individual academic score was also compared to the national curriculum expected level for their year group. This allowed for further exploration of whether each child was above, on, or below target, according to their year group (see Table 2.5). The expected levels for children at the end of

Year 1, 2 and 3 are 11 to 13, 13 to 15 and 15 to 17, respectively; (Department for Employment and Education; DfEE, 1999).

Table 2.4. *Mean (M), standard deviation (SD) and range for the Academic Achievement scores, according to year group across entire sample*

	Year 1			Year 2			Year 3		
	M	*SD*	Range	*M*	*SD*	Range	*M*	*SD*	Range
Reading	8.30	2.11	4-11	13.20	4.16	5-17	17.00	4.62	9-21
Writing	8.60	2.46	5-11	12.40	3.78	5-17	15.60	4.62	9-21
Mathematics	8.10	2.13	4-11	12.80	3.33	5-17	17.00	4.32	11-23

Table 2.5. *Percentages of the below, on and above target scores for years 1, 2 and 3 as identified by the National Curriculum achievement targets across entire sample*

	Year 1			Year 2			Year 3		
	Below	*On target*	Above	*Below*	*On target*	Above	*Below*	*On target*	Above
Reading	20%	80%	0%	0%	60%	40%	40%	60%	0%
Writing	30%	70%	0%	0%	50%	50%	50%	50%	0%
Mathematics	20%	80%	0%	40%	50%	10%	40%	50%	10%

2.4.4. Bivariate Correlations

In order to gain an understanding of the relationship between variables, bi-variate correlations were analysed (see Table 2.6). The correlational analyses revealed that a number of variables are significantly associated. Firstly the number of placements children had was significantly negatively correlated with secure AR, indicating that children who have a higher number of placements (i.e. 2 placements compared to 1) also display lower levels of secure ARs ($r = -.69$, $p<.01$). Number of placements was also significantly positively correlated with a range of other variables, with r values ranging from .415 to .767, indicating that children who had a higher number of placements also show increased levels of insecure, defensive/avoidance and disorganised ARs, RAD behaviours (total, inhibited and disinhibited

as measured using the RPQ) and depression. Furthermore, higher number of placements was negatively associated with writing (r = -.42, p<.05). Secure AR was also significantly correlated with all variables except from RCADS-P total anxiety and depression and RCADS-P total anxiety, indicating that higher scores of secure ARs were associated with lower insecure, defensive/avoidant and disorganised ARs, RPQ scores (total, inhibited and disinhibited), PCADS-P depression scores and higher reading, writing and mathematics scores.

A point biserial correlation was also included in the analysis which explores the relationship between two variables when one of the variables is a discrete dichotomy (e.g LAC vs Non-LAC; Field, 2009). This analysis indicated that LAC are more likely to have lower secure AR (r = -.71, p<.01), higher insecure AR (r = .73, p<.01), higher disorganised AR (r = .68, p<.01) , higher defensive avoidant AR (r = .68, p<.01), higher RPQ total scores (r = .676, p<.01), higher RPQ inhibited scores (r = .615, p<.01), higher RPQ disinhibited scores (r = .68, p<.01), higher depression (r = .66, p<.01) and lower reading (r = .42, p<.05) and writing (r = .47, p<.05).

Table 2.6. *Spearman correlation coefficients for all measures across entire sample*

	1.	*2*	*3.*	*4.*	*5.*	*6.*	*7.*	*8*	*9.*	*10.*	*11.*	*12.*	*13.*	*14.*	*15.*	*16.*	*17.*
1.Group	1.00	.039	.949**	.249	-.705**	.730**	.679**	.487**	.676**	.615**	.683**	.340	.162	.565**	-.423*	-.471**	-.334
2. Chronological age	--	1.00	.016	-.171	.306	.059	-.117	-.387*	-.001	.129	-.181	.035	.151	-.233	.645**	.640**	.724**
3. Number of placements	--	--	1.00	.266	-.658**	.767**	.756**	.424*	.662**	.605**	.669**	.344	.229	.502**	-.347	-.415*	-.325
4. Duration of being in Care	--	--	--	1.00	-.099	-.027	.133	.190	-.044	-.099	.147	-.163	-.241	.080	-.337	-.345	-.391
5. Secure AR	--	--	--	--	1.00	-.576**	-.504**	-.797**	-.448*	-.370*	-.520**	-.265	-.140	-.432*	.529**	.629**	.512**
6. Insecure AR	--	--	--	--	--	1.00	.774**	.275	.513**	.484**	.455*	.243	.177	.358	-.174	-.272	-.141
7. Disorganised AR	--	--	--	--	--	--	1.00	.366*	.516**	.488**	.438*	.204	.112	394*	-.321	-.318	-.377*
8. Defensive/avoidant AR	--	--	--	--	--	--	--	1.00	.326	.241	.423*	.226	.053	.442*	-.491**	-.575**	-.514**
9. RPQ total	--	--	--	--	--	--	--	--	1.00	.964**	.889**	.484**	.368*	.647**	-.430*	-.477**	-.380*
10. RPQ inhibited	--	--	--	--	--	--	--	--	--	1.00	.761**	.470**	.399*	.595**	-.339	-.362*	.256
11. RPQ disinhibited	--	--	--	--	--	--	--	--	--	--	1.00	.540**	.340	.678**	-.473**	-.556**	-.435*
12. RCADS-P total anxiety & depression	--	--	--	--	--	--	--	--	--	--	--	1.00	.875**	.701**	-.249	-.257	-.092
13. RCADS-P total Anxiety	--	--	--	--	--	--	--	--	--	--	--	--	1.00	.390*	-.092	-.117	.029
14. RCADS-P depression	--	--	--	--	--	--	--	--	--	--	--			1.00	-.529**	-.511**	-.377*
15. Reading	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.00	.957**	.876**
16. Writing	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.00	.862**

17. Mathematics	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.00

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

2.4.5 Gender and age effects

Gender was not correlated with any variables. Further preliminary analyses also demonstrated that there were no gender differences for scores on AR, anxiety or depression, RPQ and AA. Only reading, writing and mathematics were positively correlated with chronological age.

2.4.6 LAC versus comparison group

Comparing the LAC versus the comparison group allowed some exploration as to whether LAC showed significantly different levels of ARs, AA, anxiety, depression and RAD behaviours. As the data were not normally distributed the Mann-Whitney *U* test was conducted to evaluate the hypotheses that LAC would score lower on secure ARs and AA and higher on measures of anxiety, depression, RAD behaviours and insecure, defensive/avoidant and disorganised ARs. There was a significant difference in the mean rank between the two groups for the secure and insecure ARs ($z = -3.80$, $p = >.001$, LAC group mean rank = 9.40 versus non LAC mean rank = 21.60 and $z = -3.93$, $p = >.001$, LAC group mean rank = 9.20 versus non LAC mean rank = 21.80 , respectively; see Table 2.7). There were also significant differences between groups for all other variables, except RCADS-P total anxiety (for all other analyses $p = > .05$). Furthermore, the RCADS-P total anxiety and depression score and mathematics scores showed near significant results ($z = -1.83$, $p = .06$, LAC mean rank = 18.43 versus non LAC group mean rank = 12.57 and $z = -1.80$, $p = .07$, LAC mean rank = 12.63 versus non LAC group mean rank = 12.63, respectively).

Table 2.7. *Table to show LAC group and comparison group mean scores (± SD) and mean rank scores on measures of AR, anxiety and depression, RAD behaviours and AA.*

Standardised measure	LAC group mean *(SD)*	Comparison group mean *(SD)*	LAC group mean rank	Comparison group mean rank
AR (AR)				
Secure	3.13 (±1.27)	6.04 (±1.84)	9.40**	21.60**
Insecure	1.70 (±.90)	.48 (±.06)	9.20**	21.80**
Defensive/avoidant	.65 (±.51)	.17 (±.24)	19.63*	11.37*
Disorganisation	1.18 (±.89)	.25 (±.06)	9.70**	21.30**
Reactive Attachment Disorder (RAD) behaviours				
Total score	8.40 (±6.91)	1.07 (±1.98)	9.80**	21.20**
Inhibited	3.93 (±3.41)	1.73 (±.45)	20.63**	10.37**
Disinhibited	4.47 (±4.31)	.20 (±.56)	20.93**	10.07**
Mental Health				
Total anxiety and depression	48.60 (±14.84)	46.80 (±8.22)	18.43	12.57
Total anxiety	46.27 (±14.95)	46.07 (±7.60)	16.90	14.10
Depression	58.00 (±18.62)	47.53 (±7.52)	20.37**	10.63**
AA (AA)				
Reading	10.67 (±4.50)	15.00 (±4.96)	11.87*	19.13*
Writing	10.07 (±3.99)	14.33 (±4.32)	11.47*	19.53*
Maths	10.80 (±4.07)	14.47 (±5.15)	12.63	18.37

N=30; **p < .01; * p < .05

Chi square analysis was conducted in order to further test hypothesis 6 (that LAC display higher levels of anxiety and depression above the clinical thresholds compared to comparison group). These analyses allowed group comparisons of the data to the thresholds for clinical anxiety and depression and below, on or above target AA. The analyses showed non-significant differences between the groups on levels of above, below or at clinical threshold

levels for total anxiety and depression and total anxiety (all analyses $p > .05$). However, LAC differed significantly from the comparison group on levels of depression (χ^2 (1, N = 30) = 7.50, $p < .05$) indicating that 20% of LAC were either at or above the clinical threshold for depression, compared to 0% of non-LAC.

Further chi square analysis was conducted to test hypothesis 6 (that LAC will demonstrate lower levels of AA (reading, writing and mathematics) compared to comparison group. This analysis allowed a comparison of the two groups to investigate any significant differences between number of LAC and comparison group whose reading, writing and mathematics scores are working below, on target or working above national average achievement scores. All analyses found significant differences between the LAC and comparison group for reading (χ^2 (1, N = 30) = 6.14, $p < .01$), writing (χ^2 (1, N = 30) = 7.03, $p < .01$) and mathematics (χ^2 (1, N = 30) = 8.24, $p < .05$; see Table 2.8).

Table 2.8. *Table to show comparisons between LAC and comparison group on number and percentage of below, on and above target scores for reading, writing and mathematics*

Group	Reading			Writing			Mathematics		
	Below Target	On Target	Above Target	Below Target	On Target	Above Target	Below Target	On Target	Above Target
Comparison	1 (7%)	14 (93%)	0	2 (13%)	13 (87%)	0	1 (7%)	13 (86%)	1 (7%)
LAC	7 (47%)	8 (53%)	0	9 (60%)	6 (40%)	0	8 (53%)	7 (47%)	0

2.4.7 Mediation analyses

In order to explore the mediating effect of secure AR, this measure was explored in relation to AA and anxiety and depression. Firstly, secure AR were positively associated with reading ($r = .53, p < .01$), writing ($r = .63, p < .01$) and mathematics ($r = .51, p < .01$). Secondly, group was negatively correlated with reading ($r = -.42, p < .01$) writing ($r = -.47, p < .01$), and mathematics ($r = -.33$, p = ns). However this relationship did not reach statistical significance for mathematics. Thirdly, group was negatively correlated with secure AR ($r = -.70, p < .01$). This suggests that LAC show lower levels of secure AR than the comparison group. No statistically significant differences were found between group and combined total anxiety and depression ($r = .34$, p = ns) or total anxiety ($r = .16$, p = ns). However, statistically significant

correlations were found between group and depression ($r = .57, p < .01$) and secure AR and depression ($r = -.43, p < .05$).

In order to examine the mediation hypothesis, a series of regression analyses were conducted based on the significant correlations between group, secure ARs and reading, writing and depression. In total three sets of regression analyses were conducted (see Tables 2.9, 2.10 and 2.11), one to test the mediation effect of secure ARs on reading, another on writing and a third set for depression.

2.4.8. Reading

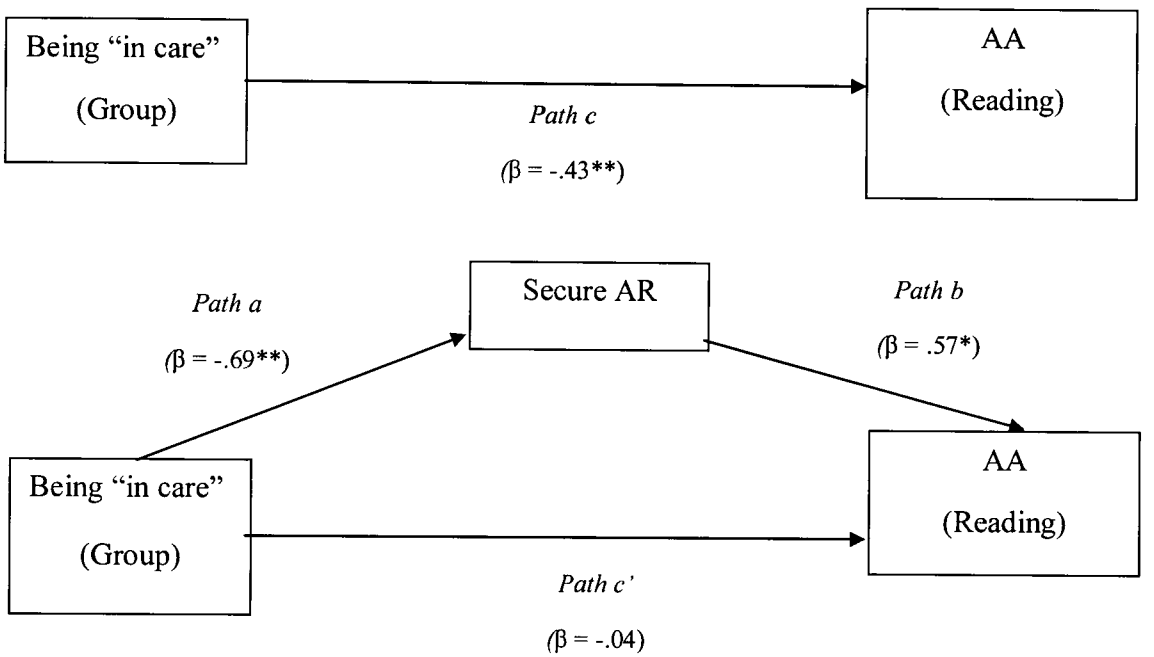
Table 2.9. *Regression coefficients and p-values for the paths in the model which proposed secure AR as a mediator between group and reading*

		Reading		
Group and AA (path *c* in Figure 1)	B*	SE B	β **	*p*-Value
Group	-4.33	1.72	-.43	<.01
		Secure AR		
Group and secure AR (path *a* in Figure 1)	B	SE B	β	*p*-Value
Group	-2.90	.58	-.69	<.001
		Reading		
Secure AR and AA (path *b* in Figure 1)	B	SE B	β	*p*-Value
Secure AR	1.36	.51	.57	<.01
		Reading		
Group and AA, via secure AR (path c' in Figure 1)	B	SE B	β	*p*-Value
Group	-.38	.51	-.04	NS

*B = unstandardised beta coefficient, ** β = standardised beta coefficient

The three regression equations indicate significant pathways from group to AA (path *c*) with group negatively predicting reading ($F(1,29) = 6.29$, $\beta = -.43$, $p<.05$), accounting for 18% of the variance. Secondly, group also negatively predicted secure AR (shown via path *a* in figure 2.2), ($F(1,29) = 25.24$, $\beta = -.69$, $p<.001$), accounting for 47% of the variance.

Thirdly, path *b* regression indicated that secure AR predicts reading ($F(1,29) = 7.35$, $\beta = .57$, $p<.01$), accounting for 35% of the variance (see Table 2.9). Secure AR fully mediated the effect of group on reading AA (path c'), reducing the effect from a standardised beta coefficient of -.43 (B = -4.33, $p<.01$) to -.04 (B = -.38, $p=NS$; see Figure 2.2.). To test whether the meditational path was significant, the Aroian version of the Sobel test was used (Preacher & Leonardelli, 2006). The results show that the reduction in effect was significant (Aroian = 2.31, $p > .05$).



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

Figure 2.2. Mediation model from the regression analyses with standardised coefficients for each path between group, secure AR and reading

2.4.9. Writing

This procedure was repeated to explore the meditational role of secure AR on the effect of being in care on writing (see Table 2.10).

Table 2.10. *Regression coefficients and p-values for the paths in the model which proposed secure AR as a mediator between group and writing*

	Writing			
Group and AA (path *c* in Figure 1)	B*	SE B	β **	*p*-Value
Group	-4.27	1.52	-.47	<.01
	Secure AR			
Group and secure AR (path *a* in Figure 1)	B	SE B	β	*p*-Value
Group	-2.90	.58	-.69	<.001
	Writing			
Secure AR and AA (path *b* in Figure 1)	B	SE B	β	*p*-Value
Secure AR	1.45	.42	.67	<.01
	Writing			
Group and AA, via secure AR (path c' in Figure 1)	B	SE B	β	*p*-Value
Group	-.05	1.77	-.01	NS

*B = unstandarised beta coeffient, ** β = standardised beta coefficient

The three regression equations indicate significant pathways from group to AA (path *c*) with group negatively predicting writing ($F(1,29) = 7.89$, $\beta = -.47$, $p<.01$), accounting for 19% of the variance. Secondly, group also negatively predicted secure AR (shown via path *a* in figure 2.3), ($F(1,29) = 25.24$, $\beta = -.69$, $p<.001$), accounting for 47% of the variance. The final path *b* regression indicated that secure AR predicts writing ($F(2,29) = 11.41$, $\beta = .67$, $p<.01$), accounting for 42% of the variance (Table 2.10). Secure AR fully mediated the effect of group on writing AA (path c'), reducing the effect from a standardised beta coefficient of -.47 (B = -4.27, $p<.01$) to -.01 (B = -.05, $p=NS$; Figure 2.3). In order to test whether the meditational path was significant, the Aroian version of the Sobel test was used (Preacher & Leonardelli, 2006) which indicates that the reduction in effect was significant (Aroian = 2.80, $p > .01$).

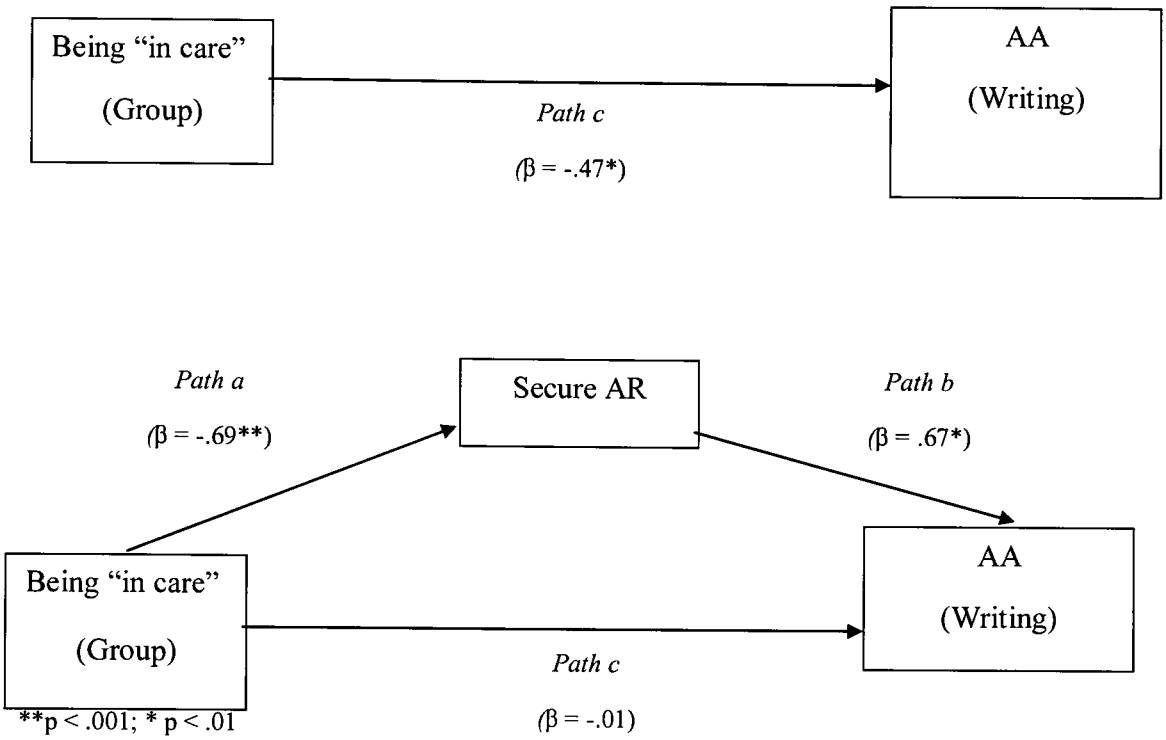


Figure 2.3. Mediation model from the regression analyses with standard coeffients for each path between group, secure AR and writing.

2.4.10. Depression

This process was repeated for a third time in order to explore the meditational role of secure AR on the effect of being in care on depression (see Table 2.11).

Table 2.11. *Regression coefficients and p-values for the paths in the model which proposed secure AR as a mediator between group and depression*

		Depression		
Group and depression (path *c* in Figure 1)	B*	SE B	B**	*p*-Value
Group	10.47	5.19	.36	<.05
		Secure AR		
Group and secure AR (path *a* in Figure 1)	B	SE B	β	*p*-Value
Group	-2.90	.58	-.69	<.001
		Depression		
Secure AR and depression (path *b* in Figure 1)	B	SE B	β	*p*-Value
Secure AR	-.13	1.73	-.02	NS
		Depression		
Group and depression, via secure AR (path c' in Figure 1)	B	SE B	β	*p*-Value
Group	10.08	7.28	.34	NS

*B = unstandarised beta coeffient, ** β = standardised beta coefficient

The initial two regression equations indicate significant pathways from group to depression (path *c*) with group negatively predicting depression ($F(1,29) = 4.07$, $\beta = .36$, $p<.05$), accounting for 13% of the variance. Secondly, group also negatively predicted secure AR (shown via path *a* in figure 2.4), ($F(1,29) = 25.24$, $\beta = -.69$, $p<.001$), accounting for 47% of the variance. The final path *b* regression indicated that secure AR did not predict depression ($F(2,29) = 1.97$, $\beta = -.02$, p = ns; see Table 2.11). In addition, path c' also found a non significant effect of the mediator (secure AR) on depression ($\beta = .34$, p = ns; see Figure 2.4). Therefore, the regression analyses do not provide evidence for the meditational role of secure AR on the effect of being in care on depression.

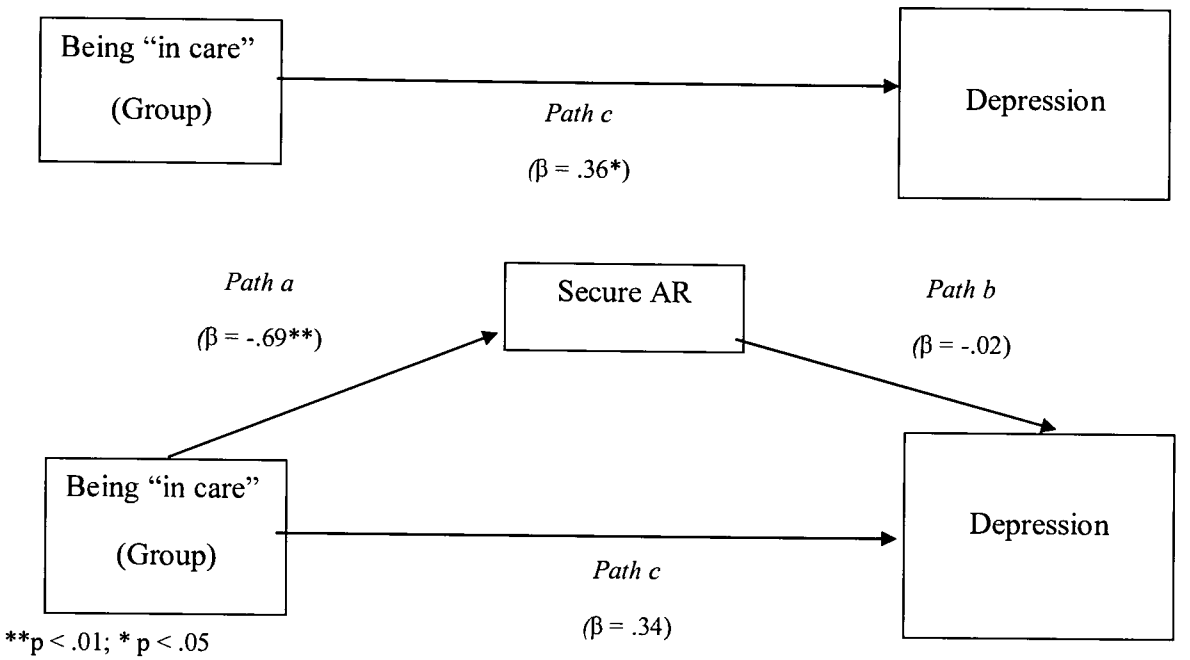


Figure 2.4. Mediation model from the regression analyses with standardised coefficients for each path between group, secure AR and depression

2.5.Discussion

The present study aimed to broaden the knowledge base and understanding of the role of ARs during middle childhood on mental health and AA. In order to explore this, evidence was gathered to measure the protective role of secure AR on AA and mental health for LAC. The study also aimed to investigate whether factors such as number of foster placements and duration of being in care influenced AA and mental health. These results will be discussed in turn, grouped according to theme, with comparisons drawn to empirical research. In addition, any notable differences in the present study's findings will be compared to the literature. This will include limitations in the present study's methodology and potential areas for development. Finally, the present results will be discussed in terms of their practical implications for EP practice.

2.5.1 Attachment related functioning

A number of findings related to attachment functioning were identified through the use of correlational analyses and tests for between differences. Support was found for Hypothesis 1, as a positive association was identified between RAD behaviours and insecure, defensive avoidant and disorganised AR. However, no evidence was found to indicate positive associations between anxiety or depression and insecure, defensive avoidant and disorganised AR. Hypothesis 2 also found some support for the negative association between secure AR and depression, RAD behaviours and number of foster placements.

Secure AR was positively correlated with AA and disorganised AR was negatively correlated with mathematics, therefore hypothesis 3 can be accepted. Defensive avoidant AR and RAD behaviour total and disinhibited RAD were also negatively correlated with reading, writing and mathematics AA. Children who had experienced more foster placements were significantly more likely to have lower levels of secure AR and higher levels of insecure, defensive avoidant and disorganised AR. In addition, children who have experienced a higher number of foster placements were also significantly more likely to have higher levels of RAD behaviours, depression and lower levels of AA.

Consistent with previous research (e.g. Barth et al., 2007) LAC in the present study who had experienced a higher number of placements were also reported to have higher rates of depression and RAD behaviour (e.g. Strijker, Knorth & Knot-Dickscheit, 2008). This finding is in line with Bowlby's (1972) conceptualisation that depression may have resulted

from loss and the resulting continual difficulty in making and maintaining emotional bonds and relationships with others. Moreover, Singer, Doornenbal and Okma (2002) suggested that a possible consequence of multiple placement moves is that the child is prevented from developing a loving relationship and to form an adaptive attachment with their foster carers. Accordingly, the present finding would suggest that children who move foster placement more frequently experience repeated loss and are required to continually reform attachment relationships, which in turn, increases the risks for higher rates of depression and RAD behaviours.

Despite the recognition that placement instability is a key influencing factor on LAC social, emotional, behavioural and academic outcomes (DfCSF, 2008) there is relatively little data which provides empirical evidence regarding the impact of multiple placements on AR. Therefore, the present findings provide an important step forward in understanding the relationships between number of foster placements and attachment functioning, AA and mental health. There is a shared understanding throughout the literature that the emotional consequences of multiple placements are likely to be harmful and could potentially lead to ongoing emotional trauma to the child including insecure and disorganised attachment difficulties (Simms, 1991) however there is marked lack of empirical evidence. Unrau, Seita and Putney (2008) conducted a qualitative survey with adults aged between 18 and 65 years who formally lived in foster care. They found that multiple foster care placement moves were remembered as experiences of profound loss and perceived to have lasting detrimental impacts on the present-day lives of the participants. In addition, other research indicated that foster children are often not properly informed about the move (Johnson et al., 1995; Butler & Charles, 1999). It is argued, that this makes it difficult for these children to process the impact of the move until after it happens. This in turn, limits the children's ability to grieve separation and loss, and their ability to cope with change and attach to adult caregivers in the future becomes seriously compromised (Fahlberg, 1991; Jewitt, 1982; Umrau et al., 2008).

The present study corroborates prior evidence, that LAC who have experienced more placement moves also demonstrate lower levels of secure AR and higher levels of insecure, defensive avoidant and disorganised ARs. It is important to highlight, however, that these results are purely correlational and the effect can be equally reciprocal. For example, Taylor (2009) reported that LAC with identified emotional and behavioural difficulties (including attachment difficulties) were more likely to move placement due to a breakdown in their

relationship with foster carers. It is clear that further longitudinal research is needed to investigate if multiple placements are influencing AR or vice versa.

Negative associations were found between number of placements and reading, writing and mathematics AA. This is consistent with previous research (e.g. Aldgate et al., 2007; McClung & Gayle; 2010) which indentified that LAC who have experienced multiple foster placements were also more likely to score lower on tests of AA. Maxwell, Sodha and Stanley (2006) identified that the frequent changes in placement are likely to be accompanied by school changes which can be very upsetting. A placement move for LAC may not only result in feelings of loss, confusion and grief for the absent foster carer, but also a sense of loss and grief of teachers and peers, who may have been an important stable, safe base for them in their chaotic world of coming into care (Maxwell, Sodha & Stanley, 2006).

Interestingly, there were also some notable correlations between AA and AR. Secure AR was positively correlated with reading, writing and mathematics. Furthermore, disorganised AR was negatively correlated with mathematics and defensive avoidant AR was negatively correlated with reading, writing and mathematics. This suggests as secure AR increases, so does AA and as defensive avoidant AR and disorganised AR increases, AA decreases. These results indicate that there is a relationship between AR and AA which may reciprocally influence one another. However, the correlation analyses are not able to state the direction of the relationship and further longitudinal research is needed to accurately measure whether AR has a causal effect on AA or vice versa. The present findings are, however, consistent with other findings in the literature which indicated that ARs influence AA (e.g. Granot & Mayseless, 2001).

Foster carer and parent reports of total RAD behaviour and disinhibited RAD behaviours were negatively correlated with reading, writing and mathematics AA. This finding is supported by very little empirical evidence. Research has often focused on the identification and treatment of RAD (e.g. McLauglin, Espie & Minnis, 2010; Puckering et al., 2011; Weir, 2011) and failed to identify how RAD influences learning and AA in school. The present study provides a small step forward in addressing this important question with support from previous work. For example, Schwartz and Davis (2006) investigated the impact of RAD on school functioning in general, but did not look at the specific relationship between RAD and AA. Although Schwartz and Davis (2006) did not directly assess the impact of RAD on AA, they discussed the influence of RAD on children's "readiness" for

learning which in turn, impacts on AA. Schwartz and Davis (2006) highlighted that the student-teacher relationship is an important variable in AA and that the impact of early disruptions in caregiving caused by profound neglect, abuse or repeated changes in placement are likely to significantly influence this relationship accordingly. Children will enter this relationship with their teacher based on these early experiences and if these attachment relationships have centred on abuse and neglect, these future relationships will often reflect the extreme problematic nature of their early attachments (Pianta & Steinberg, 1992). Kennedy and Kennedy (2004) suggested that the teacher-student relationships in inevitably linked to the child's AR of the parent-child relationship.

2.5.2. Group differences

A number of findings related to group differences were identified through the use of between group analyses of the data. Supporting evidence was found to accept hypothesis 4 and 5 fully – as LAC had significantly higher levels of insecure, defensive avoidant and disorganised AR and lower levels of secure AR when compared to non-LAC.

In addition, hypothesis 6 can be partly accepted as LAC had significantly lower reading and writing scores than non-LAC. There was a near significant trend in the data to suggest that LAC also scored lower than non-LAC in mathematics. This result may have been influenced by the small sample size and in the future, research would need to ensure that the sample size is efficient in order to reach the required power and effect size calculations. Furthermore, LAC were significantly more likely to be working below national curriculum target levels for reading, writing and mathematics when compared to non-LAC. These findings are consistent with previous research (e.g. Corbin et al., 2004; McClung & Gayle, 2010) and government guidelines (DCSF, 2009).

It is important to consider potential mechanisms that drive the relationship between ARs and AA. Ruiter and van Ijzendoorn (1993) for example, have suggested that attachment quality may have an impact on AA via several different pathways including self esteem, attention control and motivation. In addition, Stievenart, Roskam, Meunier and van de Moortele (2011) provided evidence to suggest that reasoning IQ influenced the development of secure attachment representation in preschoolers. However, there is a lack of consensus in the literature which clarifies the extent of the effect of cognitive ability on ARs and attachment behaviours. Several studies have failed to provide support for the hypothesis of a relationship between attachment behaviours and cognitive ability. For example, van

Ijzendoorn, Dijkstra and Bus (1995) concluded that attachment quality was only weakly associated with cognitive ability. Similarly, Moss and St Laurent (2001) found no association between attachment behaviours and cognitive abilities. Very few studies have explored the link between ARs and cognitive ability (e.g. Slough & Greenberg, 1990; Stievenart et al., 2011) and it is clear that this area warrants further research to clarify the debate, particularly with high risk samples. There is a distinct lack of data in the literature that has specifically investigated the role of cognition in vulnerable children's development of AR and attachment behaviours such as LAC.

Partial support was also found for hypothesis 6, as LAC also had significantly higher levels of inhibited and disinhibited RAD behaviours compared to non-LAC. In addition, LAC had significantly higher levels of depression, than non-LAC. However, no differences were found between the two groups for anxiety. In terms of AA, LAC scored significantly lower on measurements of reading and writing than non-LAC.

2.5.3. Mediation testing

The mediation models directly tested the role of secure AR in mediating the role of the risk factor (being in care) on AA (reading and writing). Due to the small sample size, these analyses must be interpreted with caution and considered only as a preliminary investigation which warrants further research with larger samples. However, the regression analyses demonstrated that secure AR fully mediates the relationship between being in care on reading and writing AA. Therefore, hypothesis 8 can be accepted. This is an important finding as there has been no empirical evidence, to date, which has directly tested if secure AR is a protective factor for LAC. The findings suggest that if LAC have a secure AR, this fully protects them from the risk of being in care and enables them to achieve as equally well as non-LAC in their reading and writing AA.

This finding is supported by theoretical concepts such as Egeland et al., (1993) Schoon and Bartley (2008) and Fonagy et al., (1994) who suggested that supportive relationships with a significant carer can act as a protective factor against risks including abuse and neglect. Therefore suggesting that positive relationships and attachments to foster carers may serve as a protective factor for LAC who have been subject to abuse or neglect. Furthermore, it is supported by Bowlby's (1988) original concept of developmental pathways, which stated that secure attachments can set a child on a pathway towards adaptive developmental outcome. The present finding provided through the mediation model provides

support of Bowlby's (1988) theory of developmental pathway and highlights that secure ARs play a key role in AA for LAC.

2.5.4. Methodological limitations

The main limitation of this study was the small sample size. Although mediation analyses were performed on the data the study did not have sufficient power to conclude that these are reliable results. Power calculations stated that in order to achieve an effect size of 0.8 (at the 0.5 p level) the suggested total participant size is 54. Therefore, the present study aimed to allocate 30 children to each group, resulting in a total of 60 participants. This participant number was similar to previous research investigating attachment representation which compared two groups of 30 children (Hodges et al., 2003). However, due to recruitment difficulties this sample size was not achieved. Therefore, these results must be interpreted with caution. Nevertheless, they do provide evidence to suggest that further research, using a larger sample, is warranted to accurately explore the protective role of AR for LAC. It is well recognised in the literature that there are many obstacles to gain access to LAC for research purposes (Berrick, Frasch & Fox, 2000; Butler & Williamson, 1994; Curran & Pecora, 1999; Gilbertson & Barber, 2002; Heptinstall, 2000; Thomas & O'Kane, 1998). In order to gain consent for LAC to participate in research the number of gatekeepers is likely to be markedly greater than a non-LAC child as the process requires contacts with social services managers on different levels, social workers, birth parents and foster carers (Heptinstall, 2000). The major concern voiced by social services managers in the present study was LAC's particularly vulnerable position due to previous adverse experiences and therefore the process of recruitment can be time consuming as the research has many responsibilities to explain the project fully to each gate keeper at each stage of the research process. It is important for future research to anticipate this slow process and incorporate it into a study's timetable. In addition, it is also important to anticipate the loss of a high proportion of potential participants through gatekeepers' decisions to exclude them due to their current circumstances and emotional vulnerability (Heptinstall, 2000). Despite these challenges it is important that research with LAC is pursued as it can make a valuable contribution to social services' policy and practice.

A further limitation was the single informant on the anxiety and depression questionnaire (RCADS). Research has suggested that a multi-informant approach is beneficial when investigating emotions in children (Pekrun, 2006). Due to the age range of

sample, including the LAC's vulnerability, it was felt that on this occasion self-informant ratings were not appropriate. However, in order to achieve the multi-informant approach, teachers could also have been asked to provide their views. Nevertheless, the study did not rely entirely on one source of informant as the measures of ARs are independent of those on AA and mental health.

Lastly, a final potential limitation was the use of teacher assessments to inform the AA scores for reading, writing and mathematics. On one hand, teacher assessments have been deemed more valid than other forms of assessment because they assess what students are doing as part of the normal course of teaching, rather than requiring them to carry out separate artificially constructed activities (Chartered Institute of Educational Assessors, 2010). However, one of the major disadvantages of teacher assessment is that they are recognised as being less rigorous and reliable than standardised assessment due to the absence of moderation from external examiners leading to potential teacher bias and unreliable grades (Chartered Institute of Educational Assessors, 2010). Future research would benefit from considering the potential implications of using both teacher assessments and standardised assessment to measure AA.

2.5.5. Practical applications

In terms of its practical implications, the findings from this study provide support for the use of story stem assessments as a tool to assess AR in research with LAC. It has highlighted that these assessments are a useful measure of AR in children aged between 6 and 8 years old. Further research in this area should carefully consider assessing not only attachment style but also AR when investigating risk and resilience factors for LAC as the present findings directly emphasize that AR serves as a protective factor.

Secondly, the findings underline the importance of considering ARs as a key influencing factor on AA for LAC. The findings imply that LAC are able to obtain better reading and writing AA scores if they have also developed a secure AR. Therefore, those LAC who have not been given or unable to respond to the nurturing experiences and opportunities (either before coming into care or whilst in foster care) to develop secure ARs are more at risk from lower reading and writing AA. There has been no empirical research to date which has assessed LAC's ARs over a longitudinal period. Hodges et al. (2003) however, measured the ARs of adopted children five years after their adoptive placement. Hodges et al.'s (2003) research indicated that one year after adoption, children's ARs showed

positive changes, specifically that adults were represented as more helpful and able to set appropriate limits. However, adults were also still represented as being aggressive or rejecting. Hodges et al. (2003) argued that this indicates that although a new and more positive AR has developed these do not automatically transform the already established representations. Specific interventions such as dyadic developmental psychotherapy, have used an attachment-focused approach to support the development of secure attachment between foster carer and child (Becker-Weidman & Hughes, 2008).

Hodges et al.'s (2003) research suggests that children who have previously been in care, can develop more positive AR with increased positive experiences (such as being adopted into a stable environment). This has noteworthy implications for the findings of the present study as the current findings suggest that secure AR is a significant protective factor against being in care on AA. Therefore, it is vital that professionals, researchers and foster families are in agreement that LAC are able to transform their ARs, if given the right opportunities.

The current findings demonstrate a significant, positive step forward for all those working together to support the AA of LAC. By identifying that secure AR is an important protective factor for LAC, those working to support these children's academic outcomes can focus on developing their positive relationships to significant others in their lives – foster carers, teachers and peers.

The quality of the relationship between the foster carer(s) and child will play an important part in ensuring the child can begin or continue to form secure ARs. Golding (2008) suggested that training, consultation and direct work with foster carers and LAC may be highly beneficial to support the stability of placements and improve the quality of the relationship between the foster carer and child. Furthermore, research has found support for specific interventions (such as the Foster Parent Training and Support Intervention) on reducing the number of placement changes (Price et al., 2008). In addition, interventions that teach foster carers to respond appropriately to children's needs have indicated that they can have a positive impact on improving secure attachment in children with challenging behaviour, difficult temperaments and in at-risk families (Dozier, Higley, Albus & Nutter, 2002).

Training and support should also be made available to school staff, particularly teachers, in order to increase their understanding of the effects of maltreatment and abuse on

children's social, emotional and behavioural development. Teachers, in addition to foster carers, may need additional advice to learn about the importance of ARs and how these sets of expectations may be guiding the child's current behaviours and ultimately, impacting on their learning. Bergin and Bergin (2009) argued that attachment theory in so inherently critical to school success, that all educators from preschool to high school should be taught to understand the significant influence early relationships have on learning.

2.5.6. Implications to the profession of Educational Psychology

Educational Psychologists (EPs) are well placed to support schools in developing their overall understanding of attachment theory (1969; 1973; 1980) and the impact of early relationships on learning and behaviour. This support may be on an individual consultative level or systemic level through training and implementation of school-wide policies. Furthermore, LAC make up a significant proportion of most EPs workloads as 27% have a statement of SEN compared to 3% of all children (Jackson & McParlin, 2006). In addition, LAC are at least 10 times more likely than others to be excluded from school (Social Exclusion Unit, 2003). Sinclair, Wilson and Gibbs (2005) examined the association between outcomes for LAC and forms of support other than social work. They found that EPs were involved in 23% of the cases investigated and in these cases placements were less likely to break down provided the foster carer had a positive attitude towards school. Jackson and McParlin (2006) argued that significantly more research on the actual and potential contribution of EPs is urgently needed.

A key implication of the findings stems from the evidence which has suggested that secure AR may play a key preventative role against lower AA for LAC. Therefore, it is argued that all children who come into care should have a detailed educational and psychological assessment (to include a measure of AR) as soon as possible after entry, not until waiting for later problems to arise. Furthermore, there should be specialist EPs who are trained in administering assessments of AR in every LA who are able to follow the individual child throughout their school career, particularly when transitioning between foster placements and school changes.

In summary, the current study provided preliminary findings to suggest that secure AR may serve as a protective factor for LAC which enables them to achieve as equally well as non-LAC in reading and writing AA. In addition, the findings provide further evidence that LAC have poorer AA, depression and RAD outcomes in comparison to non LAC.

Finally, it was found that LAC who had experienced a higher number of foster placements were more likely to have lower levels of secure AR and AA and higher levels of insecure, defensive avoidant and disorganised AR and RAD behaviours. The small sample size required the present findings to be interpreted with caution. Nevertheless, the findings do suggest that further research in this field is warranted, in order to provide a better understanding of the protective role of AR for LAC.

Appendix A. Categories of looked after children (LAC) taken from the Children Act (1989)

Section under Children Act, 1989	Description
Section 20	Children who are accommodated under a voluntary agreement with their parents
Section 31	Children who are the subject of a care order
Section 38	Children who are subject to an interim care order
Section 44 and 46	Children who are the subject of emergency orders for their protection
Section 21	Children who are compulsorily accommodated which included children remanded to the local authority or subject to a criminal justice supervision order with a residence requirement

Appendix B. Relationship Problems Questionnaire (Minnis, Reekie, Young, O'Connor, Ronald, Gray and Plomin, 2007)

Please tick the statement that best describes your child.

	Exactly like my child	Like my child	A bit Like my child	Not at all like my child	For Office Use Only
Gets too physically close to strangers	☐	☐	☐	☐	☐ 1
Is too cuddly with people s/he doesn't know well	☐	☐	☐	☐	☐ 2
Often asks very personal questions even though s/he does not mean to be rude	☐	☐	☐	☐	☐ 3
Can be aggressive towards him/herself e.g. using bad language about him/herself, headbanging, cutting etc.	☐	☐	☐	☐	☐ 4
Has no conscience	☐	☐	☐	☐	☐ 5
Is too friendly with strangers	☐	☐	☐	☐	☐ 6
Sometimes looks frozen with fear, without an obvious reason	☐	☐	☐	☐	☐ 7
If you approach him/her, he/she often runs away or refuses to be approached	☐	☐	☐	☐	☐ 8
There is a false quality to the affection s/he gives	☐	☐	☐	☐	☐ 9
If you approach him/her, you never know whether s/he will be friendly or unfriendly	☐	☐	☐	☐	☐ 10
Scoring	3	2	1	0	

Appendix C. Research Governance and Ethics approval emails

Submission Number 741

Submission Title: Exploring the relationship between attachment representation and outcomes for Looked After school children: An investigation of anxiety, depression and academic achievement (Amendment 2):

The Research Governance Office has reviewed and approved your submission

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

"This change does not affect insurance and sponsorship and cover remains in place until the end of the study."

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

Submission Number 741:

This email is to confirm that the amendment request to your ethics form (Exploring the relationship between attachment representation and outcomes for Looked After school children: An investigation of anxiety, depression and academic achievement (Amendment 2))has been approved by the Ethics Committee.

Please note that you cannot begin your research before you have had positive approval from the University of Southampton Research Governance Office (RGO) and Insurance Services. You should receive this via email within two working weeks. If there is a delay please email rgoinfo@soton.ac.uk.

Appendix D. Information and consent letters for parents to give consent for their child's participation

Study ID: 597. Version 2 (19th August 2011)

UNIVERSITY OF Southampton

Dear Parent

My name is Katy Bravery and I am a Trainee Educational Psychologist studying Educational Psychology at the University of Southampton. As part of my course I would like to run a research project investigating the influence of children's attachment representations on their academic achievement and mental health. This research is supervised by Dr. Jana Kreppner at the University of Southampton.

I am hoping to work with children aged between 6 – 8 years old. I am writing to a range of parents in your child's school to provide them with details of my project and to ask permission for their child to participate. You may also request a written summary of the outcome of the child's assessment which details their attachment representation.

What will my child be required to do?
Each child would complete a Story Stem Assessment Profile (SSAP) which measures children's attachment representations. This assessment has been developed jointly by psychotherapists at Great Ormand Street Hospital and The Anna Freud Centre in London. I have been on a training course for this assessment and am authorised to administer it.

The SSAP involves individually working alongside a child using a series of "narrative stems" which act as the beginnings of stories, played out with dolls and animal figures. The adult then invites the child to "show me and tell me what happens next" and the child is encouraged to finish the story. The SSAP is designed for use with children aged between 4 and 8 years old and consists of 13 story stems which take one hour to complete. In total, the assessment will take up to one hour to complete.

In order to later transcribe what was said the assessment will be video recorded. Only I will have access to the tapes. Once the video tapes have been transcribed they will be deleted. The transcriptions will then kept in a secure file store at the University of Southampton for five years before being destroyed (with accordance to BPS guidelines). Also any sensitive information (name, age etc.) will be kept in a locked filing cupboard at the School of Psychology and password protected on a computer. In order to report my findings, small quotes will be used from the assessments; however, these will remain confidential as no identifiable characteristics will be contained in any of the quotes.

What you have to do if you <u>would like my</u> child to be involved:

I hope that children will enjoy participating in the research project and taking part in the play assessment. If you are happy for a child to participate, then please complete and return the slip to the researcher in the enclosed envelope.

What do I do if I have any questions regarding the research project?
For any further information or questions, please contact me via email (kg1004@soton.ac.uk).

If you have questions about your child's rights as a participant in this research, or if you feel that they may have been placed at risk, you may contact the Chair of the Ethics Committee, Department of Psychology, University of Southampton, Southampton, SO17 1BJ. Telephone: (023) 8059 5578.

Yours faithfully

Katy Bravery

Attachment representation and outcomes for children

PARENTAL CONSENT

Researcher name: Katy Bravery

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

I have read and understood the information sheet and have had the opportunity to ask questions about the study ☐

I give consent for my child to take part in this research project and agree for his or her data to be used for the purpose of this study which will also involve using non-identifiable small quotes from assessments to be in the research ☐

I give consent for my child's school to be contacted to provide information on my child's current learning levels ☐

I understand that the assessment with my child will be video recorded and that only the researcher (Katy Bravery) will have access to the tape and when this project is completed the tape will be destroyed ☐

I understand mine and my child's participation is voluntary and that we may withdraw any time without my legal rights being affected ☐

Name of parent (print name).....

Child's name and date of birth.....

Parent

Signature.....Date.....

Appendix E. Information and consent letters for social worker and team manager to give consent LAC's participation

Study ID: 597

UNIVERSITY OF Southampton

Version 2: 19th August 2011

Dear Social Worker

My name is Katy Bravery and I am a Trainee Educational Psychologist studying Educational Psychology at the University of Southampton. As part of my course I would like to run a research project investigating the influence of children's attachment representations on their academic achievement and mental health. This research is supervised by Dr. Jana Kreppner at the University of Southampton.

I am hoping to work with children aged between 6 – 8 years old who are currently placed in foster care, under a non-Section 20 care order.

I am writing to a range of Social Workers in the South East and South West of England to provide them with details of my project and to ask permission for children under your care to participate. You may also request a written summary of the outcome of the child's assessment which details their attachment representation.

What will a child be required to do?

Each child would complete a Story Stem Assessment Profile (SSAP) which measures children's attachment representations. This assessment has been developed jointly by psychotherapists at Great Ormond Street Hospital and The Anna Freud Centre in London. I have been on a training course for this assessment and am authorised to administer it.

The SSAP involves individually working alongside a child using a series of "narrative stems" which act as the beginnings of stories, played out with dolls and animal figures. The adult then invites the child to "show me and tell me what happens next" and the child is encouraged to finish the story. The SSAP is designed for use with children aged between 4 and 8 years old and consists of 13 story stems which take one hour to complete. In total, the assessment will take up to one hour to complete.

The SSAP has been stated as an ethically acceptable tool to assess attachment representations in children who have been abused, maltreated, neglected and consequently in care (Steele et al., 2003). Furthermore, the assessment has incorporated the use of animals in addition to figures to allow the child to distance themselves from the character emotionally and reduce any potential anxiety (Steele et al., 2003).

In order to later transcribe what was said the assessment will be video recorded. Only I will have access to the tapes. Once the video tapes have been transcribed they will be deleted. The transcriptions will then kept in a secure file store at the University of Southampton for five years before being destroyed (with accordance to BPS guidelines). Also any sensitive information (name, age etc.) will be kept in a locked filing cupboard at the School of Psychology and password protected on a computer. In order to report my findings, small quotes will be used from the assessments; however, these will remain confidential as no identifiable characteristics will be contained in any of the quotes.

What you have to do if you <u>would like a</u> child to be involved:

I hope that children will enjoy participating in the research project and taking part in the play assessment. If you are happy for a child to participate, then please complete and return the slip to the researcher in the enclosed envelope.

What do I do if I have any questions regarding the research project?
For any further information or questions, please contact me via email (kg1004@soton.ac.uk).

If you have questions about your child's rights as a participant in this research, or if you feel that they may have been placed at risk, you may contact the Chair of the Ethics Committee, Department of Psychology, University of Southampton, Southampton, SO17 1BJ. Telephone: (023) 8059 5578.

Yours faithfully

Katy Bravery

Attachment representation and outcomes for Looked After Children
SOCIAL WORKER CONSENT

Researcher name: Katy Bravery

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

I have read and understood the information sheet and have had the opportunity to ask questions about the study	☐
I give consent for the child named below to take part in this research project and agree for his or her data to be used for the purpose of this study which may also involve using non-identifiable small quotes from the story stem assessment profile in the report	☐
I give consent for the child's school to be contacted to provide information on their current learning levels	☐
I understand that the assessment with the child will be video recorded and that only the researcher (Katy Bravery) will have access to the tapes and when this project is completed the tapes will be destroyed	☐
I understand mine and the child's participation is voluntary and that we may withdraw any time without my legal rights being affected	☐

Name of Social Worker (print name).....

Child's name and date of birth.....

Signature of social worker.....Date.....

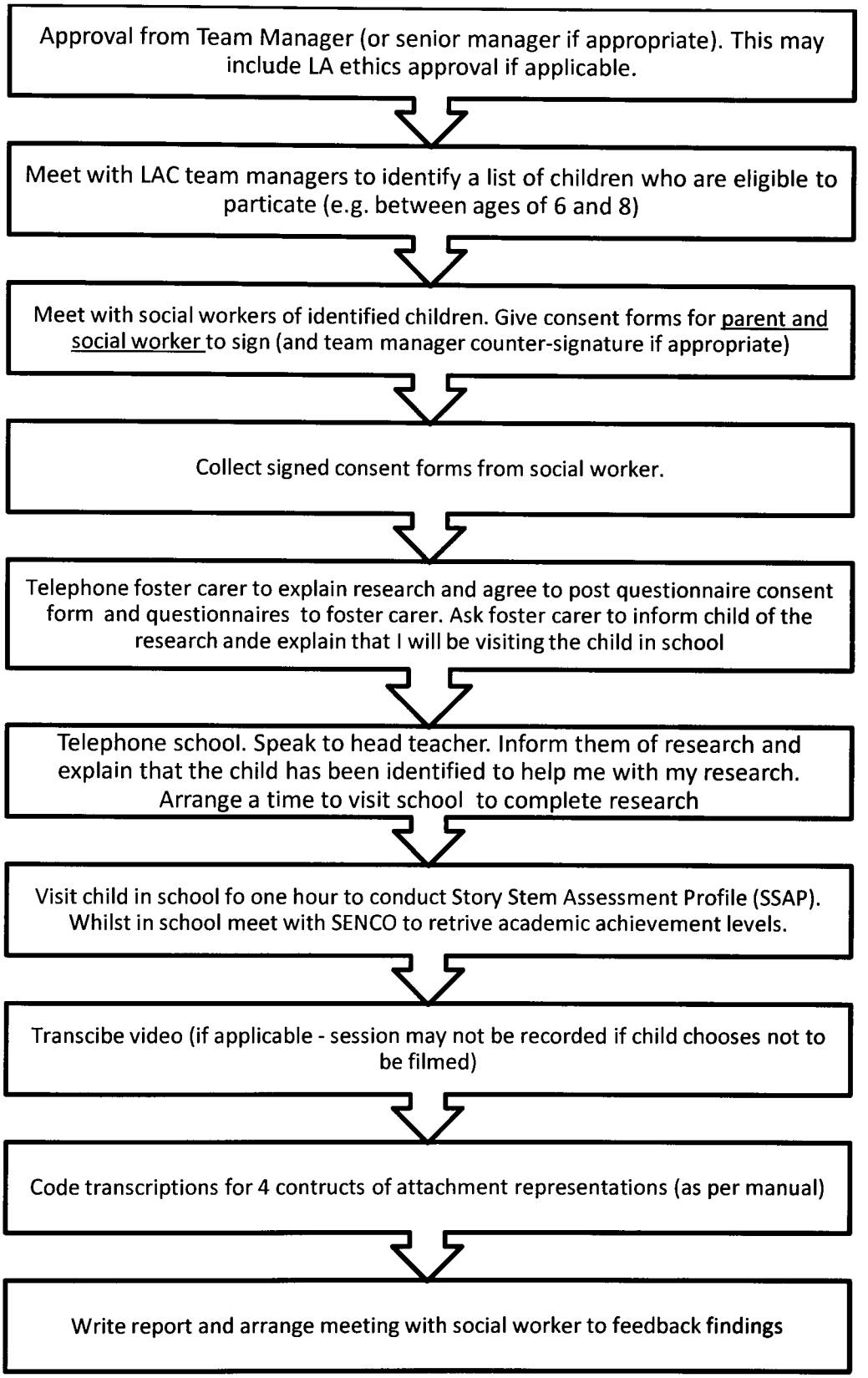
Name and Signature of Team Manager

.....Date .....

Appendix F. Information gathering tool used by researcher during meeting with social workers

Child's name	
Parent/carer's name	
Social Worker name	
Consent obtained	SSAP Questionnaires
D.O.B	
Chronological age	Years Months
Gender	Male Female
Number of foster placements	
Date taken into care	
Duration of being in care	
Brief reasons for being taken into care	e.g. neglect, physical abuse etc.
Placement plan for future	e.g. adoption, long term foster care etc.

Appendix G. LAC consent procedures flow chart



Appendix H. Child assent script

Information script for child assessment – to be read aloud to child prior to assessment commencing

My name is Katy Bravery, I am a student studying Educational Psychology at Southampton University. I am doing a project at university which is looking at how children's thoughts and feelings about other people make a difference to how well they get on at school. I'm also interested in seeing if this makes a difference to how much they worry about things (which is called anxiety) or how sad and down they feel (which is called depression).

I would like your help in my research project. It involves us working together for a maximum of one hour doing some playing and finishing off stories about people and animals in different situations. I've bought some toys with me today for us to play with.

I will be video recording our play session so I can watch it back and make notes on what we did and said. Nobody else, except from me will see the video tape and it will be kept securely.

Also, your mum/dad or social worker (delete as appropriate) may be given a summary of what we discussed today (if they request it).

It is important that you know that there are no right or wrong answers. You are also allowed to leave at any time and return to class. You will not get in trouble if you decide that you don't want to take part anymore.

Are you happy to take part in this project?

Have you got any questions?

Are you happy that your questions have been answered?

Are you happy that I video-record our play?

Do you understand that you mum/dad or social worker may have a written summary of our play session, if requested?

Turn video recorder on and BEGIN ASSESSMENT

- Follow protocol according to Story Stem Assessment Profile (SSAP) protocol. For example:

"Let me tell you a bit about what we are going to do. I am going to tell you the first bit of a story and I want you to tell me what happens next.
So, I'll start off the story and after that, it's your story and you show me and tell me what happens next."

Appendix I. Child debrief statement

Understanding attachment and children's outcomes

Child Debrief Statement

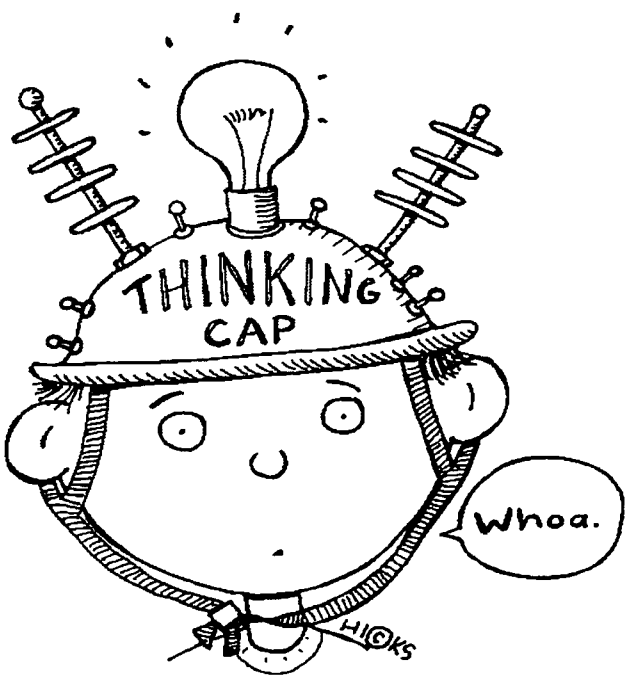
The aim of this project was to explore the influence of children's attachment representation on their mental health and academic achievement.

This study will not include your name or any other identifying characteristics.

The findings of this study may be shared with your parent/carer/social worker if requested.

The research did not use deception. You may have a copy of this summary if you wish. If you have any further questions please contact Katy Bravery at kg1004@soton.ac.uk.

Thank you for your help in this project!



If you have questions about your rights as a participant in this research, or if you feel that you have been placed at risk, you may contact the Chair of the Ethics Committee, Department of Psychology, University of Southampton, Southampton, SO17 1BJ. Telephone: 02380 595578

Appendix J. Cover letter for parent information and consent form to complete questionnaires

[Date]

Dear Parent,

My name is Katy Bravery, I am a final year Trainee Educational Psychologist studying at the University of Southampton. I am also completing my training with XXX Educational Psychology Service for 3 days a week.

I am currently conducting a research project for my thesis and would like your consent for your child to help me with my project. I am interested in investigating children's attachment styles and how this might influence their academic progress and mental health.

I have enclosed an information letter with a consent slip. If you would be happy for your child to take part then please return the reply slip to the school office by **[date].**

For any further information please contact me at kg1004@soton.ac.uk

Thank you for your help,

Kind Regards

Katy Bravery

Appendix K. Letter to invite parents to feedback meeting

6th February 2012

Dear parent

Thank you for completing the consent form for your child to take part in my research project and for returning the questionnaires.

I have now finished collecting data for my project in XXX First School. You are welcome to book a 20 – 25 minute meeting slot with me on the **[date]** in school if you would like some feedback from your child's assessment. The sign-up sheet is available at the school office.

For any further information please contact me at kg1004@soton.ac.uk

Thank you again for your and your child's help with my research project.

Kind Regards

Katy Bravery

Trainee Educational Psychologist

Appendix L. Parent/carer debriefing statement

Understanding attachment and children's outcomes

Parent/carer Debrief Statement

Thank you for completing the questionnaires and helping with my research project.

The aim of this project was to explore the influence of children's attachment representation on their mental health and academic achievement.

This study will not include your name or any other identifying characteristics.

The research did not use deception. You may have a copy of this summary if you wish. If you have any further questions please contact Katy Bravery at kg1004@soton.ac.uk.

If you have concerns regarding your child's mental health and wellbeing there are a number of free services which offer confidential advice and information such as:

Young Minds on 0800 018 2138 - a parents' information service providing confidential advice for any adult concerned about the mental health or emotional well-being of a child or young person (see http://www.youngminds.org.uk/) and:

Parentline Plus helpline on 0808 800 2222 - provides help and information for anyone caring for children (see http://www.parentlineplus.org.uk)

Thank you for your help in this project!

If you have questions about your rights as a participant in this research, or if you feel that you have been placed at risk, you may contact the Chair of the Ethics Committee, Department of Psychology, University of Southampton, Southampton, SO17 1BJ. Telephone: 02380 595578

Appendix M. Example of feedback report given to social worker (anonymised)

Story Stem Assessment Profile Report

Name of pupil: Jane (name changed for anonymity)

School: XXX School

Date of assessment: 15th June 2011

*ALL NAMES AND IDENTIFYING CHARACTERISTICS HAVE BEEN CHANGED

The following assessment was completed in conjunction with research at the University of Southampton – Study Code (KB3) titled: "Exploring the relationship between attachment representation and outcomes for Looked After school children: An investigation of anxiety, depression and academic achievement".

This research was conducted with approval from the School of Psychology Ethics Committee. In addition, approval has been given from the relevant Team Managers in the Looked After and Adoption Service at XXX Borough Council.

For any further information please contact the researcher, Katy Bravery at kg1004@soton.ac.uk

Introduction to the story stem assessment technique

The story stem assessment consists of a structured series of 13 narrative stems. These present children with a range of different family scenarios as the beginnings of a story, using doll and animal figures as well as language. The child is then invited to complete the stories in whatever way they like. This allows assessment of the child's expectations and perceptions of family roles, attachments and relationships, without asking the child direct questions about their family which might cause them conflict or anxiety.

Story stem assessments have been used for clinical assessment and for research in a number of centres. At Great Ormand Street Hospital, a team of clinicians have developed a story stem battery and rating scheme which identifies key features of attachment representations such as security, insecurity, disorganisation and defensive avoidance – called the Story Stem Assessment Profile (SSAP).

In a linked research study the developers of the SSAP compared maltreated children's story stem narratives with others who have not suffered maltreatment and recently, maltreated children with those placed for adoption following earlier maltreatment. The research has demonstrated that maltreated children's narratives less commonly show children receiving help from adults, children themselves showing realistic mastery or ordinary realistic domestic scenes. Other research has similarly found that avoidance and themes of extreme aggression and catastrophe characterise the narratives of children showing disorganised attachment relationships which are thought to develop when the attachment figure whom the child needs as a source of security, is also a source of fear.

Key Terms:

Attachment Representation: The term "attachment representation" describes children's internal thoughts and belief systems of the interactions between people – both peers and adults. These beliefs are developed throughout early interactions between children and the key adults in their lives. Children then use these beliefs as a framework for interpreting, understanding and predicting future interactions and relationships with other people.

Secure attachment representations: Narratives which characterise a secure attachment representations involve parent figures offering practical help, affection and comfort to the child, setting appropriate limits, not being rejecting or aggressive towards the child. In addition, children demonstrating secure representations have narratives which show the child figure seeking help from the adults, the child figure not being endangered and not controlling.

Disorganised attachment representations: Research has found that avoidance and themes of extreme aggression and catastrophe characterise the narratives of children showing disorganised attachment representations.

Interpretation of Jane's the story stem narrative

Engagement

The story stem assessment allowed for a detailed exploration of Jane's attachment representations. It was anticipated that this assessment would provide useful information to professionals working with her to understand her internal working models and beliefs of herself and others.

Jane engaged well with all 13 story stems, however, she only provided a limited narrative for some stories. However, it is anticipated that younger children of Jane's age will present shorter stories with less content due to the stage of their language development.

Indicators of secure attachment representation

Jane often presented the sibling characters as providing and receiving help and support from each other. For example, when the little pig got lost it was the other little pig that found him and bought him home and the adult pigs were unaware that the little pig had gone missing.

There was, however, some indication of secure attachment representations through Jane's narrative in regards to adults providing practical help. In particular, the "daddy" character in the stories offered practical help to the children. For example, daddy put cold water on the little girl's hand when she burnt it on the cooker. Also, in the story about a stamping elephant that was scaring the people and other animals, Jane showed the daddy figure saving all the others.

Jane's narrative also displayed some characteristics of realistic active mastery. For example, she was able to bring some stories to a realistic conclusion whilst effectively managing any potentially difficult scenarios. For example, in the story where the mummy figure has a headache and asks the child figure to read a book, Jane was able to demonstrate realistic active mastery by explaining that the mummy figure had gone to sleep so she was able to turn the television down to watch quietly.

Jane's overall construct score indicates that her level of secure attachment is slightly below the mean score for children in previous research who have not been subject to maltreatment. Furthermore, Jane's score also falls below the mean expected score for children who have been subject to previous maltreatment. This indicates that her level of secure attachment representation is below average in comparison to both maltreated and non-maltreated children.

Indicators of Insecure attachment representations

Jane's narratives showed some indications of adult figures being unaware of the harm or potential dangerous situations that the child figures were in. For example, no adult figure was aware when the child figure went outside and was crying or when the little pig got lost.

In addition, Jane's narratives also demonstrated an element of the adult figures rejecting the child figures. In particular, the mother figure rejected the child figure. For example, in the "Lost Keys" story, the child figure says she has found the keys and then her mum tells her to go away. Also, when the child figure cuts her finger in the bathroom, the mum tells her to get out of the bathroom (said in a raised angry voice).

Some of Jane's stories also characterised aspects of extreme aggression which is an indicator of both insecure and disorganised attachment representations. For example, in the "Stamping Elephant" story, the mummy figure stamped on all the animals and Jane explained that the mummy was hurting them.

Overall, Jane's narratives displayed a low number of themes associated with insecure attachment. Her overall construct score highlighted that her level of insecure attachment representation is slightly higher than other children in non-maltreatment samples; however, her score is lower than children in previous maltreatment samples.

Indicators of disorganised attachment

Jane's narratives displayed a small number of themes associated with disorganised attachment. Two stories, for example, contained themes of catastrophic fantasy – which included characters coming back to life after they had been killed.

Overall, Jane's total score for disorganised attachment was lower than other children in previous maltreatment samples. Her score was, however, slightly higher than children in the non-maltreatment sample.

Summary

Jane's narratives highlighted that she has lower overall levels of disorganised and insecure attachment representations compared to other children who have been maltreated and in care.

Jane's overall construct score for secure attachment representation was also lower than other children her age, which had both been subject to maltreatment and non-maltreatment. However, evidence suggests that children can develop secure attachment representations over time through positive interactions with others.

Jane's narratives displayed some interesting differences between the mummy and daddy figures relationships with the child figures. Throughout her stories, the daddy figure provided protection and support. Whereas the mummy figure often showed dismissing and rejected behaviour towards the child figures.

There was a distinct lack in Jane's narratives where the child figures actively sought help from adults. In addition, Jane's stories did not include any references to adults providing affection towards the children characters. These are all areas which characterise secure attachment representations and it may be helpful to support Jane in developing this area through positive interactions with others in the future.

Please contact me via the email address on the front of the cover with any queries regarding the content of this report.

Yours Sincerely,

Katy Bravery

Trainee Educational Psychologist

Doctorate in Educational Psychology

University of Southampton

References

Ainsworth, M. D. S., & Eichberg, C. G. (1991). Effects on infant-mother attachment of mother's experience related to loss of an attachment figure. In C. M. Parkes, J. Stevenson-Hinde, & P. Marris (Eds.), *Attachment across the life cycle* (pp.160-183). New York: Routledge.

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