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The relationship of attachment and coping strategy use to later adjustment to starting secondary school.

Murray, James

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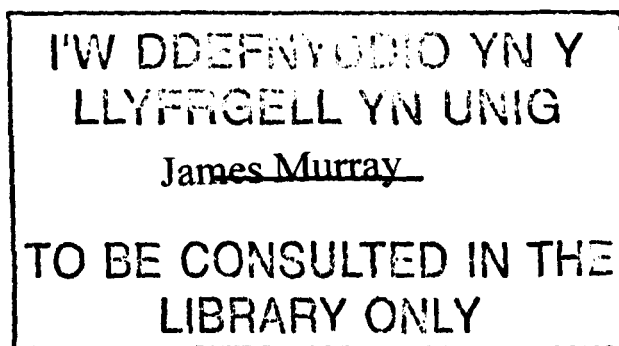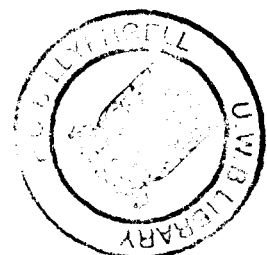The relationship of attachment and coping strategy use

to later adjustment to starting secondary school

Thesis submitted for the degree

of Doctor in Clinical Psychology

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Summary

This study reports on a prospective longitudinal study of children during the transition from primary school to secondary school at age 11. It follows a single cohort of children from their respective primary schools through the first term of their secondary school. The relationships of attachment and coping strategy use to later adjustment, in terms of self-report anxiety, teacher-rated prosocial behaviour, attendance rates, academic performance, and behaviour problems, were examined. Attachment was assessed using a novel family drawing measure. The drawing measure provides a number of different scores, and of these the total number of marker signs indicating insecure attachment was predictive of later poorer adjustment. Attachment category as judged from family drawings was not predictive of later adjustment, although high inter-rater reliability proved difficult to obtain. No strong, stable relationship between coping strategy use and later adjustment was found. The study also reports on the usefulness of the family drawing measure with the age group concerned, and comments on potential problems and directions for future research.

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Introduction

The transition from primary to secondary school at age 11 is an important educational milestone for a child. Adjusting to this change successfully may have a great impact on a child's life not only in educational terms, but also socially and psychologically. Children's entire day-time environments change dramatically as they enter a new, more adult institution, and are required to develop a whole series of new peer and teacher relationships, as well as to adjust to a new physical environment and way of academic learning. This transition occurs at an important and vulnerable stage of development, taking place as it does on the cusp of puberty and its associated physical and psychological changes. Risk and resilience factors at this point in a child's life, which may determine the success or otherwise of adjusting to this transition, can be very influential in predicting the development of psychopathology in later adolescence and adulthood. Identifying and understanding these risk and resilience factors may help in the early identification of those more likely to cope badly during adolescence or to develop mental health problems in adulthood.

This study aims to investigate some of the factors that may predict how well a child copes with this important change. In particular, this study will look at how children's attachment relationships with their families and their coping skills may help or hinder their ability to adapt to and deal with their changed day-time environment.

There is a vast range of factors that may affect children's adaptation to the new environment of secondary school, which it is impossible to discuss comprehensively here. These include within-school factors, such as anti-bullying policies or efforts by teachers to

promote successful adjustment; within-child factors, such as the child's personality and attitude towards school and education; and extra-school factors, such as parental attitudes towards school and education, quality of home environment, and parent-child relationship. Inevitably, many of these factors interact and it may be difficult to isolate single influences on adjustment. For instance, an abusive or neglectful parent may affect the parent-child relationship and the quality of the home environment, while also disrupting the child's school attendance and development of successful peer relationships, and predisposing the child to become a victim of bullying.

This study will concentrate on investigating two linked factors which may predict problems in successful adjustment: firstly, the quality of children's attachment relationships with their families, and secondly, children's coping strategies for dealing with everyday problems. These two factors are discussed below.

Attachment

Attachment is a subject that has been investigated for many years (Bowlby, 1969; Schaffer & Emerson, 1964), and refers to a particular type of relationship between two individuals, typified by the relationship of a child to its parent, where one individual is a caregiver and the other individual is cared for. Attachment research is based on observations that infants develop stable observable attachment relationships to particular adults (usually the parent) over the first few months of life, seeking proximity to this adult and consistently choosing this adult for comfort and security when distressed (Waters, 1978). Attachment behaviour is observable across all cultures as well as in many animal species, and this has led to the postulation of evolutionary explanations of its function, where infant attachment

behaviours are viewed as controlled by a "distinct goal-corrected behavioural system", which has a "set goal" of maintaining proximity to a nurturing adult and a biological function of promoting the child's survival (Bowlby, 1969). According to evolutionary theories, protection and caring by the caregiver, and attachment behaviours by the infant, are complementary behavioural systems which were selected evolutionarily because of their effects on improving survival. It has also been suggested, however, that the set goal of the attachment system is not simply physical proximity but to maintain "felt security" (Bischoff, 1975; Bretherton, 1985; Sroufe & Waters, 1977). This type of explanation brings in another level of complexity, requiring a more sophisticated processing of the environment and internal mental states by the infant.

There are two main ways of conceptualizing attachment relationships. The first is an externally determined conceptualization, and defines attachment in terms of characteristic sets of behaviours. The second is an internally driven conceptualization, and defines attachment in terms of a form of cognitive "schema", containing beliefs and expectations about the caregiver and the self, as well as a set of emotional responses. It is the first type of conceptualization that infant models of attachment, as described by Bowlby, use as a starting point.

According to Ainsworth, attachment relationships may be classified into one of three broad categories (Ainsworth, Blehar, Waters, & Wall, 1978). This is done by observing the infant's behaviour in situations where attachment behaviour may be "activated" - for instance, in an unfamiliar environment, when the primary caregiver moves away from the infant or leaves, or when an unfamiliar person approaches the infant. Attachment behaviour as such is

not observable in neonates but develops quickly over the first few months of life, encompassing a range of behaviours, including crying, checking for the location of the caregiver, moving towards or away from the caregiver, seeking or avoiding physical contact with the caregiver, and attempting to prevent the caregiver's departure.

By 12 months old, observations of infants with their primary caregiver, usually a parent (and indeed usually the mother), show that about 65-70% of infants are described as securely attached (actively exploring while alone with the parent, although keeping closer in unfamiliar environments; visibly upset by separation, crying and sometimes attempting to find or to get closer to the parent; and welcoming of the parent's return, approaching the parent for physical contact and appearing more content). 10-15% of infants are described as having an anxious and resistant attachment (unlikely to explore while the parent is present, particularly in an unfamiliar environment or when strangers are present; becoming very distressed by separation, crying inconsolably and attempting to find or to get closer to the parent; and very clingy upon the parent's return, seeking physical contact and even less willing to explore away from the parent). 20% of infants are described as having an anxious and avoidant attachment (uninterested in exploring when alone with parent in an unfamiliar environment or when strangers are present; not visibly upset by separation or attempting to find or approach the parent; and often avoiding contact upon the parent's return, even if this attempted contact is initiated by the parent)(Bowlby, 1975; Van Ijzendoorn & Kroonenberg, 1988).

In addition to the more well-known categories of secure and insecure attachment, researchers in the field of attachment have also outlined a further category of disorganized attachment, characterized by an unstable, conflicting and confused working model of the attachment figure, and parallel unstable, alternating patterns of behaviour in situations like the

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Strange Situation test. This pattern is seen by some (Goldberg, 1991; Spangler & Grossman, 1993; Ward & Carlson, 1995) as being a type of insecure attachment (in addition to the existing categories of avoidant and ambivalent attachment), but is regarded by others as forming a second dimension in addition to the secure-insecure distinction (Broussard, 1995; Hertsgaard, Gunnar, Erickson, & Nachmias, 1995; Lyons-Ruth, 1996; Manassis, Bradley, Goldberg, Hood, & Swinson, 1994), so that children may be regarded as having insecure disorganized attachment relationships or secure disorganized attachment relationships. The theoretical delineation of disorganized attachment is at present relatively unclear, and its usefulness as a category is less well researched than that of the secure / insecure distinction. However, it has been found to have been linked to aggressive behaviour in pre-school children (Lyons-Ruth, 1996; Lyons-Ruth, Alpern, & Repacholi, 1993), to be much more common amongst children with a history of abuse or neglect (van der Kolk & Fisler, 1994), and to be predictive of the development of dissociative disorders in adolescence and adulthood (Ogawa, Sroufe, Weinfield, Carlson, & Egeland, 1997). In this study the investigation of disorganized attachment patterns is therefore more exploratory than central to the issues under study.

Children's relationships with their parents are extremely important in their development: attachment relationships which begin to develop over the first few months of a child's life continue to develop and change over the following years. Observations of parent-infant interactions and later interviews with adults show that early relationship styles persist for many years and are very influential in emotional and personality development in many other domains (Kobak & Sceery, 1988). Much research has demonstrated the importance of the style of attachment relationship in influencing a wide variety of phenomena across the age range from infancy to adulthood, from the development of play skills to interacting effectively

with peers to the development of successful adult relationships.

For instance, a number of studies have examined problem solving ability and creativity in symbolic play amongst toddlers, skills which are important as building blocks for later interactions with peers and teachers in the school environment. At 24 months, toddlers previously classified as securely attached at 18 months were rated by independent observers as showing more creativity in symbolic play (Slade, 1987), and, in laboratory puzzle-solving situations, as being more enthusiastic, persistent, attentive, and affectively positive problem-solvers, while their mothers were rated as higher in supportive presence and quality of assistance (Frankel & Bates, 1990; Matas, Arend, & Sroufe, 1978).

Similarly, 3 ½ year olds in a pre-school play group previously classified as securely attached were rated by two independent observers as being more proficient in the areas of initiation of play activity and social sensitivity at nursery school (Waters, Wippman, & Sroufe, 1979). They were also rated as being more likely to have other children seek their company, more likely to suggest activities, more likely to lead activities, more sympathetic to peers' distress, and less likely to be socially withdrawn, hesitant to engage in activities, or to take the role of spectator in social activities.

At the age of 4 to 5 years, children previously classified as insecurely attached show poorer adjustment to starting school (Sroufe, 1983; Sroufe, Fox, & Pancake, 1983), are rated at age 6 by teachers as less competent and having more behaviour problems, and are rated by classmates as more aggressive and less likeable (Cohn, 1990). Childhood attachment even affects relationships and parenting style in adult life (Bowlby, 1975; Hazan & Shaver, 1987), where adults tend to have relationships with partners or children that reflect their ratings of experiences as children themselves with their own parents.

Bowlby argues that this is because children develop from their first important relationships (with their parent or caregiver) "representational models" or "internal working models" of the ways in which relationships work generally - how available, consistent and trustworthy others are, the ways in which they will reciprocate attention or affection, and even how worthy the child itself is of this attention or affection (Bowlby, 1969; Pianta, Longmaid, & Ferguson, 1999). These working models are used to appraise and guide behaviour in new situations and relationships, whether with other adults, same-age peers, or, eventually, the child's own offspring, and it is through this mechanism that early attachment relationships come to influence personality development and future relationships throughout a person's life. Thus as children grow older and more sophisticated, it is more useful to conceptualize their attachment patterns in terms of internal models as well as external behaviours.

For children progressing from primary to secondary school at the age of 11, parents are still important figures in their lives as they begin to develop the peer relationships that will come to play an increasingly important role in their adolescent life. Parental attachment patterns inform children's working models of how relationships work, and these in turn play a part in the development of peer relationships at and beyond school (Bowlby, 1975; Kerns, 1996; Kerns, Klepac, & Cole, 1996).

There is a great deal of research linking insecure attachment in infants and young children to poor adjustment to starting primary school. For instance, a German study found that amongst a number of factors influencing children's adjustment to school, such as the reported number of stressful life events experienced by the family, and mothers' and teachers' anxiety, the child's quality of attachment relationship with the mother was found to be an important predictor of poor adjustment as rated by teachers and by mothers, with insecurely

attached children rated as being more distractible, harder to motivate and less sociable (Doerfel-Baasen, Raschke, Rauh, & Weber, 1996). Although where ratings are given by mothers then the association may reflect more about the mothers' perceptions than the children's actual behaviour, this general finding has been repeated in other studies. Two Canadian studies using teacher ratings of behaviour on the Socioaffective Profile found that children in the first two years of starting school who were previously rated as insecurely attached were more likely to be reported by teachers as showing externalizing and internalizing behaviour and were rated as lower in social competence (Moss, Parent, Gosselin, Rousseau, & St. Laurent, 1996; Moss, Rousseau, Parent, St. Laurent, & Saintonge, 1998). An American study of 108 children found that children's attachment representations, assessed from children's responses to a separation story at age 7 years, while they did not predict either disruptive behaviour or extroversion, were significantly linked to attention, participation, insecurity about self, and academic achievement (Grade Point Average), with secure representations being associated with more favourable outcomes at ages 9, 12, and 15 years. The study controlled for social class, gender, IQ, perspective-taking ability, and prior competency (Jacobsen & Hofmann, 1997).

There is also a body of research linking attachment quality in adolescents to the development of psychological and behaviour problems (Canetti, Bachar, Galili-Weisstub, DeNour, & Shalev, 1997; Sokol-Katz, Dunham, & Zimmerman, 1997) and poor academic performance (Isakson & Jarvis, 1999; Learner & Kruger, 1997). Attachment quality in older adolescents leaving high school predicts perceived security, loneliness, and social anxiety during the first semester at college (Larose & Boivin, 1998). Much less work, however, has been carried out with children in between these ages.

Early attachment style predicts the numbers of friends pre-adolescents make at a day camp (Elicker, Englund, & Sroufe, 1992) - a situation analogous to starting a new secondary school - and may also influence the quality of the friendships made. Kerns reports that securely attached pre-adolescent children describe their friendships as being more positive and secure, report a greater degree of companionship and mutual disclosure, and are less likely to be lonely (Kerns, 1996). The relatively small amount of research on pre-adolescent children when compared to pre-schoolers and older adolescents or adults is partly due to the way that attachment is assessed.

The method of assessing the quality of attachment relationships depends to a great extent on age. Amongst adults and older adolescents, interviews or self-report questionnaires may be used, since their degree of self-awareness and ability to express themselves verbally is highly developed (Collins & Read, 1990; George, Kaplan, & Main, 1985; Hazan & Shaver, 1987).

For instance, the Adult Attachment Interview, based on a structured 1-hour interview (George et al., 1985) asks individuals for descriptions of childhood relationships with parents both in abstract terms and with reference to supporting specific memories. Questions also focus upon instances of upset, separation, loss, trauma, and rejection, and go on to ask about changes in relationships with parents and the current states of those relationships.

Shorter assessment instruments are also available: for instance, Collins & Read report on the development, factor analysis and validation testing of a 21-item self-report questionnaire with items extracted from adult attachment descriptions (Collins & Read, 1990), themselves used in an earlier, categorical self-report measure (Hazan & Shaver, 1987). Hazan and Shaver's statements are given below:

Question: Which of the following best describes your feelings?

1. Secure - I find it relatively easy to get close to others and am comfortable depending on them and having them depend on me. I don't often worry about being abandoned or about someone getting too close to me.

2. Avoidant - I am somewhat uncomfortable being close to others; I find it difficult to trust them, difficult to allow myself to depend on them. I am nervous when anyone gets too close, and often, love partners want me to be more intimate than I feel comfortable being.

3. Anxious/Ambivalent - I find that others are reluctant to get as close as I would like. I often worry that my partner doesn't really love me or won't want to stay with me. I want to merge completely with another person, and this desire sometimes scares people away.

Amongst infants, behavioural observation procedures such as the Strange Situation (Ainsworth et al., 1978) are used, since infants have a relatively small and unsophisticated repertoire of behaviours that allows easier coding of their reactions to situations. In the Strange Situation, the child and parent enter an unfamiliar environment, and the child's reactions to the arrival of a strange adult and the departure and reappearance of the parent are noted. Amongst children in between early childhood and late adolescence, however, both self-report questionnaires and behavioural observations become less appropriate. Children's verbal skills and cognitive development are not sufficiently advanced to make interviews or self-report questionnaires reliable or easy to administer and interpret, while their day-to-day life and behavioural repertoire has become too complex and sophisticated to allow a short session

of behavioural observation to be a reliable and valid measure of attachment.

It was for these reasons that Kaplan and Main (1985) suggested that studying children's drawings would be a useful and practical way of assessing children's representations of attachment relationships. Drawings have long been used by clinicians in projective tests, on the basis that they offer a natural mode of expression in the period of middle childhood, and may allow children a way of expressing emotions and attitudes that are otherwise difficult to evince (Hammer, 1981; Koppitz, 1968). They are also practically much more easy to obtain as a source of data than either behavioural observations under controlled conditions or long-form structured interviews.

However, there are a number of potential drawbacks with assessing attachment relationships from children's drawings, which is why behavioural observations or self-report questionnaires are often preferred when possible. Firstly, children's drawing abilities vary widely and develop considerably with age during middle childhood (although they tend to plateau, at least in terms of motor skill development, beyond age 9 (Denckla, 1974)). For this reason, any assessment must be either careful to take age into account, or must not rely on age-dependent features when assessing attachment quality, particularly since the age-group under investigation in this study are somewhat older than those used in the development of drawing task attachment assessments (10-11 years old compared to 5-7 year olds (Kaplan & Main, 1985) and 8-9 year olds (Fury, Carlson, & Sroufe, 1997)). Its use in this study is therefore to an extent exploratory - one question to be answered will be how children in this age group respond to a drawing task and what, if any, differences emerge between their drawings and those of younger children. Secondly, because drawings are complex and individual, it is inevitable that a degree of subjectivity enters into any coding and scoring

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procedure, although the effects of this can be reduced considerably if multiple raters are used and if the scoring procedure is laid down very specifically and relies on the most objectively measurable features of drawings (for instance, the use of multiple colours rather than just one colour). The drawing task Kaplan and Main developed was further developed and validated (Fury et al., 1997), and is described in more detail in the Measures section.

Coping strategies

Coping strategies may be viewed as behaviours "whether deliberate or not, that reduce stress or enable a person to deal with a situation without excessive stress" (Sutherland, 1995). Every individual comes across numerous problematic situations at each stage of life that require the deployment of coping strategies in order to solve problems and reduce the distress that these problems cause.

For the infant, where distress may be caused by the departure of the attachment figure, attachment behaviours themselves such as seeking the caregiver, crying, or even emotional withdrawal may be seen as coping strategies, since they result in either a direct reduction in distress or a reduction in distress due to the caregiver's return. In slightly older infants, seeking to prevent the departure of the caregiver, or clinginess and the avoidance of novel situations, also attachment behaviours, may also be seen as forms of anxiety-preventive coping strategy. As children develop further, their range and sophistication of coping strategies develops from this initial set of attachment behaviours through the mechanism of the development of "working models" of social interaction.

The clinginess and avoidance seen in anxious / resistant attachment relationships, for

instance, may develop into the more sophisticated avoidance patterns and accompanying cognitions (e.g. "when something is upsetting, avoid it later at all costs", or "look out for danger in new situations") seen in adults when in anxiety-provoking situations (Cassidy & Kobak, 1988), while the withdrawal characteristic of anxious / avoidant attachment relationships may develop into childhood and adult strategies of distancing, minimization, and emotional numbing, characterized by attitudes such as "the best way to avoid being hurt is not to get emotionally involved" or "don't allow yourself to feel upset".

The deployment of appropriate coping strategies has been linked to the development and maintenance of successful social and workplace relationships amongst adults (Vaillant, 1971; Vaillant, 1977),and problem-focussed coping (versus emotion-focussed coping), on which a great deal of adult research has been carried out, predicts better adjustment to stressful situations (Vitaliano, Maiuro, Russo, & Becker, 1987). The development of an effective repertoire of coping strategies is predicted both during middle childhood and adulthood by a stable and positive family atmosphere during childhood (Block, 1971; Kliewer, Fearnow, & Miller, 1996).

Research on middle childhood and adolescence indicates that the use of more sophisticated strategies such as humour, cognitive restructuring, and taking part in relaxing activities is linked to better academic performance (Steward et al., 1998) and is negatively related to the development of anxiety disorders (Spence & Dadds, 1996) and PTSD and depressive symptoms after trauma (Jeney-Gammon, Daugherty, Finch, Belter, & et al., 1993; La Greca, Silverman, Vernberg, & Prinstein, 1996). Increased use of avoidance strategies, on the other hand, is positively correlated with low mood (Crook, Beaver, & Bell, 1998) and anxiety (Chaffin, Wherry, & Dykman, 1997). A study of 229 11-year olds showed that self-

reports on a coping style questionnaire developed by the authors of avoidant coping (denial of need for mother and avoidance of her during stress) and preoccupied coping (strong need for mother during stress but inability to be soothed by her) - themselves strongly linked to insecure and avoidant attachment patterns - were both related to peers' reports of the children's adjustment at school (Finnegan, Hodges, & Perry, 1996). However, other research indicates that coping strategy may not be predictive in all situations - for instance, one study (Sloper & White, 1996) investigated the psychological adjustment of 99 siblings of children with cancer, and found that although problems in adjustment were predicted by several variables (e.g. social class, financial problems, poor outcome of sibling's illness, and degree of disruption of family life), coping strategy was not a predictor of adjustment.

The assessment of coping strategy use is usually made using a self-report questionnaire or interview, which depends on sufficient cognitive development and verbal communication skills: in the case of this study, a questionnaire designed for 7-12 year olds is used (described in the Measures section), although obviously degree of sophistication of coping strategy use and ability to be self-aware of these strategies and report their use is age- and cognitive ability-dependent. The coping strategies that this study will focus on are those which have an avoidant component (e.g. distraction, physical and emotional withdrawal, affect regulation, wishful thinking, and blaming others), versus those that require active engagement (cognitive restructuring, problem-solving, seeking social support, and resignation to changed circumstances).

This study reports on a prospective investigation of the relationship between attachment, coping strategies, and adjustment once at secondary school, following a cohort

of children across this important transition period, and using a relatively new measure for assessing attachment. Prospective studies have the advantage of measuring predictive variables more directly than in retrospective studies, which rely upon subjective memories of these variables, a factor which is particularly important in research with this age group, when memory and retrospective introspection may be relatively unreliable. Adjustment, a rather difficult concept to define operationally, is measured by assessing a combination of self-report, teacher-report, and behavioural measures of anxiety, academic performance, and behaviour problems in and absences from school, in order to obtain an all-round assessment of children's adjustment and "settling in" to their new environment. The hypotheses under investigation in this study are:

1.   Does secure attachment predict more successful adjustment? Does insecure or disorganized attachment predict poorer adjustment?

2.   Does type of coping strategy used predict success of adjustment. In particular, do avoidant and emotional regulation strategies predict poorer adjustment?

3.   Is attachment style related to coping strategy use? In particular, is an insecure attachment style related to the use of avoidant coping strategies?

Since previous research on its scoring, reliability, and validity has been carried out with younger children in the United States, this study will seek to report on the experience of using the drawing task with this age group and with a British sample, and to discuss its appropriateness and usefulness.

Method

Design

The study was designed to allow the hypotheses under investigation to be examined as straightforwardly as possible given the practical considerations imposed on the study. The number of participants in the study was restricted for a variety of reasons: the study was a longitudinal one and had to be completed within a strictly limited time-span (groups of children only move from primary to secondary school once per year) with limited human resources; the measures included in the study required one-on-one administration; and the measures (in particular the anxiety measure) needed to be administered to all children within a short time period on both occasions to ensure to ensure a clear differentiation between the time 1(primary school) and time 2 (secondary school) data points, particularly since anxiety was hypothesized to change over time. This in turn constrained the possible complexity of the design of the study, due to the necessity of having appropriate numbers for statistical testing of the results.

It was for these reasons that the study was designed to follow a cohort of children all going to a single secondary school. Had more than one secondary school been included in the design, then the school would have become a variable to be considered in statistical analysis, and although the effect of secondary school upon adjustment is of interest in its own right, it is not something central to this study, nor practical given the possible number of participants. The school chosen was chosen for a number of reasons: its location near the researchers' base; its intake of high numbers of children from relatively deprived backgrounds and consequent

likely high levels of difficult or disrupted intra-familial relationships, linked to high levels of attachment relationship problems; its non-involvement in any other research studies; and its willingness to participate in this study (one other school was also approached initially but decided not to become involved due to concerns over possible parental perceptions of the reasons for the research being carried out in that particular school).

Due to the relative sizes of secondary and primary schools, every secondary school has a number of feeder schools, and so children from each of the feeder schools going to a single secondary school were approached for inclusion in the study.

The order of administration of measures was also considered when designing the study. The instructions for the drawing task measure of attachment used specify that children should be in a relatively relaxed, comfortable, and consistent environment (Fury et al., 1997), and because children were also asked to complete a measure of anxiety which might in itself prime anxiety-related cognitions in some children it was decided that the drawing task would be administered first, followed by the anxiety questionnaire and coping skills questionnaire. The subtests of the WISC, measuring cognitive performance, were left until last, since these too might activate feelings of anxiety which could influence either the drawing task or the responses on the two questionnaires.

In addition to the four measures administered by the researchers in the study (the drawing task, Spence Anxiety Scale, Coping Strategies scale and WISC subtests), additional data were sought from the schools' existing records and from teachers. This was done in order to gain a fuller picture of children's adjustment, and aimed to include information on academic performance, any behavioural problems, absences from school, and teacher's perceptions of children. Behavioural problems and numbers of absences from school are

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recorded as a matter of course by primary and secondary schools. An assessment of academic performance in primary school was available in the form of SAT (Standard Attainment Test) results for mathematics, science, and english. Teachers' perceptions of children were assessed using the Prosocial Behaviour Questionnaire.

Participants

All participants were children in year six of primary school at the start of the study. A single inclusion criterion was in operation: that children should be due to move to one particular secondary school. No additional exclusion criteria were operated. This secondary school is one in a catchment area with high levels of socioeconomic deprivation, and its intake includes larger than average numbers of children in receipt of free school meals due to low family income, and of children with special educational needs and behavioural problems. Its position in league tables for school academic results is consequently low, although the recent appointment of a new head teacher has led to substantial improvements in this area. A summary of available data on participants is available in table 3. The four primary schools which sent children to the secondary school were approached, and parents of eligible children at these schools were contacted via a letter from the school for permission to allow their children to participate in the study. Out of 76 eligible children, 39 obtained parental permission and were included in the study, as summarized below:

Table 1

Numbers and proportions of participating children from each school

Primary school	Eligible children	Children participating	
A	20	7	(35%)
B	24	15	(63%)
C	25	15	(60%)
D	7	2	(29%)
Total	76	39	(51%)

Procedure

The study consisted of two phases. Phase one took place in the final summer term of primary school, and phase two took place in the first autumn term of secondary school.

Before children took part, permission was sought from the head teachers and governors of the secondary school involved and its four main feeder schools. Once this had been gained, each primary school was visited and the research study was explained to year six classes, explaining the different elements of the study and also giving children an idea of the purpose of the study. Children were also given the opportunity to ask questions about the research. All eligible children were given letters to take home to parents (appendix 1), including a covering letter from the school itself. Children were only allowed to participate in the study if both they and their parents or guardians gave permission.

In phase one, each child was randomly allocated to one of two researchers (one male, one female), and seen individually in a quiet part of the school where other children were not nearby (locations included a corner of the school library, a special needs classroom, and a staff room). It was at this point that informed consent was obtained from the child.

After settling the child down by letting them sit down and chatting with them, the child was asked what they remembered of the content and purpose of the study (from the visit to the school), in order to check what they had understood. The procedure and purpose was then further outlined, and children were told about the confidentiality arrangements and about leaving the study, as follows:

"You're going on to secondary school soon, and this research is about asking you some things about yourself before you go there. There will also be some word puzzles and a puzzle with blocks to do, and I'd also like you to draw me a picture of your family - you don't have to worry about drawing well, since it's not a test of whether you're good at drawing, it's just I'd like to see who everyone in your family is. Everything we talk about here is private between you and me. That means that I won't tell anyone else about what you've said to me, except if you tell me something that makes me worried about how you are, and then I might have to tell another grown-up, like your teacher, about it, but I'd make sure I told you before I did anything like that. Is that OK? Also, if you feel at any time that you don't want to carry on with doing the things we're doing, you can just stop and go back to class if you'd like, and there won't be any problem with that. Have I explained that OK to you? Would you like to ask me anything?"

Once children had indicated that they understood and gave verbal consent, they completed the family drawing task. This begins with a warm-up task (drawing a person)

which has no part in the assessment, but serves to allow the child to relax and settle down. After this, children were asked to draw their family. Following this, they completed the Spence Children's Anxiety Scale (SCAS), and the Kidcope questionnaire, with the researcher reading out each question to the child (to ensure that reading difficulties would not prevent comprehension) and the child marking the response. This was followed by the vocabulary, similarities, and block design sub-tests of the WISC-III. At the end of the testing, children were given the opportunity to ask questions or discuss any concerns, and were told about the procedure for the second phase of data collection. The entire session lasted an average of 50 minutes.

In the second phase of the study, each child was seen individually by one researcher, and completed the SCAS, with the researcher reading out each question and the child marking the response. Children were again given the opportunity to ask questions or discuss any concerns.

In addition to these two phases of the study, data were also gathered from both primary and secondary school records on participating children's absences from school, year six SAT (Standardized Attainment Test) results, academic achievement at secondary school, special educational needs status, and whether children were eligible for free school meals.

Measures

The assessment measures used consisted of the following:

Attachment Drawing Task (Fury et al., 1997; Kaplan & Main, 1985; Kaplan & Main, 1986). This task, consists of two parts. The first part is a warm-up task, in which children are told that the task is not a test of drawing ability, given a sheet of white A4 paper and a pencil,

and are asked to draw a person. In the second part, children are given a set of ten felt-tip pens in a variety of colours and a sheet of A3 paper, and are asked to draw a picture of their family. An important aim of this task is to keep all instructions as simple and open as possible. For instance, children commonly asked who they should include in their drawing of their family, and in this case were told it was up to them who they decided to include. Although this was a frequent question in the group studied here, no specific mention of this was made in Kaplan & Main or Fury's study, nor guidance given on an appropriate response.

The drawing task was developed initially by Kaplan and Main (1985) and was further developed and validated in later studies (Fury et al., 1997; Kaplan & Main, 1986; Pianta et al., 1999). These studies showed that attachment as assessed by the Strange Situation test was predictive of characteristics of later family drawings, both in terms of objectively measurable characteristics (e.g. mother absent from drawing, or drawing done solely in one colour) as well as in terms of more subjective global judgements (both of which were demonstrated to have high inter-rater reliability). Drawings are categorized as showing the presence or absence of twenty-four individual attachment marker features according to Kaplan and Main's criteria, and following this process are additionally categorized as showing secure or insecure attachment representations as well as organized or disorganized attachment representations, again according to Kaplan and Main's criteria on the basis of the presence or absence of particular attachment markers (see appendix 2 for details). They are also scored on eight 7-point rating scales (vitality/creativity, family pride/happiness, vulnerability, emotional distance/isolation, tension/anger, role reversal, bizarreness/dissociation, and global pathology). The direction of scoring of these scales varies: for the first two scales a high score indicates a "positive" grading (e.g. a lot of happiness), while for the other six scales a high

score indicates a "negative" grading (e.g. a lot of anger). Inter-rater reliabilities for these scores and categorizations ranged from 0.75 to 1.00, and scores also correlated with Strange Situation score at 12 and 18 months, teacher ratings of emotional health, and Achenbach behaviour problem scores (Achenbach & Edelbrock, 1986).

The drawing task does not distinguish between mother-child and father-child attachment quality, and does not specifically ask about one or other of these, although it is likely for the vast majority of children that the mother-child relationship is the most important in terms of attachment, since in the majority of families in Western societies at the present time it is the mother that bears the greatest responsibility for the bringing up of children both in terms of their physical and emotional needs (Main, Kaplan, & Cassidy, 1985).

The use of this drawing task in children in their last year of primary school (aged 10-11) has not previously been attempted, and the original studies, on which the scoring system was developed and in which reliability and validity were tested, were carried out using younger children. For this reason the use of the drawing task with this age group is to an extent exploratory: although only slightly older, children of this age are verging on adolescence with its accompanying changes in self-perception and attitudes towards both the family itself and to activities such as drawing. One question that must therefore be addressed by this study is whether the drawing task is still an appropriate tool for assessing attachment with this age group, and how such children approach it compared to their younger peers.

Spence Children's Anxiety Scale (SCAS (Spence, 1994; Spence, 1997, in submission; Spence, in press). Appendix 3). This is a 45-item self-report questionnaire developed in Australia, containing items concerning anxiety in a number of domains (panic and agoraphobia, separation, physical injury, social situations, obsessive-compulsive concerns,

and generalized anxiety), measured on a 4-point scale. It was standardized on a group of 2052 children aged 8-12 years, has high internal reliability (r=0.92), moderate test-retest reliability (r=0.51), and good concurrent validity (r=0.71 with Richmond Children's Manifest Anxiety Scale (Reynolds & Richmond, 1978)), and discriminates between clinically anxious and non-anxious children (Spence, 1994; Spence, 1997, in submission). The scale yields a total score (which can range from 0 (low anxiety) to 114 (high anxiety), with a mean of 31.9 (s.d. 16.7) for this age group), and 6 subscale totals which have between 5 and 9 items each (and therefore scores can range from 0 to between 15 and 27).

In addition to the subscales defined in the questionnaire, an additional two subscales were devised using some of the SCAS items for the purposes of this study. The first subscale, labelled "self-esteem", uses the so-called "filler" items from the SCAS, which are not used to calculate any of the original subscale or whole questionnaire totals. These items are 17, 26, 31, 38, and 43 - one example is the item "I am a good person". The second subscale, labelled "school anxiety", uses the items which refer to anxiety about school situations, a type of anxiety particularly relevant to the population under investigation in this study. The items used for this study are items 6, 10, 11, 16, and 35 - one example is the item "I worry that I will do badly at my school work".

Kidcope (Spirito, Stark, & Williams, 1988). Appendix 4. This is a 17-item rapid administration self-report questionnaire with two parts. In the first part children are asked to describe a problem the child has had to cope with. In the second part, children are asked whether they engaged in 15 possible coping behaviours, and if so, whether that strategy helped (with possible responses being not a lot, a little, or a lot). The strategies listed are distraction (2 items), social withdrawal (2 items), cognitive restructuring (1 item), self-

criticism (1 item), blaming others (1 item), problem-solving (2 items), emotional regulation (2 items), wishful thinking (2 items), social support (1 item), and resignation (1 item). The questionnaire has been used in Britain both for descriptive clinical purposes and for research (LaGreca, Silverman, Vernberg, & Prinstein, 1996; Spirito, Stark, Gil, & Tyc, 1995), and has modest test-retest reliability (range 0.41 to 0.83) and good concurrent validity when compared to previously validated measures of coping (e.g. the Coping Strategies Inventory (Tobin, Holroyd, & Reynolds, 1984), and the Adolescent-Coping Orientation for Problem Experiences Inventories (Patterson & McCubbin, 1993)) (Spirito et al., 1988). It is the most widely adopted checklist approach to the assessment of coping in children (Sylva & Stevenson, 1997). The scale provides total scores for each of the 10 types of coping strategy rather than an overall total score. For the purposes of analysis, children were divided into groups on the basis of their use or non-use of problem-solving and emotional regulation strategies. Composite scores of avoidant coping and non-avoidant (or engagement based) coping were also calculated to provide quantitative as well as categorical variables. The avoidant coping score was obtained by summing the scores for distraction, social withdrawal, self-criticism, blaming others, emotional regulation, and wishful thinking. The non-avoidant coping score was obtained by summing the scores for cognitive restructuring, problem-solving, social support, and resignation. These two variables were developed for the purposes of this study, and are not part of the original Kidcope validation research.

Wechsler Intelligence Scale for Children (WISC-III (Wechsler, 1992)). Three sub-tests from the WISC-III were used: vocabulary (in which children must provide the meanings of words); similarities (in which children must explain how two words are similar to one another); and block design (in which children must copy a design using a set of blocks). The

WISC-III is a widely used test for assessing intellectual ability, and has high internal reliability, high test-retest reliability, and high concurrent and predictive validity (Brody, 1985; Wechsler, 1992). These particular subtests were chosen because they cover both non-verbal and verbal performance, and are described by the WISC manual as central to the measurement of cognitive performance. From the three subtest scores, an estimate of full scale score and IQ (mean expected score 100, s.d. 15) can be obtained. It must be stressed, however, that this IQ score is only a rapid administration estimate and is not necessarily the same as the child's IQ as given by a full WISC assessment.

Prosocial Behaviour Questionnaire (PBQ) (Weir & Duveen, 1981). Appendix 5. This is a 20-item 3-point response teacher-rated questionnaire which asks about an individual child's prosocial behaviour, and includes items on cooperation, sharing, concern for others, and helpfulness. It provides a single total score, with a possible range from 0 (low prosocial behaviour) to 40 (high prosocial behaviour). It is designed to provide a quick and easy rating of the positive aspects of children's interpersonal and social behaviour, and was originally developed in Great Britain by Weir et al., who validated the study using children and teachers from 20 inner London schools (Weir, Stevenson, & Graham, 1980; Weir & Duveen, 1981). The scale has good test-retest reliability (r=.91, p<.001), and moderate inter-rater reliability (r=.66, p<.001). The scale has been shown to predict future social adjustment and behaviour problems in school (Tremblay, Vitaro, & Gagnon, 1992), and stable peer rejection over a year (Vitaro, Gagnon, & Tremblay, 1990). This scale was used because it provides a valuable source of information about a child's adjustment independent of self-report ratings and normal school records. However, the measure was only administered at secondary school, and thus in statistical analyses no comparisons between scores at primary and secondary school can be

reported (as, for instance, with anxiety ratings).

Measures taken from school records. Information on academic performance, behaviour problems, and absences from school were obtained from routinely-kept school records both at primary and secondary school. This led to a number of outcome variables indicative of adjustment, as follows.

Percentage absent from school for the last (summer) term at primary school and the first (autumn) term at secondary school was determined by comparing the number of times a child was marked as present on the school register (taken twice daily) to the number of times a child was marked as absent, giving a percentage absent score with a possible range of 0 to 100. Children might, of course, be absent for a number of reasons, and due to the differing methods of recording the type of absence from school to school, no distinction was made between unauthorized absences and absences accompanied by a sick note from a parent or GP, or those booked in advance (e.g. for a holiday).

The behaviour problem rating at secondary school was calculated by summing the number of "blue slips" given (written warnings to the child of unacceptable behaviour of any kind) and the number of detentions (a requirement to stay behind at the end of the school day to complete work under supervision of a teacher, set as punishments for bad behaviour or failure to complete work set by the school).

Academic performance was assessed at primary school by scores on Standardized Attainment Tests (SATs), completed by all children during their last term at primary school in the subjects of mathematics, english, and science. SAT scores may range from 0 to 100, and result in the award of a SAT level, which for most children ranges from 3 (lower than average attainment compared to that expected nationally), 4 (average), to 5 (above average). No such

nationally standardized, externally marked test results were available at the end of the first term at secondary school, and academic performance was instead assessed from available data, in the form of scores on tests and pieces of set work as well as effort grades awarded by each teacher. Some marks given were on the basis of effort while some were awarded for achievement, and children were divided into classes on the basis of ability for some subjects but not others. This meant that the available data was not easily comparable to previous academic performance as measured by SAT results.

In order to maximize variance and increase reliability the available data were combined to provide a single overall academic performance rating, which, although neither a true measure of performance nor a true measure of effort, was more likely to be reflective of a child's overall academic adjustment to the secondary school environment. Because of this variable's mixed content, analyses are presented examining the variable by itself as well as covarying for academic performance at primary school (i.e. by SAT score).

Data Analysis Strategy

Results were analyzed by a combination of strategies due to the different nature of the assessments used: most of the measures used provide quantitative scores along dimensions (e.g. SCAS anxiety, and numbers of absences from school),while assessment of the family drawings produces both a categorical allocation (e.g. secure versus insecure) and dimensional measures (e.g. global pathology present). In the case of the relationship between attachment and other variables (such as use of coping strategy, anxiety, academic performance, behaviour problems, attendance at school, and prosocial behaviour), analysis of variance was used. In the case of variables where pre- and post-transition comparisons are possible (i.e. anxiety,

academic performance, and attendance), scores at the primary school assessment were covaried for or entered into a repeated measures analysis of variance where appropriate. In the case of the relationship between dimensional measures and later variables correlations were used, with non-parametric correlations used for those variables with distributions significantly different from a normal distribution.

In addition, an important precursor to the analysis of results is the establishment of adequate reliability in scoring the family drawings, for the presence or absence of attachment markers, on the eight seven-point scales, and into secure and insecure categories. In order to do this, each drawing was scored by the two assessors (JM and DC) who initially administered the drawing task, and was additionally scored by a third rater (HA) with experience of the particular drawing task but otherwise uninvolved in the study. A fourth rater (PA), also with experience of the drawing task, categorized each drawing as showing organized or disorganized attachment. In cases where discrepancies existed between the raters, the ratings were examined and adjudicated upon by a fifth, independent rater (CG) with experience in scoring family drawings. It is these final adjudicated ratings that were then used for the statistical analyses.

Results

Kolgorov-Smirnov and Lilliefors tests for normality of distribution on the variables used in the results indicate that the only variables deviating significantly from a normal distribution were scores on the coping skills questionnaire, absences at secondary school, and the secondary school behaviour problems score. Where possible, therefore, non-parametric versions of analyses were used when these variables were involved.

The results section is divided into sections, each of which focuses on a different aspect of the analysis, as detailed below:

- 1. Comparison of Participants to Non-Participants

- 2. Descriptive Statistics

- 3. Inter-rater reliability of drawing scoring

- 4. Relationships between initial variables

- 5. Relationship of attachment to later adjustment (testing hypothesis 1)

- 6. Relationship of coping strategy to later adjustment (testing hypothesis 2)

- 7. Relationship between attachment and coping strategies (testing hypothesis 3)

- 8. Relationship of other variables to later adjustment

1. Comparison of Participants to Non-Participants

This section addresses the question of whether the participants in the study differed significantly from the population from which they were drawn (i.e. all those in the first year at the secondary school concerned).

The table below shows the mean scores of participants and non-participants (i.e. the rest of the year group at secondary school who either did not give consent to take part in the study or were unable to because they came from a primary school not in the study) for a number of descriptive variables available at the end of the first term at secondary school. Differences significant at p<.05 are highlighted in bold:

Table 2

Comparison of participants to non-participants

Variable	$\underline{n}$	$\underline{M}$	$\underline{SD}$	Statistic	$\underline{p}\leq$
Proportion receiving free school lunches					
not in study	51	0.29	0.46	χ^2=3.52	.061
in study	39	0.13	0.34		
Proportion on special needs register					
not in study	52	0.50	0.50	χ^2=2.53	.112
in study	39	0.33	0.48		
Bad behaviour rating					
not in study	50	2.44	4.00	**t=2.75**	**.008**
in study	39	0.79	1.24		
Percentage absent from school					
not in study	52	9.56	12.5	**t=2.69**	**.009**
in study	39	4.19	6.02		
Academic performance rating					
not in study	51	21.81	5.99	t=1.01	.315
in study	39	23.11	6.14		

These results indicate that participants had better behaviour ratings and attendance records at secondary school, with non-statistically significant tendencies to be less likely to be in receipt of free school meals and to have special educational needs. The slightly different 'n' values are due to items of information being missing in school records.

2. Descriptive Statistics

The table below shows means and ranges for a number of descriptive variables as assessed during the last term of primary school and the first term of secondary school.

Table 3

Descriptive statistics for study participants

Variable	M	SD	Range
Age at first testing (years)	11.3	0.28	10.85 - 11.84
IQ (from WISC)	99.6	13.8	68 - 131
Mean SAT level	4.07	0.48	2.7 - 5
Mean SAT score	59.8	9.64	42 - 81
% Absent (primary school)	4.22	4.93	0 - 18
Anxiety total on SCAS (primary school)	30.0	14.0	8 - 79
Anxiety total on SCAS (secondary school)	20.6	11.6	3 - 50

	n	Proportion
Sex (male : female)	19:20	49% male : 51% female
Receive free school meals	5	13%
Have special educational needs	13	33%
Use problem-solving on Kidcope	25	64%
Use affect-regulation on Kidcope	12	31%

Of the 13 children registered as having special educational needs on the special needs scale from 1 to 6, 8 were on level 1, 3 were on level 2, and 2 were on level 3. This total of 13 is not significantly different to the whole intake for the secondary school in the study.

There were no significant differences between boys and girls in terms of any of the initial measures.

The two tables below show descriptive statistics for the children's performance on the

family drawing task, first for categorizations into secure/insecure and organized/disorganized, as well as the presence/absence of each of the 24 attachment markers; and second for the eight 7-point scales:

Table 4

Descriptive statistics for the family drawing task

Variable	n	(n)	%
Classified secure (vs insecure)	20	(19)	51
Classified organized (vs disorganized)	29	(10)	74

Attachment markers present (vs absent):	present	absent	%
lack of individuation of family members	1	38	3
arms positioned downwards, close to body	18	21	46
absence of real world elements or background detail	32	7	82
figures not grounded on page or imaginary surface	8	31	21
incomplete figures	8	31	21
figures positioned extremely close together	2	37	5
figures separated by barriers	0	39	0
unusually small figures	2	37	5
unusually large figures	0	39	0
figures positioned on corner of page	5	34	13
exaggeration of soft body parts	0	39	0
exaggeration of facial features	9	30	24
false starts / scratched out figures	4	35	10
exaggeration of heads	2	37	5
exaggeration of arms / hands	9	30	24
lack of colour in drawing as a whole	11	28	28
complete omission of mother or child	20	19	51
disguised family members (portrayed as non-human)	2	37	5
mother figure not feminized (via hair, body, clothing)	9	30	24
males and females undifferentiated by gender	6	33	15
mother positioned far apart from child on page	5	34	13
scrunched figures (constricted in appearance)	2	37	5
negative or neutral facial affect	11	28	28
unusual signs, symbols or scenes	5	34	13

Table 5

Descriptive statistics for the family drawing task seven-point scales

Variable	M	SD	Range
Vitality / Creativity	3.90	0.94	2 - 5
Family Pride / Happiness	4.15	0.96	2 - 6
Vulnerability	3.92	0.96	2 - 6
Emotional Distance / Isolation	3.95	0.65	3 - 5
Tension / Anger	3.36	1.01	1 - 5
Role reversal	3.49	1.12	1 - 6
Bizarreness / Dissociation	2.87	1.17	1 - 7
Global pathology	3.62	0.88	2 - 5

3. Inter-rater reliability of drawing scoring

Drawings were scored in three ways: for the presence and absence of 24 characteristics; on eight 7-point rating scales; and categorically, with drawings being divided into secure and insecure categories, and organized and disorganized categories. The two researchers who collected the data for the study (JM and DC) scored two pilot drawings together to familiarize themselves with the scoring process and to ensure similar scoring criteria, and then rated the 39 drawings of children in the study independently.

Any names on the drawings identifying the child were covered over in the rating process, and no other data taken in the study was scored until all the drawings were rated. All 39 drawings were rated by both raters for the 24 characteristics, and a randomly chosen subset of 15 drawings were also rated by both raters on the eight rating scales. The remaining 14 drawings were rated by a single rater on the eight rating scales. In addition, all the drawings were categorized as secure/insecure by one rater (JM).

On the 24 characteristics, DC and JM agreed in 878 out of 936 ratings (93.8%). Kappa agreement scores were calculated where possible (for 15 of the 24 characteristics), and scores ranged from 0.215 to 1.000 (mean Kappa=0.676). The correlation between raters on the total number of attachment marker characteristics was $r=.403$, $p<.011$.

On the seven-point rating scales, Spearman's rank correlation coefficients were calculated for the 15 drawings rated by both DC and JM. These are shown in the table below:

Table 6

Inter-rater correlations for the eight 7-point scales

Scale	$r=$	$p\leq$
Vitality / Creativity	.652	.057
Family Pride / Happiness	.072	.854
Vulnerability	-.010	.980
Emotional Distance / Isolation	.603	.086
Tension / Anger	.165	.672
Role reversal	.780	.013
Bizarreness / Dissociation	.299	.434
Global pathology	.361	.340

Due to the high variation in these correlation coefficients and the presence of low correlations, ratings of a third rater were obtained, as arranged prior to the study in order to check on the reliability of ratings. This third rater (HA) rated all 39 drawings for the presence / absence of the 24 signs, on the eight rating scales, and into secure/insecure categories. This rater was unconnected with the study in any other way, and was experienced in rating drawings according to Fury's and Kaplan and Main's criteria used in this study. The correlations between all three raters' total number of attachment marker characteristics are given below:

Table 7

Inter-rater correlations for the total number of attachment marker characteristics

Rater		DC	HA
JM			
	r=	.403	.711
	p<	.011	.0005
DC			
	r=		.568
	p<		.0005

The table below shows a comparison of JM and HA's categorizations of the drawings into secure and insecure categories:

Table 8

Inter-rater comparison of secure / insecure classification

		HA	
		Secure	Insecure
JM			
	Secure	8	9
	Insecure	10	11

This comparison shows a non-significant association between the ratings (Phi-test of linear association, ϕ=-.006, p<.973), and indicates an absence of inter-rater reliability.

In addition, all the drawings were rated as showing disorganized or organized attachment by a fourth rater (PA), experienced with children's drawings and attachment

theory generally.

Following the methodology outlined earlier, conferencing was carried out on drawings where discrepancies existed. Discrepancies in scoring were defined as

a) instances where there were more than 2 discrepancies between the three raters' scorings of the 24 attachment marker characteristics;

b) instances where scores on any of the 7-point scales differed by more than one point between any of the three raters; and

c) all instances of classification of drawings into secure and insecure, due to the low inter-rater agreement here.

The conferencing process involved a fifth rater (CG), experienced in scoring children's drawings according to Kaplan and Main's and Fury et al's criteria. This rater examined each drawing and the discrepant scores given by the previous raters and gave a decision as to what the final rating should be. The classification of each drawing into disorganized / organized categories by PA was also examined and a final decision on classification given. This conferencing process resulted in finalized scores for each drawing which were used in all subsequent statistical analysis.

Table 9 below shows a comparison between the final classification of drawings into secure / insecure categories and the initial decisions by JM and HA:

Table 9

Inter-rater comparison for secure / insecure classifications

		CG's final decision	
		Secure	Insecure
JM			
	Secure	15	5
	Insecure	4	15
HA			
	Secure	13	7
	Insecure	4	14

Coefficients of association between the different raters were as follows: JM-CG, ϕ=11.06, p<.001; HA-CG, ϕ=6.83, p<.009).

Table 10 below shows a comparison between the final classification of drawings into disorganized / organized categories and the initial classification by PA:

Table 10

Inter-rater comparison of organized / disorganized categorization

		CG's final decision	
		Organized	Disorganized
PA			
	Organized	15	5
	Disorganized	4	15

The coefficient of association for this inter-rater comparison was ϕ=20.87, p<.0005.

Table 11 below shows (for information purposes) how the final categorization into secure / insecure categories was associated with the final classification into disorganized / organized categories:

Table 11

Comparison of secure / insecure and organized / disorganized classification

	Organized	Disorganized
Secure	19	1
Insecure	8	11

4. Relationships between initial variables

This section details the relationships between variables measured at primary school, and includes SCAS anxiety, drawing task scores, IQ, Kidcope scores, age, sex, special educational needs status, free school lunch status, SAT scores, and absences from school. The specific relationship between attachment and coping strategy use is investigated in section 7.

Sex was not significantly related to any of the other variables measured at primary school.

Children receiving free school lunches were absent a greater proportion of the time than other children (Children receiving free school lunches absent 7.27% (s.d. 5.45); other children absent 3.74% (s.d. 4.76), independent samples t-test t=2.039 (35 d.f.), p<.049).

Children on the special needs register had a lower mean IQ (Children on register IQ=92.77 (s.d. 10.65); other children IQ=102.96 (s.d.=14.05), independent samples t-test t=2.301 (37 d.f.), p<.027).

Attachment categorization (secure / insecure) was associated with SAT score (securely attached children SAT score = 63.21 (s.d. 9.92); insecurely attached children SAT score = 56.21 (s.d. 8.12), independent samples t-test t=2.341 (35 d.f.), p<.025), although it was not associated with IQ (securely attached children IQ=101.10 (s.d. 15.38); insecurely attached children IQ=97.95 (s.d. 12.02), t=0.711 (37 d.f.), p<482). The Organized / Disorganized distinction was not associated with other variables.

The total number of attachment marker characteristics showed a statistically significant (though still quite low) correlation with IQ (r=-.261, p<.030), and SAT score (r=-

.274, p<.023). The 7-point scales on the drawing task did not show any clear significant correlations with other variables.

Children who used problem solving as a coping strategy (measured on Kidcope) had higher self-esteem, as measured on the SCAS (Children who used problem solving mean self-esteem score = 10.00 (s.d. 2.50); other children mean self-esteem score = 7.36 (s.d. 3.10), independent samples t-test t=2.903 (37 d.f.), p<.006). Use of affect regulation as a coping strategy was not significantly related to any other variables.

SCAS total scores were not significantly correlated with other variables. However, school-related anxiety was significantly correlated with IQ (r=-.243, p<.043), SAT score (r=-.292, p<.015) and absences at primary school (r=.303, p<.016). Self-esteem was not significantly correlated with other variables.

5. Relationship of attachment to later adjustment

This section tests hypothesis 1 - Does attachment as measured by the family drawing measure predict success of adjustment?

a. Relationship of attachment category to later adjustment

The distinction between disorganized and organized attachment (where ten drawings were rated as showing disorganized attachment, and eight of these were also rated as insecurely attached) was not significantly related to any other variables, and so only statistics on secure versus insecure attachment are reported on.

Table 12 below shows the scores of the secure / insecure groups on a number of variables at primary and secondary school.

Table 12

Comparison of securely attached to insecurely attached children

	Secure		Insecure	
Variable	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
SCAS total				
primary school	30.6	15.4	29.4	12.8
secondary school	22.2	13.8	18.9	8.75
SCAS self-esteem				
primary school	9.05	2.80	9.05	3.24
secondary school	9.25	2.59	8.26	3.12
SCAS school anxiety				
primary school	5.8	2.07	7.26	2.88
secondary school	4.35	1.84	5.32	2.06
Absences				
primary school	3.19	4.25	5.30	5.48
secondary school	3.81	6.22	4.59	5.94
SAT score	63.2	9.92	56.2	8.12
Academic performance				
secondary school	22.8	6.25	23.5	6.17
Behaviour problems	0.45	0.83	1.15	0.34
Prosocial behaviour	27.1	10.2	20.7	8.35

The figures below illustrate the relationship of attachment category to anxiety scores and self-esteem at primary and secondary school:
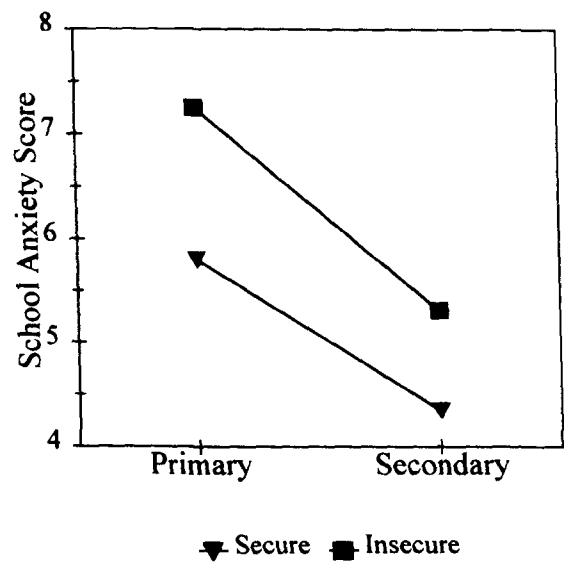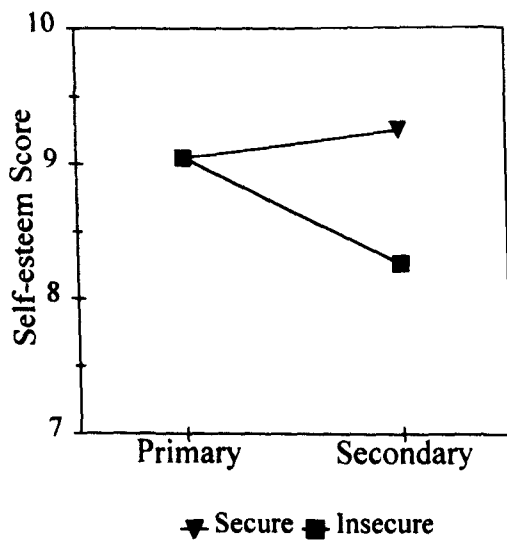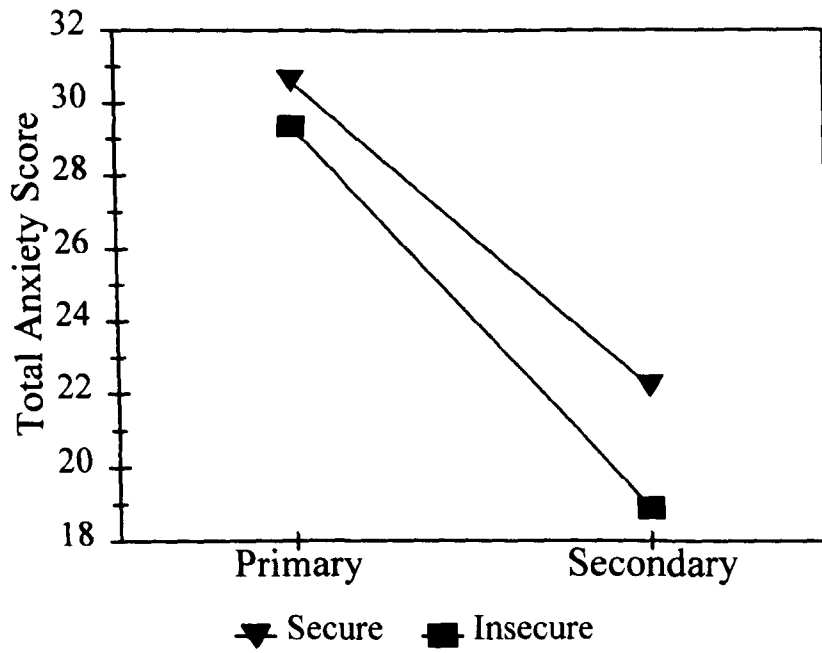
Figures 1 - 3

Relationships of SCAS anxiety total, self-esteem, and school-related anxiety to attachment category.

Tests of difference between secure and insecure groups

Where repeated measures analysis of variance is possible (i.e. with attendance, SCAS total, and SCAS school anxiety and self-esteem), the statistical results shown are F values for repeated measures ANOVA. This test is also used for analyzing the variable of absences from school, even though this is not normally distributed, since there is no equivalent non-parametric test and ANOVA is relatively robust to departures from normality. For academic performance, where the measures of performance are not identical (SAT scores as against test scores and teacher ratings), tests on academic performance at secondary school are shown as t-test t values and as F values from analysis of variance covarying for academic performance (SAT scores) at primary school. For variables where no equivalent information was available at the primary school stage (behaviour problems and prosocial behaviour), Mann-Whitney U-test Z values are shown (due to non-normal distribution of data).

Table 13

Effect of attachment category on adjustment

Variable at secondary school	Statistic	df	p≤
Anxiety			
Anxiety	F=0.354	1	.556
Anxiety by time interaction	F=0.398	1	.532
SCAS self-esteem			
self-esteem	F=0.319	1	.576
self-esteem by time interaction	F=1.894	1	.177
SCAS school anxiety			
school anxiety	F=3.685	1	.063
school anxiety by time interaction	F=0.538	1	.468
Absences			
absences	F=1.799	1	.188
absence by time interaction	F=0.063	1	.804
Academic performance			
academic performance	t=0.355	37	.724
academic performance (covarying for SAT results at primary school)	**F=4.179**	**1**	**.049**
Behaviour problems	Z=0.616		.630
Prosocial behaviour	**t=2.056**	**34**	**.047**

One of the two significant results from table 13 - the relationship between attachment category and academic performance at secondary school, covarying for academic performance at primary school - must be treated with caution, since, as discussed earlier, the type of academic performance measured at secondary school (which includes effort grades and results within classes streamed by ability) is somewhat different to that measured at primary school with SAT scores.

There were no significant differences between the groups showing disorganized versus organized attachment.

b. Relationship of drawing scores to later adjustment

Table 14 below shows the relationship of number of attachment signs present in the drawing with later variables. Standard correlation coefficients are given, as well as Pearson coefficients for correlations of secondary school variables, partialling out the effect of the variable when measured at primary school. Correlations significant at p<.05 are highlighted in bold:

Table 14

Relationship of number of attachment signs to later adjustment

Variable	Correlation		Partial Correlation	
	r=	p≤	r=	p≤
SCAS total	-.088	.461	-.168	.314
SCAS self-esteem	-.008	.951	-.215	.195
SCAS school anxiety	**.250**	**.045**	.253	.125
Absences	.141	.252	.197	.251
Academic performance	-.181	.128	**-.343**	**.041**
Behaviour problems	**.355**	**.007**		
Prosocial behaviour	**-.394**	**.017**		

The total number of attachment marker characteristics was used in regression analysis to determine whether it contributed a significant amount of variance to adjustment in secondary school, as measured by SCAS total anxiety, school-related anxiety, self-esteem, academic performance, and absences from school. In order to test this, the total number of attachment markers was entered into the regression equation as a second step after the forced entry of the appropriate variable measured at primary school as a first step (e.g. forcing the

entry of SCAS total anxiety at primary school when SCAS total anxiety at secondary school was the dependent variable, and forcing the entry of SAT score when academic performance was the dependent variable). For bad behaviour at secondary school, no equivalent primary school measure was available, and so a number of significant primary school variables were forced into the regression equation together in the first step. Table 15 below shows the results of these regression analyses. Significant results are highlighted in bold.

Table 15

Regression analyses entering total attachment markers as a variable

Secondary School Dependent Variable	Primary School Independent Variables	adjusted R^2	Beta	t=	p<
SCAS Anxiety total	Step 1: Anxiety total	.474			
	Step 2: total attachment markers	.475	-.121	1.02	.314
School-related anxiety	Step 1: School-related anxiety	.343			
	Step 2: total attachment markers	.368	.203	1.57	.125
Self-esteem	Step 1: Self-esteem	.476			
	Step 2: total attachment markers	.486	-.157	1.32	.195
Academic performance	**Step 1: SAT score**	**-.013**			
	Step 2: total attachment markers	**.080**	**-.363**	**2.13**	**.041**
Absences	Step 1: Absences	.005			
	Step 2: total attachment markers	.016	.199	1.17	.251
Behaviour	**Step 1: SAT score, anxiety total, absences**	**.106**			
	Step 2: total attachment markers	**.212**	**.383**	**2.34**	**.026**
Prosocial behaviour	Step 1: SAT score, anxiety total, absences	.179			
	Step 2: total attachment markers	.206	-.251	1.42	.168

Table 15 shows that the total number of attachment marker characteristics was significantly predictive of worse academic performance and worse behaviour, over and above

the predictive power of other variables measured at primary school.

c. Relationship of drawing task 7-point scales to later adjustment

The only scale to show significant correlations with later adjustment was the global pathology scale, which was correlated with absences at secondary school ($r=.257$, $p<.050$), and absences at secondary school partialling out absences at primary school ($r=.359$, $p<.032$); and lower self-esteem, partialling out self-esteem at primary school ($r=-.344$, $p<.034$).

Conclusion:

- There is some support for hypothesis 1 (Does attachment predict success of adjustment). The results indicate that one method of scoring the drawing task (total number of attachment marker characteristics) predicts later adjustment and contributes a significant amount of variance in regression analysis. There is also some evidence from this study that attachment category as measured by the family drawing measure predicts later adjustment, in terms of predicting teacher-rated prosocial behaviour.

6. Relationship of coping strategies to later adjustment

This section tests hypothesis 2: Does coping strategy use predict later adjustment?

The Kidcope questionnaire provides self-report data on the use of a variety of coping strategies, and analysis here is divided into two forms. In the first, investigations concentrate on two of the most important coping strategies, for which a strong research base predicts significant associations - the strategies of emotion-focussed coping and problem focussed coping. In the second, investigations look at two composite scores from the Kidcope, comparing the use of strategies with an avoidant component to the use of strategies requiring active engagement, as described in the Measures section.
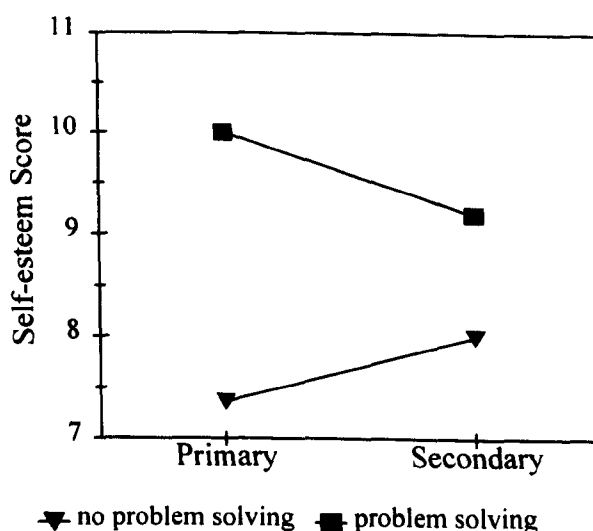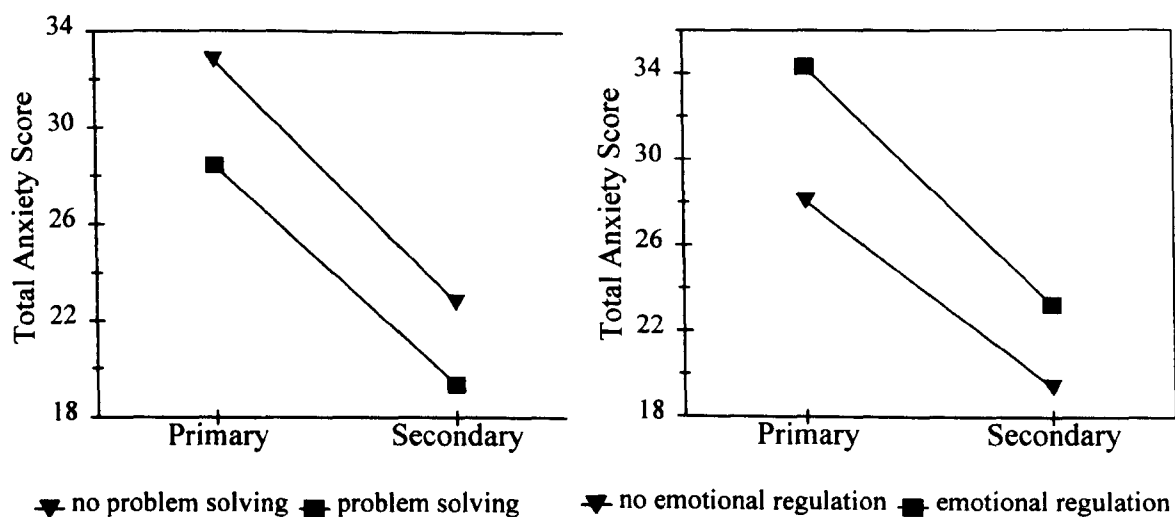
a. Problem-solving versus emotional regulation

Comparisons were carried out between groups of children who did or did not use these coping strategies as assessed in the Kidcope questionnaire. Table 16 below shows the results of these comparisons. F-values and p-values are given for one way analysis of variance on SCAS totals and subscales at secondary school, covarying for scores in primary school. There were no significant effects of coping strategy on absences from school, behaviour problems, or academic performance and these comparisons are therefore not reported.

Table 16

Relationship between coping strategy use and anxiety

Type of strategy	Primary		Secondary			
	M	SD	M	SD	F	p≤
SCAS total anxiety						
used problem solving	28.4	15.2	19.4	10.8	0.971	.331
did not use problem solving	32.8	11.6	22.8	13.1		
SCAS total anxiety						
used affect regulation	34.3	16.8	23.3	13.7	1.542	.222
did not use affect regulation	28.1	12.4	19.4	10.6		
School-related anxiety						
used problem solving	6.12	2.52	4.48	1.69	2.320	.136
did not use problem solving	7.21	2.61	5.43	2.38		
School-related anxiety						
used affect regulation	7.25	2.30	5.50	2.94	2.146	.151
did not use affect regulation	6.19	2.66	4.52	1.34		
Self-esteem						
used problem solving	**10.0**	**2.50**	**9.20**	**2.81**	**5.039**	**.031**
did not use problem solving	**7.36**	**3.10**	**8.00**	**2.91**		
Self-esteem						
used affect regulation	8.42	2.64	8.00	2.45	1.179	.284
did not use affect regulation	9.33	3.13	9.11	3.02		

The three figures below illustrate the different relationships of each coping strategy to anxiety

and self-esteem:

Figures 4-6

Relationships of SCAS Anxiety total and self-esteem to coping strategy.

The first two figures show non-significant relationships, with problem-solving associated with lower anxiety and emotional regulation with higher anxiety. The third figure shows the significant relationship between problem-solving and higher self-esteem. The

interaction between use of problem-solving and time is non-significant (F=3.901 (1 d.f.), p<.056).

b. Avoidant-type strategies versus engagement-type strategies

Avoidant and non-avoidant strategy use scores were correlated with adjustment variables measured at secondary school. Both avoidant and non-avoidant strategy use were associated with fewer absences (avoidant strategy use r=-.278, p<.001; non-avoidant strategy use r=-.208, p<.012), although only the correlation with avoidant strategy use remained significant when absences at primary school were partialled out (r=-.383, p<.021).

However, there was a significant correlation between avoidant and non-avoidant strategy use (r=.788, p<.0005).There was also a significant association between problem-solving and emotional regulation use (χ^2=10.7, p<.001).

Conclusion:

- The evidence for hypothesis 2 (Does coping strategy predict success of adjustment) is equivocal. The results indicate a significant relationship between the use of problem-solving and greater self-esteem, although the relationship between avoidant strategy use and fewer absences is contrary to that expected. However, use of avoidant and non-avoidant strategies, and of problem-solving and emotional regulation, were associated, and this therefore makes distinguishing between them difficult statistically.

7. Relationship between attachment and coping strategies

This section tests hypothesis 3 - Is attachment style related to coping strategy use?

a. Avoidant versus non-avoidant coping

Mann-Whitney U-tests were carried out to assess the relationship of attachment category (secure / insecure, and organized / disorganized) to avoidant coping and to non-avoidant coping as measured by the Kidcope questionnaire. No significant relationships were found.

Correlations between coping strategy and drawing task scores (total number of attachment marker characteristics and all eight 7-point scales) were calculated. There were no significant correlations between coping strategy and total number of markers. Avoidant coping was significantly correlated with higher scores on the drawing vulnerability scale ($r=.330$, $p<.012$).

b. Problem-solving versus emotional engagement

The relationship of attachment category to the use of problem-solving and emotional regulation was also investigated, and details are contained in table 17 below:

Table 17

Relationship between coping strategy and attachment category

| | Attachment Category | |
	Secure	Insecure
Used problem-solving	13	12
Did not use problem-solving	7	7
Used affect regulation	9	3
Did not use affect regulation	11	16

Chi-square tests indicate that there is no significant relationship between problem-solving and attachment category, but that children who use emotional regulation as a coping strategy are more likely to be securely attached than those who do not use emotional regulation ($\chi^2=3.90$ (1 d.f.), p<.048).

There were no significant relationships between strategy use and classification into organized / disorganized categories. T-tests were carried out to assess the relationship between strategy use and drawing task scores (total number of attachment marker characteristics and all eight 7-point scales). No significant relationships were found.

Conclusion:

- Little support was found for hypothesis 3 (Is attachment style related to coping strategy use). Two significant results were found. The first, that avoidant coping was significantly correlated with higher scores on the drawing vulnerability scale, supports the hypothesis. The second, that emotional regulation is linked to secure attachment, is contrary to the relationship predicted by the hypothesis.

8. Relationship of other variables to later adjustment

Age, sex, receiving free school lunches, and being registered as having special educational needs did not predict any of the variables measured at secondary school with statistical significance.

Anxiety at primary school was significantly correlated with anxiety at secondary school (SCAS total score r=.699, p<.0005; school related anxiety r=.600, p<.0005). Self-esteem at primary school was significantly correlated with self-esteem at secondary school (r=.700, p<.0005).

The total SAT score was significantly correlated with anxiety at secondary school, partialling out anxiety at primary school (r=.406, p<.026), although of the individual SAT scores only english correlated significantly (english r=.472, p<.009; mathematics r=.324, p<.081; science r=.222, p<.239). SAT scores were however not significantly correlated with anxiety at secondary school (total SAT score r=.069, p<.686) or at primary school (r=-.259, p<.121): this partial correlation is a result of changing polarities of individual statistically non-significant correlations.

WISC subtests did show some correlations with anxiety at secondary school. Of the WISC subtests, only the vocabulary score was significantly correlated with anxiety at secondary school, covarying for anxiety at primary school (r=0.439, p<.015). WISC IQ was not significantly correlated (r=..350 p<.058).

Conclusion:

- No hypotheses were suggested regarding the relationships between other initially measured variables and later adjustment, and few significant relationships were found,

66

although SCAS scores at primary school predict SCAS scores at secondary school..

9. Overall Summary:

There were three main hypotheses in this study, and the evidence for them is summarized below:

- There is some support for hypothesis 1 (Does attachment predict later adjustment). Of the three types of score on the attachment measure, the total number of attachment markers predicted later poorer adjustment in terms of worse academic performance and more behaviour problems and contributed a significant amount of variance in regression analysis, while the insecure attachment category predicted poorer adjustment in terms of lower teacher-rated prosocial behaviour and worse academic performance. Disorganized attachment did not predict poorer adjustment, and nor did the eight seven-point scales of the attachment measure.

- There is only equivocal evidence for hypothesis 2 (Does coping strategy predict later adjustment). There was a significant relationship between the use of problem-solving and greater self-esteem, although both avoidant and non-avoidant strategy use, which were highly correlated with each other, were linked to fewer absences from school.

- There is little support for hypothesis 3 (Is attachment related to self-reported coping strategy use). There was no significant relationship between avoidant / non-avoidant coping and any of the attachment measure scores or categories. The use of problem-solving coping strategies was not significantly related to any attachment measure scores or categories, although affect regulation as a coping strategy was associated with secure attachment.

Discussion

This report discusses a prospective study investigating the adjustment of children making the transition from primary to secondary school, using a relatively novel method of assessing children's attachment representations through a family drawing task. The study attempts to investigate psychological concepts in an age group where such concepts are difficult to elucidate with conventional adult research techniques, and yet where psychological models of the environment and social relationships are becoming increasingly important at a developmental stage on the cusp of adolescence and its associated emotional and cognitive turbulence and change.

As a result, the study is to an extent partially exploratory, in the sense that new techniques are being tested out in a research setting, and it is in this context that the study's results must be approached and cautiously interpreted. The evidence for the hypotheses under investigation is discussed below, followed by a discussion of the study's methodology and possible directions for further investigations.

There were three main hypotheses under investigation, centering on the relationship between attachment, coping strategy use, and adjustment to a new and challenging environment. In this study, the main significant finding was that some support was found for a relationship between attachment representations, coping strategy use, and later adjustment. Children whose family drawings at primary school contained a greater number of characteristics associated with insecure or disorganized attachment were less likely to adjust as well to secondary school in terms of their behaviour and academic work, while children who used problem-solving coping strategies had higher self-esteem.

These findings provide support for the importance of attachment and coping strategy use in successful childhood development, as previous research has demonstrated both in early childhood (Sroufe, 1983; Sroufe et al., 1983; Waters et al., 1979) and into later life (Bowlby, 1975; Elicker et al., 1992; Hazan & Shaver, 1987). Attachment patterns learned in early childhood and developed over subsequent years lead to increasingly sophisticated working models of how relationships work, what kinds of relationships the self is capable of and desirous of, and the kinds of behaviours that may be used to achieve these (Bowlby, 1969; Pianta et al., 1999). In association, the relatively primitive attachment behaviours seen in infancy which are aimed at reducing distress develop into the more varied and complex coping strategies used in later childhood, adolescence and adulthood. These working models and behaviour repertoires are what enable or prevent children adjusting to new and challenging environments, making new and productive relationships with both peers and teachers, and consequently settling successfully, behaving appropriately, and working productively in a new school (Canetti et al., 1997; Finnegan et al., 1996; Isakson & Jarvis, 1999; Larose & Boivin, 1998; Learner & Kruger, 1997; Sokol-Katz et al., 1997; Steward et al., 1998).

The findings of this study should, however, be treated cautiously, for a number of reasons. Due to the high number of different types of measures of adjustment, and the high number of initially measured variables used to predict this later adjustment, a very large number of statistical analyses had to be carried out. Multiple statistical analyses like this mean that apparently significant results may appear even when none truly exist. However, this situation is unavoidable when attempting to measure a concept such as adjustment, which is ill-defined and difficult to measure with any single test or variable, and when attempting to

predict this concept using a more experimental and complex measure such as the family drawing task, which is scored in eleven different ways (two types of categorization, one measure of observable characteristics, and eight rating scales).

Use of the family drawing task

The use of the family drawing task forms a core part of this study, and was not without its problems in this group. The task was originally developed and validated in the United States, using 5 - 9 year old children. Although the United States and Britain are culturally similar in many ways, there are differences in educational systems and children's upbringing which may impact on performance on a task like a family drawing, regardless of the factor of age, which may itself influence children's performance greatly.

Two findings of note that support the possibility that differences may exist between the sample who participated in this study and the original samples were the observations that, firstly, many children (23%) did not use colour in their drawings, and, secondly, many children (51 %, in fact) did not include themselves in their drawings. Although no figures are given in Kaplan and Main's and Fury's studies for these characteristics, the impression is given that they are much lower, and are strong markers for insecure attachment relationships. The figure of 51% for non-inclusion of self is also different to that obtained by another study using the family drawing task with younger children (approximately 10% (Gilbert, in prep.)), suggesting that the difference may be related to age. As children move into adolescence, worries about self-esteem and self-image become stronger and more common, and it may be that the 11-year old children in this study were moving into this phase and were therefore less inclined to represent themselves on paper. Another possible reason may be the fact that the

family drawing task is preceded by a warm-up task which asks children to "draw a person" - several children did indeed draw themselves, and it may be the case that this made them less likely to include themselves later. Indeed, many children asked the assessors during the drawing task whether they should include themselves or not, and although the assessors were careful to be non-committal (e.g. saying "that is up to you to decide"), many children subsequently chose not to include themselves. Unfortunately no data about these in-task behaviours were recorded systematically by the assessors and so this explanation cannot be tested.

Another factor that may have affected children's performance on the drawing task is also related to their age. It was noted by the assessors that several children, on being asked to draw their families, expressed the view that they were not very good at drawing (although in these cases assessors were careful to point out that the drawing task was not a test of drawing ability). Several other children drew pictures while covering what they drew with one hand. This may be because the children were at the age when drawing as a play activity or normal mode of expression becomes less common (and indeed less accepted by peers and adults), and instead verbal modes of expression become more common. Drawing is then relegated to the category of "art" and only undertaken in this context.

Several of the drawings showed the beginnings of the emergence of adult-type drawing styles (e.g. with comic-book style characters), clearly well practiced, often in a single colour or as pencil line-drawings, and more like adults' or adolescents' art than younger children's drawings. In these cases, the assessors found rating the drawings according to the attachment criteria laid down for the drawing task much more difficult, and indeed it may be that such drawings begin to indicate much less about the child's attachment relationships than do the

drawings of younger children.

For these reasons, interpreting scores from the drawing task must be done with caution in this age group, and it may well be that a great deal more validation and scoring research needs to be done looking at the drawings done by children at this age and comparing them either to earlier attachment classifications using observational methods such as the Strange Situation Test or to later classifications using measures such as the Adult Attachment Interview, in order to establish whether the original scoring criteria are still valid, whether modified criteria ought to be adopted, or whether the drawing task ceases to be strongly associated with attachment at this stage of cognitive and emotional development.

In addition, the establishment of inter-rater reliability was much more difficult than expected, and did not result in an entirely satisfactory end-result, particularly for categorizations of drawings into secure, insecure, organized, and disorganized categories. This may well have adversely affected the power of the attachment variables in analysis. There was very low concordance between the independent (and blind) ratings of the first two raters for the secure / insecure distinction, and although a later, experienced rater provided an adjudication on these categorizations this adjudication was not blind, and so cannot establish good inter-rater reliability for certain. There was, however, better concordance between raters on the attachment marker characteristics, and one reason for this may be that these rely more on easily identifiable single features of drawings (e.g. colour absent, or small figures), rather than the more holistic judgments required by the 7-point rating scales and the classification process. It is of note, therefore, that the majority of statistically significant results were found using total number of attachment marker characteristics rather than the other scores, suggesting that this may have been a more reliably assessed, and therefore more valid,

measure of attachment.

On the other hand, it may be that, given good inter-rater reliability, the more holistic judgments used in the 7-point scales and in the categorization process might be more valid ways of assessing attachment representations rather than the reductionist process of examining individual features of drawings, as Fury and Pianta suggest (Fury et al., 1997; Pianta et al., 1999) - as has been discussed earlier, it may be that some of these individual features can be more indicative of a child's developmental stage than problematic attachment. Certainly previous approaches to children's drawings in clinical settings have tended to rely much more on considered, holistic judgments rather than reductionist analyses, on the basis that these sorts of judgments contain potentially much more information than do judgments based on single drawing features.

Establishing good inter-rater reliability on these methods of scoring drawing proved more difficult than expected in this study, given that the pilot drawings scored by the two initial raters gave the impression that concordance in scoring on later drawings would be high. In retrospect, it would have been advantageous to spend a great deal more time on this pilot phase, in order to establish both experience in children's family drawings done by this age group in a general sense, and in order to establish more experience with the scoring system and ensure high inter-rater reliability when rating drawings independently.

The reason that this process did not occur in this study was due to two main factors: firstly, that time was limited, due to the constraints of the study's design, in that all children had to be assessed in their last term at primary school; and secondly, and more importantly, that no pilot drawings were available to practice scoring on for this age group (since the drawing task had not been attempted with this age group before). What this study has shown

is that there are particular difficulties with scoring drawings done by this age group, and that any future research needs to be preceded by the collection and analysis of a bank of drawings in order to establish the range of likely drawing features, and on which to reference future scoring of new drawings.

In addition, there is not at present sufficient evidence as to the test-retest reliability of children's drawings, and how related drawing content is to state variables in addition to underlying schemas or cognitive models. It may be that even if children are settled down as much as possible, a range of situational and other variables may affect drawings, such as the sex of assessor, the presence or proximity of others, such as siblings, friends, teachers, or parents, and recent family events (e.g. arguments, or absences of one parent for a time). However, not much is known at present about the potential effects of such variables, and although previous studies using the family drawing task have demonstrated significant correlations between previous assessments of attachments and later family drawings, the effects of other factors have yet to be quantified (Fury et al., 1997; Kaplan & Main, 1986; Pianta et al., 1999).

Use of the Kidcope coping skills questionnaire

The Kidcope questionnaire is the most widely used assessment tool for coping strategies within middle childhood (which led to its selection for use in this study), and is used often in clinical settings, since it relates the use of coping strategies to a particular named event and does not rely on self-reports of how much particular strategies are used generally, which children of this age may find particularly difficult, since it requires a high degree of abstract thinking. However, this format may make it somewhat less reliable when used to

assess general or habitual coping strategy use. The results from this study show little support for relationships between responses on the Kidcope questionnaire and later adjustment, and this may in part be due to the Kidcope's format. One additional problem that emerged during the statistical analysis of Kidcope scores was that there were strong correlations between the use of different coping strategies. This meant that differential predictions using problem-solving versus emotional regulation, or avoidant versus non-avoidant strategies, were very difficult, and is why the results from this section of the analysis should be treated with caution.

Use of the SCAS anxiety measure

The SCAS questionnaire proved easy to use and was often the starting point for children discussing with the assessor particular anxieties that they had, whether about school or other matters. SCAS scores in primary school were strongly related to SCAS scores in secondary school, which underlined the importance when using it as a measure of adjustment of taking this relationship into account.

The point during the first term at secondary school at which it was best to assess anxiety was discussed at length during the design phase of this study, and after consultation with teaching staff at the secondary school, it was decided to place this assessment half-way through the term, on the basis that this would, in the teachers' view, be the point at which there would be the best discrimination between children who were "abnormally" and chronically anxious, and those who merely showed normal anticipatory anxiety and uncertainty in a new environment.

There was a large drop in anxiety scores from primary to secondary school, suggesting

that a somewhat earlier measurement point at secondary school might have been beneficial from the point of view of analysis, since much of the anxiety surrounding moving to a new environment appeared to have dissipated at this point. But this difference also highlights the relatively high level of anticipatory anxiety that existed amongst children while at primary school, which from talking to them appeared to the raters to be due in part to a combination of anxiety about the recently taken SAT tests (something that children often spontaneously mentioned) and about the impending move to secondary school and the anxieties they had about what might happen there. The difference in anxiety scores also indicates that these anxieties had largely been assuaged by their experiences once at secondary school, and suggests that the normal induction, familiarization and settling down strategy operated by the school was highly successful.

Ideally, in order to ensure that the optimum discrimination between normal and abnormal anxiety was obtained, a greater number of assessments of anxiety would have been carried out, from anxiety on the first day of secondary school, through the first week, and on until the end of term, although of course this would be very difficult and demanding in practical terms. It may well be, however, that the lack of significant relationships between initially measured variables and later anxiety was in part due to a misplacing of the secondary school anxiety assessment, although this possibility cannot be tested.

What did emerge from the results, however, was that the examination of individual subscales on the SCAS may be important when attempting to use it as a measure of adjustment in school. In particular, examining the items which relate to school situations, which although as a single subscale were not part of the original SCAS design, may be particularly important, as is examining those items not designed to be scored on the SCAS,

since they are positively worded and are in fact related to self-esteem. Although these again were not validated as part of the SCAS, in terms of assessing adjustment, particularly with this age group, they may be particularly important.

Summary of study limitations

This study has a number of limitations. Perhaps the most obvious of these is in terms of the number of participants, which of course limits the potential power of any statistical analysis. The study is based on a relatively unselected non-clinical sample of potential participants, and consequently does not include large numbers of children who might be referred to child and family services or be regarded by teachers as having extraordinary problems in coping in their new school environment. This may be one reason why the drawing measures of attachment were not strongly predictive of adjustment problems, since both the drawing scores and the indicators of adjustment showed few extreme scores and consequently restricted variance.

The method chosen to assess attachment is also one of the study's potential limitations: as discussed in the introduction, while family drawings provide a naturalistic, rapid means of assessing attachment relationships, particularly in middle childhood, more formalized, "adult" methods, such as the Adult Attachment Interview, may provide richer information in the more able and mature children within the age group studied.

The choice and timing of administration of the other assessment measures are also potential limitations on the study: a more in-depth, sophisticated measure of coping skills might have led to stronger relationships being found between coping and adjustment, while repeated or changed timing of administration of the SCAS in secondary school might have

improved the power of relationships between initial measures and later anxiety.

Future directions of research

This study has indicated potential problems with the use of the family drawing task and coping skills questionnaire with this age group, but has at the same time pointed to significant relationships between children's attachment relationships at this age and their adjustment to new environments, even in a relatively small cohort of children. Any future research in this area needs to address these potential problems, and would also benefit from ensuring a much larger cohort of participants.

Expanding the numbers of children involved from the level in this study would involve a qualitative change in methodological design, since it would not be possible without either increasing participation rates, including children from a number of different secondary schools, or carrying out the study over a number of years.

Increasing participation rate is a particularly attractive option from a theoretical point of view, since it reduces the possibility of a selection bias in those taking part - in this study, for instance, there were indications that children from more deprived backgrounds were less likely to take part. However, such an increase is very difficult practically, since consent cannot be forced and involvement in a research study is by its nature largely altruistic. Carrying out a study over several years is also practically difficult and unappealing from the point of view of producing results in an acceptable time frame.

The alternative option, of including several schools, involves both an increase in practical difficulties, since the agreements of multiple governing bodies, head teachers, and staff are required, and the different forms of data collected by different schools must be

transformed into a single variety, as well as an increase in the complexity of statistical analysis, since the school itself becomes a factor that needs to be taken into account in terms of its catchment, internal culture, and induction process for newly arrived children. The problem of schools gathering data in different forms was evident in this study, and it was due to this that no data on behavioural problems was available at the primary school stage, since its recording was so variable across schools. As the data from this study indicate, however, a comparison of a child's behaviour or performance at secondary school to that at primary school is extremely important, since this can indicate changes in behaviour which may be related to difficulties in adjusting.

A greater number of participants would also mean that multiple assessors would have to be used, since the time constraints involved in the prospective study design needed would make it impossible for all the one-on-one assessments to be carried out otherwise, unless children were asked to carry out the drawing task and the other measures in a class setting, which would very probably alter the responses produced.

Conclusions:

This study, on a single cohort of children adjusting to a new and challenging environment at an important developmental stage, may be regarded as a first step in both establishing the practicalities of carrying out this type of research with this age group, as well as in addressing the particular research questions being asked. Previous research has highlighted the importance of attachment representations in children's lives, particularly when they need to establish new social relationships with peers and adults, and to adjust successfully to an environment that is constantly changing and growing more complex and demanding as they grow older. This study provides some evidence to support this body of research, and makes suggestions as to how further research might build and progress from this point.

Appendices:

Appendix 1: parental letter

Appendix 2: Drawing task scoring criteria

Appendix 3: Spence Children's Anxiety Scale

Appendix 4: Kidcope

Appendix 5: Prosocial Behaviour Questionnaire

Appendix 1

Cwrs Seicoleg Clinigol Gogledd Cymru

North Wales Clinical Psychology Course

Prifysgol Cymru · University of Wales

BANGOR

Dear Parent,

The school is soon going to be involved in a research project carried out by researchers jointly from the Flintshire Primary Care Service for Children and the Psychology Department of the University of Wales at Bangor. The study is looking at how children going from primary school to secondary school cope with this change. This letter is to tell you about this project, and to ask whether you would help by allowing your child to take part in it.

What is the study about?

Moving from primary school to secondary school is a big step, and coping with this step is important, both for children and for their parents. This study is looking at how children settle into secondary school.

The study is being carried out by Dr James Murray and Dr Peter Appleton, who can be contacted at: Flintshire Primary Care Service for Children, 9/13 Victoria Road, Shotton (tel. 01244 811314).

What does taking part in the study involve?

The study is in two parts, and will take place in your child's school. The first part of the study takes place in the last term of primary school. The second part of the study takes place when children are in the first term of secondary school.

In the first part children will be asked to fill in a short questionnaire about how they feel, and how they cope with everyday problems. They will complete a short ability test, and they will also be asked to draw a picture of their family, to see what their visualization of their family is. In the second part children will be asked to fill in another short questionnaire about how they feel. School records on how well your child has settled in to primary and secondary school will also be part of the study.

Although there will be no direct benefits to you or your child due to taking part, the study will help researchers and schools understand better how children settle into secondary school and cope with change, and help enable them to spot any possible problems early on.

If you decide you would like to take part and you later change your mind, you may of course withdraw from the study at any point.

What about confidentiality?

Any records will be kept securely, and confidentiality will be preserved under all normal circumstances. After the end of the study, all individual records will be destroyed.

What if I'd like to find out more about the study?

If you have any questions or you would like further details about the study, please contact the school, or one of the researchers, who will be happy to provide further information.

What if I have any concerns or complaints?

If you have any concerns or complaints about the study, you can contact one of the researchers, or Professor C.F. Lowe, Head of School, School of Psychology, University of Wales, Bangor, Gwynedd, LL57 2DG.

What should I do now if I am happy for my child to take part in the study?

Once you have read this letter, all you need to do is fill in the consent slip below and return it to school.

I   **agree** / **do not agree**   (please delete as appropriate) to allow my child to participate in this study. I   **have** / **have not** (please delete as appropriate) read this information letter.

Signature: _____   Name:_____
                                        (IN CAPITALS)
Date: _____   Child's Name: _____

Annwyl Riant

Bydd yr ysgol yn cymryd rhan mewn project ymchwil a gynhelir ar y cyd gan ymchwilwyr o Wasanaeth Gofal Cychwynnol i Blant Sir y Fflint ac Adran Seicoleg, Prifysgol Cymru, Bangor yn fuan. Mae'r astudiaeth yn edrych ar sut y mae plant sy'n mynd o'r ysgol gynradd i'r ysgol uwchradd yn ymdopi gyda'r newid hwn. Mae'r llythyr hwn yn egluro'r project i chi, ac yn gofyn a fyddech chi'n fodlon helpu drwy ganiatau i'ch plentyn gymryd rhan.

Beth yw'r astudiaeth?
Mae symud o ysgol gynradd i ysgol uwchradd yn gam mawr, ac mae ymdopi gyda'r cam hwn yn bwysig i'r plentyn yn ogystal ag i'r rhiant. Mae'r astudiaeth hon yn edrych ar sut y mae plant yn setlo mewn ysgol uwchradd.

Dr James Murray a Dr Peter Appleton sy'n cynnal yr astudiaeth, a gallwch gysylltu â nhw yn: Gwasanaeth Gofal Cychwynnol i Blant Sir y Fflint, 9/13 Ffordd Fictoria, Shoton (ffôn: 01244 811314).

Beth mae'n ei olygu i gymryd rhan yn yr astudiaeth hon?
Mae'r astudiaeth mewn dwy ran, a bydd yn cael ei chynnal yn ysgol eich plentyn. Bydd rhan gyntaf yr astudiaeth yn caei ei chynnal yn nhymor olaf yr ysgol gynradd. Bydd ail ran yr astudiaeth yn cael ei chynnal pan fydd y plant ar eu tymor cyntaf yn yr ysgol uwchradd.

Yn y rhan gyntaf, gofynnir i blant gwblhau holiadur byr ynglyn â'u teimladau i egluro sut y maent yn ymdopi gyda phroblemau bob dydd. Byddant yn cwblhau prawf galluedd byr, a hefyd gofynnir iddynt dynnu llun o'u teulu, i weld sut maent yn edrych ar eu teulu. Yn yr ail ran, gofynnir i'r plant gwblhau holiadur byr arall am eu teimladau. Bydd cofnodion ysgol ynglyn â sut mae eich plentyn yn setlo yn yr ysgol gynradd ac yn yr ysgol uwchradd hefyd yn rhan o'r astudiaeth.

Er na fydd unrhyw fanteision uniongyrchol i chi nac i'ch plentyn o ganlyniad i gymryd rhan, bydd yr astudiaeth yn helpu ymchwilwyr ac ysgolion i ddeall sut y mae plant yn setlo mewn ysgol uwchradd ac yn ymdopi gyda newid yn well ac yn eu helpu i ddod o hyd i unrhyw broblemau posibl ynghynt.

Os byddwch yn penderfynu yr hoffech gymryd rhan ac yn newid eich meddwl yn nes ymlaen, gallwch dynnu'n ôl o'r astudiaeth ar unrhyw adeg.

Beth am gyfrinachedd?
Bydd unrhyw gofnodion yn cael eu cadw'n ddiogel, a chedwir cyfrinachedd o dan amgylchiadau normal. Ar ddiwedd yr astudiaeth, bydd cofnodion unigol yn cael eu dinistrio.

Beth os hoffwn wybod mwy am yr astudiaeth?
Os bydd gennych unrhyw gwestiynau neu os hoffech dderbyn manylion pellach am yr astudiaeth, gallwch gysylltu â'r ysgol, neu ag un o'r ymchwilwyr a fydd yn hapus i roi gwybodaeth bellach.

Beth os bydd gennyf unrhyw bryderon neu gwynion?
Os bydd gennych unrhyw bryderon neu unrhyw gwynion am yr astudiaeth, gallwch gysylltu ag un o'r ymchwilwyr neu'r Athro C F Lowe, Pennaeth Ysgol, Ysgol Seicoleg, Prifysgol Cymru, Bangor, Gwynedd LL57 2DG.

Beth ddylwn i ei wneud rwan os byddaf yn hapus i'm plentyn gymryd rhan yn yr astudiaeth?
Ar ôl darllen y llythyr hwn, y cyfan sy'n rhaid i chi ei wneud yw cwblhau'r ffurflen ganiatâd isod a'i dychwelyd i'r ysgol.

Rwyn cytuno/anghytuno (dileer fel bo'n briodol) i'm plentyn gymryd rhan yn yr astudiaeth hon. Rwyf/nid wyf (dileer yr amherthnasol) wedi darllen y llythyr gwybodaeth hwn.

Llofnod: _____

Dyddiad: _____

Enw: _____
(LLYTHRENNAU BRAS)
Enw'r Plentyn: _____

AIGC/8J/18-05-99/GOGDDWY/MAELOR/JMURRAY

Appendix 2

Instructions for the Classification of Children's

Family Drawings In Terms of Representation of Attachment

Nancy Kaplan

Mary Main

Department of Psychology

University of California, Berkeley

Draft: May, 1986

This is a set of instructions for classifying the family drawings of children 5-7 years old in terms of their representation of attachment. The system was developed with the aim of capturing the quality of the child's attachment to the mother in infancy, assessed as secure, avoidant, ambivalent or disorganized/disoriented. In developing this system, we used our knowledge of individual differences in the organization of attachment relationships, as they appear in the Ainsworth strange situation categories and the Ainsworth home observations (Ainsworth, Blehar, Waters & Wall, 1978) and in several new assessment procedures developed in our laboratory (the Adult Attachment Interview, the Separation Anxiety interview for six-year olds, children's responses to a photograph of the family at six years, the child's response to reunion with the parent at six years and child-parent discourse during reunion, classification systems which are described briefly in Main, Kaplan & Cassidy, 1985).

Recently, we reported success in a first classification attempt at (blind) identifications of drawings by six-year-old children who had been secure, insecure-avoidant, and insecure-disorganized with mother as infants (Kaplan & Main, 1985), obtaining a 76% hit-rate. However, until recently we did not have a sufficient number of drawings by children who had been insecure-ambivalent in infancy to attempt to formalize instructions for their drawings.

We have recently completed our instructions for classifying children who were insecure-ambivalent/resistant with mother in infancy. We are now (1) engaged in studies of both short-term

and long-term stability of children's drawing classifications
(2) attempting to predict sixth-year reunion attachment
classifications from family drawings made in the school setting
(3) searching for differential errors in copy-drawings made by
children in different attachment classifications and (4)
collecting and studying adult family drawings in conjunction with
interviews concerning family and particularly family loss
history.

Two attempts to replicate the association found in our
sample between the child's strange situation classification to
mother in infancy and the child's family drawing at six years of
age are being undertaken in separate laboratories. While these
studies are not complete, there are indications of strong
predictability in a first study, and little (insignificant)
predictability in the second. In the first study, drawings were
collected in the laboratory in the parent's absence (as in our
study), and strong stability of attachment organization from one
to six years of age had also been established. In the second
study, drawings were collected in the home, and first to sixth
year stability of the child's attachment organization is unknown.
For this reason, we urge researchers to collect the family
drawings in the laboratory or school setting (and in the parent's
absence) and to simultaneously assess sixth-year attachment
organization to the mother wherever possible.

Procedures. A laboratory or school setting in which the parents are absent (not in the same room as the child) should be used wherever possible. We used large sheets of art paper, and a set of magic markers for our family drawings: however, a replication using 8 1/2 x 11 paper and somewhat different watercolor pens has been successful. We recommend markers or pens which make bright, full lines, e.g., lines resembling inks or watercolors.

The pens or markers should be set in front of the child in a set order on each occasion. It will be useful to the eventual study of color-use across samples if only the primary or close to primary colors are available to each child studied (6 to 8 markers). However, while in our previous studies no flesh-tone was available, we are now planning to include this as a color.

The child should not be asked to attempt the family drawing until she seems at ease in the room and with the examiner. In the Berkeley study, a "warm-up" drawing was informally requested before the family drawing, e.g., "would you like to draw something for me?". With respect to the family drawing, the examiner must make certain that several sheets of paper are visibly available to the child, so that the child who tends to want to re-start the family drawing on a second page can do so. It is important that the examiner is interested in the drawing, but takes the attitude that doing the drawing is a pleasant pastime and not any kind of an assignment, test, or task.

The researcher will want to know which figures in the drawing are which, what all the objects in the drawing represent, and ideally which figure/object was drawn first and last. The examiner should maintain a friendly but non-interruptive interest

in the drawing as the child draws it, so that asking who is who and what is what before the drawing is completed is usually inappropriate. When the drawing is completed, the examiner fills in, on the back of the drawing, an account of who is who in terms of family members, an explanation of any unexplained objects, and of the general setting of the drawing (e.g., "It's Halloween") when possible.

Video-taping in such a way that the creation of the drawing, as well as the child, is in view is ideal. Audio-taping is helpful where video-taping is not possible.

Appendix 1: Instructions for the Classification of Family Drawings in Terms of Representation of Attachment.

Nancy Kaplan & Mary Main, 1986, University of California, Berkeley

Classification of Family Drawings

This classification system is based upon an assessment of the child's symbolic representation of attachment, rather than upon her skillfulness or technique. In our most recent study, we are attempting to assess the child's skill at drawing apart from family drawings: while this study is still in progress, we have found several children whose family drawings appear much more primitive than their efforts to draw a simple object.

While we are providing as full a set of instructions as is possible at this time, we urge that coders, when making their judgments, draw upon their full understanding of individual differences in attachment. Not all children who were classified in a particular sub-group will produce a picture which conforms to our instructions; some drawings are particularly idiosyncratic or puzzling. The judge's broader understanding of attachment will be of use in these cases. Even in the less idiosyncratic pictures, using the specific instructions in combination with a full understanding of findings in attachment to date will contribute to an optimally informed judgment.

While we will ultimately use a new set of category headings for children's family drawings for the present time we use the system of letters and numbers which refer to strange situation classifications and sub-classifications -- the "A, B, C" system as presented in Ainsworth et al, 1978 and recently modified by Main and Solomon to include a "D" category (1986). We will refer to, e.g., "B3" drawings to indicate commonalities discovered in the drawings of children who were classified as "very secure" (B3) with mother in infancy.

Note that our system does not include many simpler features which would be expectable. For example, we find that the drawings of several children followed the "secure" pattern (below) in overall quality, even though the children either included only themselves in the drawing or drew a family picture with the self absent. We found that these children had been secure with mother in infancy, as had one child who drew a drawing following the "secure" representational pattern which she described as being of a neighbor family.

The family drawings of children classified as "secure" (B) with
mother in infancy

Because sub-group B3 is the prototype of the B group, we
begin with the instructions seeming best to describe the B3
drawings. These qualities are expected to pre-dominate in many
of the sub-groups and to describe the qualities of many of the B
drawings. However, the family drawings of children falling in
different secure sub-groups in infancy can be distinguished at
above a chance level, so sub-group instructions are given.

**Characteristics of B3 family drawings, and of the B category in
general**

Overall impression. The observer's unstudied response to
the drawing of the child who was classified as B3 in infancy
includes the impression that the family (or the child) portrayed
in the drawing is essentially calm and happy. In addition, many
or most of the following descriptors fit to the drawing:

1. *Figures are grounded or centered.* They are firmly footed
on some surface (imagined or drawn in), or, they are clearly
secured near to page center.

2. *There is a natural but not extreme proximity among
family members.* The picture gives the impression that the family
members are accepting in a genuine way of one another, or even
indirectly of an imagined observer. This is partly because of
(a) a firm and (b) often open-armed, almost directly embracing
stance taken by family members. There is (c) a natural proximity
among family members, but (d) they are not placed so closely
together that another could not join. Figures may lightly touch

hands on occasion, but they are not all joined in one group and usually are not leaning together.

3. *Often, not all family members are smiling:* Sometimes, no family members are smiling. Where smiles do appear on some or all family members, they appear "genuine". Where family members are smiling, the smiles look genuine and do not have the quality exhibited in "happy-face" stickers.

4. *Figures are individuated.* Figures are not drawn identically. Facial expression and/or stance vary somewhat. The figures may be quite simple (heads attached directly to legs), but they are individuated if necessary by simple attributes (e.g., in a very simple drawing, a small infant figure might be shown as held by the mother).

5. *Figures suggest movement.* Figures are not rigid, restricted, or stiff.

6. *"Real-world" elements are often present.* Bicycles, a house, a lamp, the family dog, etc. may be present in the picture. These objects, however, do not predominate over the picture. People if anything are pre-dominant.

7. *Figures are complete.* More than for any other classification or sub-classification, figures tend to be complete, with eyes, nose, mouth, hair, hands and feet. To date, whole (major) parts of bodies (legs, arms) have not been drawn as missing on any figure in a B3 drawing, except when the child is clearly at an early stage of drawing in which legs are attached directly to heads.

8. *The drawing may be highly imaginative or include fantasy elements.* The child or family may be drawn in an unusual

setting, e.g., picking flowers or playing a game, or fantasy may be directly portrayed. However, this is rare even in B3 drawings.

Sub-group B1

1. Many elements of B drawings in general. However:

2. The child presents himself or herself alone.

3. The drawing gives the impression that the child is ready/ ʰᵘʳ for and/or would welcome interaction with others.

4. The drawing is solid, centered, and realistic and gives the impression of happiness. However, the child's arms are not placed in a fully embracing posture.

Sub-group B2

1. Overall resemblance to B3 drawings. However, there is also some resemblance to A2 drawings. This may be shown in:

2. Less individuation among family members.

3. Tendency for all family members to be smiling.

4. Figures slightly stiff, and/or there is substantial distance between family members.

5. Smiles and some stiffness of figure are shared with A2. drawings. However, there is greater individuation of figures and smiling figures tend to be drawn in an embracing posture.

6. The drawing as a whole often has a stolid, firm appearance.

sub-group B4

1. Many elements of "B3" drawings in general. However, as we might expect given the strange situation behavior of these children as infants, there is also some resemblance to drawings by children falling in the C and/or D categories:

2. Figures may be expressive and idiosyncratic.

3. Bodies may be round, and facial features may be emphasized.

4. Differences of size among family members may be pleasantly exaggerated, with some figures very large and some very small.

5. As in some D drawings, there may be an impression of chaos or disorganization, but this is over-ridden by the human and perhaps personal qualities of the drawing, e.g., the person or persons presented.

6. Alternately, there may be surprizingly bright elements in the drawing—for example, ballons or flowers—but they do not over-ride its realism.

7. In some B4 drawings, and to date not in others, a figure may be shown with an anxious or pained smile, e.g., a smiling face with worry-lines around the eyes.

The family drawings of children classified as "insecure-avoidant" (Group A) with mother in infancy

Overall, these drawings appear as an attempt to present a positive picture of an invulnerable and "happy" individual or family. The Group A drawings are also characterized by many or all of the following features:

1. Arms are often absent on one or all figures, or are portrayed in postures not suitable for holding.

2. Lack of individuation of family members. The observer may have the impression that figures were drawn automatically, one after the other, without attention to individual characteristics.

3. Figures do not appear to be affected by one another or to be related to one another.

4. "Smiley sticker" smiles, often present on every family member. These smiles appear to have been drawn automatically.

5. Figures are portrayed as stiff and without movement.

Sub-group A1

1. General characteristics of the A group. In addition:

2. Great distance between family members, or, only the child is shown. The picture gives the impression of isolation,

loneliness, or absence of connectedness despite the fact that the figures are (usually portrayed as) smiling.

3. *Some disorganization or a faint ominousness may be present.* The drawing may lack realism.   *?*

great

sub-group A2

1. General characteristics of A drawings. However:

2. *Drawing is centered or grounded, and essentially more realistic than an A1 drawing.*

3. *Events and movement are absent.* The observer has the impression that the picture is empty, or that there is nothing happening.

The family drawings of children classified as "insecure-ambivalent/resistant" (C) with mother in infancy

These family drawings are the most heterogenous and difficulty to characterize. They share many features with "B" and with "A" drawings. For example, many drawings by children classified C with mother in infancy present the child's arms in an embracing posture, and many or all figures are often presented smiling. On the whole, however, family drawings made by children who were classified C with mother in infancy tend to emphasis upon size of figures (very large or very small); emphasis upon proximity to and/or the inaccessiblity of individuals (clinging and melding together or separated by a barrier); and emphasis and exaggeration of particular vulnerable soft body parts and facial features (the belly and lower body, eyes, and nostrils).

Informally interpreted, there seems in these drawings to be an emphasis upon vulnerability. This is shown in huge or extremely small figures; in figures placed in the corners or top or bottom of a page; and in exaggerated emphasis upon the belly (often with belly-buttons which are seen through the figure's clothes). In some drawings all of these characteristics may be combined, e.g., some figures huge and some tiny; two figures clinging together and another seen at the opposite side of the page; and large bellies and large eyes.

Distinctions between the drawings of children who were classified in sub-group C1 vs. sub-group C2 in infancy have not been possible to date. In general, we can specify the following features:

1. *Overall, an impression of vulnerability, of something which is overwhelming, or of figures which are overwhelmed. IN addition, many or most of the following features may be present:*

2. *Unusually large or unusually small figures, or (rarely) both in a single drawing. As though in further emphasis, figures may be placed off-center, as, in the far lower left-hand corner.*

3. *Family figures are placed extremely close together, bodies over-lapping, or leaning together, clinging, or universally holding hands. AND/OR figures are portrayed as separated by a barrier, as, figures shown on either side of a large house. Again, both these features may appear in the same drawing.*

4. *Emphasis upon the belly, and/or lower body, shown in:*
    a. *large, round bellies on some or all figures*
    b. *belly-buttons drawn in* ⯑
    c. *figures which become big from the waist down*

Special features

The following special features appear in some drawings by children in the C classification. Item a appears frequently and distinctively enough to be considered a serious candidate for category marker. We mention items b because as more drawings are collected these features may appear more often in C than other drawings: however, they are rare in our present collection of C drawings, and do appear in children in other categories (especially, in B4 drawings).

a. An unusual, striking, and sometimes ominous <u>slant</u> to the neck/head relative to the shoulders and rest of the body, as in Thai dance or other dance movements imitating the tracking-

mesmerizing movements of the cobra. To date this has appeared in just under half of drawings by children who were classified as C in infancy, and in no others. Sometimes the head angle appears less ominous than simply peculiarly slanted or sharply cocked.

b. Exaggeration of the personal features of the face--as seen in some B4 drawings--but, in contrast to B4 drawings, the effect is unpleasant. For example, a figure may be drawn with large eyes and eyelashes and with circle-noses with prominent round nostrils.

The family drawings of children judged disorganized/disoriented
with mother in infancy

The family drawings of children who were
disorganized/disoriented with mother in infancy cannot be
distinguished from others in the same terms in which we
distinguish A, B and C drawings: indeed, any of the qualities
which we have described as characterizing A, B and C drawings may
be found in the drawings of children who were categorized as D as
infants.

Most of the drawings of these children are distinguished
from others either by (a) simple *disorganization* of elements, as
scratching-out and re-starts, or (b) by *adding* unexpected
elements to the drawing or *omitting* expected elements, as
standing family members on a row of hearts, or putting only one
eye in a head. (Very rarely, the family drawing of a child who
was classified D with mother in infancy can be distinguished from
others simply because it fails to fit any (A, B, C or D) of the
described patterns).

The family drawings of children who were
disorganized/disoriented with mother in infancy can be described
as falling into one of the following three patterns (patterns 1
and 2 may be combined in a single picture).

I. <u>Ominous, irrational or disorganized.</u> The family picture
is ominous, foreboding, and/or directly disorganized.

1. *Strange inexplicable marks may be added to the picture,*
as, a crossed-out heart in the sky, a skeleton, or a figure with
wolf-like teeth.

2. *Unfinished objects or figures may be present, as, a small head on the ground, an ear, etc.*

False Start

3. *The child may scratch out a figure in the picture or part of the picture and re-start it on the same page or on a separate page, essentially in part destroying or rejecting part of the work. To date this has occurred only in children who were disorganized/disoriented with mother in infancy.*

Note: Children who were classified A1 or C2 with mother in infancy may also include strange features or inexplicable marks in their drawings but (a) nothing is actually scratched out and (b) the features are more unlikely than they are frightening or ominous.

II. <u>Over-bright family pictures.</u> Excessive or almost irrational sweetness is added to the picture or is placed near a person in the picture. Thus, the family may be pictured as standing on a row of hearts; a huge sun with a smiling face may dominate the picture; hearts and flowers may be literally displayed; a sun may be placed very close to a human head. At first glance, the picture may simply appear very sweet or very cheerful, but on closer examination it contains irrational or unrealistic elements, i.e., people do not stand on hearts or have suns directly next to their heads.

III. <u>Unclassifiable.</u> The picture is not disorganized, ominous or overly bright. However, it also does not fit with the descriptions given of A, B and C drawings, but may have characteristics of all three types of drawings

Note: When giving the family drawing any kind of a "D"
classification (ominous, overbright, or unclassifiable) give in
addition the "A", "B" or "C" classification which seems best to
fit Thus, a row of identical, well-centered, stiff, smiling
figures standing on a row of hearts with a bright sun over one
head would be classified D (over-bright)/ A2.

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Checklist of Specific Markers Used in Scoring Family Drawings

(Signs 1-13 = Kaplan & Main's predicted signs;
Signs 14-24 = Fury's additional signs)

1. Lack of individuation of family members.
2. Arms positioned downward, close to body.
3. Absence of "real world" elements or background detail (pets, sun, etc.)
4. Figures not grounded on page or imaginary surface.
5. Incomplete figures.
6. Figures positioned extremely close together (leaning together or bodies overlapping).
7. Figures separated by barrier(s).
8. Unusually small figures.
9. Unusually large figures.
10. Figures positioned on corner of page.
11. Exaggeration of soft body parts (stomach, lower body).
12. Exaggeration of facial features.
13. False starts/scratched out figures.
14. Exaggeration of heads.
15. Exaggeration arms/hands.
16. Lack of color in drawing as a whole (entirely or primarily black).
17. Complete omission of mother (m) or child (c). (Check only if mother is alive.)
18. Disguised family members (portrayed as non-human, creature-like).
19. Mother figure not feminized in the drawing (via hair, body, clothing).
20. Males, females undifferentiated by gender (including child).
21. Mother positioned far apart from child on the page.
22. Scrunched figures (constricted in appearance).
23. Negative or neutral facial affect.
24. Unusual signs/symbols or scenes.

<u>Global Rating Scales for Family Drawings</u>
7-point Rating Scales

1. Vitality - Creativity

This scale is designed to capture the child's emotional investment in completing the task of drawing his or her family. In applying this scale, consider how the child may have gone beyond the immediate task, by embellishing or adding lively elements to the drawing which suggest energy, creativity, and perhaps abstract symbolism.

Importantly, drawings rated high on this scale may or may not reflect emotional closeness between family members and/or positive feelings on the part of the child. What they share however, are qualities of being expressive, complete and interesting to look at. In some cases, they may appear humorous and light-hearted; in other cases, they may appear disturbing, - complex, and rich in symbolism.

In general, highly rated drawings are colorful, imaginative and decidedly unique. They may have a dramatic look. Distinguishing features include: individuation of family members, elaboration of background detail, dress, or physical features; and generally completed drawings.

<u>Scale points:</u>   <u>Vitality-Creativity Scale</u>

7) Very high   At this end, drawings are very engaging to look at. In some cases, they appear very lively in a positive sense, perhaps showing family members in the outer world doing something fun or playful together. In other instances, the drawing may hold your attention in being strikingly disturbing or bizarre in some way. Typically, these drawings are colorful, complete and quite distinctive in some way. The child has clearly invested energy in his or her drawing.

6) High   Perhaps somewhat less unusual or elaborate in content than the highest scale point, this category shares many of the same distinguishing features. The drawing has more in the way of detail and shows considerable imagination and/or effort on the part of the child.Note: Drawing ability is not a criteria for placement in these upper categories. Rather, these drawings seem to reflect something "going on", either in a direct, playful manner, or in a more indirect symbolic way.

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5) Moderately   This category acts as a marker in distinguishing
   High   drawings which have "more to say" than those which
                 simply do not. There may be some small background details
                 (a pet, clouds, surface underneath figures) or family members
                 show movement or interesting dress, hair or facial features.
                 These drawings are in some way, somewhat interesting or
                 engaging to look at.

4) Neither   These drawings are difficult to distinguish as either high or
   Particularly low in terms of overall emotional investment. They have
   Engaging or   the appearance of being done with considerably less
   Dull (Flat)   emotional energy, although they would not be considered
                 impoverished, careless, or depressed in overall feeling. The
                 child has simply drawn his/her family in a complete, yet
                 relatively uninteresting manner. Use of color, detail, and
                 background elaboration are less striking. It may also be
                 difficult to ascertain the emotional connectedness of family
                 members (positive or negative).

3) Moderately   These drawings have the appearance of being done without
   Flat or   much energy or enthusiasm. Elaboration of family figures
   Restricted in or background detail is minimal. Figures may be incomplete
   Feeling   or drawn somewhat haphazardly. There is no background
                 detail and use of color is decidedly diminished. Rather than
                 filling the page or being centered and on a surface, figures
                 may float or bunch together in the corner.

2) Low on   At this scale point, drawings begin to take on an
   Vitality/   impoverished look. Figures may be strikingly small or
   Creativity   drawn in a seemingly careless fashion. In some cases,
                 figures may be incomplete or they may appear to have been
                 drawn in a rote-like automatic manner with little attention
                 to detail.

1) Striking   These drawings have an overall depressed quality.
   Absence of   There is no background world and no apparent effort
   Vitality/   has been made to invest in how the drawing ends up
   Creativity   looking. The drawing will have the appearance of being
                 a bare-bones portrayal of the family.

2. Family Pride/Happiness

This scale is designed to capture the child's sense of family pride, belongingness (security) and general feelings of happiness in the family, as they are expressed in the drawing. Regardless of who comprises the child's family at the time of the drawing, (step-parents, aunts, grandparents, etc.) the aim of this scale is to capture how the child appears to feel supported (by adults), included, and generally happy in this family group.

Rating markers at the upper end of this scale will include: family members positioned in a direct, open stance - neither crowded together or floating apart in a random fashion, completed figures (facial features and if bodies are included, limbs are all present, i.e. hands and feet), positive facial affect, family members appear emotionally connected and as a unit. (They may wear similar clothing with minor alterations for gender, or they may be holding hands without being bunched together, or they may be doing an activity together.) At the upper end, drawings are colorful and will likely -. make you feel like smiling.

At the lower end, there appears to be little or no family cohesion, pride, or sense of belonging on the child's part. Family members may be depicted in a colorless, automatic fashion or in a careless, chaotic or disheveled way. Figures may float on the page, be incomplete, or the child (or mother) may be omitted completely. In other cases, family members may be disguised or distorted in some unusual way. Signs of positive affect - facial or, in the bodies (hands waving) or in the families activites are absent.

Scale Points: Family Pride/Happiness

7) Very High
At the upper end, the drawing seems to radiate positive feelings which are revealed in clarity, completeness, presence of detail - either in the figures themselves or in some type of background scene, and/or in some signs of positive affect or activity. There is often a direct, open stance in which the figures face forward and are positioned and centered on some surface or imaginary surface. These drawings appear organized in depicting family members and the proportions are clearly adults being larger in size than the children.

6) High
These drawings may be somewhat les rich and positive in terms of how the family is depicted, but they are generally quite happy looking , complete, and the figures appear to be organized on the page in some deliberate way. Again, the

family members are portrayed in a direct, natural way as a family (not disguised, distorted or doing something unusual.) They are not overly large or small in proportion to the page, and adults are larger in size than children.

5) Moderately High

At this scale point, drawings may not appear as positively robust as in the higher ratings described above, but there is some indication of positive connectedness and belonging in this family. There may be little or no background detail here, yet the family members appear as a happy unit, regardless of size. They may simply be standing together with smiles on their faces or matching/coordinated clothing. These drawings retain the appearance of organization and completeness though they may be somewhat less overtly positive and perhaps less clear in portraying family closeness and pride.

4) Moderate

At this scale midpoint, there are fewer indicators of positive family feelings expressed in the drawings, although they may not appear particularly negative either. Use of color, detail and background elaboration may be somewhat diminished. The positioning of the figures may appear less centered, grounded and organized. Facial affect may be neutral vs. positive.

3) Moderately Low

Drawings rated here should be those which arouse some sense of uncertainty with regard to positive feelings and security on the child's part. There may be subtle indications of ambivalence such as the child placing him or herself separate from the family by way of space on the page, or some kind of barrier (in the context of some scene, or via a character, or perhaps even a pet or tree). There is less clarity with respect to size of figures and they may not appear as grounded in the world or connected as a unit.

2) Low

At the lower end, drawings may be distinguished by being relatively unorganized, seemingly careless, or perhaps disproportionate to the size of the page. At first glance, it may even be difficult to distinguish the drawing as a family drawing. Figures may float on the page, be incomplete, or they may be drawn in a disguised or distorted way. There is no clear indication of positive affect anywhere on the family members.

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1) Very low   Rather than reflecting family pride and emotional
               connectedness, these drawings look either very sad and
               vacant, or disturbing in some way with respect to parent child
               relations. Family figures may be tiny and scrunched, partially
               completed, or instead, there may be elaborate negatively
               toned symbolism, disguised family figures (i.e., monsters or
               creature-like) or the drawing may appear peculiar and
               disturbing in some way.

3. Vulnerability Scale

This scale aims to capture feelings of vulnerability and emotional
ambivalence as they are expressed in the child's family drawing. The
emphasis here is primarily on the size of figures, proximity of figures in
relationship to each other, placement of figures on the page and an
exaggeration of body parts and/or facial features.

In general, drawings rated high on this scale will not appear centered,
grounded and proportionate to the size of the page. Figures may be very
small (or unusually lage), they may appear bunched closely together or
overlapping, or they may be separated or enclosed by a barrier of some kind.
They may cluster together on the corner of the page or float on the page in
a seemingly random fashion. The drawing may have the appearance of
depicting something which is overwhelming to the child. There may or may
not be a background world, but if there is, it is not a peaceful positive
setting.

Scale Points: Vulnerability

7) Very High   These drawings have the appearance of extreme vulnerability
               and/or emotional uncertainty on the part of the child.
               Figures are very small and perhaps bunched together on the
               corner of the page, or they may float on the page with no
               background scene. Expression of positive affect is absent.
               There may be a seemingly, chaotic scene depicted, in which
               the child is alone or separate from parent.

6) High   These drawings, while perhaps not as striking in overall
               appearance as those rated above, still have a decidedly
               vulnerable appearance. Again, the emphasis is on the size of
               figures, the relative proximity of the figures to each other,
               and their placement of the page. Mother or child may be
               positioned in a "slanting away" posture in relation to the
               other. Some drawings may also include elements of

exaggerated facial features or body extremities and or soft, rounded body parts.

5) Moderately High

Drawings placed at this level suggest more subtle signs of vulnerability and ambivalence. Drawings may appear less developed or perhaps immature in some way. Figures may be "stick" figures and may float onthe page or they may be positioned on the corner of the page. Alternatively, they may crowd together, appearing small in stature. Body parts (hands, etc.) may be left off, exaggerated, or unusually small (heads).

4) Moderate

At this scale point, it becomes difficult to infer feelings of vulnerability and/or ambivalence on the child's part. The drawing is not clearly distinguished by tiny figures, nor are they crowded together, floating or clustered together in the corner. They may simply stand together as a group or on surfaces, and background scenes which have been drawn in.

3) Moderately Low

These drawings have a slightly more settled, organized and direct appearance, which is generally evident in the completeness, size and proximity of family members, in proportion to the page. Family members may appear more potent (via their size and completeness) and more emotionally connected as a family unit (i.e., they wear similar clothing or are doing something positive together.

2) Low

At this near-end scale point, the drawings have a more organized, unified and complete appearance. Size of figures is proportionate either to the background scene or to the page itself. There is little or no indication of vulnerability.

1) Very Low

These drawings show no signs of emotional ambivalence or vulnerability. Family members are complete, grounded and centered on the page, maybe enjoying an activity together, and are characterized by clear signs of positive affect.

4. Emotional Distance/Isolation (between mother and child)

This scale is intended to assess feelings of emotional distance and/or loneliness on the part of the child. Drawings rated high on this scale will differ from those rated high on the "vulnerability" scale in being more controlled, complete and perhaps thematic (including the presence of signs, symbols

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and/or perhaps disguising family members in some way). Within each individual child's drawing, watch particularly for the placement of the child in relation to the mother, individuation of family members and for the expression of affect in the figures. Also note instances of sidward (vs. direct and open) eye contact and/or a downward focus on the part of the child or mother. Use of color in the drawing as a whole will vary in applying this scale.

Rather than having the appearance of a child who feels overwhelmed and ambivalent in relationship to his/her mother (and others), these drawings may appear more sophisticated and/or complex in how the child expresses anger or distance within the relationship.

Scale points: Emotional Distance/Isolation

7 Very High   The drawing suggests absolutely no positive emotional connection between the mother and her child. Instead, there are clear signs of anger and emotional distance expressed in the drawing, which may take the form of the mother being deliberately placed apart from the child (i.e., underground) or being disguised (i.e., as a monster-like creature) or distorted in some way.

6) High   Drawings will resemble those in the above category, though perhaps in a somewhat less pronounced and vivid way. The child and mother appear to be deliberately apart on the page and are not engaged in any sort of fun or playful activity together. There is no sign of positive affect - there may be indirect, downward eye contact or the child may appear to be doing a completely different activity, such as sleeping.

5) Moderately   At this scale point, the drawing will suggest a somewhat
   High   diminished or emotionally reserved relationship between mother and child. Facial affect may be neutral or negative. Figures may appear rotely drawn or incomplete. There may be subtle distortions of body parts. The child may be distinctly separated from the mother on the page (via other family members between them or some other barrier or space).

4) Moderate/   Drawings placed in this category show neither clearcut
   Neutral   signs of emotional distance or signs of warmth and closeness between the mother and child. Due to placement of the figures, their relative size, use of affect and use of background

context (or lack of it), it is relatively difficult to determine the emotional connectedness of the dyad.

3) Moderately Low   Drawings placed here will begin to show some subtle signs of positive emotional regard between mother and child. There may be less to go on, content-wise or style-wise but the relative size, positioning of the figures, use of affect and detail will create some sense of a better-than-neutral emotional relationship between the child and his or her mother.

2) Low   These drawings appear to reflect positive feelings and a close mother-child relationship. The mother figure is larger in size than the child and is depicted in a complete way. Often they are doing something fun or positioned neither too close or far apart in the outer world. Positive affect is evident in the faces and the drawing as a whole.

1) Very Low   These drawings show absolutely no signs of emotional distance between child and mother. There are clear, positive and direct signs of a positive relationship.

5. Tension/Anger Scale

This scale is concerned with the degree of tension/anger which is aroused in the child as a result of being asked to draw a picture of his or her family. For purposes here, tension and anger will be inferred on the basis of these dimensions in the family drawings: figures will appear very rigid, often without color or clear positive facial affect or figures may have a "scrunched" appearance, whereby body extremities (arms, legs and neck) have a constricted, bound-up look about them. Arms will be held rigidly downward vs. somewhat open, relaxed or animated. Figures may be drawn relatively small and crowded together with little or no background world surrounding. Parts of the drawing may appear scribbled or careless.

The drawing may also include what Main refers to as "false starts"; that is, the child may have started drawing a particular person, then crossed him or her out and started over again on the page.

Scale points: Tension/Anger

7) Very High   Drawings placed at this highest scale point have a definite tense appearance. Figures are either scrunched up at the bottom or corner of the page or they appear very rigid,

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colorless and undifferentiated. The arms may be downwards or absent altogether. There is no background world and there may be some careless scribbling which has no apparent meaning or relation to the drawing as a whole.

6) High   These drawings have a predominantly tense appearance. There may be broken lines, false starts, an absence of faces, or missing body parts (unfinished figures). Angry strokes and/or scribbling may be present.

5) Moderately   Drawings may have been unfinished or they may have
   High   very stiff-looking postures with no positive affect. There is little or no background world; figures may be scrunched and off center or they may include some clearly distorted body part and/or several "false starts."

4) Moderate/   At scale midpoint, it is difficult to assess the presence
   Neutral   or absence of tension/anxiety in the child. The drawing is generally complete. It may include color and affect but it is not clear whether the child feels relaxed and secure or tense and angry during this task.

3) Moderately   Drawings suggest only minor elements of tension, which
   Low   are more apt to be balanced by some positive elements, such as positive affect, completed figures, or some effort to use color and detail.

2) Low   These drawings have very few signs of tension and an overriding number of elements which suggest a kind of freedom of expression on the child's part. The drawing generally appears direct and organized, even if simple in style.

1) Very Low   Drawings at this end scale point suggest no indications of tension and anxiety on the child's part. These drawings are typically colorful and animated with complete figures showing positive affect or activity. Figures appear alive and differentiated, yet together in the world.

6.) Role-Reversal Scale

This scale attempts to capture feelings on the part of the child which suggest a role-reversing kind of relationship with the mother. More specifically, the mother is perceived by the child as weak (perhaps having

less power and authority in the relationship than the child), or vulnerable herself, and therefore unreliable as a consistent supportive parent-figure.

Three dimensions in the family drawing are the focus here:

1) A size distinction between the child and mother (with mother depicted as smaller in size than the child).
2) Drawings which depict the child as floundering in some way and the mother elsewhere.
3) Distortions of body extremities (large hands, exaggerated arms).

Scale Points: Role-Reversal

7) Very High   These drawings are immediately identifiable as unusual either because the child is clearly larger in size than the mother, or child and/or mother has distorted/exaggerated arms or hands. In some drawings the child is depicted as floundering, apart from the family and mother figure.

6) High   Drawings meet the criteria of the above category although to a somewhat less extreme degree. The child is notably larger in size than the mother and there may be a lack of human-like features overall.

5) Moderately High   At this scale point, the child may appear more potent than the mother as a result of size, body posture or proximity to other family members. There may be some distortion of body parts or facial features.

4) Moderate   At this scale midpoint, it becomes difficult to make a clear judgment regarding role-reversal because the figures may be only slightly differentiated by size and proportion. Perhaps all the figures (including siblings) are relatively small and more or less equal in size. Also, they may not be as well-developed (as humans), which may simply be due to style or drawing ability.

3) Moderately Low   Drawings have slightly more clarity with regard to parent-child roles than above. The child appears in some ways more child-like (clothing, via an activity) than the mother, even though the size differentiation is less clear.

2) Low   At this scale point, children and mothers are more easily distinguished by size and more often, gender. There may be elaboration and appropriate detail on these decidedly human-

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appearing figures. These drawings appear far more clear and integrated in terms of who is who (via role relationships in the family).

1) Very Low   These drawings suggest absolutely no signs of role-reversal in the mother-child relationship. The child appears smaller in stature than the mother and appears emotionally connected· and protected by her in the drawing (that is, she does not appear peculiar or distorted, or distant in any way). They both appear as human beings, alive and connected in the world.

7. Bizarreness/Dissociation

This scale addresses a particular form of anger expressed by the child in his/her family drawing. Of particular interest is how some children may reveal feelings of hostility, betrayal and abandonment in a variety of subtle and disguised forms (in their drawings). The underlying aim is to tap the· unconscious processing of anger and resentment.

The primary dimensions to be considered when applying this scale are:

- Unusual signs and symbols: perhaps having a morbid, dark, or aggressive quality (i.e. black clouds, dead trees, rivers of blood, houses/castles as fortresses) and angry scribbling in the context of the drawing as a whole.

- Angry, aggressive facial features (sharp, exaggerated teeth, angry eyes and body postures.

- Fantasy themes in which the child is empowered in some way (depicted as an animal-like creature, a king, in a castle).

- Unusual markings having no apparent relation to the drawing as a whole.

Scale Points: Bizarreness/Dissociation

7) Very High   This drawing suggests a strikingly high degree of anger and/or dissociative thought processes. Drawings placed at this end look disturbing and complex, either because of angry affect, elaborate and morbid fantasy themes, and/or human figures which are disguised in an aggressive way.

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6) High

Drawings in this category include several clear signs of angry feelings, although they may be somewhat less pronounced and perhaps dramatic than in the above category.

5) Moderately High

These drawings have either one clear and direct sign of disguised anger (sharp, aggressive teeth on the child) or they may have an overall scribbled, reckless or unfinished quality. The drawing may appear hurried, frenzied or impoverished in terms of background detail or use of color.

4) Moderate

At scale midpoint, the drawings may be more difficult to distinguish as angry or bizarre in appearance. There may only be one or two unusual or ambiguous elements, or one seemingly unusual symbol which arouses suspicion, but are not adequate to infer dissociative anger on the child's part.

3) Moderately Low

These drawings suggest only minor, if any, indications of disguised anger or bizarre features which are generally balanced by a number of more healthy features overall. In general, drawings in this category appear more positive thah neutral or disturbing.

2) Low

These drawings suggest no signs of bizarre and/or dissociative representational thought. The drawing as a whole may appear slightly less healthy than the following scale point but there are clearly no distorted or disguised figures, or unusual elements.

1) Very Low

Drawings placed at this end contain none of the elements designated as markers for this scale. These drawings have the appearance of being grounded, complete, happy and organized in a real-world setting or background.

8. Global Pathology Rating Scale

This final rating scale has been designed to capture the overall degree of pathology reflected in the child's drawing of his or her family. The rating should be focused on global aspects of the drawing as a whole, rather than on specific, discrete dimensions such as size or proportion of figures, use of color, etc., although the knowledge and experience acquired in the process of completing the 7-point scales will be useful here.

In doing this interpretation, raters should consider the following question: How does the child feel in this family? To some extent, this rating might be

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viewed as an overall index of the child's emotional health in the context of the family (as depicted in the drawing). As such, it aims to capture underlying emotional themes such as: anxiety, fear, dependency, self-esteem, anger, alienation, dissociation, and depression.

NOTE: It may be useful to do a preliminary sorting of the drawings into three piles: 1) most disturbing, 2) generally "OK" or unsure, 3) and those which appear happy and complete. After completing this step, each drawing should be shifted into one of the following seven categories.

7) Very High   At the uppermost end, family drawings reflect a strikingly high degree of family disharmony, sadness, and/or emotional alienation. Themes of anger, confusion, low self-esteem, and/or general relationship anxiety clearly predominate, though they may be expressed in a variety of ways (see below).

Rating Keys: (Consider all of the following.) Distorted or disguised figures, omissions, poor integration, false starts, impoverished drawings, absence of color (predominantly black), very tiny figures, child(ren) larger. in size than parent(s), expressions of anger (facial or more general), floating, unconnected figures, and/or stiffness, rigidity in posture of figures, and incomplete figures (e.g. arms, hands omitted).

6) High   Drawings placed at this scale point appear decidedly disturbing in one clear-cut way or in a number of ways combined. Consider the rating keys described above, as well as information/knowledge acquired in the process of applying the 7-point rating scales. Though perhaps not as striking as drawings placed in category 7 (above), these drawings clearly fall into the "disturbing" end of this rating scheme.

5) Moderate   These family drawings suggest some degree of ambivalence
High   or negative feelings on the part of the child, though not as pronounced as in the above. Some degree of disharmony, disorganization, or confusion may be present. Or there may be more subtle signs of the family being emotionally disconnected or ambivalent. Generational boundary issues/and or parent/child coalitions may also be revealed (i.e., as in the case of the child being placed conspicuously close to one parent, with the other parent positioned apart, or when the child appears larger in size than parent.)

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4) Moderate   At scale midpoint, drawings may be difficult to gauge in terms of overall feeling (positive or negative) and in terms of how the individual rating markers are organized within the drawing as a whole. There may be a few points of negative concern, combined with generally positive features (figures complete and grounded, animated, or background detail, etc.).

This category should be used when the rater feels unclear or unsure about the overall emotional tone of the drawing. It may simply appear average or "OK".

3) Moderately Low   At this scale point, drawings appear to be slightly more positive than neutral in terms of overall organization and feeling. For example, there may be no background world or added details, but the mother and child are depicted as individuated, complete, differentiated by size, and perhaps smiling. These drawings may appear to be more simple than others, yet there are some indications of positive feelings regarding family relationships.

2) Low   These family drawings appear to reflect overall feelings of security, happiness, and confidence in the family. Figures are generally complete, grounded and colorful, often showing motion or activity, and often positive affect. Arms are sometimes open or connected to other family members (without appearing crowded together). Background detail is frequently colorful and rich. Overall, these drawings appear complete, deliberate, calm and positive. Most important, family members appear in some way positively connected, involved, and perhaps proud.

1) Very Low   At this lowest scale point, drawings appear unquestionably and organized along a variety of positive dimensions. These drawings are the most cheerful and fun to look at. Family members are often doing something together in the world (e.g., at a park, playing "catch", etc.), or they may be depicted as colorful individuals via their clothing or style of dress. Figures are grounded, whether on the page or on a drawn-in surface. These drawings appear colorful, deliberate, and complete.

Appendix 3

SPENCE CHILDREN'S ANXIETY SCALE (SCAS)

Your name: _____   Date: _____

Please tick the box under the word that shows how often each of these things happen to you. There are no right or wrong answers.

	Never	Sometimes	Often	Always
1. I worry about things				
2. I am scared of the dark				
3. When I have a problem, I get a funny feeling in my stomach				
4. I feel afraid				
5. I would feel afraid of being on my own at home				
6. I feel scared when I have to take a test				
7. I feel afraid if I have to use public toilets or bathrooms				
8. I worry about being away from my parents				
9. I feel afraid that I will make a fool of myself in front of people				
10. I worry that I will do badly at my school work				
11. I am popular amongst other kids of my own age				
12. I worry that something awful will happen to someone in my family				
13. I suddenly feel as if I can't breathe when there is no reason for this				
14. I have to keep checking that I have done things right (like the switch is off, or the door is locked)				
15. I feel scared if I have to sleep on my own				
16. I have trouble going to school in the mornings because I feel nervous or afraid				
17. I am good at sports				
18. I am scared of dogs				
19. I can't seem to get bad or silly thoughts out of my head				
20. When I have a problem, my heart beats really fast				
21. I suddenly start to tremble or shake when there is no reason for this				
22. I worry that something bad will happen to me				
23. I am scared of going to the doctor or dentist				

	Never	Sometimes	Often	Always
24. When I have a problem, I feel shaky	☐	☐	☐	☐
25. I am scared of being in high places or lifts (elevators)	☐	☐	☐	☐
26. I am a good person	☐	☐	☐	☐
27. I have to think of special thoughts (like numbers or words) to stop bad things from happening	☐	☐	☐	☐
28. I feel scared if I have to travel in the car, or on a bus or train	☐	☐	☐	☐
29. I worry what other people think of me	☐	☐	☐	☐
30. I am afraid of being in crowded places (like shopping centres, the movies, buses, busy playgrounds)	☐	☐	☐	☐
31. I feel happy	☐	☐	☐	☐
32. All of a sudden I feel really scared for no reason at all	☐	☐	☐	☐
33. I am scared of insects or spiders	☐	☐	☐	☐
34. I suddenly become dizzy or faint when there is no reason for this	☐	☐	☐	☐
35. I feel afraid if I have to talk in front of my class	☐	☐	☐	☐
36. My heart suddenly starts to beat too quickly for no reason	☐	☐	☐	☐
37. I worry that I will suddenly get a scared feeling when there is nothing to be afraid of	☐	☐	☐	☐
38. I like myself	☐	☐	☐	☐
39. I am afraid of being in small closed places, like tunnels or small rooms	☐	☐	☐	☐
40. I have to do some things over and over again (like washing my hands, cleaning or putting things in a certain order)	☐	☐	☐	☐
41. I get bothered by bad or silly thoughts or pictures in my mind	☐	☐	☐	☐
42. I have to do some things in just the right way to stop bad things happening	☐	☐	☐	☐
43. I am proud of my school work	☐	☐	☐	☐
44. I would feel scared if I had to stay away from home overnight	☐	☐	☐	☐

45. Is there something else that you are really afraid of?   Yes ☐   No ☐

Please write down what it is:

_____

_____

_____

How often are you afraid of this thing?

Never	Sometimes	Often	Always
☐	☐	☐	☐

Appendix 4

KIDCOPE – YOUNGER CHILDREN

NFER-NELSON
INFORMING YOUR DECISIONS

First name: _____ Date: _____

Date of birth: _____ Age: _____

Sex (please ring):   M / F _____

Instructions: I am trying to find out how children deal with different problems. Think of a time when you had a problem that bothered you. Can you describe this problem to me?

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Distress Items

	Not at all	A little	Somewhat		Very much
1. Did that time (related to the above described problem) make you feel **nervous** or **anxious**?	0	1	2		4
2. Did it make you feel **sad** or **unhappy**?	0	1	2	3	4
3. Did it make you feel **cross** or **angry**?	0	1	2	3	4

KIDCOPE – YOUNGER CHILDREN

NFER-NELSON
INFORMING YOUR DECISIONS

Child's name: _____

Did you . . . ? **How much did it help?**

| | | Yes | No | | Not a lot | A little | A lot |

Did you:

1. Try to forget it — Yes / No — 0 | 1 | 2

2. Do something like watch telly or play a game to forget it — Yes / No — 0 | 1 | 2

3. Stay on your own — Yes / No — 0 | 1 | 2

4. Keep quiet about the problem — Yes / No — 0 | 1 | 2

5. Try to see the good side of things — Yes / No — 0 | 1 | 2

6. Blame yourself for causing the problem — Yes / No — 0 | 1 | 2

7. Blame someone else for causing the problem — Yes / No — 0 | 1 | 2

8. Try to sort out the problem — Yes / No — 0 | 1 | 2

9. Try to sort out the problem by doing something or talking to someone about it — Yes / No — 0 | 1 | 2

10. Shout, scream or get angry — Yes / No — 0 | 1 | 2

11. Try to calm yourself down — Yes / No — 0 | 1 | 2

12. Wish the problem had never happened — Yes / No — 0 | 1 | 2

13. Wish you could make things different — Yes / No — 0 | 1 | 2

14. Try to feel better by spending time with others like family, grown-ups or friends — Yes / No — 0 | 1 | 2

15. Do nothing because the problem couldn't be solved — Yes / No — 0 | 1 | 2

Appendix 5

PROSOCIAL BEHAVIOUR QUESTIONNAIRE (PBQ)

NFER-NELSON
INFORMING YOUR DECISIONS

Child's name: _____

Date of birth: _____

Sex (please ring):   M / F _____

Class/School: _____

Below is a list of 20 statements about children's behaviour which may be shown by a child during the schoolday. On **your** knowledge of the child over the **last term**, place a mark in the appropriate column.

Although it is difficult, it is important to try to answer each question as objectively and independently as possible.

In rating each statement disregard your ratings for that child on every other statement; try not to let general impressions affect your judgements about specific aspects of the child's behaviour.

If the child definitely shows the behaviour described by the statement, tick the column headed 'certainly applies'. If the child shows the behaviour but to a lesser degree, or less often, tick under 'applies somewhat'. If the child rarely or never shows such behaviour, tick under the column headed 'rarely applies'.

If you feel that there are any special difficulties in rating this child for whatever reason, please feel free to use the space provided for comments on the last page.

PLEASE BE SURE TO MARK EVERY STATEMENT

	Rarely applies	Applies somewhat	Certainly applies
1. If there is a quarrel or dispute will try to stop it	0	1	2
2. Offers to share rubbers or pencils being used in a task	0	1	2
3. Will invite bystanders to join in a game	0	1	2
4. Will try to help someone who has been hurt	0	1	2
5. Apologizes spontaneously after a misdemeanour	0	1	2
6. Shares out sweets or extra food	0	1	2
7. Is considerate of the teacher's feelings	0	1	2
8. Stops talking quickly when asked to	0	1	2
9. Spontaneously helps to pick up objects which another child has dropped (e.g. pencils, books etc.)	0	1	2
10. Takes the opportunity to praise the work of less able children	0	1	2

Rarely applies Applies somewhat Certainly applies

11. Shows sympathy to someone who has made a mistake — 0 1 2

12. Offers to help other children who are having difficulty with a task in the classroom — 0 1 2

13. Helps other children who are feeling sick — 0 1 2

14. Can work easily in a small peer group — 0 1 2

15. Comforts a child who is crying or upset — 0 1 2

16. Is efficient in carrying out regular tasks such as helping with school milk — 0 1 2

17. Settles down to work quickly — 0 1 2

18. Will clap or smile if someone else does something well in class — 0 1 2

19. Volunteers to help clear up a mess someone else has made — 0 1 2

20. Tries to be fair in games — 0 1 2

Comments:

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