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The young school-age assessment of attachment (YSAA): Development and preliminary validation

Lynn E. Priddis
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**The Young School-age Assessment of Attachment (YSAA):
Development and preliminary validation**

By

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B. Psych., Dip. Ed., M. Psych., M. Psych (clin).

**A project submitted in partial fulfillment of the requirements for
the award of**

DOCTOR OF PHILOSOPHY

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USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

Abstract

This manuscript describes the development and preliminary validation of a new assessment procedure called the Young School-age Assessment of Attachment (YSAA). The tool has clinical as well as research relevance in that it identifies the attachment strategies of children aged 5-7 years as well as recognising attachment-related problems for this age group. The YSAA is a representational procedure that uses line drawings of a child teddy in attachment-related situations. The stimulus cards, probes, and administration procedures were piloted and refined in the initial stages of this study. The children's narratives that were generated from this procedure were examined for discourse markers derived from the Dynamic-Maturational model of analysing the Adult Attachment Interview (Crittenden, 1999-2004). Enough markers in five memory systems were generated for reliable classifications to be made. A preliminary validation study of the YSAA in a normal population was conducted with 158 children over two years with two data gathering points. Classifications of the YSAA transcripts generated by the children at age 6 years demonstrated strong concordance with classifications made on the Preschool Assessment of Attachment (PAA) (Crittenden, 1995) classifications at age 5 years. There was significant agreement between the YSAA classifications and the sensitive attunement of mother-child dyads on a task that involves the co-construction of episodes as measured by the Autobiographical Emotional Events Dialogue (AEED) (Koren-Karie, Oppenheim, Haimovich, & Etzion-Carasso, 2003). The potential clinical relevance of the YSAA was encouraging as classifications on the YSAA matched parental identification of major problems. They did not, however, predict children's relationships with their teachers (Pianta, 1991) or child behaviour problems as identified by the Achenbach CBCL (Achenbach, 1991). The results are

discussed in the light of current issues raised in the research literature with regard to the use of representational measures with young school-age children. The limitations of this study are highlighted and discussed, conclusions drawn, and suggestions made for future research directions.

Declaration

I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any institution of higher education; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

Signature

Date..... 25/2/05

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TABLE OF CONTENTS

USE OF THESES	ii
ABSTRACT	iii
DECLARATION	v
ACKNOWLEDGEMENT	vi
TABLE OF CONTENTS	viii
CHAPTER I: INTRODUCTION	1
Background	1
Significance of this study	10
Statement of the problem	13
CHAPTER II: ATTACHMENT THEORY	16
Historical overview	17
Concurrent infant research	20
Attachment behaviours in infancy	23
Attachment classification in infancy	25
Upwards extension of the strange situation	28
The move to the level of symbolic representation	31
The Adult Attachment Interview	33
Attachment theory in the school years	37
CHAPTER III: ASSESSMENT OF ATTACHMENT PATTERNS IN THE SCHOOL YEARS	40
Reunion studies	40
Structured Doll-Play Story Stems as stimuli for assessing attachment classifications	46
Attachment Doll-play interview	51

The current status of Doll-play Story Stem narratives.	53
Variations on the Hansburg Separation Anxiety Test (SAT)	55
The SAT in middle childhood	64
Family drawings as indices of attachment	69
Self-report measures	71
Issues arising from review of the literature	73
Variations in methods	78
Summary of issues	83
Current Directions	85
The present study	90
Research Questions	92
CHAPTER IV: DEVELOPMENT OF THE YSAA	94
The informal trials	94
The Pilot study	102
Method	102
Results	106
Discussion	110
Conclusions	112
CHAPTER V: THE CROSS-VALIDATION STUDY	113
Aims and Hypotheses	113
Method	115
- Participants	115
- Instruments	116
- Data Classification	123
- Procedure	135

- Design of the data analyses	139
CHAPTER VI: RESULTS	141
Descriptive statistics	141
Validation analyses of the YSAA with the criterion variable	147
Concurrent validity analyses	148
Exploratory external criterion validity	152
CHAPTER VII: DISCUSSION	157
Summary of development of YSAA	157
Reliability of coders on the YSAA	158
Descriptive Data	159
Validity against the PAA	160
Concurrent validity	163
Clinical Relevance	168
External criterion validity	171
Discussion with respect to research issues	172
Further methodological issues	190
Limitations	195
Conclusions and directions for future research	197
REFERENCES	200
APPENDIX A: Markers for each memory system	215
APPENDIX B: Coding sheets	216
APPENDIX C: Frequency of markers by card	217
APPENDIX D: Internal consistency of cards	218
APPENDIX E: Letter to parents for pilot study	219
APPENDIX F: Letter to parents for main study	220

APPENDIX G: Letter to school principals	221
APPENDIX H: Demographic Questions	222
APPENDIX I: Sample coding sheets for "A" classification	223
APPENDIX J: Sample coding sheets for "B" classification	224
APPENDIX K: Sample coding sheets for "C" classification	225
APPENDIX L: Responses from attachment figures about life events	227
APPENDIX M: Explanation for Del PRE statistic	229
APPENDIX N: Stimulus pictures for the YSAA	231
APPENDIX O: Administration of the YSAA	232
APPENDIX P: Crittenden directions for administering the SAA with suggested adaptations for the YSAA appended.	235

LIST OF FIGURES AND TABLES

Table 1: Internal consistency of cards.	107
Table 2: Means and standard deviations for age by gender.	116
Figure 1: Bar graph of attachment classifications on the PAA.	142
Figure 2: Bar graph of attachment classifications on the YSAA.	143
Table 3: Means and standard deviations for age by gender in the cross-validation phase.	143
Table 4: PAA classification as a function of SES.	144
Table 5: YSAA classification as a function of SES.	145
Table 6: Frequencies and percentages of PAA and YSAA classifications.	146
Table 7: Partial hypotheses for predictions from the YSAA classifications to classifications on the criterion variable the PAA.	147
Table 8: AEED and YSAA Cross-tabulation and percentages.	149
Table 9: ANOVA analyses for Global Rating Scales and classifications on the YSAA.	150
Table 10: Report of the mean and standard deviations for major attachment classifications on Global Rating Scales.	151

Table 11: Mean range and standard deviations for STRS Scales. 153

Table 12: Mean and standard deviation of Teacher-Rated Conflict scores against classifications on the YSAA. 154

Table 13: Cross-tabulation frequencies of CBCL clinical categories with high and low range categories on the YSAA. 156

CHAPTER 1: INTRODUCTION

Currently, reliable and valid procedures exist to assess attachment patterns in infancy, the pre-school years, and in later adolescence and adulthood. A number of procedures have been developed in various laboratories around the world for children in their school years but no one method has proven successful in the same way as have the infant Strange Situation (SS) procedure (Ainsworth & Wittig, 1969; Ainsworth, Blehar, Waters and Wall, 1978) and the Adult Attachment Interview (AAI) (George, Kaplan, & Main, 1985). International researchers and clinicians recognise that the development and validation of attachment indices in early and middle childhood is necessary for the continued advance of the knowledge base that has been established over the last two decades in this field. The aim of this study was to develop a new clinically useful procedure to assess attachment patterns in children aged 5-7 years and to contribute to the growing body of knowledge in the field.

Chapter 1 introduces the development of attachment theory and the assessment of attachment patterns, including the current moves towards the use of representational measures, and it highlights where this study sits in the overall attachment story. Thus, Chapter 1 provides a brief overview that will be deepened and substantiated in subsequent chapters.

Background

The development of Attachment Theory

Attachment theory as first proposed by Bowlby provided a radical shift in thinking about children's emotional development (Bowlby, 1969a). The relationship between infants and their mothers had previously been conceptualized in the psychoanalytic

literature as a symbiotic state in which the infants' innate hunger drives and sucking reflexes were the motivation behind seeking their mothers, or persons who regularly satisfied this innate need (Freud, 1940). Learning theorists then proposed that over time the repeated stimulus and response enabled the infant to "know" this primary figure and to anticipate the satisfaction of the hunger (Maccoby & Masters, 1970). Bowlby believed the emphasis of both these approaches missed the mark. Instead, he proposed that what happens in the relationship between the main caregiver and the child on a day-to-day basis becomes the template for future relationships. It is these patterns repeated over time that are internalised by the child and drive his/her external behaviours. Thus Attachment theory as proposed by Bowlby represented a major paradigm shift in the understanding of the child's social-emotional development.

The development of Attachment theory was stimulated by Bowlby's observations of the distress shown by young children on separation from their mothers, as well as studies of the subsequent effects on personality development of early maternal deprivation. Bowlby integrated his psychoanalytical orientation with learning theory, ethology, neurophysiology, control system theory, developmental biology, and with Piaget's structural approach to cognition (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1957). Attachment theory initially provoked controversy for dispensing with such concepts as psychic energy, drives, and stage development but decades of research has now seen this theory established (Cassidy & Shaver, 1999).

Bowlby proposed that attachment strategies be conceived as a series of behavioural systems that have evolved because they serve to protect the species and ensure its survival. Attachment strategies exist from the 'cradle to the grave,' are

activated by danger or stress, and result in bringing the individual closer to stronger or wiser people for protection (Bowlby, 1977a). He argued that they are as significant a class of behaviour as feeding and reproduction and as essential to the survival of the human species. Bowlby named child behaviours such as smiling, crying or calling out, 'signaling' responses since they usually serve to attract a caregiver to approach the child or to remain close by in times of either physical or psychological danger. This system remains significant throughout the life span. Even in adulthood, attachment strategies are "evident when a person is distressed, ill or afraid" (Bowlby, 2000, p.129).

Bowlby emphasised the reciprocal nature of the child's ties to his/her mother. Each is adapted to the other in the sense that where the child's behaviour fits that of his/her major caregivers and social environment, then his/her emotional and social development will follow a normal course. Developmental anomalies will occur when the child's attachment strategies are not well adapted or are adapted to less than adequate social environments such as instances of being reared in an orphanage. The attachment system proposed by Bowlby matures into a goal-corrected partnership so that both caregiver and child influence each other in a flexible hierarchical organization that takes into account each person in the plans of the dyads. Intimate emotional bonds develop from these attachment behaviours following one of many possible developmental pathways.

Attachment strategies across the life-span

There are strong causal relationships between people's early experiences with their parents and their later capacity to make affectional bonds. Bowlby (1998) proposed that the way the reciprocal relationship between a young child and his/her significant caregivers develops over repeated experiences becomes internalised into

representational mental schema that he called Internal Working Models (IWM). These IWM consist of both cognitions and affects and work to shape a person's relationship with his/her attachment figure in terms of closeness/distance and accessibility (Bowlby, 1998a).

Bowlby's compelling writing captured the attention of the field, stimulating considerable discussion and controversy and attracting researchers who set out to make the attachment constructs. Procedures were developed that were designed to activate the attachment system in normal populations in order that behavioural responses to attachment anxiety might be observed and described. Early research demonstrated that several stable patterns of infant behaviour in this situation could be identified (Ainsworth & Wittig, 1969; Ainsworth, Blehar, Waters & Wall, 1978). Researchers began to probe for common antecedents and consequences of the various attachment behaviour styles that had been observed.

A large body of research has now established that the infant's experience of his/her attachment figure's regular response to attachment seeking behaviour is a powerful influence on the individual's developing style in interpersonal relationships. As children mature, they develop behavioural and mental strategies that promote optimum physical and psychological proximity/contact to their caregivers and ensure safety and protection. Such strategies, originally developed in the dyadic relationship to achieve and maintain proximity, are generalized to other relationships and interpersonal contexts outside the home. Cognitions and affects of early relationships held in IWM influence how the children and later the adolescents and adults feel about themselves, how they expect to be treated, and how they feel about each parent. The IWM begin to operate at an unconscious level with gradual modification with maturation. The patterns of interaction generated by these models

later persist in social contexts and intimate interactions (Bowlby, 1973, 1980, 1998b).

These strategies were originally identified in normative infant populations by Ainsworth (1969) and described as secure, anxious/ambivalent, and anxious/avoidant. Later research identified a disorganized/disoriented strategy that is present both in clinical and normative populations (Main & Solomon, 1986). Some children continue to use the strategies they develop to maintain proximity to their primary attachment figures, even when they no longer serve their original purpose as, for example, once a danger is passed or a new context exists. In such instances the strategies appear maladaptive. Some children identified as early as 2-3 years of age as having difficulties adapting their attachment strategies to other people in their social environment tend to continue to exhibit maladaptive behaviours throughout primary school and into adolescence. In adulthood, under stress, many people will display characteristics of attachment strategies developed in their own childhood (Lyons-Ruth, Bronfan, & Atwood, 1999). Accruing research data on the stability of attachment styles suggests that identification of both normative and of rigid or disorganized styles in early childhood is imperative for the field of mental health.

Overview of the assessment of attachment patterns

It is clear that the attachment system plays a major role in the formation of one's significant relationships and attention now turns to issues of assessing these attachment patterns. Laboratory procedures are in place to assess attachment strategies in infants and pre-school children. In addition a sound procedure to assess attachment patterns in later adolescence and adulthood is available. However, there is as yet no practical and valid way to identify problems in attachment in school children. This is clearly an important gap in our expertise. It is in the school years

that attachment strategies become entrenched in the child's behavioural repertoire. There are a multitude of studies that demonstrate continuity from normative patterns of infant-caregiver attachment to the development of social and emotional competencies in early childhood (Belsky & Cassidy, 1994; Bretherton, 1985; Jacobvitz & Hazen, 1999). At present, without appropriate assessment tools, we cannot assess clearly whether the patterns of attachment are also continuous. Nor can we ascertain the shape of this trajectory for those infants where early attachment patterns were not normative.

In making operational Bowlby's constructs for research with children, Ainsworth (Ainsworth & Wittig, 1969; Ainsworth, Blehar, Waters & Wall, 1978) identified attachment patterns through the infant Strange Situation (SS) measure that creates separation-reunion episodes and that for this age is developmentally appropriate. However, it is less clear that this stimulus is sufficiently arousing to activate the attachment system in older children. Representational approaches have the potential to reveal both the content and the structure of young children's thought and their internal working models of attachment (Solomon & George, 1999).

There is general agreement that children's developing cognitive abilities make a representational approach to assessing their attachment styles possible in early and middle childhood. Reviewers agree that the three types of representational measures so far developed or in the process of being developed are promising. These include: children's drawings (Fury, Carlson, & Sroufe, 1997), Doll Play Story Stem techniques (Bretherton, Ridgeway, & Cassidy, 1990; Emde, 2003; Wolf, 2003) and the various forms of the Situation Anxiety Test (SAT) (Hansburg, 1972). Emde et al, found that children acquire the capacity for narrative around three years of age and

most pre-school children can complete the story stems and he contends that "Narrative organizes the stream of life's experience" (Emde, 2003, p.3).

A full review of representational measures will be presented in chapter three, but one approach that is still in the developmental stage will be mentioned here since it is pertinent to this study. Patricia Crittenden has developed a modified version of the SAT (Hansburg, 1972) in which she uses line drawings of human figures. With an international consortium of researchers known as the Bertinoro School-aged Assessment of Attachment (SAA) Consortium, she has piloted these SAA procedures and begun preliminary work on a new method of coding the children's transcripts using her Dynamic-Maturational system for classifying the Adult Attachment Interview as a basis. The present author has been a member of this consortium and its work has influenced and underpinned this study.

Representational approaches to the assessment of attachment patterns

Emde and his colleagues raise important issues about children's representations. They have noticed that children often intersperse biographical comment into their narratives but that little research has considered the interplay between life experience and created story. They observe also that the difference in the ability of the children to form representations from experience depends in part on the opportunities they have had to co- create narratives about their experience with parents or attachment figures (Emde, 2003). They ask whether both life experience and co-construction factors may confound the relationship between indices of attachment derived from representational probes and those from situational tasks such as the infant SS (Ainsworth & Wittig, 1969; Ainsworth, Blehar, Waters & Wall, 1978). Solomon and George highlight that narrative probe methods make it possible to explore the links between children's and adults' construction of

representational models. Indeed it is to this end that George and West (2001) have developed the Adult Attachment Projective and begun discussion on the similarities and differences between and adult and child representational measures.

As yet these questions have not been answered. Moreover there is little cross validation of any of these representational procedures, a process that is vital if construct validity is to be established. Solomon and George, in concluding a major review of the research into the measurement of attachment security, support the development of a range of adaptations of the various instruments and a range of scoring procedures in order that systematic cross validation may occur (Solomon & George, 1999). To date no particular assessment procedure has stood out to investigators as entirely satisfactory in the way that the infant SS (Ainsworth & Wittig, 1969; Ainsworth et al, 1978) appears so suitable for infants. Solomon and George suggest that investigators must "take care to establish the congruence of new measures with interaction based measures of attachment security" (Solomon & George, 1999, p.305-306). This is important since children's language and cognitive development can influence the quality of their responses to representational stimuli.

Mary Ainsworth when considering attachment assessments beyond infancy stated that the best hope of longitudinal research is to proceed in a leap-frogging sort of operation, "Thus what we know of the manifestations of attachment in infancy can serve as a basis for leaping to a somewhat older period. Having established a base of knowledge there, we can leap forward a few years.....and so on (Ainsworth, 1990, p.487)." The present study focuses on a small leap in time. It aims to target children in the first year of school, that transitional period immediately following the edge of usefulness for the pre-school situational measures but for whom representational measures are just becoming possible.

The current study

The study undertakes preliminary work in the development of a representational tool for use with 5-7 year olds for the purpose of identifying attachment strategies. Because representational methods are in the very early stages of development there are many basic questions pertaining to validity still unanswered for this age group: Can 5-7 year old children identify with line drawings of familiar family situations consistently enough to generate self related stories about the situations? Do these narratives yield attachment-related markers? What types of interview questions maximize this likelihood? Do we know when the child has moved from the general to the personal and does this matter? Are attachment-related markers identifiable in both types of stories? What types of attachment related markers are we looking for?

The development of the measure has been planned in four stages, the first three of which constitute the material of this thesis. The first stage of this study generates a sample of pre-school-age children and establishes a base-line criterion data pool using the Pre-school Assessment of Attachment (PAA) (Crittenden, 1995). The second stage develops the representational instrument known as the Young School-age Assessment of Attachment (YSAA) through a series of pilot studies that address the questions above, that establishes internal consistency of the test stimuli, and develops and trials the administration and scoring procedures for the main study. The third stage forms the main study of this project in which the finalized form of the YSAA is administered to the original sample that has now entered school, scored with preliminary coding procedures, and examined for validity against the PAA. At the same time the validity of the YSAA is assessed on correlate measures. The fourth stage, which is not part of the present research, will develop the final

classification procedures for the new measure. Although the current study stands alone, it is best understood in the context of the total research design.

Significance of this Study

From the 1980s western societies have become increasingly aware of the impact of disturbed children and youth on overburdened public health, welfare, and juvenile justice systems. The prevalence of psychiatric impairment among children and adolescents is high; approximately 20% according to a number of American and British studies (Fonagy, 1996). The incidence of mental health problems in Western Australian children aged 4-16 years was found to be 18 percent with 68 percent of these having more than one problem (Silburn et al., 1995). The incidence of emotional and behavioural disturbance in young children in this state is causing increasing community concern (O'Leary, 2003; Stanley, 2004). Emotional disorders of childhood, traditionally thought to remit spontaneously, have been found to have poor recovery rates and to persist into adolescence and adulthood (Fonagy, 1996; Raphael, 1997). Epidemiological research has tracked the path from early maladaptive behaviour through later more severe disruptive patterns to more extreme anti-social behaviour in adolescence (Mrazek & Haggerty, 1994; Robins, 1999; Robins & Price, 1991; Robins & Rutter, 1990; Rutter, 1989; 1995; 2002). Campbell's 1995 review of prospective studies shows that negativistic, defiant, hostile, and disobedient behaviours are relatively stable over time, often lasting a lifetime. They are also stable within families, so that such disruptive behaviour in childhood predicts similar behaviour in offspring and across multiple generations (Campbell, 1995, 1997, 2002; Farrington, 1991, 1995; Moffitt, 1990; Moffitt, Caspi, Rutter, & Silva,

2002; Rutter, 1989, 2002; Sanders, Turner, & Markie-Dadds, 2002). In a similar vein childhood depression has been found to progress to later affective disorders (Achenbach, 1991; 1999; Fonagy, 1996).

A significant number of publications, research programmes, and mental health initiatives have demonstrated the scientific basis for prevention and intervention strategies designed to meet the needs of this population. However, "treatment interventions available for many of the most recalcitrant disorders of childhood are still sadly relatively ineffective." (Fonagy, 1996, p.3)

One of the explanations for ineffectual interventions concerns the multiplicity of antecedents of behavioural and emotional disorder and the difficulty in choosing an appropriate intervention in an individual case. "Prevention needs to be focused on specific risk or protective factors, firmly rooted in empirically based formulations of the development of the disorder." (Fonagy, 1996, p.7) There should be an increased emphasis on matching treatment and problems.

One antecedent consistently implicated in psychopathology in childhood is disruption in the child-parent relationship with the consequence that a secure attachment to a main care-taking figure does not develop (Bowlby, 1969a; Greenberg, 1999; Sroufe, 1983). Fonagy presents a model that links early attachment patterns to later attachment patterns and to criminality (1996). A strong relation between insecure attachment patterns in young children and aggressive or poorly adjusted behaviour has been found consistently (Fagot & Gauvain, 1997; Fagot & Kavanagh, 1990; Greenberg, 1999; Le Blanc, 1994; Le Blanc & Kaspy, 1998; Lyons-Ruth, Alpern, & Repacholi, 1993; Lyons-Ruth, Zeanah, & Benoit, 2003). A similar relationship has been found for conduct problems in early childhood (Greenberg, 1999). More recently, disorganized attachment in childhood has been

linked to later psychiatric conditions (Lyons-Ruth, 1996; Lyons-Ruth et al., 2003; Rosenstein & Horowitz, 1996; Weinfeld, Sroufe, Egeland, & Carlson, 1999; Weinfeld, Whaley, & Egeland, 2004). Research has demonstrated that children identified as hard to manage at ages three or four have a high probability of continuing to show difficulties into adolescence (Campbell, 1995, 1997, 2002). There is now sound evidence to suggest that an insecure attachment relationship in infancy and early childhood is one factor that increases the risk of psychological disturbance in later development (Fonagy, 2001; Hinde, 1997; Sroufe, Egeland, & Carlson, 1999). Thus for successful intervention the problem needs to be identified early and a differential diagnosis of causation made for the particular case.

Diagnosis poses two problems: First it may already be well into the primary school period when the child's maladaptive behaviour becomes extreme enough to warrant referral. Second, in the case of the attachment domain, valid procedures for investigating an etiology that is based on the use of insecure attachment strategies are not yet available. Procedures to assess security of attachment are available for infants, toddlers, pre-schoolers, older adolescents, and adults providing a rich range of models for the development of further tools. However, at the critical period of referral namely, the beginning of the school years, there are as yet no validated assessment procedures available. One reason for this perhaps lies in the dynamic nature of the behavioural expression of the attachment system. Reorganisation as part of development and maturation adds a complexity to all forms of developmental assessment. Infancy, early childhood, and adolescence are all periods of development characterized by rapid biological and neurophysiological changes that must be recognised if new procedures are to be meaningful. Indeed the usefulness of the original Ainsworth infant SS procedure has been restricted to 11-15 months

(Crittenden, 2003a) accommodating new developmental knowledge from the field. Downward extensions of the Adult Attachment Interview (Main & Goldwyn, 1984) to the adolescent years have not yet been unequivocally successful. The years between five and seven constitute another such period of rapid developmental reorganisation of both cognitions and affects. These years represent a transitional period between early and middle childhood and thus we find a wide range of behavioral sequelae for the attachment system. The function of behaviour for the individual then assumes even more significance. Any assessment of attachment in this transitional period must necessarily account for these developmental changes. If we are to build on the existing measures it will take time before the knowledge base is broad enough for researchers to expand into the middle childhood years.

Statement of the Problem

Currently few procedures exist to enable the identification of attachment strategies in young school-age children. Most emotional and behavioural disorders have their genesis in the child's early years and without intervention or adaptation most problems will continue into later childhood and adolescence. Since there are many causative factors it is essential that a differential diagnosis of aetiology be made at the time of referral. One important antecedent variable is failure to achieve a secure attachment relationship in infancy. This predisposing factor is amenable to early intervention. Intervention and treatment programmes are most successful with children younger than about three years but early referral is not always possible. Procedures are available to identify attachment problems in the younger children but they are not yet available for school-aged children. At this age it is difficult to

construct a laboratory research situation that generates sufficient anxiety to stimulate attachment behaviours in the child. Modern children, in Western societies in particular, typically manage daily separation from their attachment figures quite well as they experience day care, kindergarten, and pre-school, so that it seems likely the separation-reunion procedures will not activate the attachment system as they do for younger children. Recent research has shown that it is possible to work at the representational level with pre-school children and school-aged children as well as with adults. There are some promising single probes for these early age groups at the symbolic level, none of which has yet achieved satisfactory diagnostic validity (Emde, Wolf, & Oppenheim, 2003; Solomon & George, 1999).

The MacArthur group has established that pre-school children can create narrative with story stem probes that lead the children into semi-structured story. It appears that school-aged children can respond creatively with representational material to cards depicting familiar social situations. For the cusp year, as the child moves from pre-school to the school situation, aged 5-7 years in many cultures, it remains unclear as to the type of probe that will maximize representational material.

There is consensus between all reviewers of the deficiencies in the current state of the technology. All are demanding cross validation studies outside the developing laboratories and in other cultures (Emde et al., 2003; Greenberg, 1999; Main & Goldwyn, 1984; Solomon & George, 1999; Teti, 1999; Wright & Binney, 1998). Procedures for rating the child's performance on most of the assessments currently in process are complex and training is necessary for their use. Different coding manuals and different coding criteria exist for each method. There is also new knowledge continually emerging about attachment representations that has not yet been incorporated into scoring procedures (Crittenden, 2000).

The present study describes the development of a procedure for the assessment of attachment patterns in 5-7 year old children. The assessment procedure takes a representational approach. Adaptations in the procedure to account for new knowledge in the attachment field are included in its construction. This study is unique in that the newly developed assessment procedure, the YSAA, will be validated against the PAA (Crittenden, 1995) which is an established classification of attachment, and will be made in the latest possible year for a valid in situ assessment (i.e. the year the children turn 6). The time lapse between assessments is minimized in the study, by giving the YSAA in the year following the PAA. Classificatory procedures for the early childhood years have been typically validated against: measures taken in infancy many years previously (Main & Cassidy, 1988), concurrent attachment measures that have minimal proven validity (Bretherton, Prentiss, & Ridgeway, 1990; Cassidy & Marvin, 1987; Cassidy & Marvin, 1990, 1991; Shouldice & Stevenson-Hinde, 1992), other related behavioural indices (Cohn, 1990; Teti, 1999; Teti & Gelfand, 1997; Wartner, Grossman, Fremmer-Bombik, & Suess, 1994) or home observations as in the original Ainsworth procedures (Ainsworth et al., 1978).

CHAPTER II: REVIEW OF THE LITERATURE ON ATTACHMENT THEORY

The preliminary constructs of attachment theory were originally proposed by John Bowlby in 1957 and fully articulated in the first volume of his trilogy on Attachment and Loss in 1969, and second volume in 1973 (Bowlby, 1957; 1969a; 1973; 1986). His colleague, Mary Salter Ainsworth, made the first attempts to make these constructs operational so that they might be observed and measured (Ainsworth et al., 1974; Ainsworth & Wittig, 1969; Ainsworth et al., 1978). Students of these pioneers including Mary Main, Patricia Crittenden, Robert Marvin, Allan Sroufe, Inge Bretherton, and Everett Waters as well as later researchers such as Peter Fonagy and others have revised and extended the original attachment constructs.

This chapter begins with an historical overview of the development of attachment theory. It continues with a focus on Crittenden's Dynamic-Maturational Model that expands both the original classifications proposed by Ainsworth (Ainsworth et al., 1978) as well as the later classifications of Main (Main & Cassidy, 1988; Main & Goldwyn, 1984; Main & Solomon, 1986; Main & Solomon, 1990) to account for the many patterns that were becoming identifiable in the complex Cannot Classify categories. The central focus of the chapter is on the methods so far developed for assessing attachment security in infants and young children at both the level of behaviour and the level of representation. Procedures developed for assessing attachment representation in adults and adolescents are reviewed. The problems involved in establishing reliability and validity for all the procedures are also addressed. Such a review can be structured historically, by age group or by type

of procedure. In this particular research domain all three perspectives can be offered simultaneously as progress has been orderly. Different age groups have been targeted in turn and the differential cognitive competencies of the age group have influenced the type of procedure constructed. This chapter largely follows this developmental structure. It begins with Bowlby's initiatives before moving into the research paradigms developed by Ainsworth to examine these constructs with infants and concurrent infant research. The chapter outlines upward extensions of the procedures to the pre-school periods and then the influential development of the assessment of attachment in adults that is moving downwards towards the adolescent years before examining the gap that is left in the school-years.

Historical development of attachment constructs

Attachment theory originated with John Bowlby, who was initially a child psychiatrist influenced by Melanie Klein, and later a World War II army psychiatrist. In 1950 he was employed by the World Health Organization under Ronald Hargreaves to report on the mental health of homeless children. This gave Bowlby the chance to meet with and to read the works of clinicians on both sides of the Atlantic who had been making observations independently of each other on the harmful-effects on personality development of prolonged institutional care or frequent disruptions to the mother-child relationship in the early years of life. Thus Loretta Bender, Dorothy Burlingham, Anna Freud, William Goldfarb, David Levy and Rene Spitz all had an influence on Bowlby at a time in history when learning theory and traditional psychoanalytic approaches dominated.

Dorothy Burlingham and Anna Freud worked with children whose parents had been unable to care for them as the result of World War II. They reported on the emotional damage to many of these children, describing many of them as "impossible to reach" despite extensive efforts by carers. Their work made it clear that those children placed with a sibling were more likely to be psychological survivors (Burlingham & Freud, 1942; 1944). Bowlby's own experience with depression in children orphaned by the Second World War confirmed the growing belief that a child's attachment to his/her mother is not due to seeing her as a source of satisfaction of hunger alone or the result of internal phantasy. One of his earliest papers had linked deviant behaviour in young children with separation from their parents (Bowlby, 1944). Bowlby identified that many of the young 'affectionless' thieves he studied had suffered prolonged disruptions to the parent-child relationship after six months of age. In his report to the World Health Organization, he described institutionalized children who developed similar symptoms to the young thieves in his previous work and grew into individuals who lacked feeling, had superficial relationships, and exhibited hostile or antisocial tendencies (Bowlby, 1951).

Bowlby was particularly influenced by Spitz's work on the anaclitic depression of infants who had been separated from their mothers after about six months of age. These infants had typically been placed in hospitals where their hunger needs were meticulously met by a multiplicity of carers (Spitz & Wolf, 1946). Many of these infants turned their faces to the wall, refused food, and died. Bowlby agreed with Spitz that even though the children's physical needs were met the loss of comfort provided by a single important caregiver or attachment figure caused the depression. Films made by both Spitz (Spitz, 1947) and Bowlby's own research assistant and social worker, James Robertson (Robertson, 1952), supported

Bowlby's newly emerging hypothesis about the need for a child's attachment to a main caregiver. Bowlby with James and Joyce Robertson spent four years 1948-1952 documenting and filming the effects of separations on young children (Robertson & Robertson, 1967-1972). This work highlighted the emotions that accompany disruptions to the attachment relationship and confirmed that depressive symptoms and emotional damage do develop in children deprived of attachment figures. The films became both very influential and also controversial at this time. Controversy remained centred on the contrasting explanations from traditional psychoanalysis and from learning theory about how the documented experiences could have such an effect on the personality. Two important reports in the 1960's provided support for Bowlby's theoretical position. The first was the independent dissemination of a World Health Publication that reviewed the evidence and arguments for each position (Ainsworth, 1962) and the second was a series of studies by Harry Harlow in the United States of America (Harlow, 1958; Harlow & Zimmerman, 1959).

Harlow, inspired by Spitz, submitted supporting evidence for the importance of maternal care on mental health by showing that rhesus monkeys fed by wire surrogate mothers failed to thrive. This led Harlow to conclude that monkeys provide their newborns not only with the essential nourishment and protection from danger but physical and psychological warmth (Harlow, 1958; 1959), a conclusion that concurred with Bowlby's strengthening position.

Searching for further theoretical explanations for his observations Bowlby turned to the field of ethology with its emphasis on naturalistic observation and evolutionary biology. Drawing on the work of Lorenz (1957) on imprinting in geese

he proposed that there was an innate propensity in the infant to bond with one or several attachment figures.

What for convenience I am terming attachment theory is a way of conceptualizing the propensity of human beings, to make strong affectional bonds to particular others, and of explaining the many forms of emotional distress and personality disturbance including anxiety, anger, depression and emotional detachment, to which unwilling separation and loss give rise (Bowlby, 1977a, p.201).

Bowlby thus began with a particular childhood trauma and traced the sequelae prospectively. In the same way as ethologists collected their data, Bowlby used direct observational methods with particular emphasis on recorded thoughts and feelings of children in defined situations (Hinde, 1974). From this data he began to build his theory of personality development which he termed *Attachment Theory* and which has since become the theory of socio-emotional development with possibly the strongest research base (Bowlby, 1998c).

Concurrent infant research

The shift in conceptualization of the nature of the attachment bond as articulated by Bowlby was supported by concurrent infant research. Infants were shown to participate in relationships with much greater competence and autonomy than previously assumed. It was demonstrated also that newborns have the capacity to learn from the first week of life. Their ability to learn was demonstrated to improve significantly with each month of age (Ainsworth, 1967; Bell, 1970; Papousek, 1967; Papousek & Papousek, 1975, 1977). Importantly, research clearly identified that the infant's ability to integrate his/her learning experiences was affected by his caretaking

and social environment (Bell & Ainsworth, 1972; Papousek & Papousek, 1977). Gross disruptions to the infant-mother relationship as in 'maternal rejection' were shown to result in what was termed 'psychosocial dwarfism' (MacCarthy & Booth, 1970). This early research gradually made it clear that the neonate 'is not a helpless partner in a symbiotic relationship', but is very pro-active in stimulating maternal response. It became apparent that such an early imperative served an urgent developmental function. It was proposed that the infant's attachment signals usually activated protective and soothing responses in the mother that were necessary for the infants' emotional security.

The plausibility of the attachment viewpoint gave rise to immediate research activity. Tronick and his colleagues videotaped face-to-face interactions of adults and infants and discovered how infants are capable of reciprocity in their interactions with another person so that mutual cycling exists between the partners in the social exchange (Tronick, Als, & Brazelton, 1977). This early work has been confirmed by more recent research on the development of the central nervous system that demonstrates that specific sensory experience is required for optimal organization and development of any brain area (Siegal, 2003).

John Bowlby wrote in 1969 that the attachment relationship directly influences the infant's capacity to cope with stress by impacting on the maturation of a control system in the infant's brain that comes to regulate attachment functions (Bowlby, 1969a). From the very start Bowlby said that a deeper understanding of the complexities of normal development could only be understood through an integration of developmental psychology, psychoanalysis, biology, and neuroscience.

Recent research reviews confirm this. Schore draws attention to attachment experiences and their effects on brain-based regulatory structures and functions and

how they provide us a deeper understanding of normal development (Schore, 2001a, 2001b; 2003a). Emde demonstrates how meaningful stimulation from multiple domains maximizes learning (Emde & Hewitt, 2001). It has been found that when such stimulation is absent dysfunction in brain-mediated functions such as empathy, attachment, and affect regulation is inevitable (Perry, 2002; Perry, Pollard, Blakley, Baker, & Vigilante, 1995; Schore, 1994; 2001a; 2001b).

Emotional stress and deprivations of appropriate affective experience early in life have been clearly shown to decrease the strength of sub-cortical and cortical impulse-modulating capacity (Benes, 1994) as well as to affect the levels of cortisol in the developing brain (Shonkof & Phillips, 2001). The neuro-psychological sequelae of early abuse have become increasingly clear. A child whose stress-response apparatus is persistently activated during development will develop a stress-response neural system that is overactive and hypersensitive. This may be adaptive in some situations but will ill serve the child in different environments and can result in impulsivity and cognitive distortions (Benes, 1994; Perry, 2002; 1999; 1995; Schore, 1994; 1996; 1997; 1998; 2000a; 2000b; 2001a; 2001b; 2002a; 2002b; 2003a, 2003b; Siegal, 2003; Trevarthen & Aitken, 1994).

We now know that the child who is reared in an atmosphere of either heightened negative affect or neglectful care-taking relationships, risks laying down abnormal structures and chemical pathways in the brain that predispose that person to psychopathology later in life (Schore, 1997; 2003a).

The development of attachment behaviours in infancy

Bowlby argues that the infant's proximity-seeking signals and the reciprocal parental protective behaviours have an essential biological function (Bowlby, 1969a; 1969b). This is to both protect the infant and to provide an environment for its affective development. Both Bowlby and Ainsworth have emphasised that attachments imply strong affects-"not only security, anxiety, fear and anger, but also love, grief, jealousy and indeed the whole spectrum of emotions and feelings" (Ainsworth et al., 1978, p.23). Thus there is a genetic bias for infants to behave in ways that promote contact with adult figures and the quality of this contact shapes the neurological structures involved in the emotional and behavioural development of the child.

Bowlby postulated four phases in the development of a child's attachment to his/her mother (Bowlby, 1969b). Firstly the infant reared in a social environment becomes attached to one or a few significant figures about the middle of the first year of life. The first few weeks are characterized by the infant orienting to anyone who comes close enough. Infants direct their gaze and track with their eyes the movement of anyone in close proximity. The infant is equipped with a repertoire of signaling behaviours such as crying and gurgling or smiling that induce other people to maintain their proximity and contact with the infant. The second phase begins with clear discrimination of familiar figures and an expansion of the repertoire of attachment behaviours such as co-ordinated reaching. This phase coincides roughly with Piaget's second and third stages of sensorimotor development (Piaget, 1954).

The third phase is characterized by more active proximity seeking by the infant beyond mere signaling behaviours. Usually the infant is mobile and

locomotion serves the attachment system. Distant exploration, following and approach behaviours as well as climbing up on an attachment figure can be observed. Language also is developing in this phase. Phase three coincides approximately with Piaget's stage four of sensorimotor development. The infant can conceive of the attachment figure as existing even when absent, as persistent in time and space and as moving predictably in time (Ainsworth et al., 1978). Separation distress is particularly likely to occur in phase three as locomotion and goal-corrected behaviour emerge. During the second half of the first year of life an infant's attachment behaviour becomes increasingly 'goal-corrected' (Bowlby, 1969a), in that the infant will have a certain 'set-goal' of proximity to his/her attachment figure and his/her attachment system will be activated if that distance is exceeded. The infant in this phase is capable of adjusting plans according to parental behaviour, in the sense that when mother is unavailable and the infant's attachment system is activated, then the infant can adjust plans to a certain extent in accordance with the mental representation he/she has built up. Bowlby and also Ainsworth hasten to point out the egocentricity of an infant at this phase and the necessity of the adult to accommodate also to the infant's plan.

Phase three as conceived by Bowlby continues throughout the second and third years of life. In this phase inner representation of attachment figures and of one's self in relation to them develops rapidly (Ainsworth et al., 1978). The main feature of the fourth phase is the lessening of the egocentricity to the point that the child is capable of seeing from the attachment figure's point of view. This means the child can then begin to infer feelings and motives and plans and can actively work to influence important others. The relationship between attachment figure and child then becomes more complex and Bowlby recognised this in calling it a partnership

(Bowlby, 1969a). With the development of communication and of the symbolic representations implicit in working models of self and others, interactions between children and their attachment figures become more subtle and more varied (Ainsworth et al., 1978). Thus the dynamic balance between attachment and exploratory behaviours in all phases was considered by Bowlby to be ethologically driven.

Attachment classification in infancy

As explained in chapter one, Bowlby's colleague, Mary Salter Ainsworth, moved quickly to define these constructs in researchable terms. Ainsworth and her laboratory (Ainsworth et al., 1974) developed procedures to assess both maternal responsiveness to the infant's signals and the infant's behaviour where the attachment system is activated. Ainsworth postulated that a sensitive parent is aware of the baby's attachment signals, accurately perceives and interprets them, responds to them promptly and adequately, and that the quality of the infant's attachment is influenced by this maternal sensitivity (Ainsworth & Wittig, 1969).

To measure the quality of maternal responsiveness, careful at-home observations of dyadic interactions were made and rated on scales for sensitivity, acceptance, co-operation, and psychological accessibility. Between 1971 and 1974, with Stayton & Bell, Ainsworth developed the infant SS as a laboratory analogue of a situation that would activate attachment behaviour in infants (Ainsworth, Bell, & Stayton, 1972; Ainsworth et al., 1974).

The infant SS is an eight stage structured procedure, each stage lasting up to three minutes. The stages involve various combinations of the child and mother and

stranger together in a playroom and one stage where the child is alone. The stages are designed to create sufficient variations in stress to enable the observer to rate the child's exploratory behaviour, affiliate behaviour, and attachment behaviour. In this procedure proximity/contact seeking could be activated and observed. This test was designed for infants from twelve to twenty months of age for whom the absence of the mother for a short period of time (up to three minutes) poses a threat.

If the infant's experiences with the mother have led her/him to expect that the mother will return shortly and care for him/her, the absence will be tolerated without undue distress and the infant can maintain some exploratory behaviour. The infant in this case is deemed to have established a secure attachment with the mother. The authors found evidence that at 12 months of age there were individual differences in infant behaviour in this situation which suggested that some infants were "securely attached" to their mothers and others were not (Ainsworth et al., 1974).

In order to establish construct validity for the infant SS measure, the concordance between the responsiveness of the mother to her infant and the infant's security classification at 12 months was examined (Ainsworth et al., 1978). It was found that infants whose mothers were rated "sensitive" responded to such care cooperatively and displayed secure attachment. Babies who experienced relatively insensitive parenting tended to be fussy, demanding, uncooperative, and generally difficult to handle. At 12 months there was a distribution of attachment patterns as follows. In approximately two-thirds of dyads the infants were classified as Secure "B" and these infants usually had sensitive mothers, one third were classified as Avoidant "A" and mostly had interfering/rejecting mothers, and a small minority were Ambivalent "C" with inconsistent mothers. Ainsworth and her colleagues

identified mutual sensitivity and responsiveness as the foundation of a secure attachment relationship (Ainsworth et al., 1978).

Ainsworth established a culture in which training was provided in the use of her procedures so that cross-laboratory replication was possible. Wherever data on infant classifications have been gathered with the infant SS the same three patterns emerge and usually two thirds of the infants have been found to be secure (van Ijzendoorn & Kroonenberg, 1988; van Ijzendoorn & Sagi, 1999). Crittenden reports that whenever videotape based, revised, and elaborated coding procedures are used, the proportion of security drops so that it is about fifty percent when assessed in safe environments. It may be lower if there is danger in the child's environment (Crittenden, 2000). Maternal sensitivity to infant signals has been found to predict security of attachment in the infant to a significant degree in many studies (Belsky & Fearon, 2002). Individual studies have shown that attachment security to mothers is independent from that to fathers or to other caregivers (Belsky & Rovine, 1987; Howes, 1999; 2001; Main & Goldwyn, 1984; Main & Weston, 1981; Steele, Steele, Croft, & Fonagy, 1999; 1995). This suggests that the test is indeed assessing a relationship rather than an "in-infant" variable such as temperament.

In the original Ainsworth research (Ainsworth et al., 1978), some of the children did not fall into the dominant three attachment categories but appeared to use a mixture of insecure styles. Further investigation (Main & Solomon, 1986) suggested that this group forms a fourth important category of "D" type insecure infants with a disorganized attachment pattern. Other atypical patterns have been subsequently found especially among high risk samples leading to revisions of Ainsworth's original classifications (Crittenden, 1985; 2003a; Lyons-Ruth, 1996).

The Ainsworth system of classification of attachment patterns, via the observation of infant's behaviour in the laboratory, has been both "intuitively and theoretically compelling" (George & Solomon, 1999, p.289). It has been found reliable within and across laboratories. In particular, infants exhibiting the "D" pattern (Main & Solomon, 1986), A/C pattern (Crittenden, 1985) and U pattern (Lyons-Ruth, Repacholi, McLeod, & Silva, 1991) have been found to develop later behavioural problems (Carlson, 1998; Lyons-Ruth, 1996; Zeanah, 1996; Zeanah, Larrieu, Heller, & Valliere, 2000).

Classifications obtained with adaptations of the Ainsworth SS for older age groups have shown significant concordance with the infant measure (Main & Cassidy, 1988; Wartner et al., 1994). The traditional Ainsworth classifications for the infant measure are seen today as suitable for infants aged 11-15 months (Crittenden, 2003a). As with the Stanford-Binet in the assessment of mental abilities, the Ainsworth SS has been used to validate later assessment instruments in the attachment domain. Its wide spread acceptance has however prevented other construct validation studies, as there are few alternative established procedures of attachment security to use in this process.

Upward extensions of the Ainsworth Infant Strange Situation (SS) procedure to the pre-school period

The infant SS procedures have been extended and adapted in accordance with a developmental perspective for older toddlers (21-65 months) by two groups: Cassidy & Marvin with the McCarthur Working Group (Cassidy & Marvin, 1987; 1990; 1991) and Crittenden (1992a; 1992b; 1995). The situation and procedure remain much the

same as for the infant SS but the scoring criteria take into account maturing cognition. Beyond this age group there is doubt that a three-minute separation situation is an adequate trigger for the attachment system.

The Cassidy-Marvin system focuses on continuity in attachment behaviour. The criteria for the secure, insecure-avoidant, and insecure ambivalent groups of pre-schoolers remain similar to that of the infant measure. The "D" category includes the disorganized group and also those children who exhibit "controlling" (punitive or care-giving) behaviours as identified by Main and Solomon (Main & Solomon, 1986; 1990). A new category of "IO" (Insecure-other) has been added for children who do not fall into the other three insecure groups (Cassidy & Marvin, 1987; 1990; 1991). Secure and insecure attachment classifications in this system map well onto other representational methods designed to assess attachment measures (Bretherton, Ridgeway et al., 1990; Shouldice & Stevenson-Hinde, 1992). There has, however, been no test of construct validity that assesses attachment behaviours in the laboratory against behaviours at home (as done in the original Ainsworth measure) for the Cassidy-Marvin system or indeed for the Crittenden alternative (Solomon & George, 1999; Teti, 1999).

Crittenden's "Dynamic-Maturational" rationale for the Pre-school Assessment of Attachment (PAA) takes into account the maturing cognitive capacity of the child. The PAA expects pre-schoolers to have the capacity to make clearer perceptions of their interactional context and to use more subtle strategies to maximize safety and protection. The infant and toddler, in a context where the expression of fear or need for comfort brings parental withdrawal, can only inhibit affective expression and avoid the attachment figure. In the pre-school period the child may appreciate the anxiety in the mother and gain proximity by caring for her. Similarly, a small child in

an inconsistent responsive environment becomes hyper-vigilant and adjusts behaviour in tandem to the attachment figure to maximize protection, moving between coy seductive behaviour and demanding behaviours. These new behaviours are recognized in the PAA by the addition of the "A3-4" or compulsive caretaking and compulsive compliance category as well as the "C3-4" categories of aggressive-feigned helpless. An "A/C" classification is given to children who vacillate between A and C type strategies (Crittenden, 1995). Validity for the Crittenden procedure comes from evidence that PAA classifications can be predicted from maternal behaviours (Fagot & Pears, 1996; Teti & Gelfand, 1997) although Teti reported inconsistent findings in one study (Teti, 1999).

Crittenden's Dynamic-Maturational model of attachment offers an explanation for the generally agreed-upon conclusion that a lack of secure relationships creates risk (2000). In this model Crittenden emphasises the notions of adaptation, development, and change. Crittenden explains that an anxious attachment is not classified merely when a participant is anxious, but only in relation to whether there is something to be anxious about. For example, if there is danger in the environment and a child uses a strategy to increase his/her safety, it is adaptive. Security in this model is conceptualized as a strategy of open and direct communication of intentions and feelings. Anxious attachment strategies in the Dynamic-Maturational model are adaptive when there is danger and a lack of protective parents. They are maladaptive when:

- a. The parent's past endangerment is experienced vicariously by the child in the absence of actual threat to the child, i.e., the child organizes anxiously around the parent's fear.

b. A past (real) danger to the child is no longer a danger, i.e., the child should change strategies from anxious to secure.

c. The past real danger remains but, because of developmental advances, it no longer is a threat to the individual. Again, there should be a change of strategies such as when formerly endangered adults are balanced in telling about their childhood in the AAI (Crittenden, 2000).

Although both the Cassidy-Marvin system and the PAA both developed from similar roots and therefore have common elements they have different coding manuals and different coding criteria. The concordance between the two systems remains unclear with few comparative studies ever reported. One such study reported 38-39% agreement on major classifications between the two systems with a better result for the secure-insecure split (Crittenden & Claussen, 1994). Training in both systems is available and reliability of at least .75 is usually reported. Solomon and George in a review of the pre-school measures found it difficult to choose between the two systems, and concluded that "both seem to capture some of the variance in pre-school mother-child relations" (Solomon & George, 1999, p.302).

The move to the level of symbolic representation

As noted in the overview in chapter 1, Bowlby proposed the concept of "internal working models"(IWM) of both one's self and one's attachment figures in order to explain how patterns of attachment become increasingly internalised (Bowlby, 1973; 1980; 1998b). The IWM develop over real life experiences of day-to-day interactions with the child's attachment figures so that they become established as influential cognitive structures. As the patterns persist IWM become internalised and

come to operate at an unconscious level. Bowlby named these developing representations "working models," to recognise that they are continuously being updated in the light of the child's growing maturity and changing interactions with his attachment figures. For a securely attached child "this means that, though there is always a time-lag, his/her currently operative models continue to be reasonably good simulations of himself and his parents in interaction". For an anxiously attached child however "this gradual updating of models is in some degree obstructed through the defensive exclusion of discrepant experience and information" (Bowlby, 1998b, p.130).

Internal working models become generalized and unconscious so that when the individuals are dealing with persons who treat them entirely differently from the way that their parents treated them when they were a younger child, their habitual patterns of interaction, as informed by their IWM, persist. Just as in psychoanalytic therapy the degree to which communications between two individuals may be restricted or relatively free, so too may the communication of individuals who have different styles of attachment strategies (Bowlby, 1998b).

Main, Kaplan and Cassidy were the first to reconceptualize IWM as internal representations of the self in relation to attachment figures and thus to focus on representation and language (Main, Kaplan, & Cassidy, 1985). Whereas infants encode IWM in terms of sensorimotor or enactive representations, Main and her colleagues examined how pre-schoolers begin to use symbolic forms and to encode knowledge conceptually and how IWM affect language and thought as well as nonverbal behaviour. In an original and thoughtful study these authors compared early differences in security of infant-parent attachment to the representational level of speech and behaviour in childhood and in adulthood. The study linked parental

representations of attachment with infant patterns of attachment as well as with representations of attachment when the children were aged six years. The childhood assessment was based on transcripts of parent-child speech during a reunion episode, observations of the child with a photograph of the child's attachment figure, and an interview with the child about a picture-child's possible feelings about separation (Main et al., 1985).

Clinicians have long understood that the way in which parents understand their own life histories shapes the way they conceptualize and subsequently treat their infants (Fraiberg, 1994; Miller, Rustin, Rustin, & Shuttleworth, 1989). Main and her colleagues were the first to study this systematically in a groundbreaking piece of research (Main et al., 1985). To assess adult working models of attachment these authors constructed an adult attachment interview that has since been the vehicle for a plethora of research studies for twenty years (George et al., 1985; Main & Goldwyn, 1984). The study found that the mother's state of mind with regards to attachment when the child was six years was strongly associated with the infant's attachment status as measured when he/she was 12-18 months. Discourse patterns between both mother-child and father-child were also predicted by strange situation assessments conducted in infancy. Hesse suggests that this study marked the "first time representational processes as the mediator of differences in parental care-giving were made accessible to investigation" (Hesse, 1999,p.395).

The Adult Attachment Interview

The Adult Attachment Interview (AAI) asks the participants for descriptions of early relationships and attachment-related events and for their sense of the way these

early relationships and events have affected their adult personalities (George et al., 1985). The interview is semi-structured and the series of questions about attachment experiences are graded in terms of threat. For an adult who has had 'good enough' parenting or who has a balanced view of his/her own history the threat is minimal and the interview proceeds easily and appropriately. The interview is designed to activate attachment-related anxiety that mounts as the questions elicit more memories across affective, imaged, episodic, semantic, and procedural channels. Cases in which childhood experiences with attachment figures were unsatisfactory or abusive or have not been worked through sufficiently for the interviewee to have developed a coherent narrative of his/her own life story are identified by analysis of the interview material. The strategies typically used for handling anxiety-provoking situations around attachment issues come into play both in verbal behaviour toward the interviewer, and defensiveness or distortion in the presentation of the material. The interview is transcribed verbatim and coded according to a scoring system devised by Ruth Goldwyn (Main & Goldwyn, 1984; 1998). The events themselves are not considered in their actuality or reality, and the strategies identified are based on the participant's current state of mind with respect to attachment rather than the actual history.

Three major patterns of AAI response were identified in the construction of the AAI: Secure, insecure-avoidant, insecure-ambivalent (Main & Goldwyn, 1984). In a study conducted in 1985, these researchers identified a group of people who were unresolved with respect to the loss of an attachment figure. An 'unresolved' category was now added to the original three patterns (Main et al., 1985). A secure attachment was characterized by coherence in the discussion of the attachment history and its perceived influence on the current personality of the interviewee as well as a collaborative approach to the interviewer. Secure adults were also able to integrate

both the positive and negative aspects of expression and feeling as well as to access both negative and positive information. The children of these parents were usually classified secure. Interviews were classified as dismissing when features of the secure interviews were not present and when attachment relationships were dismissed "....as being of little concern, value or influence" (Main et al., 1985, p. 91). The discourse of avoidant/dismissing interviews was characterized by inconsistency and contradiction especially between semantic and episodic descriptions of attachment figures as well as a frequent inability to recall early childhood events. In the 1985 study, these participants were often parents of children and infants classified as insecure-avoidant. The insecure-ambivalent adults seemed preoccupied with dependency on their own parents and still actively struggled to please them. Their discourse was characterized by oscillations in viewpoint, irrationality, and wandering off the topic or question. These parents mostly had insecure-ambivalent children and infants. Where there was marked unresolved loss in the parent, the children were identified by an insecure-disorganized/disoriented pattern of attachment in the 1985 study (Main et al., 1985).

Hesse delineated a fifth category named Cannot Classify "CC" (Hesse, 1996) for "...when the interview manifests a combination of contradictory and incompatible linguistic patterning" (Hesse, 1999,p.398). This category is rare in normative populations but has been found in higher proportions in populations where there are psychiatric disorders (van Ijzendoorn & Bakermans-Kranenburg, 1996). A recent review of research with the AAI has shown that evidence for reliability and discriminant validity is impressive (Hesse, 1999).

Crittenden expanded the analysis and the scoring system of the AAI in order to classify more precisely those transcripts that were originally labelled 'Cannot Classify'. The Crittenden method of analysis of the AAI was developed on samples

with wider cultural variation and psychopathology than that of the Main and Goldwyn method. Crittenden takes a "Dynamic-Maturational" approach to analysing the Adult Attachment interview focusing on the "...dynamic change processes that culminate in adulthood" (Crittenden, 1999-2004, p.1). Maturation is seen as occurring in dynamic interaction with experience across the life-span so that attachment strategies are open to change or reorganisation as a result of neurological maturation as well as experiences and changing contexts. The Dynamic-Maturational approach has as its fundamental base the underlying ethological principle that attachment strategies are organized in response to danger. Each pattern identified is seen as a strategy to reach a solution for a problem and is maintained because it "...serves or once served a protective function for the individual" (Crittenden, 1999-2004, p.5). Self-protective strategies are conceptualized as utilising both cognitive and affective information and it is the use of these aspects of information processing that forms the basis for the Dynamic-Maturational coding system. Crittenden has expanded both the dismissive and preoccupied classifications to include *compulsive dismissing* "A3-6" or "A+" and the *obsessive preoccupied* "C3-8" or "C+" sub-patterns, as well as patterns that include combinations of patterns "A/C" and "AC". Most recently Crittenden has identified additional patterns of *disorientation* "DO" and *disorganization* "DX" that are identified by specific markers. These new strategies are observed to function in transcripts characterized by distortions and incoherence that are outside the speakers awareness (Crittenden, 2004). These categories have particular relevance to work with clinical populations.

As in the tradition suggested by Ainsworth, researchers are working downwards in attempts to adapt the AAI to work with adolescent populations

(Ainsworth, 1990). To date the AAI appears useful with older adolescents but less satisfactory at the younger adolescent level (Crittenden, 2002).

A recent initiative to adult attachment classification is that by George and West (2001). In an effort to develop a more user friendly and less expensive measure for research into the assessment of attachment strategies in adults, these authors have drawn on the representational measures used in childhood, in particular the Separation Anxiety Test (SAT: Hansburg, 1972) and extended this upwards for use with adults. The Adult Attachment Projective (AAP: George and West, 2001) is comprised of eight line drawings depicting events that are designed to activate attachment issues. It begins with a neutral warm-up scene, followed by seven attachment pictures. Attachment status is evaluated from the total collection of transcripts of adult stories about the pictures. The coding system focuses on three main aspects of the narratives produced by the participants: discourse, story content and defensive processing.

It seems that there is a definite move by international researchers towards developing attachment classificatory procedures that have continuity across the life-span.

Attachment theory and the school years

As discussed above, the genesis of the Adult Attachment Interview (AAI) was a study that had as its focus the internal representations of young children aged about 6 years (Main et al., 1985). This landmark study aimed both to test for stability in reunion behaviour over a five year period, and to compare early differences in security of parent-infant attachment with representational level of speech and behaviour in childhood and adulthood. The authors argued that reunion responses to parents by very young infants could be seen as indicative of the infant's view or internal

representation of the relationship with each parent (Main et al., 1985). Drawing on observations of a young child's responses to a photo of his mother whilst enduring a two hour separation they concluded also that his/her internal working model was restructured in the absence of interaction with the caregiver. They then designed their research to demonstrate that "mental processes vary as distinctively as do behavioural processes as a function of differing internal working models (IWM) of relationships (Main et al., 1985, p.78)". The AAI used to assess the IWM of the children's parents in this study, has since become the instrument of choice in the volumes of research into adult attachment patterns following this landmark study. The same success has not occurred for any of the instruments used to assess the IWM of the 6-year-old children, although many of these instruments continue to be used or have been adapted for use in subsequent research.

It has been suggested that two developmental considerations have fuelled interest in the attachment classificatory procedures for school-aged children that are based on symbolic representation. First, there is difficulty in generating laboratory analogues of situations that might arouse proximity-seeking behaviours for older age groups. Second, in the pre-school years the infant sensory-motor stage of experience gives way to the use of symbolic forms of representation and the conceptual organization of knowledge (Bretherton, 1985). Bowlby described representational models as substantially related to Piaget's notion of schema (Bowlby, 1998c) and Bretherton has elaborated on the similarity of the two concepts (Bretherton, 1985). Internal representations of experiences carry affective, imaged, episodic, and semantic aspects of the experience. It is theoretically possible with school-aged children, as it is with adults, to stimulate anxiety-laden mental representations of attachment experiences.

To date researchers have used both approaches to assessing individual differences in the organization of attachment relationships in children aged 4-7 years old. Assessment has been based on the behavioural level, using reunion situations (Main & Cassidy, 1988; Main et al., 1985) as well as assessments on the level of symbolic representation. This latter approach has seen the creative development of a variety of representational methods and corresponding coding procedures. These methods include variations on the *Hansburg Separation Anxiety Test (SAT)* (Crittenden, 2003c; Hansburg, 1972; Klagsbrun & Bowlby, 1976; Main et al., 1985), *Attachment Doll-Play Story Stems*, (Bretherton, Ridgeway et al., 1990; Cassidy, 1988; Emde et al., 2003; Page & Bretherton, 2001), *Attachment Doll-Play Interview* (Oppenheim, 1997), *Family Drawings* (Fury et al., 1997; Kaplan & Main, 1986; Madigan, Ladd, & Goldberg, 2003; Pianta, Longmaid, & Ferguson, 1999) and *Manchester Child Story Task* (Green, Stanley, Smith, & Goldwyn, 2000a). While the current project utilizes representational methods stemming from the Hansburg SAT, all approaches will be considered in this literature review.

Ainsworth, (1990) argues that in order to extend attachment-based research into the school years one must have an adequate basis for knowing how attachments manifest themselves beyond infancy especially at the age level in question. Crittenden has developed a model of life-span attachment classification based on infancy and pre-school data as well as her experience with adult measures (Crittenden, 2000). In her Dynamic-Maturational model some changes in the pre-school years are predicted. The following chapter will further consider the developmental features of this early childhood age group.

CHAPTER III: REVIEW OF THE LITERATURE ON THE ASSESSMENT OF ATTACHMENT PATTERNS IN THE SCHOOL-AGE YEARS

Reunion Studies

This chapter describes the journey to date of the development of assessment approaches to attachment patterns in the school years. It follows the historical course as well as describing in detail the main roads that have been taken. It ends with a discussion of the issues that have arisen from the literature and the current directions taken by researchers in the field.

The first attempt to investigate attachment patterns in the school-age child was in the context of a five-year follow-up study by three students of Mary Ainsworth and drew on a sample of participants from the Berkeley Social Development project begun in 1982 (Main et al., 1985). Since this is a landmark study in the field it is described in detail. The assessments of attachment representations in the six-year-old child used in this study were exploratory. They included five quite different types of indices that have not since been taken up by the field, probably due to their time-consuming and unwieldy nature as well as the difficulties they pose for replication.

1. Transcripts of child-parent speech during the first 3-5 minutes of their reunion after an hour-long separation.
2. Videotape of the parent-child reunion from the same sequence.
3. Transcripts of the child's responses to photographs in the Klagsbrun-Bowlby version (Klagsbrun & Bowlby, 1976) of the separation interview originally devised for adolescents by H.G Hansburg (1972).

Children were warmed up to this procedure by watching a film of a two year old boy (Thomas) separating for ten days from his parents (Robertson & Robertson, 1967-1972).

4. Observation of the child responding to a photograph of his/her parents (in the absence of his/her parents).
5. Transcribed responses to "What would a child do?" during a hypothetical two week separation from parents.

Results of this study were presented in terms of nine point scales for the various dimensions, with nine as high. All assistants involved in coding the various sequences were blind to other aspects of the study and none had any knowledge of strange situation behaviour.

The reunion behaviour was rated secure if the child affectionately and confidently initiated conversation, interaction, or contact with the parent during the first three minutes of the reunion and/or showed eager responsiveness to the parent's remarks. Two identifiable insecure patterns were described. In one the child effectively ignored the parent by responding minimally and moving away. These patterns had most often been classified insecure/avoidant in infancy. The second group of children with insecure patterns were characterized by appearing to attempt to control the parent, either through directly punitive behaviour or through overly bright 'care-giving' behaviour (Main et al., 1985, p.83). The authors reported a correlation of 0.76 ($p < .001$) between the patterns of security of attachment to mother at one year in the infant SS and those patterns defined by this procedure at six years.

Transcripts of the speech during each reunion were made and coded by a psycholinguistics student. This student was blind to all information other than her general knowledge of categories of the infant SS and of the interaction rules

developed in a previous procedure. Transcripts were coded into one of nine discourse categories that were based on the dimensions of fluidity, dyadic balance and type of focus whether the focus was on objects, activities, or relationships. Dyads placed in the highest categories were fluid and balanced in discourse and seemed to range easily in focus. Dyads placed in lower categories demonstrated either restrictions or dysfluencies in their discourse, with restricted discourse mostly evident in dyads identified as insecure/avoidant in infancy and dysfluent discourse evident in those identified as insecure disorganized/disoriented (Main et al., 1985, p.84).

The child's responses to the Klagsbrun-Bowlby photographs were rated on a scale of emotional openness where top score was given to those who maintained an easy balance between self-exposure and self-containment. There were several types of responses at the lower end of this scale including silent, depressed, passive, and irrational responses. At age six years the patterns of the child's response to the photographs were related to security of attachment with mother in infancy ($r=.59$, $p<.001$)

Responses to the question, "What would the child do?" during a hypothetical two week separation from parents were similarly coded and related to attachment classifications in infancy. Secure children were deemed to be those who actively persuaded the parents not to leave or who would work out an alternative means to achieve this or to those who clearly expressed their feelings of disappointment, anger or distress. A slightly lower score was given to the child who found an alternative attachment figure to stay with. A middle score was given to the child who would play constructively with objects in order to feel better and a lower score was given for unelaborated play. Again there was a relationship between the level of answer on this

item and security of attachment to mother in infancy ($r = .59, p < .001$) (Main et al., 1985, p.88).

The final child assessment in this study was the child's complete response both verbal and nonverbal, to presentation of his/her family photograph. Children's responses were judged secure if they readily accepted the photograph, smiled, and showed some interest and then let go after a casual inspection. Children were considered insecure with respect to the family if they turned away, or if they otherwise avoided the photograph. These responses tended to be associated with children judged insecure/avoidant in infancy. Children were also judged insecure if they became disorganized or depressed while viewing the photograph. These were often the children classified insecure disorganized/ disoriented in infancy. Correlation with early maternal security was high for this assessment ($r = .74, p < .001$) (Main et al., 1985, p.90).

Main, Kaplan and Cassidy interpreted these results as evidence that once attachment patterns are established in the first year of life "they are actively self-perpetuating" (Main et al., 1985, p.92). These results may be interpreted differently today, with attention being paid to the 26% in this study for whom there was no concordance. Crittenden has written explicitly about discontinuity and lawful changes in strategy as children mature (2000). It would be important to explore whether this is explainable in children so young. Main and her colleagues also predicted that the methods of assessment of attachment in both children and adults from this study would be useful in further clinical, anthropological, and psycholinguistic research. This has proven to be so for the adult attachment interview but there has been less success with the child assessments from this study, although the work has stimulated interest and the development of a number of related procedures.

Cassidy worked with a sample in Charlottesville, Virginia in a study that was designed to simulate the Berkeley procedure and to examine the stability of the classification over a period of one month. In discussing this research the authors attend more completely to the behaviour of children at age six years who had been classified disorganized/disoriented in the Ainsworth procedures in infancy. The tendency was for these children to be classified as insecure 'controlling' at age six years (Main & Cassidy, 1988). Main and Cassidy cited a validation study carried out by Solomon and her colleagues (Solomon, George, & Irwins, 1987) that compared the reunion classifications at age six years with in-home observations, in a similar manner to that in which Ainsworth validated her original infant SS procedure (Ainsworth et al., 1978). Solomon found six-year-old security to be associated with supportive acceptance by mother at home, ambivalence to be associated with parental over-involvement and indulgence, and avoidance was found to be associated with maternal rejection, hostility, and discouragement of dependence.

Another replication of the Berkeley study was completed in West Germany with a white middle-class sample from Regensburg that was comparable to the Berkeley sample. A major difference was that as with the Charlottesville study those coding the procedures were considered to be 'expert' in that they had extensive observational experience, in particular in infant SS procedures. Reunions at age six years in this study were then compared to infant SS responses at age 12 months. As with the Berkeley and Charlottesville studies classifications in infancy closely predicted (82%, $p < .0001$) the "A", "B", "C" and "D" classifications at six years. The 75% stability of the "D" (disorganized) status over the five-year period was especially noteworthy. The cross-cultural validation of the six-year reunion procedure was an important development in the validation of this six-year classification system

(Wartner et al., 1994). The opportunity for exploration of those cases, in which there was discontinuity, however, was again lost except for the disorganized category. In both the German and Charlottesville studies infants classified as disorganized as infants were mostly classified as insecure/controlling or role-reversed at age six years.

Main and Cassidy admit that the procedures used to classify the attachment patterns in these studies are more time-consuming and more difficult to learn than those for the infant studies and report a lack of reliability for the disorganized category "D". It is apparent that one of the major difficulties with the reunion episode is that the single reunion episode destroys the progression of increasing risk that was contained in the eight episodes of the Ainsworth Strange Situation procedure. The critical issue is the need to evaluate the child's behaviour across a *series* of episodes that differ in threat. The six-year reunion procedure uses only the five minutes of reunion for the evaluation. The comparison of behaviour across time and condition is thus lost (Main et al., 1985). Despite the high correlation with the earlier infant SS classifications, researchers agree that these brief reunion episodes alone are not enough from which to classify attachment strategies in the early childhood years (Crittenden, 2002; Main et al., 1985). Main and Cassidy suggest that ideally this behavioural reunion procedure should be combined with one of the assessment procedures based on the child's representations of the relationship with the parent which are becoming available. Two such tools have been developing side by side, one using Structured Doll-play Story stems as probes and the other using variations on Hansburg (SAT) drawings (Hansburg, 1972).

Structured Doll-play Story Stems as stimuli for assessing attachment classifications

Cassidy (1988), searching for an additional index of the child's representation of attachment to complement the reunion procedure, used incomplete stories with a doll family. The narratives recorded from this play provided a way of eliciting how the child feels about him or herself in relation to his/her attachment figure. In addition Cassidy incorporated into her research a puppet interview procedure designed to elicit self-esteem. In the story stem procedure the child is asked to complete six stories, each designed to last about three minutes. Each story deals with emotionally-laden relationship issues between child and mother. Conflict is a central theme; both conflicts within the family as expressed in issues like not eating dinner, and conflict or threat from outside the family represented by situations such as a bicycle being stolen or the child being woken by a loud noise in the middle of the night. Each story is accompanied by a series of probes.

Each narrative in the Cassidy Doll-play procedure is rated on a five-point scale designed to fit the particulars of the story with high scores reflecting secure relationships. Narratives are also classified into secure/confident where the protagonist is described as someone valuable and the parental relationship is warm; insecure avoidant if the protagonist is isolated and/or rejected and the importance of relationships denied; hostile/negative where bizarre or hostile, negative behaviour is described and the relationship with the caregiver is disorganized (Cassidy, 1988, p.126). The author reported moderate success ($r = .46, p < .001$ and on the *Del PRE* = .44, $z = 4.5, p < .001$) (Hildebrand, Laing, & Rosenthal, 1977) when comparing classifications from these incomplete doll stories with security of attachment as rated from reunion episodes and using the "A", "B", "C" and insecure/controlling categories

(Cassidy, 1988, p.128). This new representational measure aroused considerable interest.

Bretherton and her colleagues developed a procedure that involved the observation of children's doll play around attachment-relevant themes (Bretherton, Prentiss et al., 1990; Bretherton, Ridgeway et al., 1990). With Prentiss and Ridgeway, Bretherton (1990) reports on a study of children who were already part of a longitudinal study at two points in time, when they were aged 37 and 54 months of age. The dyadic strange situation classifications had previously been obtained when the children were aged 18 months. A story stem protocol known as the Attachment Story-Completion Task (ASCT) was developed in which five stories with attachment themes such as spilling juice at the table, getting hurt, fearing a monster, and separation and reunion with parents, were presented to the three-year-old children and an additional moral dilemma presented to the children aged 54 months. The stories were presented to the children, with the mother present in the room and following a warm-up time with mother, presenter, and child together. The story beginnings were narrated and acted out by the presenter using small family figures and props.

When the transcripts were analysed for content and structure of the story stem resolutions, the authors reported that all the children appeared to understand the focal issues presented in the attachment stories, and most were able to enact resolutions. By 54 months the children came to increasingly differentiate family roles and the greater complexity of family interactions as seen in the moral dilemma story. The authors questioned whether their study actually revealed anything about the representations of real family experience or whether it merely provided information about the child's level of family role understanding (Bretherton, Prentiss et al., 1990). They pointed out that if one asks specific leading questions one can assess children's cognitive

understandings but that it takes more open-ended or projective probes to assess individual experience. The authors encouraged further research that used any narrative procedures that are supported by props, specifically dolls or pictures, in order to gain further insight into the mind of pre-school children about family relationships.

Verschueren and her colleagues assessed attachment patterns through a story completion task that drew on both the Cassidy (1988) and Bretherton (Bretherton, Ridgeway et al., 1990) procedures. They adapted the ASCT for use with 5-6 year olds (Verschueren, Marcoen, & Schoefs, 1996). These authors used the criteria for classification and scoring developed by Cassidy (1988) and in addition each child received a global attachment categorization secure, avoidant, or bizarre/ambivalent and a global attachment security score which was the sum of all the five point scales (Verschueren et al., 1996). In a later study the authors also inserted three control stories that focused on peer relationships (Verschueren & Marcoen, 1999). Again, all the stories were coded independently. These authors raised some extremely important issues about representational tools. They ask for clarification of the nature of the relationship between answers on representational attachment measures and verbal competence. They also question the difference between the quality of the attachment relationship itself and the child's working model of this relationship. How much divergence is there? Can five-year olds have a secure working model of an attachment relationship even when their actual experiences are not positive? What is the role of the child's cognitive capacity in this (Verschueren & Marcoen, 1999, p.198)? These issues must be addressed in ongoing research.

Solomon and her colleagues adapted the Bretherton Attachment Story Completion Task (ASCT) approach for use with children aged from 57-94 months of

age (Solomon, George, & De Jong, 1995). In an attempt to enhance children's involvement in the task they encouraged the child to select his or her own doll family and, in order to maintain the thematic nature of the stories, the researchers provided children with a dolls house. In developing the doll-play classification system only the stories about separation and reunion were included for analysis. The classification system was devised by examining the themes in the first 17 transcripts. Four groups were identified from both the child's action and narrative structure in the separation and reunion doll-play stories. The identified groups were named; *confident*, *frightened*, *casual*, and *busy*. The *confident* group was characterized by a fundamental confidence in either the caretakers or the self. The themes were of danger and rescue or of confident, comfortable autonomy. Integration was evident in the stories on the level of content and narrative structure. The *frightened* group told stories about out of control and potentially destructive fears on the part of either the caretaker or the self, or their stories were constricted or inhibited. The children were uncomfortable with the task and did not want to enact the story. The *casual* group told stories that were unique in that they attempted to avoid the separation altogether by negating or canceling or undoing it. The impression was also given of casual disinterest in the parental return. The stories tended to have stereotypical content and an empty, affectless, quality to them. The *busy* group told stories where fears and negative feelings were displaced onto characters other than the self e.g. the baby, pets, or objects. Reunion stories were characterized by delay and distraction and the narrative structure was consequently described as 'digressive' (Solomon et al., 1995, p.455).

Doll-play classifications were used to predict attachment categories obtained from reunion episodes using the Main and Cassidy (1988) procedure. As with much other attachment research, this study was exploratory in nature rather than a cross

validation of the procedures. The limitation of this five minute re-union situation has already been considered.

Solomon reported an overall concurrent concordance of 79% between the two systems with 100% agreement between 'controlling' in the reunion classification and 'frightened' in the doll-play, but only 55% concordance between insecure/avoidant attachment classification and the 'busy' and 'casual' groups in the doll-play stories (Solomon et al., 1995). Promising results were reported in differentiating the controlling groups (punitive versus care-giving) by the doll-play stories. The authors attributed this satisfactory level of agreement between the reunion behaviour and the symbolic representation to the emphasis on relatively unstructured, symbolic response rather than on direct verbal response and to the focus on separation and reunion scenarios. This research team also argued that the children's abilities to transform acknowledged separation fears into stories with happy endings required sophisticated cognitive strategies that allowed them to integrate fears with successful resolution. This does make theoretical sense since integration is posited as the hallmark of secure attachment strategies. Avoidant and ambivalent children appeared to defend against separation anxiety during their play through the use of strategies that allowed them to exclude certain kinds of information from their narratives and presumably from consciousness as well.

The observations from the study discussed above hold theoretical coherence with Bowlby (1980) who posited that avoidant children and adults used deactivating strategies that immobilize the attachment system by excluding thoughts and feelings that normally arouse the system. This study provided some tentative support that disorganized and controlling attachment styles at age six years indicate relationships

at risk and children at risk for behaviour problems. However, it is necessary to remember that conclusions were drawn in a post hoc inspection of data.

Although these studies are frequently cited and used as support for further investigations, cross-laboratory replication has proven difficult because constructs used to discriminate attachment patterns, scoring criteria, and coding procedures in each laboratory are very different. Each system is complex and requires that clinicians undertake extensive training in order to obtain satisfactory levels of reliability.

Attachment Doll-play Interview

Oppenheim, (1997) drew on the Doll-play Story Stems as well as on related studies using the Separation Anxiety Test (see next section) in order to develop what he has called the Attachment Doll-play Interview (ADI) for children aged between three and five years. Oppenheim focused attention on the selection of the story stems that the children are asked to complete so that in all six story stems in the ADI, the themes of separation and reunion are clearly differentiated and the situations vary in the expected stress level they elicit. Stories are presented in two parts, with the child invited to answer how the doll-child might feel and what the child might do after each part.

Oppenheim used naturalistic observation of mother-child separation and reunion in pre-school as a concurrent measure of validity. This was a unique attempt to focus on ecological validity rather than the laboratory observations used by Main and Cassidy and other researchers (Main & Cassidy, 1988; Main et al., 1985;

Solomon et al., 1995). He also compared ADI classifications with the maternal report version of the attachment Q-Sort (Waters & Deane, 1985).

Oppenheim used a dimensional rather than categorical approach to analysing the children's responses in terms of attachment strategy. The three dimensions that he identified from the play narratives, he also viewed as aspects of attachment. The dimensions were children's ability to talk openly about emotionally charged situations and themes of conflict, children's ability to generate constructive solutions for separations and stressful situations, and the quality of the mother-child interaction presented in their story completions (Oppenheim, 1997, p.682). It remains unclear as to how these are related to the construct of attachment. Four point rating scales were devised for each dimension.

The results of this study showed that ratings of children's ADI narratives were associated with the naturalistic observations of separations and reunions between children and their mothers during regular entry to pre-school. Children who were more secure on the ADI, as reflected by higher levels of emotional openness and with a positive emotional tone in their narratives were more likely to explore the new pre-school environment and to move away from their mothers. Children who were less secure in the ADI were more likely to stay close to their mothers and explore less when they entered pre-school. Oppenheim found it more difficult to explain that children rated secure on the ADI engaged in less physical interaction with their mothers upon reunion.

Such findings were consistent with attachment theory, but due to the experimental nature of the criterion measures they are not grounded in related research. Perhaps a maturational approach to attachment such as that of Crittenden, which suggests pre-school children have a greater variety of strategies available to

them than do infants, may provide explanation for these observations (Crittenden, 1995). There were no significant associations between the ADI and the Q-sort in this study.

The current status of research with Doll-play story stem procedure.

The rich nature of the material from research into children's Doll-play story stem narratives and the insight they give us into the child's representational world led to the formation of a second phase of the MacArthur Research Network. This group led by Emde and Wolf with input from Buchsbaum, Oppenheim and others, sought to create a more comprehensive set of story stems and to incorporate these into longitudinal studies. Twenty years on, their efforts were summarized in an edited work by Emde, Wolf, and Oppenheim (2003).

Fourteen story stems with individual themes or dilemmas were eventually created and tested by this team. Each story stem is precisely staged with dolls and props and narrated by the interviewer who then asks the child to "show and tell me what happens next." The researchers are very aware that the narrative frame set in the first few minutes can have considerable influence on the material that follows and have designed the prompts to be as open as possible but still to create a medium whereby the child can express representations of the attachment figures in relation to one's self (Bretherton & Oppenheim, 2003, p.64). Specific conflicts themes are created for example an adversarial slant is set up in the "lost keys" scenario that is designed to portray parental conflict. In this scenario *"Mother says angrily to the father 'You lost my keys'. The father doll answers curtly 'I did not' to which the*

mother answers "Yes you did – you always do" The child is then asked to "show me and tell me what happens now" (Emde et al., 2003, p.384).

The approaches to coding the narratives have been varied throughout the many studies that have reported use of this procedure. Bretherton and Oppenheim (2003) report that four main domains are generally emphasised in the coding methods: story content and themes, coherence, emotional expression and interaction with the interviewer. They suggest that since no method stands out, the choice of coding procedure be governed by the aims and particular contextual factors of one's study. Emde attempts to synthesize the findings by suggesting that the narratives collected from pre-school children tend to contain four levels of information: a mental representation of the child's experience as well as the role the child perceives others to experience; plot which has tension and resolution; discourse with another who co-constructs; and emotional tone.

It appears clear that pre-school children have the cognitive, emotional sharing, and perspective taking capacities to complete the doll-play story stems and that this instrument works well for this age group (Emde, 2003). It is difficult to compare studies because of the range of story stems, procedures, and coding methods used across studies. Bretherton and Oppenheim in reflecting on the future directions in the work with children's narratives suggest that there is still much to be learned about the ways in which children's narratives based on either the doll-play story stems or other stimuli reflect children's inner representations (Bretherton & Oppenheim, 2003). These authors discuss how children draw on a variety of sources when creating their narratives and point out that it is not always clear whether researchers are analysing autobiographical data, defensive distancing, wishful thinking, or metaphoric depictions of emotions aroused by the narrative stems. The narratives created are also

the result of the child's ability to co-construct a story with the interviewer as well as the influence of the child's background in co-constructing events. They suggest also that future research delve more closely into the relationship between the child's ability to create a narrative and the communication style of the family (Bretherton & Oppenheim, 2003).

Variations on the Hansburg Separation Anxiety Test

An alternative direction in children's narrative-making to that of the doll-play story stem approach discussed above has developed from an early tool to measure separation anxiety in adolescents (11-17 years). This procedure was originally developed by Henry Hansburg, and pre-dates any attachment research. It focused on adolescents responses to semi projective line pictures (Hansburg, 1972). This measure was named the Separation Anxiety Test (SAT) and was created for the explicit purpose of exposing an adolescent to varied pictorial representations of separation experiences in order to elicit how the adolescent might really feel and react when separation occurred. Influenced by the views of other leading clinicians and researchers such as Bowlby, Anna Freud, Burlingham, Spitz, Yarrow, and Goldfarb on early childhood deprivation and the work of Coolidge and his colleagues on school phobia, and from his own experience working in an object relations frame, Hansburg believed that the way a person responds to separations from an important other in infancy influences major facets of personality development including possible psychopathology.

Hansburg spent from 1967 to 1970 developing the SAT and in the process gave the test to 250 children aged between 11-14 years who were from very diverse backgrounds (Hansburg, 1972). In order to create this tool for young adolescents he

selected twelve separation situations ranging from those deemed mild and usual in childhood experience to stressful and less frequent occurrences. They included:

1. The child will live permanently with his grandmother and without his parents.
2. The child is being transferred to a new class.
3. The family is moving to a new neighborhood.
4. The child is leaving his mother to go to school.
5. The child is leaving his parents to go to camp.
6. After an argument with the mother, the father is leaving.
7. The child's brother is a sailor leaving on a voyage.
8. The judge is placing the child in an institution.
9. The mother has just put this child to bed.
10. The child's mother is being taken to hospital.
11. The child and the father are standing at the mother's coffin.
12. The child is running away from home.

The stimuli were black and white line drawings about six inches square.

The figures were ambiguous in expression but the titles to the pictures were on the bottom of each picture. The order of presentation was mixed in order to reduce the influence of affect from one to another.

Seventeen statements that described how the child might feel in the situation depicted accompanied each picture stem. Each statement represented a possible reaction based on those that were dominant in the literature such as; well being, rejection, withdrawal, grief or loneliness, evasive denial, adaptation, anxiety, projection, anger, identity stress, fantasy denial, sublimation, empathy, intellectual dysfunction, as well as somatic, phobic and intrapunitive responses. The child was

also asked for each situation: "Did this ever happen to you and if it never happened to you can you imagine how it would feel if it did happen?" Hansburg noticed that feelings were more likely to be elicited when children were less personally threatened and when questions were open and oblique rather than direct questions such as one tends to have in an interview.

Hansburg established patterns from the test responses. One of these he called 'Problems of attachment.' This contained items representing loneliness, empathy, and rejection. Hansburg found much in Bowlby's concurrent writing that corroborated the material of the SAT developmental study and that supported the need for clinicians and researchers to pay attention to the attachment need in early adolescence (Hansburg, 1972, p.65).

Klagsbrun & Bowlby, adapted the Hansburg Situational Anxiety Test (SAT) (Hansburg, 1972) to explore relationship issues in children aged about four to seven years old and reported the results of a pilot study with 82 children aged from 54-66 months. The test was given a degree of face validity by comparisons with teacher impressions of the child. The series of pictures in the Hansburg procedure was shortened to six and photographs were substituted for the line drawings (Klagsbrun & Bowlby, 1976, p.7).

Attachment rather than object relations terminology was used in the scoring criteria. The interviewer showed a set of photographs depicting attachment-related scenes and asked the child to describe how the child in the picture might feel and what the child would do. The scenes were differentiated into mild or severe types of situation and presented in an order that gave a mild situation to begin with followed by three that were rated severe, and the procedure ended with two mild situations. Two sets of pictures were created, one had all male figures (father /son) and one all

females (mother/daughter). As well as being asked how the child feels the children in this study were also asked "What does the little (boy) girl do? The situations were:

1. Parents go out for the evening leaving child at home.
2. Parent goes away for the weekend leaving the child with relations.
3. Child's first day at school; moment of parting from parent.
4. Parents are going away for two weeks; prior to leaving they give the child a special gift.
5. Park scene where parents tell child to play while they have time alone together to talk.
6. Parent tucks child into bed and leaves the room.

The children were tested individually and after a few minutes of rapport building were shown the pictures one by one, told what the story was about, and asked "How does the little boy (girl) in the picture feel? If the child had difficulty responding, a list of possibilities from Hansburg's test was suggested. After this the child was asked "What does the child do?"

Sample answers indicated that Klagsbrun and Bowlby were eliciting answers that consisted of phrases or, at most, a sentence or two for each card (Klagsbrun & Bowlby, 1976, pp.13-33). Responses were classified into 14 types and then grouped into classes of response that were labeled as follows attachment, loss of self-esteem, hostile, self reliant, avoidant, anxious.

Klagsbrun and Bowlby described the SAT as an interesting test that was relatively quick and easy to score and did not engender undue stress in the participants. They concluded it deserved further investigation, notwithstanding the

acknowledged shortcomings in validity offered by this pilot study (Klagsbrun & Bowlby, 1976, p.24). This measure has since been through many adaptations and revisions (Kaplan, 1987; Main et al., 1985; Resnick, 1993; Shouldice & Stevenson-Hinde, 1992; Slough & Greenberg, 1990; Wright & Binney, 1998). It appears that agreement cannot be reached on an entirely satisfactory set of procedures.

Main, Kaplan and Cassidy (1985) were one of the first groups to resurrect the Klagsbrun and Bowlby (1976) measure. This research group included it in the comprehensive study discussed above which became the springboard for attempts to ascertain children's IWM of attachment via representational procedures. They used Kaplan's coding system on the children's narratives produced by the adapted SAT (Kaplan, 1985, 1987). Their sample was a small group of middle class 6-year-olds (Main et al., 1985) and they reported satisfactory concordance between this measure and retrospective infant SS classifications. In Kaplan's classificatory system with SAT photos, the children's responses to the pictures were classified according to 'emotional openness' and ability to envision constructive solutions to feelings engendered by the separations (Kaplan, 1987). An overall organizational perspective was taken rather than one of coding specific pictures. This was in keeping with the view of attachment as an organizational construct. 'Emotional openness' was a rating of the child's ability to freely discuss feelings of vulnerability when asked how the child in the separation picture feels. A child who was able to express his/her feelings about separation with relative ease, without losing control, or with minimal resistance was given the highest rating of nine and was considered to be emotionally open. A child who met these criteria was classified as Type "B" (resourceful). Similar criteria were generated for the other attachment classifications. For example, a child who received a rating of one or emotionally closed was unable to express feelings, denied having

any feelings, or lost behavioural control in relation to the pictures. According to Bowlby's theory such a child was likely to be 'defensively excluding' from awareness anxiety-related material regarding his/her attachments. A manual of the procedures has never been published and few replication studies have been reported.

Equally promising results were obtained on another adaptation of the original Klagsbrun & Bowlby SAT procedures with children aged 54 months (Shouldice & Stevenson-Hinde, 1992). This adaptation involved changing the order of the pictures deemed a mild threat and those deemed a strong threat so that they were alternating. After each picture the child was asked "How do you think (name) might feel in the picture?" If the child answered with a feeling response the child was asked "Why do you think she (he) might feel (lonely)?" If no feeling response was elicited a prompt of one negative and one positive feeling was given. The last question was "What do you think (he) she'll do?" The criterion for concurrent validity was the classifications obtained on an adaptation of the Cassidy-Marvin measure of attachment (Cassidy & Marvin, 1989). However, the reunion procedure used was not the standard one for which reliability and validity had been established. This team created a unique reunion procedure that incorporated administration of a vocabulary test as well as the SAT to the child by the stranger, and mother and child also completing a joint task.

The scoring criteria devised by Shouldice and Stevenson-Hinde (1992) appears on the surface to be a little easier to use than those used by other groups. Typed verbatim transcripts were scored according to eight measures of emotional openness as well as the type of emotion expressed. The eight measures were labeled appropriate negative response, avoidant response, initial denial, persistent denial, over-positive, over-sad/cry, separation anxiety, and anger. There were four additional measures: interruption, somatic response, passive solutions, and incoherence. The

authors reported inter-rater reliabilities ranging from 94%-100% for all measures except passive solutions (84%).

This study found that children who were most secure in the concurrent reunion situation were more emotionally open to appropriate negative feelings and displayed a greater ability to tolerate attachment-related anxiety or "security distress." The responses of the avoidant, ambivalent, and disorganized groups were also consistent with expectations. The term "security distress" was defined by these authors to be derived from the attachment framework provided by Bowlby and "... inferred as an emotional construct, in situations which elicit attachment behaviour" (Shouldice & Stevenson-Hinde, 1992, p.332).

In their discussion of the results Shouldice and Stevenson-Hinde (1992) raised interesting questions about the procedure in the light of the post hoc analysis of discrepancies. They pointed out that while three quarters of the avoidant children gave avoidant responses, half the ambivalent and secure children also gave avoidant responses. No further statistical exploration was conducted. They postulated that the discrepancies might have arisen because the children in their sample were too young since 54 months is the lower end of the Klagsbrun and Bowlby (1976) procedure. They also questioned the method of administering the SAT, and suggested that their procedure might have been too brief to elicit a full view of each child's organization of attachment. A third point made was that the SAT pictures included both parents, whilst the child's classification was likely to differ from mother to father. They suggested future studies use pictures that show only the mother (Shouldice & Stevenson-Hinde, 1992, p.347). These authors concluded that their results supported the SAT as an instrument to access the IWM of attachment in children but that the results were not strong enough to justify the use of the SAT as an alternative to the

behavioural measures with this age group. However, the methodological inadequacies of this study made such a conclusion less weighty. Further investigation is required in order to fine tune both the stimuli used, the interviewing style, and the procedures to code the narratives.

Slough and her colleagues (Slough, 1989; Slough, Goyette, & Greenberg, 1988; Slough & Greenberg, 1990) adapted the SAT by incorporating additional probes that explored how five-year-old children themselves would feel in the same situation compared to a peer. They believed that a response to how a peer might feel in the same situation could elicit material that might otherwise be defensively excluded. This group of researchers has reported a limited amount of work with this tool (Slough & Greenberg, 1990). In their procedure a comfortable rapport was developed with the child before introducing the SAT. This team also developed a more elaborate scoring system for the SAT in which five categories reflecting attachment dimensions were identified: attachment, self-reliant, attachment/self reliant, avoidant and additional. Responses were allocated to the categories on the basis of three and four point rating scales. Ratings were added across the appropriate stories for classification purposes.

The SAT categories in the Slough study were validated against scores on Kaplan's Scale of emotional openness (Kaplan, 1984) and on attachment patterns of five-year-olds identified by short reunion episodes scored according to the 'security of attachment' and 'avoidant of attachment' scales only from the Main and Cassidy (1988; 1985) system for six-year-olds. Once again, the lack of suitable predictive criterion measures was a problem. The Kaplan Scale of emotional openness may have some concordance with attachment measures but cannot be seen in itself as a measure of attachment patterns. The shortcomings of the short re-union episodes have been discussed. It is worth noting here that the authors also experimented with a 90-minute

separation and single reunion and found this had no bearing on SAT categories or to any attachment related data.

The data presented in the study by Slough and her colleagues suggested that the SAT responses by children were strong reflections of their internal representations as deduced from behaviour in the reunion episodes (Slough & Greenberg, 1990). For participants deemed secure this was true whether the children were asked about themselves or the children in the pictures. Slough and Greenberg suggested that questions that asked the children to reflect on how their parents might feel in separations from their child would have additional interest when discussing children's perceptions of affective relationships. These authors used a secure/not secure dimension rather than sub-classifications and found that those less secure tended to make themselves more self sufficient than the children in the pictures, lending support to Bowlby's notion of defensive exclusion. Nevertheless, the use here of only the secure and avoidant dimensions makes comparison across studies very difficult and the validity was not adequately assessed.

Further work on the attachment representations of seven year old Icelandic children was undertaken by Jacobsen and her colleagues (Jacobsen, Edelstein, & Hofmann, 1994; Jacobsen & Hofmann, 1997). In this study, attachment representations were compared with cognitive functioning and feelings of confidence and self worth. This research team adapted Kaplan's rating system for use with a series of pictures depicting a long separation from parents. Nine separate sketches were used showing either a boy or a girl in various phases of the separation process as he/she watched an attachment figure depart on an airplane. This separation story was developed from a perspective-taking task by Chandler (1973). Two validity checks were made for the instrument on a different population. The separation sketches task

was given to a group of children at age six years for whom the infant assessment in the strange situation was known. These participants were also filmed in a reunion after an hour-long separation. Promising reliability and short-term stability data were reported. Prediction analysis (Hildebrand et al., 1977) showed a percentage agreement rate of 81% for the story and the infant SS classifications as well as for the story and the six year old reunion episode for three attachment classifications ("A", "B", "D"). The authors claimed that this provided support for the picture story as an exploratory measure of attachment (Jacobsen et al., 1994, p.115), but further work with the instrument led them to be more cautious. They identified serious limitations of this measurement and suggested the possibility that it may measure a related construct (Jacobsen & Hofmann, 1997). Like many others, these authors suggested that future researchers investigate a combination of representational and behavioural measures.

From this analysis of the pioneering studies, it is clear that there is a sense amongst research groups that pictorial story stems have enormous potential for eliciting narratives that reflect children's attachment representations. The specific features of the tool that make it important, the process by which it is delivered, and the procedures for analysing children's responses to the tool are still however in the melting pot. An assessment of their relative advantages is made difficult by the fact that the studies have all tried unique approaches with the basic tool and that much of the validity data reported is post hoc.

The SAT in middle childhood

The SAT continues to be a dominant tool by those working in middle childhood. Most research on this age group has extended the work downwards from the

Hansburg study on older children and early adolescents (Hansburg, 1972). Resnick, seeking a tool to explore attachment-related issues in younger adolescents, reviewed studies using the SAT with older children including the methodological and psychometric issues involved. He concluded that its properties "appeared to be consistent with dimensions of affective development that are predicted from attachment theory" (Resnick, 1993, p.2). Having established the potential of the instrument Resnick attempted a revision for use with young people aged 11-14 years. In the Resnick version of the SAT, six pictures from the original Hansburg set were used (Hansburg, 1972). The scoring system was a revision of Kaplan's (1985) system that also incorporated features of the system devised by Main and her colleagues for analysing the Adult Attachment Interview (Resnick, 1993, p.5). Resnick also drew on the assessment of attachment as described by Crittenden (Crittenden, 1992a). His scoring procedures included ratings for *emotional openness, coherence, optimism, and quality of solutions* for the insecure/secure distinction, with further codes that distinguished between avoidant and ambivalent styles of insecure attachment. This scoring system has since been computerised on the basis of 200 interviews scored by Gary Resnick. The Resnick system still has limited validity data (Kerns, Tomich, Aspelmeier, & Contreras, 2000).

John Wright and Valerie Binney (Wright, Binney, & Smith, 1995) conducted a very thorough and useful study with a new set of photographs updated from Klagsbrun and Bowlby (1976). This set had face validity appropriate to the 8-12 year age range that was in keeping with modern cues/settings. They attended to the need for probes of various stress levels by alternating the order of presentation between mild and severe stress following other SAT procedures (Klagsbrun & Bowlby, 1976; Shouldice & Stevenson-Hinde, 1992; Slough & Greenberg, 1990). A key feature of

this study was that the authors clearly differentiated between asking for responses about the self and responses about another fictitious child, a feature that had often been blurred in other studies (Wright et al., 1995, p.768). The scoring procedure used was that suggested by Slough (1989; 1988). Finally, concerned with the lack of adequate reporting on the SAT's methodological and psychometric properties and scant data on clinical samples, this research team employed a cross group comparison of responses to the SAT between a clinical and matched control group (N=21) (Wright et al., 1995, p.759). Inter-rater reliability of coders who were experienced in attachment theory and its clinical applications was acceptable. The test-retest reliability assessed on the clinical group was positive but did not reach clinical significance. The authors concluded that further development and psychometric testing was required before this test would be useful for working with clinical populations. They also discussed some of the qualitative features of the SAT responses and noted that the formal results did not capture the richness of the responses. An interesting and detailed discussion was given on how the two groups differed with respect to '*containment of expressed fears*', '*descriptions of parental responsiveness and predictability*', and '*coping responses*' in hypothetical situations (Wright et al., 1995, p. 769-772).

An exciting new direction has been taken by a team from Manchester (Green et al., 2000a; Green, Stanley, Smith, & Goldwyn, 2000b) in a thorough series of studies. These authors reported their effort "to generate a new and rigorous methodology to make detailed classifications of internal working models in young school-age children" (Green et al., 2000b, p. 49). The authors utilized doll-play stimuli and procedure, but took a different approach to coding the stories. They attempted to adapt the discourse analysis methodology from the Adult Attachment Interview for

use with the children's narratives. The AAI discourse analysis methodology (George et al., 1985) has been scrutinized in many studies with the AAI subsequent to its publication and its scoring system has substantial status as a reliable and valid instrument (Hesse, 1999). If the adaptation from adult analysis of discourse is successful with the transcripts of the children's stories, this approach would have the advantage of utilizing well known constructs and acceptable procedures.

The procedure of the Manchester Child Attachment Story Task (MCAST) involved "five attachment-related distress vignettes in which the child was placed in a situation of specific distress with the caregiver close by but not proximate" (Green et al., 2000a, p.51). A doll's house and doll figures were the props. This procedure differed from other reported adaptations in that the interviewer amplified the intensity of the distress represented in the doll figure to the point where the children were sympathetically aroused by the predicament in the scene before being asked to play out their own story completions. Structured probes were used to clarify the intentions behind the children's stories. The MCAST was conducted with 53 socially advantaged families with children aged 5.2 years to 7.7 years months. The children were all from a regular school population and children with known learning disability or emotional problem were excluded.

The authors found that after using their discourse analysis methodology, coding fell into the following patterns: *attachments-related behaviours*, *narrative coherence*, *disorganized phenomena*, and an additional pattern that included *bizarreness of narrative content*, *predominant affect*, *mentalising ability* and *metacognition*. From this coding, categorical "A", "B", "C" and "D" (Disorganization) classifications were then made for each vignette.

Five months later, 33 interviews were repeated in order to determine stability of the measure and this was reported to be adequate (76.5% of "A", "B," "C", categories and 69% of "D" categories remained stable). The authors reported a 94% inter-rater agreement for the secure -insecure classifications and 84% agreement for the categorical "D" versus non-categorical "D" classification. With this relatively small socially advantaged sample across a wide age range, the authors found that the younger children were rated disorganized more frequently than older children. Frequency distributions of ratings were in keeping with the meta-analyses for younger children (van Ijzendoorn & Kroonenberg, 1988). The authors concluded that the MCAST showed encouraging psychometric properties.

In a companion paper by Green et al , they reported on the concurrent validity of the MCAST against several measures the SAT, the parental AAI and child behaviour (Green et al., 2000a). The SAT was administered according to the Slough and Greenberg (1990) procedure and was coded with a modified version of the Resnick system to suit younger children. Child behaviour was assessed using parental and teacher forms of the Child Behaviour Checklist (Achenbach, 1991). The authors report the concordance between three-way attachment categories on the MCAST and AAI to be 61.3% but no mention was made as to whether the specific parental AAI's matched the parent's own child's representational attachment strategy or whether it was a general match across instruments. The authors reported that 8 of the 25 mothers interviewed had an AAI coding of 'unresolved' with respect to loss or trauma. Agreement between the MCAST and SAT ratings on three categories was reported to be 80%.

The idea of basing the classification of the representational measures on the AAI methodology for classifying discourse is a good one since, potentially, it

allows for comparisons across instruments using the same constructs. In this case, however, the dimensions used for the children differed from those used with the adult measure. The authors discuss the difficulties of finding a single ideal 'anchor' to act as a criterion referent for the MCAST and it is appreciated that a real effort was made to find external criteria for validation but the criteria used are unsatisfactory. It is disappointing that another representational tool, itself still in an experimental stage of development, was used for the cross validation study rather than a situational based measure of the child's attachment strategies. The CBCL, as a measure of the child's behaviour, has validity as a measure of normal versus problem behaviour but it is not a correlate of attachment strategy. The attachment representation of the mother as measured by the AAI contributes at best 50% of the variance found in infant's attachment classifications (van Ijzendoorn, 1995). Until further work is reported using the MCAST we cannot really judge its efficacy as a measure of the child's attachment patterns.

Family Drawings as Indices of attachment

One direction that is periodically revisited as an index of external criterion validation for attachment classifications in children is that of children's family drawings. Kaplan and Main (1985) first examined the family drawings from the Berkeley sample in order to investigate any possible link between these and attachment patterns. They reported significant concordance between the children's representations of their families in drawings at age six years and their security of attachment in infancy. Further investigations of this data identified specific signs in the drawings that distinguished children with varying attachment patterns in infancy (Kaplan & Main, 1985; 1986).

Fury and her colleagues, a decade later, replicated and extended the family drawing assessment to children in middle childhood years (Fury et al., 1997). The subjects were eight to nine year old children who had all received attachment classifications in infancy. Again the authors were able to identify markers that differentiated the attachment groups. Both studies used infant attachment classifications retrospectively to test predictive validity.

Claussen and Crittenden in an unpublished study used children's drawings as an assessment of self concept and related these to reunion behavior in 5-7 year old children (Crittenden & Claussen, 1991). They concluded that the results provided enough evidence to suggest that the "Family Drawing" is a useful tool in the classification of attachment patterns (Crittenden & Claussen, 1991).

Each laboratory claims advantages for its system of classifying children's drawings but, again, there is no outside validation to guide practitioners in making any discrimination between the methods (Jacobsen et al., 1994; Slough & Greenberg, 1990).

Most recently, a Canadian team explored the use of children's pictures of family as representations of their attachment strategies (Madigan et al., 2003). Working with 123 drawings of seven-year-old children these researchers compared three schemes for classifying the drawings. The first was that adapted from the Kinetic Family Drawings manual (Burns & Kauffman, 1972), the second used the Fury et al system adapted from the Kaplan and Main (1986) system, and the third was based on the global ratings scales developed by Fury et al (1997) to integrate the specified markers with theoretical knowledge regarding attachment relationships. These were all compared with mother-infant classifications of attachment using the Ainsworth Strange Situation procedure between 12 and 18 months.

The authors found that only one (of seven) specific markers discriminated attachment groups as expected. The clearest concordance was achieved when coders were "steeped in attachment research and armed with knowledge of specific distinguishing markers" (Madigan et al., 2003, p.32). Thus global impressions formed of the drawings by 'experts' in the field were the best predictors of attachment status in this study. Even then the impressions were most successful in identifying the drawings of children with secure classifications but much less impressive for insecure classifications.

It seems that children's drawings of family relationships have some utility in providing a window into the child's attachment experiences when drawn at age six years (Kaplan & Main, 1985; 1986), at age seven years (Madigan et al., 2003), and at age eight to nine years (Fury et al., 1997). It remains to be seen how well children's attachment representations are captured by drawings in further investigations, and if they hold when assessed against concurrent attachment strategies.

Self-report measures

The tools so far developed for the assessment of attachment patterns are expensive, labor-intensive to administer, and require extensive training before reliability in scoring is achieved. For these reasons some personality type, self-report measures have been piloted for the classification of attachment strategies, and there are some available for children above six years of age. Their validity, however, is uncertain (Kerns et al., 2000; Kerns, 1996; Lynch & Cicchetti, 1991). There is also considerable doubt about what constructs these types of assessments do indeed measure since they generally do not attempt to capture the attachment patterns identified by Ainsworth (1978). The Kerns self-report form for example

assesses the child's perceptions of security and two types of coping avoidant and preoccupied, whereas Lynch examines self reports of children's relatedness and identifies proximity-seeking and emotional quality as dimensions of relatedness.

Self-report measures have mainly arisen in the field of adult or adolescent attachment. They include a variety of heterogeneous measures such as The Attachment History Questionnaire (Pottharst, 1990), The Inventory of Parent and Peer Attachment (Arnsden & Greenberg, 1987), the Hazan and Shaver brief questionnaire for adults on romantic attachments (Hazan & Shaver, 1987), and subsequent questionnaires developed from this (Bartholomew & Horowitz, 1991; Bartholomew & Moretti, 2002; Bartholomew & Shaver, 1998). West and Sheldon-Kellor developed two multi-item self-report instruments for adults for use with a child's primary attachment figure (West & Sheldon, 1988; 1992; 1994).

With the exception of the Hazan and Shaver Romantic Style questionnaire none of these measures has generated as much research as the narrative measures. As well as the doubt expressed above about whether the tools assess what it is that they purport to assess, it is also likely that such measures do not accurately identify those participants who use an avoidant strategy since these individuals have the social awareness and semantic memory to cover their defensive strategies.

From infancy through to about five years the Attachment Q-Sort (AQS) provides an alternative approach to the assessment of attachment strategies. The AQS was developed by Waters to provide an assessment of the quality of a child's secure-base behaviour in the home. In an effort to provide concurrent construct validation for the infant SS procedure Ainsworth made home observations. This was in keeping with Bowlby's theory which postulated that it was the nature of the mother-infant interaction that accounted for most of the variance in the laboratory

assessment. The AQS consists of 90 items that are divided into 9 piles according to whether each item resembles the child or not in the opinion of the rater, usually either the parents or a trained observer. It is a simple procedure that only identifies secure or insecure behaviours and does not have the discriminatory power of the behavioural or representational tools so far discussed. Neither is it clear whether the security identified by this approach is the same construct as that underpinning the Infant Strange Situation (Solomon & George, 1999).

Issues arising from analysis of literature

It has become clear that research into the assessment of attachment patterns in the early childhood years whilst vigorous and exciting is still early in its development. It has only been three decades since Bowlby first proposed his theory of attachment (Bowlby, 1969a). A decade later came a valid and reliable assessment tool with which to make the theory operational and provide a valid way of identifying and describing the attachment strategy of the child (Ainsworth et al., 1978). Over the next decade this was extended and refined to include procedures for defining infants as "A/C" and disorganized "Dx" or "D" (Crittenden, 1985; 1986; Main & Solomon, 1990). From this period of energetic research reliable identification of child patterns of attachment in the pre-school years were developed (Cassidy & Marvin, 1989; Crittenden, 1992a; 1995).

Parallel to these developments, procedures for assessing adult representations of attachment were established (George et al., 1985), including both Cannot Classify cases (Hesse, 1996) and an array of compulsive and obsessive patterns that carry risk for psychopathology (Crittenden, 1999-2004). The converging research base of attachment theory is a remarkable achievement when

one considers the history of integration of research underpinning other comparable theories and domains. Within the trait paradigm of personality measurement, for example, over five decades of theoretical postulation and research produced a plethora of different personality tests before any consensus was reached with the synthesis of much of this data to produce the "The Big Five" trait model (Digman, 1990; 1996).

The research underpinning Attachment theory is established on a sound base from which is anticipated an increase in sophistication. Of the original work emanating from Bowlby's theory, Ainsworth (1978) writes:

Attachment theory might be described as "programmatic" and open-ended. It does not purport to be a tight network of propositions on the basis of which hypotheses may be formulated, any one of which, in the event of an adequate but unsuccessful test, could invalidate the theory as a whole. Instead this is an explanatory theory- a guide to understanding data already at our disposal and a guide to further research. "Validation is a matter of collecting evidence relevant to construct validity" (Cronbach & Meehl, 1955), with implication that the "construct" itself can be elaborated and refined through further research, rather than standing or falling on the basis of one crucial experiment. (p.4)

Cross validation has shown again and again in many cultures that the typology identified by Ainsworth to support Bowlby's theory holds (Bowlby, 1969a; 1973; 1980). Moreover, the distribution of the population across the classifications in the model remains constant, giving impressive evidence for the universal validity of attachment theory (van Ijzendoorn & Sagi, 1999).

The infant SS was not the result of any experiment in the literal meaning of this term. As Ainsworth (1978) writes:

Different groups of subjects were not assigned to different treatments in order to ascertain the relative effect of these treatments on some dependent behavioural variable. Nor was it our intent to assess the relative effects of the different kinds of instigation upon intensity of attachment behaviour-an intent that would have demanded control of order effects. On the contrary, the strange situation was designed as a controlled laboratory procedure in which individual differences among infants could be highlighted, precisely because they were exposed to the same situation with the same episodes in the same order. The findings that emerged from the use of this procedure indeed highlighted individual differences in the way infants respond to an accumulation of instigations to attachment behaviour. Different patterns of strange situation behaviour, we propose, indicate differences in the way infant-mother attachment has become organized. We have observed the same patterns in four separate samples of 1 year olds, and other investigators who have used our techniques for the identification of patterns of attachment have confirmed our findings. (p. xi)

Although most reviewers agree that the infant SS is a valuable and reliable measure of infant attachment strategy it is not without its critics. Grossman argues that "by equating a wider attachment concept with a narrower operationalization based on one single standardized procedure we run the risk of losing much of the rich background and potential of the original attachment concept" (Grossmann & et al., 1985, p.256). Crittenden insists that the Ainsworth SS procedure is developmentally valid only for a narrow age range in infancy 11-15 months

(Crittenden, 2003b). Within the attachment domain, the need for proximity to a primary care-giver changes with development. Short temporary separations become less stressful as the infant enters the nursery school and pre-school-age range, and are simply not threatening for most school children. Repertoires of possible behavioural strategies that are available to the child, in order to increase proximity to the attachment figure, also increase in complexity with development, such as increased facility with language and non-verbal gesture. The school-aged child, has the ability to conceptualize separations of various types and durations and can therefore imagine such situations, and what the attachment figures might do and what either the self or another child in this situation might do. The school-age child also has an understanding of psychological as well as physical distance from the attachment figure.

Consideration of maturational factors in order to devise attachment test situations for older children has been a challenge. It is clear that an interview measure based entirely on mental representations of what happened with their own attachment figures in childhood is successful with adults. The AAI has face validity, and common groups validity research has shown that attachment classification bears appropriate relationships to various types of mental health problems (Crittenden, 2000; Dozier, Stovall, & Albus, 1999; Hesse, 1999)

When working with adults, the probes in the AAI create a sufficient flow of memories and therefore verbal material for the researcher to identify internal working models of attachment, and to track the vicissitudes of attachment strategies over the life span of the individual. The AAI can be used with older adolescents but below this it is far less satisfactory at face level because the meagre

responses of the younger adolescents provide a poorer pool of memory data from which to make classifications.

Moving upwards from infancy, attempts to modify the infant situation for use with pre-school children have also been successful (Cassidy & Marvin, 1989, 1991; Crittenden, 1995), but fail with older children. The gap in the paradigm lies with assessment procedures to categorise attachment strategies or internal working models (IWM) of attachment in school-aged children.

Adjusting the situational measure upwards from pre-school to school-age children has been attempted but these longer separation and re-union measures lack face validity. The representational measures developed for use with school-aged children reviewed above, like the adult AAI measure, present probes to the children and assess how the children conceptualize such matters as the responsivity and availability of parents or primary care givers in times of danger or stress. These procedures are referred to as representational measures of the child's IWM of attachment. Collectively they demonstrate that school-aged children do construct IWM about their attachment figures' likely responses to their signals of the need for proximity and protection, and there is a relationship between children's narratives about attachment and the classification of their attachment strategies.

However, the many instruments designed to explore these representations are heterogeneous in terms of their underlying constructs, their focus, and their procedures. Across studies, the stimuli used generally fall into two broad categories of Doll-play or SAT type probes but within these groups there are many variations. At times the variations are subtle and at other times considerable.

Variations in method

Research that bases its representational stimuli on the SAT varies as to whether photographs (Klagsbrun & Bowlby, 1976) or line drawings (Jacobsen et al., 1994; Jacobsen & Hofmann, 1997) are used, whether discrete separation stories or one continuous long separation story is used (Jacobsen et al., 1994; Jacobsen & Hofmann, 1997), and whether one parent or both parents are represented (Shouldice & Stevenson-Hinde, 1992).

Research that is based on Doll-play story stems also demonstrates considerable variation in the story stimuli utilized. Some studies add or remove particular story stems without explicitly noting such changes (Steele et al., 2003). Others add idiosyncratic stimuli to serve their own particular purpose (Page & Bretherton, 2001). Additional narrative techniques have been devised (Bretherton & Oppenheim, 2003; Green et al., 2000b). All these alterations provide a wealth of data but make for difficulty in providing comparisons.

Instructions given by laboratories using both types of stimuli also differ considerably. Some using pictorial stimuli insert the subject child's name when asking about the child in the stories (Shouldice & Stevenson-Hinde, 1992; Slough, 1989) and others clearly distinguish the subject from another child (Wright & Binney, 1998; Wright et al., 1995). Some procedures include integrative questions and others don't. Some teams probe with open-ended questions; others ask the child to choose between suggested possibilities. The MacArthur Story-stem Battery (MSSB) team refrains from describing the task as a standardised test. There are written procedures but it is recognised that they may be varied considerably (Bretherton & Oppenheim, 2003).

Scoring procedures for the children's stories vary widely and each approach uses a variety of constructs through which to interpret the data. Several studies using

the pictorial stimuli identify "Emotional Openness" but this is not always defined (Kaplan, 1985; Shouldice & Stevenson-Hinde, 1992). Other studies claim to be using basic attachment dimensions but it is not clear whether these relate to the original Ainsworth (Ainsworth et al., 1978) and Bowlby (Bowlby, 1969b, 1970, 1977a, 1977b) concepts or are variations on these (Slough & Greenberg, 1990). Others describe new, unique scales (Klagsbrun & Bowlby, 1976).

Approaches to coding the narratives from Doll-play Stimuli have ranged from detailing the thematic content (Bretherton, Prentiss et al., 1990) to coding for specific themes (Robinson & Mantz-Simmons, 2003). Others have focused on process (Bretherton, Ridgeway et al., 1990; Warren, Oppenheim, & Emde, 1996) and still others have developed global assessments (Bretherton & Oppenheim, 2003; Bretherton, Ridgeway et al., 1990)].

Data analysis varies also, with results for two, three, and four attachment categories variously reported. Some studies report concordances using only the two categories of secure/insecure while others differentiate the two types of insecure attachment and include children placed in the disorganized category. Reliability is calculated sometimes on only these two classifications. It is much harder to code reliably when trying to discriminate between broad ranges of classifications.

Concurrent criterion validity measures have posed a problem. Most studies validate against classifications on the infant SS that are necessarily obtained quite some years earlier but that fail to make allowances for maturational changes. It has been pointed out in this review that, in some cases, the categorisation of children based on the retrospective strange situation data is used to identify markers of each classification in the newly developed material. Validity between the two instruments

is then claimed. Often too, criterion measures for the less traditional attachment constructs lack convincing construct validity.

These procedural variations make close examination of any aggregations of studies meaningless. Predictive meta-analytic studies such as that on the AAI by van Ijzendoorn and his colleagues (1995) that compared parental pre-natal AAI categories with parent-infant categories on the infant SS are not possible with the representational measures. Even longitudinal studies that compare attachment patterns at different points in a subject's development are made difficult by the differing methodologies and scoring procedures at each age.

To determine predictive validity for the school years, the only suitable criterion is the AAI. Even if we accept the validity of the AAI for adolescents, there is still a lengthy lag time before the predictive criterion is available for comparison with the early childhood procedures. Predictions can be made retrospectively for samples where SS classifications are available from when the subjects were from 11 to 15 months of age. If the infant classifications bear appropriate relationship, allowing for maturational changes, to the school-aged classifications, additional predictive validity is obtained for the infant measure and further credibility is provided for the new measure.

The lack of opportunity to validate any new representational measures for the school years is a major problem facing all researchers. The resultant circulatory nature of much of the validation process is demonstrated in the study by Slough and Greenberg (1990). It will be remembered that the key study by Main and her colleagues (Main et al., 1985) which first named the representational focus in early childhood, analysed data according to a concept of "Emotional Openness" (Main et al., 1985). This study used retrospective concordance with infant classifications of

attachment on the SS, both to calibrate the new instrument and as a validity check, since there were no firmly established and validated measures of attachment for this age group against which new measures could be concurrently validated (Main et al., 1985). Slough and Greenberg (1990) used a representational probe with new updated photographs and developed their own scoring criteria which they validated against the "Emotional Openness" scale (Main et al., 1985) for which, as noted above, only post hoc predictive validation was available. A second concurrent criterion measure used by Slough and Greenberg (Slough & Greenberg, 1990) was the Main and Cassidy reunion procedure for six-year-old children (Main et al., 1985). Once again, for this tool there is limited established validity and little ongoing work with it.

It can be seen in the research on all the representational probe measures reviewed above that there is enormous variation in methods of classifying the verbal data. How are researchers to compare "Emotional Openness" identified in transcripts from children's stories about photographs (Main et al., 1985), with the five categories of verbal behaviour identified by Slough & Greenberg (Slough et al., 1988; Slough & Greenberg, 1990). In fact across the studies reviewed above there are over 30 different scoring constructs with very little overlap. Most of these constructs are neither theoretically derived nor statistically generated. In some cases, research groups have identified the constructs empirically from their own specific transcript data sets. For example, if a sample already classified in the SS procedure has been available, researchers have sought for common elements among the transcripts in each infant classification category. While this can provide valuable hypotheses it makes validation difficult. There has been no attempt to date to look at the factor structure of the 30 odd constructs used across measures and, indeed, it is questionable whether such an exercise would be meaningful. Each is a cluster of verbal behaviours that are

present or absent in children's narratives. Each research group appears to look for different behaviours, to arrange them in different clusters, and to name them uniquely. Cross validation is made more difficult by the fact that most of this work is still in progress with manuals in process or unavailable to outside research groups

The recent attempt by Green et al to adapt the discourse analysis methodology from the Adult Attachment Interview represents an entirely new direction (Green et al., 2000b). Should it be found that this adaptation can be reliably performed, there would be at least a continuity of constructs and terminology across the infant SS, the Pre-school measures, the School-aged probe, and the AAI and at least predictive construct validity studies would become more possible.

More serious recent criticism of the current status of representational attachment tools refers to confounding variables in children's narratives that make it unclear how much of the variance in children's verbal material is due to attachment representations, and how much to individual differences in ability to construct stories around affective themes and in cognitive capacity to organize explicit causal links (Oppenheim, 1990; Oppenheim & Waters, 1995).

Oppenheim and Waters suggest that incoherent responses in narratives result not from such internal processes as "defensive exclusion" but from children's difficulties in emotional communication and that the source of this difficulty lies in the disturbances of parent-child communication and co-construction processes. In particular they focus on the failure of some parents to help children make sense of negative experiences or, even more damaging, the tendency of some attachment figures to lead children to distort such experiences. The co-constructive aspect of creating narratives requires further investigation. When looked at from the perspective of the Adult Attachment Interview classification procedures, the

inability to construct episodes is a salient marker of attachment representation. Adults and children who are not defensive, not conflicted, and not dealing with unresolved trauma, can construct episodes from their personal experience. They can do so because open expression of affect was allowed by their attachment figures, and these attachment figures helped the development of regulatory processes by a verbal processing of the affect-laden situation.

Bretherton and Oppenheim suggest that regardless of the stimulus used "Doll-play or pictorial" it is important to determine the source of the children's narratives. What, for instance, is the role of fantasy in the production of these transcripts and how much is related to autobiographical material or is perhaps a defensive response to an emotionally arousing stimulus (Bretherton & Oppenheim, 2003)?

Summary of issues

It is clear from the literature search into the assessment of attachment in early childhood that this is an energetic domain for research with many gaps still to be explored. Since the influential study by Main, Kaplan and Cassidy in 1985 a number of approaches have been taken. Two directions dominate the literature, that of the various Doll-play procedures, and the revisions begun by Klagsbrun and Bowlby (1976) of the Hansburg (1972) Separation Anxiety Test (SAT).

None of the procedures described in the literature, however, stands out in the same way that the Ainsworth Strange Situation (Ainsworth et al., 1978), the Adult Attachment Interview (George et al., 1985), or even the Cassidy-Marvin (Cassidy & Marvin, 1987; Cassidy & Marvin, 1989, 1990, 1991) and Crittenden (Crittenden, 1995) procedures for scoring the strange-situation in pre-school children have done.

On examining the literature it becomes clear that the lack of a standard procedure for classifying transcripts in particular make comparisons between new instruments almost impossible. There is also a dearth of satisfactory validation studies for these new procedures. Most validate against other new measures of unknown validity or against behavioural measures taken many years earlier. When new coding procedures are reported and tested they tend to use new constructs rather than those that have been tried and tested across other age periods, resulting in a plethora of new constructs that have little meaning or standardisation. Scoring procedures described in the literature have generally been neither factor-analysed nor subjected to item analyses. It remains unclear whether the new instruments are even testing the attachment construct since most studies only report the degree of correlation between measures.

The most recent review of the field, (Solomon & George, 1999) emphasized that the work on the use of symbolic measures to assess internal representations of attachment in the early childhood years is new and in an early stage of development but it appears to hold potential. The authors concluded their review thus "The variety of children's symbolic behaviour permits the development and comparison of different measures which is necessary to establish construct validity We encourage researchers to undertake the cross validation of these measures" (Solomon & George, 1999, p.305).

As we have seen the many variations in task, instructions, scoring constructs, and scoring procedures make validation across age groups and across samples difficult.

Current directions

Green et al's new initiative (Green et al., 2000b) to bring scoring procedures for the childhood narratives in line with the procedures for the adult representational measure – the AAI (George et al., 1985) is somewhat comparable to the direction taken by authors of the Adult Attachment Projective (AAP: George and West, 2001) in creating a representational tool for use in adult attachment classification as has been done for children and adolescents. As discussed both research groups are working towards the continuity of constructs and procedures. A third research group, Crittenden and her associates from the Bertinoro SAA Consortium, with a similar aim, have been independently piloting a method to classify transcripts from a pictorial representational childhood probe, using the same type of discourse analysis as used in the Crittenden scoring of the AAI (1999-2004).

Crittenden's research over the past decade has persuaded her that a Dynamic-Maturational approach must be taken to understanding and classifying attachment strategies across age groups. She contends, for example, that an insecure/avoidant "A" strategy displayed by a 15 month old infant who wants to elicit comfort or protection from his/her attachment figure will look quite different from an insecure/avoidant "A" strategy displayed by a pre-school child in the same situation. The strategies will have common features. Children will be unable to signal this need in a direct manner to their attachment figure (AF) because previous experience has shown that this will not bring about the desired end. Older children, however, will have developed more subtle ways to stay in close proximity to the AF without overtly showing their need.

Crittenden's methodical examination of videos and transcripts seeks out, identifies, and catalogues the newly acquired types of behaviour in each attachment

category. She has adapted the popular measure or its scoring procedures at each developmental stage: the infant SS (Crittenden, 2003a), its upwards extension to the pre-school years (PAA) (Crittenden, 1995), and the Adult Attachment Interview (Crittenden, 1999-2004). Her manuals for the appropriate assessment for each age group reflect her Dynamic-Maturational data. The advantage of these carefully calibrated adaptations of scoring procedures is that within this research frame at least the tools used across the life-span employ the same concepts, the same scoring criteria, and the same attachment categories and these match the seminal Main (Main et al., 1985) procedures with the maturational expansions.

The list of procedures adapted to the Crittenden frame shows an obvious gap. There has been as yet no procedure developed by this research group for the school-aged child. Crittenden argues, as do most of the researchers reviewed here, that a situational test for attachment strategies is not suitable for the school-aged child and she has turned like so many others to the representational probes.

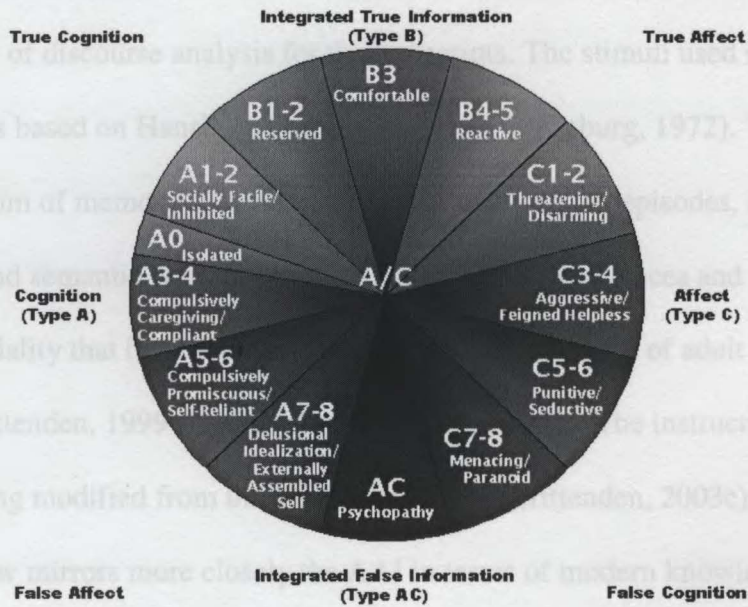
Like Green and his colleagues (Green et al., 2000b), Crittenden asserts that it is not useful to develop yet another set of scoring criteria to categorize attachment representations from Doll-play or SAT story transcripts. These must be assessable within the constructs already developed for the other measures. Indeed Ainsworth, (Ainsworth et al., 1978) specifically chose to offer a classificatory system rather than a dimensional one for her original data. Ainsworth argued this "... can remain flexible, with the possibility of refining classificatory criteria in the light of further knowledge or indeed the possibility of elaboration in order to accommodate new patterns into new groups or subgroups. (p. 57)."

The Bertinoro SAA Consortium has been piloting discourse analysis for a school-aged SAT type measure based on the same principles as the Crittenden

procedures for classifying the adolescent AAI and the Adult attachment interview. The work is still in progress and targets specifically children from 6 to 11 years. The transitional years from 5 to 7 have had little special attention in this work.

In the Dynamic-Maturational model Crittenden identifies many sub-classifications with new patterns only possible as children mature. Thus there are six sub-classifications identified by this system in infancy, seven in the pre-school years, eight in the school years, nine in adolescence, and eleven in the adult years. The Crittenden adult measures identify patterns up to "A7-8" and "C7-8", plus mixed "A/C" combinations and various modifiers (depression, disorientation, disorganization, reorganisation, and lack of resolution of trauma and loss).

A Dynamic-Maturational Model of Patterns of Attachment in Adulthood



¹ Please note the reversal of A5-6 compared to previous versions of this model.

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For the school years Crittenden has revived the Main, Kaplan & Cassidy (1985) preference for pictorial representational probes (Crittenden, 1998). She has also suggested that the SAT in its present form fails to take advantage of advances in our understanding of representation made since the Bowlby & Klagsbrun (1976)

measure. These advances have occurred largely as a result of widespread use of the Adult Attachment Interview (AAI) for adults (George et al., 1985).

In the SAA measure designed to assess attachment strategies in children aged six years to eleven years Crittenden combines PAA patterns of observed behavior with AAI patterns of discourse analysis for the transcripts. The stimuli used in the SAA are line drawings based on Hansburg's original pictures (Hansburg, 1972). The AAI taps a broad spectrum of memory systems. Questions elicit images, episodes, affect laden memories, and semantic conclusions about attachment experiences and preference for memory modality that have provided clues in the classification of adult attachment patterns (Crittenden, 1999-2004; Main & Goldwyn, 1984). The instructions for the SAA are being modified from the Hansburg probes (Crittenden, 2003c) so that the interview now mirrors more closely the AAI in terms of modern knowledge of memory systems, and provides a richer transcript for classification.

The specific details of the scoring criteria have been in development over recent years and will soon be available for testing in the field. Transcripts in this methodology will be analysed in terms of both the story (PAA) and the discourse used to tell the story (AAI). The SAA thus combines methods to create a developmental transition and a representational assessment.

The consistent set of assessment procedures developed by Crittenden solves one research issue. Concordance studies and predictive validity studies using this set of procedures across age-groups are now more feasible. Construct validity, however, remains a problem. The Crittenden procedures by definition are assessing a wider range of strategies than the classical attachment procedures, so failure in concordance with, for example, the original Ainsworth strange situation or with the George, Kaplan and Main AAI would be expected. It will be essential when the

final assessment procedures for the school-aged child are in place to validate these against an earlier test using the same constructs and theoretical base. The PAA will be the situational test of choice. It will be necessary also to generate common-groups research for each instrument. This has commenced for the Crittenden AAI procedures e.g. (Black, Jæger, McCartney, & Crittenden, 2000 ; Rindal, 2000; Ringer, 2001) and for PAA (Chisholm, 1997; Devito, 1998; Fagot & Pears, 1996; Lippe & Crittenden, 2000).

The present study

Rationale

The current research is advancing in parallel to the development of the SAA by Dr Crittenden (1998). When work on the SAA is completed, a gap will still exist in suitable assessment procedures for the transitional 5 to 7 year age both in the Crittenden series of measures and in general. Thus, this study advances the task of finding and validating a useful procedure for the assessment of attachment strategies in the early childhood years. The study targets the 5-7 year age group which is at the interface of the behavioural and symbolic mode of representing attachment internalization and for which no valid procedure for the assessment of attachment strategy is available. This study modifies the SAA cards for the 5-7 year age group, creating a tool known as the Young School-aged Assessment of Attachment (YSAA). It begins preliminary validation of the new instrument and scoring procedures by generating a research sample of normative and clinical 4-5 year old children for whom the PAA is still valid and gathers the PAA data on this sample. The YSAA is given to this same group of children when they are aged 5-6

years. Preliminary scoring procedures based on the AAI (Crittenden, 1999-2004) have been developed for the current study. This study lays the foundation for validation of the new SAA scoring procedures when they are finalized. The present study provides several sources of validation data. Predictions will be made from the 4-5 year old PAA classifications for the YSAA scored with the AAI type discourse analysis methodology. At the same time, data from concurrent related measures will be available and a known group will be assessed for preliminary criterion validation.

Addressing some of the validity concerns identified by Solomon & George (1999), this study assesses the near concurrent validity of the YSAA against the Pre-school Assessment of Attachment (PAA). This is an established attachment measure that is known for its robust psychometric properties and for which there is both established and ongoing reliability testing occurring for children up to 5 years (Chisholm, 1997; Crittenden, 1995; Devito, 1998; Fagot & Pears, 1996; Lippe & Crittenden, 2000). The PAA also provides validation for the representational approach of the YSAA against a behavioural attachment assessment. Thus the YSAA continues from the known PAA procedure to a representational procedure for children only a year or two older. The YSAA uses constructs and adapts scoring procedures from the same research group that developed the criterion measure; this is a common problem in attachment research where the instruments are sensitive to subtle nuances of mother-child relationships that are rarely captured in psychometric tests. In an attempt to break this circulatory nature of much of the concurrent validity testing in this domain of research, several related concurrent criterion measures that have their origins outside the attachment paradigm are given. Two of these are performance tests with some face validity and research

claims as possible correlates of attachment pattern: the Autobiographical Emotional Events Dialogues (AEED) (Koren-Karie, Carasso & Haimovich, 2001) and Children's family drawings (Fury et al., 1997). The AEED is suitable for the 5-6 year old child and focuses on the quality of the relationship between the child and his/her main attachment figure. Children's family drawings are used to identify representations of self and of attachment figures as symbolised in their family drawings (Fury et al., 1997). The Child Behaviour Checklist (CBCL) (Achenbach, 1991, 1999) is used to see if the YSAA identifies children classified in the clinical range on a widely accepted instrument. Parental identification of problems provides a base for a known groups comparison. Teacher ratings of the children on "The Student-Teacher Relationship Scale (STRS)" (Pianta, 1997) are included to explore how the strategies developed by children to maximize proximity to, and comfort from, attachment figures map onto teacher-pupil relationships when the child enters school.

Finally, since it was believed that the YSAA held most potential as a clinical tool, questions about any identified behaviour problems at school or in the home, and any traumatic life events experienced by the family during the child's lifetime, are included in the demographic interview.

Research Questions

Specifically this study addresses the following research questions:

1. Does the YSAA procedure generate material to enable AAI type classification procedures to be applied to the children's transcripts?

2. Can the transcripts be reliably classified into attachment patterns?
3. Does the YSAA procedure, when scored by a discourse analysis similar to that used in the Crittenden AAI classification procedures, assess attachment patterns that have been identified by the PAA?
4. How do the YSAA attachment categories relate to the assessment of emotional openness as measured by the Autobiographical Emotional Events Dialogue (AEED) (Koren Karie, Carasso & Haimovich, 2001)?
5. Does the YSAA discriminate between normal and clinical behavioural patterns identified by the Child Behaviour Checklist (CBCL) (Achenbach, 1991) or risk indicators as identified by parents?
6. Do the attachment categories as measured by the YSAA relate to children's relationships with their teachers as measured by the Student-Teacher Relationship Scale (STRS) (Pianta, 1992)?
7. How are the attachment representations as defined by the YSAA related to attachment representations in children's drawings as identified by global ratings and attachment classification (Fury et al., 1997)?

CHAPTER IV: DEVELOPMENT OF THE YSAA

Initial choice of the components of the YSSA, namely type of stimulus probe, number of probes needed, sequence of probes, and administration procedures such as interview questions and style of interview was driven by the research literature. To explore each component with participants, informal trials were continually mounted. When the components were finally chosen, the package was tested in a pilot study. The methodology in the trial phase is presented informally. Since this is a developmental research project with the results of each study determining in part the procedures for the next, as well as the method, the results and conclusion of the pilot study are fully discussed in this chapter. Succeeding chapters discuss the validation of the YSAA.

Method for Informal trials

Participants

Samples of convenience were drawn from a clinical child inpatient facility in which the author was employed, as well as neighbourhood children in the 5-7 age group. Local teachers of Grade 1 children piloted some aspects of the package with their classes.

Procedures

This section is organized around the components that were being piloted and incorporates discussion of why components were chosen.

a) Stimulus probes

The stimulus cards chosen for the trials of The Young School-Age Assessment of Attachment (YSAA) are based on adaptations of the SAT (Crittenden, 1998; Hansburg, 1972; Klagsbrun & Bowlby, 1976; Resnick, 1993). The SAT, as discussed in chapter 3, was originally developed by Hansburg and used black and white ink drawings. However since Bowlby and Klagsbrun elected to use realistic photographs these have dominated the literature. The Bowlby and Klagsbrun (1976) adaptation used photographs that "...combine maximum situational focus with a minimum of facial expression, so that with the help of a caption the situation is made clear but the emotions aroused remain ambiguous (Klagsbrun & Bowlby, 1976 p.8)". Shouldice & Stevenson Hinde (1992) retained these photographs for use with a sample of four and a-half-year-old children, as have Slough & Greenberg (1990) for a sample of seven to eight year old children. Crittenden (1998) adapted the Hansburg ink drawings for use in her School-aged Assessment of Attachment (SAA) package for young children. Her stimulus cards include a set of line drawings using human figures in the style of the original Hansburg (1972) measure. There has been little review of the relative usefulness of these variants of the stimulus in the literature.

Both types of stimulus were piloted with the sample from the inpatient facility for disturbed children. Photographs that were reprints of those used by Wright and Binney (1998) proved too intense for these children so that they made considerable avoidant moves including out of seat behaviour, rocking on the chair, turning of head away, and ducking down under the table. Others made clear verbal statements including "I don't want to look at these". Some children focused on the surrounding detail rather than the intended scene. For other children, it was clear the people in the photographs were real people and they wanted to know who they were. The

Crittenden line drawings did not engage the children's interest. Almost all the children quickly became bored or fidgeted considerably. A brief trial with coloured drawings was abandoned when the first two participants spontaneously made comment on the colours and the third said "Uugh, It is too bright." The latter was a depressed child of 7 years.

Drawing on clinical experience as well as on the children's responses to these variants in stimulus cards, the present author reflected that referred children in therapy frequently select animal over human figures for their therapy medium. The use of animals rather than people as stimuli for investigating the dynamic workings of a child's inner emotional life finds support in the development of the Child's Apperception Test (CAT) (Bellack & Siegel, 1971; 1989). The CAT uses ten animal pictures as the preferred identification figures for children aged from three years up to ten years. Hodges, drawing on her clinical experience with abused pre-school children, devised a story stem for use in the Doll-play procedure that uses animal figures in order to lessen the child's anxiety. These story stems are now known as "Little Pig" stems (Hodges, Steele, Hillman, & Henderson, 2003). The Crittenden cards were adapted using animal (teddy bear) figures. These cards were more successful. They held the children's attention and were not immediately threatening. Although this was the main criterion for their selection other advantages became apparent. The teddies could be drawn as a unisex set without requiring parallel forms. Other child therapists, art therapists, and graphic artists were consulted and all agreed that teddy bears were also less likely to "date" over the years. These also hold the potential for conversion to animation and computer versions. The teddy stimulus cards have been named the Young School-age Assessment of Attachment, (YSAA), to distinguish them from the Crittenden line drawing human figure set (SAA). This

...ates was tried again with a clinical sample. However, confusion over the use of gender terminology (eg he/she) in the children's discourse resulted in separate male and female sets being created for use in the main study.

b) Number and order of stimulus cards

Various numbers of cards were discussed and tried ranging from six as in the Klagsbrun and Bowlby (1970) study to twelve as in Hansburg (1972). Other numbers of situations have included a range of five to eight photos (Wright & Binney, 1998) and nine sketches (Jacobsen & Hofmann, 1997). Crittenden uses seven line drawings (Crittenden, 1998).

The first trials of nine to twelve cards were clearly too long for the younger children in this study. The children's focus centred on how many more cards there were to go rather than the scene before them. Trials were conducted using between six and eight cards. A pool of scenes was generated from the research literature including those being used in the Attachment doll-play stories as well as in the SAT research. Local primary schools were consulted. The teachers of five to seven year old children agreed to ask their classes to draw situations from their families that made them scared and made them angry. In a second session children were asked to rank various situations for the intensity of their feelings in these situations. From this, a list of escalating threatening attachment-related situations was developed. The following 14 scenes were piloted:

Teddy is lost in a crowd

Teddy's mother is going on an aeroplane

Teddy is going out alone

The teddy family is moving

The teddy's friend is going to play with other teddies

The teddy is running away

The teddy is being bullied

The teddy's father is leaving

The teddy's mother is going to hospital

Teddy has broken mother's lamp

Teddy is not doing as he is told

Teddy has stolen some sweets

Teddy is sick in bed

Teddy is sleeping over at a friend's house.

The final set of situations included for the pilot study consisted of eight black and white shaded drawings that began with "Teddy's family" as an introduction to the task. The family was sufficiently vaguely drawn for the children to make it their "own" and imbue the family with character for the duration of the assessment. This was simply drawn as mother, father and teddy.

The remaining seven situations were as follows and were presented in this order:

Teddy is sleeping away from home tonight

Teddy is left out (of the game)

Teddy has taken some lollies (candy, sweets)

Teddy is sick

Teddy's father is leaving the family

The teddy is running away

Teddy has broken the lamp

In all situations, although the teddy is not always physically alone, he/she is very much out on his/her own in that he/she must use his own resources to manage as

in the original Klagsbrun and Bowlby situations. Situations that provide some threat are included so that the manner in which the child manages needs for proximity and comfort can be assessed; when the threat is minimal the child's capacity for exploration can be assessed. Discipline is a domain that is pertinent to children of this age and is relevant to child attachment issues (Hill, Fonagy, Safier, & Sargent, 2003). Two situations that have the potential to explore this were included: "Teddy is taking some sweets" and also "Teddy has broken the lamp."

c) The Interview Instructions

In the numerous adaptations of the SAT the format of the interview questions has varied between completely forced choice questions, a mixture of forced choice and open ended questions, and completely open ended questions. Valid arguments are advanced for each style. Crittenden, in preparation for the development of the SAA for older primary school children, developed a new set of questions based on the probes used in the Adult Attachment Interview that attempt to cover all memory modalities (Crittenden, 1998; 2003c). This is congruent with recent advances in memory research that suggest that memories can be stored in procedural, affective, imaged, or semantic form. It is also in keeping with recent research on representational theory of mind which clearly demonstrates that children between ages four and six years can hold the perspective of another in their minds and can create and refer to different mental representations of the same thing (Dockett & Degotardi, 1997). Scoring procedures on the AAI (Crittenden, 1999-2004; 1984; Main & Goldwyn, 1998) use preferred modality as a classification marker. This type of approach necessitates open-ended questions and Crittenden embodies the more open-ended styles (Shouldice & Stevenson-Hinde, 1992) in her fuller set of questions. The current study has developed alongside the work of Crittenden and the

Bertinoro SAA Consortium. It was agreed that this study would pilot the Crittenden instructions and that feedback from the trials would help to calibrate the instructions required in order to use AAI type scoring procedures with the SAA transcripts.

d) Coding procedures

As noted in the literature review, a new direction in coding transcripts from representational probes has been piloted by a team from Manchester (Green et al., 2000a, 2000b). The authors utilize doll-play stimuli and procedure, and have attempted to adapt the discourse analysis methodology from the Adult Attachment Interview (George et al., 1985) in order to code the verbatim transcripts. This discourse analysis methodology (Main & Goldwyn, 1998) has been scrutinized in many subsequent studies with the AAI and its scoring system has substantial status as a reliable and valid instrument (Hesse, 1999).

Over the past two decades Crittenden has developed an expanded model of attachment representations in childhood and adulthood which incorporates new patterns identified in more extreme transcripts (Crittenden, 2000). In her Dynamic-Maturational method of coding, there are eight attachment subcategories of the dismissing strategy, (A1 to A8), five for secure (B1-5), eight for preoccupied (C1-8), as well as all the combinations for the A/C and AC. The dynamic-maturational system allows differentiation between the low subcategories (A1-2, C1-2) of the scale and the high subcategories that Crittenden names as obsessive (C3-8) and compulsive (A3-8), as well as the combined categories A/C (alternating combination of defended/coercive strategies), AC (blended combination), and several modifiers including disorganization and depression. In the coding procedures for the AAI, Crittenden considers representations of childhood history in terms of procedural, imaged, semantic, episodic, and working integrative memory. Procedural memory

represents sensori-motor schemata, and is assessed in three ways: dysfluencies of speech (i.e., discourse markers), the nature of the speaker's relationship with the interviewer, and the speaker's expressed affect while doing this task as well as his/her discourse around remembered affective experience. Imaged memory is assessed in terms of sensory images e.g. visual descriptions, expressive voice, sensations, and explanations that are given by demonstration, all of which are evaluated from the discourse. Semantic memory represents verbal generalizations particularly with regard to temporal and causal relations so that the speaker puts words to his/her experiences that convey the whole event to the reader. Episodic memories are event-specific integrations of affective and cognitive information. The episode is recalled by the speaker with imaged associations, affects, antecedents, and consequences. Finally integrative, working memory is analysed in terms of the consistency among the four other representational models. This is the summary statement the speaker can give about the episode that shows he/she has the capacity to think about and reflect on his/her experiences.

Crittenden has considered the possibility of using these coding procedures with transcripts generated from representational probes with school-aged children but unlike those at the Manchester laboratory, prefers to obtain the verbal material through the human figure line drawing probes. Crittenden is currently developing an instrument (the SAA) for this purpose and proposes to develop coding procedures along the lines of the Dynamic-Maturational coding manual for the AAI.

The aim of the present study was to trial similar coding procedures with the new YSAA. It has moved ahead of the Crittenden SAA manual and feedback from this study will help to inform her developing SAA methodology. For the purpose of

this study, the Crittenden manual for discourse analysis of the AAI was adapted for use with the YSAA transcripts (Crittenden, 2002-2004) See appendix A.

The Pilot Study.

Aims

By the end of the informal trial phase, the package of eight YSAA stimulus cards, together with the interview schedule and scoring procedures, were ready to trial in a formal pilot study with a new sample of 5-7 year old children.

The major research questions to be asked in the pilot study were:

1. Does the YSAA interview used with 5-7 year old children generate sufficient transcript material for analysis?
2. Do the transcripts generated from the YSAA contain enough identifiable discourse markers to enable classification of attachment strategy using a scoring system such as that used to code the Adult Attachment Interview?
3. Can the discourse markers be reliably identified?
4. Are all the cards in the set equally effective in generating the required markers and is there any unnecessary overlap? What is the internal consistency across markers used to classify the transcripts into attachment categories?
5. At this point in its development, does the YSAA show promise as a valid measure of attachment strategy?

Method

For this formal pilot study phase it was necessary to generate a new sample of 5-7 year old children, train an interviewer in the interview procedures, compile a list of the markers required for coding the transcripts in the system used with the Adult

Attachment Interview, design scoring sheets to record markers across cards, and train coders in using this system.

Participants

A normal sample of 35 mother-infant dyads was available from a previous longitudinal research project. The mothers, all then pregnant, were originally invited to be part of a longitudinal study into the antecedents of attachment strategy in pre-school children (Crittenden, Howieson, & Priddis, 2004). As part of the data collection at that time the dyads had taken part in the PAA (Pre-school Assessment of Attachment) procedures when the children were three years of age. The children were in their 6th year at the time of this pilot study. The mothers were located and asked if they would be available to participate in this current follow-up study. Of the 35 dyads, 30 agreed to take part in the pilot study. One of these children had missed the PAA assessment at the time of the previous research. Of the 30 willing participants, fourteen were girls and sixteen were boys. All were attending local primary schools. As well as providing a sample for trialling the YSAA package, the children served as a pilot group for clarifying the procedures and scoring of the Autobiographical Emotional Events Dialogue and the Family Drawings. Their teachers also completed the Student -Teacher Relationship scale. The AEED, YSAA and Family drawings were presented to this group in two different orders as a trial for order effects. These instruments will be discussed in Chapter six: The cross-validation project.

Procedures

a) Interview procedures

The interviewer was briefed on the administration of the cards and the interview procedures. In the informal trials it was noticed that children took their cues

from the interviewer. If, for example, the interviewer tried to clean up a child's story the child would follow suit or if the interviewer tried to give a fairytale ending to a story so too would the child. It was made clear for the pilot study that the interviewer was to use the child's language especially where it related to gender, choice of pronouns, or tense. The interviewer was instructed to allow the child to own the stories and to follow the child's lead whenever possible. She was to encourage the child but not to lead or suggest conclusions. In the informal trials it had become clear that a didactic style of instructional delivery was counter-productive to generating sufficient dialogue from children for our scoring style to be effective. The instructions to the interviewer made it explicit that the style was to be one of collaboration rather than interrogation (see Appendix O).

b) Recording procedures

The interviews were recorded on audio cassette tapes and transcribed verbatim. Typists were instructed to add, where possible, comments on any non verbal sounds on the tapes e.g. chair scraping, laugh, very soft voice, shouted etc and to indicate with dots periods in which the child was silent.

c) Coding procedures.

The Revised Adult Attachment Interview (Crittenden, 2002-2004) is constructed to assess procedural, imaged, semantic, episodic, and working integrative memory. Each memory system is addressed systematically in the interview and can be evaluated independently although discrepancies among memory systems provide a guide to the speaker's mental functioning. Pages 5 to 23 of the above manual discuss markers in each memory system which are characteristic of dismissing, balanced, and pre-occupied speakers respectively. Training in the administration of the Revised

Adult Attachment Interview and its coding procedures is essential before reliability of coding can be achieved.

For the purpose of this phase of the research, which aimed only to ascertain whether the YSAA cards were capable of producing the type of transcript from which these judgments could be made, the child's response to each card was examined to see whether it contained any markers of the types described in the AAI manual. Coding forms were generated with a matrix of boxes with labels for each memory system (labels) across the top and card one to seven labels down the margin. Lists of markers for Type "A", "B", "C," and "AC" or "A/C" classifications drawn from the AAI manual Crittenden (Crittenden, 1999-2004) in each memory system were generated and used in this process (see Appendix A). The coders were instructed to enter a '1' for each marker found on each card in each memory system.

d) Coders

Two coders were used, each of whom had been trained on the AAI coding system as well as on coding procedures for the infant and pre-school measures. Both the memory systems and the markers were already quite familiar to the coders. They were asked to attempt to transfer their knowledge of the AAI procedures to the children's transcripts (see Appendix B for coding sheets used).

e) Order of tasks.

The children in the pilot study were asked to do two additional tasks on the visit to the interview room either of which was deemed to be a possible "warm up" to the YSAA story task. In the first, the child was asked to draw a picture of his/her family with standardised instructions and materials. The children also took part in a short exercise (the AEED) with their mothers that required the dyad to co-construct stories about times when the children had felt happy, sad, angry or scared. The effects

of the order of these tasks were examined in the pilot study with ten children randomly assigned to one of three conditions. Sequence 1: Drawings, AEED, YSAA; Sequence 2: YSAA, Drawings, AEED; Sequence 3: AEED Drawings, YSAA.

Results

Stimulus probes

a) Number of cards

The children in general were interested and willing to make up the stories and answer questions about their own experiences. It appeared, however that the concentration span needed for responses to the seven cards plus the introductory card, was too much for this age group. It was decided to reduce the package to six cards plus the warm-up card.

b) Contribution of cards to the discourse markers and internal consistency of markers across memory systems.

A correlation matrix of markers across cards was generated. Only two cards, Teddy has broken the lamp (Card 7) and Teddy has stolen some sweets (Card 3), showed unacceptable overlap ($r=.71$).

A frequency table of markers across cards showed that all cards except Card 7 made unique contributions to specific markers of attachment category. Card 1 (sleepover) and Card 2 (left out) loaded strongly onto the memory domains. Card 1 loaded heavily onto procedural memory and Card 2 was the most useful card for examining episodic memory. Card 3 (stealing sweets) yielded high discourse markers and Card 5 (father leaving) contributed to semantic memory and integration while Card 6 (running away) contributed to the evidence for semantic memory and also to the modifiers (see Appendix C).

In view of the interviewer's suggestion that seven cards was beyond the attention span of this age group, the overlap of Cards 7 and 3 and the fact that Card 7 made no unique contribution to markers of any specific memory domain, Card 7 was eliminated. The correlation matrix for the remaining cards showed no unacceptable inter-pair overlap (see Appendix D).

An internal consistency analysis of the markers across memory systems showed that two items, integrative memory and modifiers, had insufficient variance as useful indicators of overall attachment strategy. The "Modifiers" scale was retained as a descriptor of the indicated classification only. Coders continued to identify markers of integration where possible for theoretical purposes but this system was not used in coding.

Table 1 reports the alpha for internal consistency of the memory systems as markers of attachment classification without the modifiers which was .70.

Table 1. Internal consistency of cards

Mean	Variance	Std Dev	Variables
21.0645	42.4624	6.5163	6
Reliability Coefficients		Alpha = .7025	Standardized item alpha = .7050

Results regarding interview procedures

It became obvious from the pilot study interviews that training in an exploratory style of interviewing is essential. The interviewer must have practice in using a dynamic interviewing style in order to have a good feel for the purpose of the interview and the theory behind it. Important techniques such as managing silences effectively and knowing when to probe and when to move on depend on the skill and sensitiveness of the interviewer and have an effect on the quality of the data obtained. There were some occasions when the episodes were unclear due to poor grammar or

syntax. This confounds with ability to generate a coherent story. It is essential that where confusion arises due to poor communication skills of the child, details be clarified.

Results regarding the order of tasks

The first scenario (Drawings, AEED, YSAA) created unnecessary complications in that the child had to manage two separations with his/her mother and, although this mirrored the infant SS, at this stage in the development of this tool we did not want to add extra variables. There were clear carry-over effects for the child in doing the collaborative task with mother first. Sometimes these were very positive where the AEED had gone well but on occasions when the AEED had been a battle, the battle was carried on in the YSAA.

The second order tried was that of firstly the YSAA, then the Family Drawings, and lastly the AEED. This order had its merits in that there was no interference for the YSAA but there was also no warm-up or natural way of warming the child up to either the expression of feelings or to attachment issues. The YSAA transcripts produced when this order was used seemed to be slow to warm-up and were stilted and dry to begin with.

The last order tried was eventually considered to be the most productive. When the order was firstly the AEED then the Family Drawings, and lastly the YSAA, it seemed that interference was kept to a minimum and a certain degree of warm-up to the task occurred. Where the AEED was stressful, this was able to be expressed via the children's drawings and the accompanying chatter. A warm and non-interfering relationship with the interviewer was established in this phase as well as a discussion of a range of feelings related to family members that was a suitable lead in to the YSAA task. In the cross validation study all children were asked to do the

drawings as a warm-up to the YSAA task and where the AEED was administered this was done first of all. The instructions to the interviewer were amended to include the need to set limits on the length of time that might be spent on the drawings.

Other Issues

Notes were made by the coders of instances where the transcripts were not possible to code or where the interviewer's questions had not clarified issues.

Some sections were spoken too softly to enable the typist to interpret what was said. At times soft speech may be an avoidance marker but if it occurs throughout a transcript it is necessary to encourage the speaker to speak more loudly and to make sure the equipment is of high quality.

Finally, one of the aspects of theoretical interest in children's responses to the story probes concerns the identification with the protagonists. With the teddy cards the identification process is double layered. The first issue is whether the child relates to the teddy as a real figure with human-type affects and motivations. The second layer is present in all stimulus probes. How much of the child's own experience is used in the story generated in response to questions about what the teddy might think, feel, or do to solve the problem? In some cases the child will tell a story about the teddy's sleepover and when asked to describe a sleepover he or she has had will tell exactly the same story. In other cases the stories will be quite different or the child will suggest a solution that the teddy might try but does not believe he/she would do this him/herself. Issues of creativeness versus reality as well as issues of defensiveness versus reality are raised here. Nevertheless the markers of attachment strategy were identifiable across both types of response.

In order to tease out these issues the interviewer must maintain a consistent approach to the identification. In the pilot study it was found that sometimes the interviewer said "Do you think this is a boy teddy or a girl teddy?" and then "What do you think he is doing here?" and others merely "What do you think is happening here?" It seemed that the latter approach maximized identification at least at the first level. The revised instructions must give clear instructions on this point.

Discussion

Discussion is organized around the research questions posed for the pilot study.

Question 1. Did the YSAA procedure generate sufficient transcript material for analysis?

The lengths of the transcripts produced ranged from 1200 words to 5000 words. Some transcripts were dominated by single phrases and, at best, a sentence or two in response to an interviewer's probe, but others contained some very rich material that ran on for several sentences. For example, this excerpt is from one of the participants ID 6 on the "teddy is running away" card.

Interviewer So how do you think the little bear would feel here if he was running away from home?

(6) Well his mother might be telling him to do something now like clean up his room and she'd see it muddy even if it was a big a big mess but even if she growled at him she would still love him but she just wants him to clean up his room.

Interviewer *Right okay so how would he be feeling if he was running away from home?*

(6) *Well if mum told him off then he would just feel sad and pack his bag and take a torch, take sleeping bag, take a tent, take a compass, take a map. Everything like that.*

Interviewer: *Tell me about what happens ?*

(6) *Ah . he would go get his bike and put his bag in the basket at the front then ride into the bush and then set the tent up far far away from his home and then he could just ah .. get something to eat cause he might get something to eat like a cupcakes and sandwiches and some drinks.*

This was at least in keeping with the amount of material reported by Klagsbrun and Bowlby when they elicited answers that consisted of phrases or at most a sentence or two for each card (1976). It seems that these stimulus pictures surpass that of the line drawings that were piloted in the first stage of this study for this age group. They are a suitable stimulus to facilitate storytelling and the production of narratives from these children.

Question 2. Did the interviews generate sufficient material and material of a type that could be analysed for discourse markers for the various attachment categories as in the AAI scoring procedures manual (Crittenden, 1999-2004)?

Markers could be identified for each memory system on each card. In order to judge whether the YSAA would be likely to yield sufficient markers for reliable classifications to be made, the coders classified each transcript, using the identified markers, into one of the four basic categories: Type "A", Type "B", Type "C", and a combination "A/C" on the basis of the coding sheet. (Since there is no manual to

enable replication of coding, validity cannot be established for the YSAA with the pilot sample.) However a Chi square analysis showed that the reliability between the two coders for the 30 participants in the pilot study was significant at .004.

Conclusions

The pilot study suggested that YSAA was a promising measure used with a modified Dynamic-Maturational AAI (Crittenden, 1999-2004) scoring system. The stimulus generated sufficient discourse. Coders could reliably identify whether "A", "B" or "C" markers were present in each memory system. It was decided that every marker need not be found for every card. New scoring protocols were drawn up that required the coder to merely identify salient markers over the complete transcript for each memory system without doing so card by card.

At the conclusion of the pilot study phase it was determined that the YSAA would be cut to six probe cards and one introductory card and "teddy has broken the lamp" would be the card eliminated. The instructions to the interviewer were refined and interviewer training was put in place for the cross-validation study.

CHAPTER V: THE CROSS-VALIDATION STUDY.

This chapter describes the aims and method of the cross-validation study. It includes a comprehensive description of the instruments and the classifications that may be made from these instruments including the theoretically derived classifications for the newly developed YSAA. The procedure followed in the study is described as is the method of data analysis. The results of this study are reported in Chapter VI, followed by a full discussion of these results in Chapter VII.

Aim and Hypotheses

The aim of the cross-validation study was to begin preliminary work to empirically validate the YSAA. The YSAA was validated against a criterion attachment variable taken a year earlier and concurrent measures with face validity with attachment constructs; a task of co-construction and children's family drawings. Exploratory validation was also undertaken against parent and teacher checklists of behaviour. These measures are described in detail further in this chapter. The specific predictions tested are:

Validation with the criterion variable

H1: Children's attachment classifications on the YSAA will be concordant with their attachment classifications on the PAA taken a year earlier.

Validation against concurrent measures

H2: Children classified as 'secure' on the YSAA, will be emotionally matched in their co-construction of emotional stories with their parents, while those

children classified as "insecure" on the YSAA will be emotionally unmatched with their parent in co-construction of emotional stories.

H3: Children's 'secure' and 'insecure' classifications on the YSAA will be concordant with their classifications on Independent Family Drawings.

H4: Compared to children classified as 'insecure' on the YSAA, those classified as 'secure' will have family drawings that indicate:

- (a) Higher levels of family pride
- (b) Higher levels of vitality,
- (c) Lower levels of pathology.

In addition children classified as "A" on the YSAA will have drawings that indicate greater emotional distance. Children classified as "C" on the YSAA will have drawings that indicate high levels of role reversal, tension, bizarre features and vulnerability.

Exploratory validation

H5: Compared to children classified as 'secure' on the YSAA, children classified as 'insecure' will elicit teacher reports that indicate

- (a) Lower levels of closeness,
- (b) Higher levels of conflict,
- (c) Higher levels of dependency.

H6: Compared to children classified in low range categories on the YSAA, those children classified in the insecure high range categories will elicit parental reports of the existence of major problems or problems that have significantly impacted on the child.

H7: Compared to children classified in low range categories on the YSAA, those children classified in the insecure high range categories will elicit parental behaviour reports that indicate clinical levels of behavioural disturbance.

Method

This project involved two data collections at two different points in time. One problem identified by reviewers with regard to attachment research in children has been the fact that the infant SS has been the single early measure of attachment so that the time lapse between criterion and later childhood measures has been considerable. In order to use each instrument at the age for which it is valid, and to minimize the time between the two attachment assessments, the data collection for the validation study occurred over two years with two data gathering points.

At the first data collection the sample was assessed on the criterion measure for the validation of the YSSA, the Pre-school Assessment of attachment (PAA). Demographic data was collected including the questions about behavioural problems and at risk factors that were asked of the child's parent, pre-school centre teachers filled in the STRS questionnaires, and the mothers completed the CBCL questionnaires. At the second data collection point the YSSA assessment was made. Data was collected also on concurrent validity measures.

Participants

A representative sample from across pre-primary centres around Perth was generated. It was considered desirable to generate as wide a range of participants as possible from both normal and clinical populations in order to collect transcripts that would span the range of possible patterns. A total sample of 168 children in

their pre-primary year (80 boys, 88 girls) was generated from two sources: a hospital data-base for premature infants who were now in their fifth year (N= 20, boys=7, girls=13), as well as children referred for clinical services to the hospital outpatient unit (N= 12, boys=9, girls =3). The second and major source of participants was from a representative group of pre-school classes from which 136 children, (boys=64, girls =72) were recruited. Sixty three schools in the Perth metropolitan region, 53 public schools and 10 private schools, participated. Table 1 presents the demographics of the sample.

Table 2: Means and standard deviations for age by gender

		Male	Female	Total	Total N
Age in months	M	61.75	62.10	61.93	168
	SD	5.26	3.88	4.58	

Selection of the participating schools was governed by willingness of the principals and pre-school teachers to participate in the data collection process. It was thus not possible to completely control the spread of schools participating. However, inspection of the socio-economic rating of the schools (Farish, 1993) revealed that schools in the study spanned the range from disadvantaged schools servicing lower socio-economic areas to more advantaged schools servicing students in a higher socio-economic bracket.

Instruments

a) The Pre-school Assessment of Attachment (PAA) (Crittenden, 1995)

The PAA is an extension of the Ainsworth Strange Situation that is appropriate for pre-school children (See chapter 2, this document). Children were classified into

the Ainsworth patterns plus the Dynamic-Maturational expansions of these. Type "B" children show some anxiety, but settle in the mother's absence and re-engage willingly on her return. Type "A" children minimize display of negative affect; the compulsive "A3" and "A4" children add false brightness and parent-pleasing activity that covers underlying agitation. Type "A" children avert their eyes from their mother's exits, preferring not to acknowledge the departure. When the mother returns, they are reluctant to re-engage. Type "C" children, particularly the more demanding "C3" and "C4" children, exaggerate the display of negative affect. They make noisy, angry protests and attempt to threaten their mother or seduce her into attending to them in a power struggle. The PAA has proven validity in concordance studies with maternal sensitivity and infant attachment at 12 months (Crittenden, 2003a; Fagot & Pears, 1996; Rauh, Ziegenhain, Mueller, & Wijnroks, 2000; Teti & Gelfand, 1997; Vondra, Hommerding, & Shaw, 1999).

Although it was predicted that the classifications accorded to dyads on the PAA would correspond to those accorded the child on the YSAA, it was anticipated that some children's classifications would change and that such change would be in a direction explainable by theory and the maturation of the child.

b) The Autobiographic Emotional Events Dialogue (AEED) (Koren-Karle, Etzlon-Carasso & Haimovich, 2001).

The AEED is a typology for examining the co-construction by parent and child of narratives about emotional events. This tool was developed in the Israeli laboratory as a way of examining the expression of security in parent-child relationships. Drawing on an attachment framework, the authors extend a traditional Vygotskian approach to the analysis of transcripts of mother-child shared narrative construction

around emotional events. Each mother-child dyad is presented with four cards, on each of which a name of a feeling is written: Happy, Mad, Sad and Scared. The child is asked to remember an event in which he/she experienced each feeling and the dyad is asked to jointly construct a story about each of the events. Conversations are transcribed verbatim and coded into one of four groups. Emotionally Matched dyads reflect a psychologically secure base while the three categories of Emotionally Unmatched (Exaggerating, Flat and Inconsistent) reflect a lack of a secure base in the dyad (Koren-Karie, Oppenheim, Haimovich, & Etzion-Carasso, 2001). The method was developed and validated with 120 children aged seven years for whom there were known infant attachment classifications from the infant SS (Sagi, Koren-Karie, Gini, Ziv, & Joels, 2002). Significant relationships have been reported for attachment classifications during infancy (using the infant SS) and AEED classifications at age 4.5 and at age 7.5 years. Acceptable stability has been reported on all four classifications for this age range. Children's vocabulary and gender have been found to be unrelated to the AEED (Koren-Karie, 2003; Koren-Karie et al., 2001).

The present study predicted that the children classified as secure on the YSAA would correspond to those for whom the mother-child co-constructions as measured by the AEED were classified as Emotionally Matched. Those dyads classified as Emotionally Unmatched on the AEED were predicted to be classified as insecure on the YSAA.

c) The Student Teacher Relationship Scale (STRS) (Planta, 1992)

The STRS is a teacher-report instrument that blends theory on child-adult attachment with research on the importance of early school experiences in determining the patterns of children's school progress. The tool uses a 5- point Likert-

type format to assess teachers' feelings about their relationship with a student, the students' interactive behaviour with the teacher, and the teachers' beliefs about the students' feelings toward the teacher. The 28-item scale is administered by having the teacher complete the items according to the directions printed on the scale. Teachers rate on the 5-point scale the extent to which a particular item "applies to your relationship" with the student for whom the rating is being made. The scale is scored by summing groups of items corresponding to factor-based subscales ('Conflict', 'Closeness' and 'Dependency') and computing a total score. The Conflict subscale comprises 12 items that tap the extent to which the teacher-child relationship is characterized by antagonistic, disharmonious interaction (e.g. "This child and I always seem to be struggling with each other," "Dealing with this child drains my energy"). The Closeness subscale is an 11-item index of the degree of warmth and open communication present in the teacher-child relationship (e.g., "I share an affectionate, warm relationship with this child", "This child openly shares his/her feelings with me"). The Dependency subscale contains 5 items that assess the degree to which the child seems overly dependent (e.g. "This child is overly dependent on me", "This child asks for my help when he/she doesn't really need help"). A total score indicating the overall quality of teacher-child interaction is obtained by reversing scores for conflict and dependency items and summing across all 28 items; the higher the score the better the quality of the relationship. Validity studies indicate that the STRS correlates in predictable ways with concurrent measures of behaviour problems and competencies in elementary classrooms (Pianta, Steinberg, & Rollins, 1995; 1994) as well as peer relations (Birch & Ladd, 1997; 1998). Positive scores on the STRS among academically at-risk children are also predictive of success in the early school years, indicating the sensitivity of the instrument to "resilience" processes

(Hamre & Pianta, 2001; Pianta, 1997). This measurement system for child-teacher relationships is relatively new and as yet there is no conclusive evidence that it relates to attachment constructs in the same way that the parent-child assessments do (Pianta, 1999).

The STRS was designed for use by teachers across entire classes so that each child is compared with its cohort. In this study the STRS was to be completed by each teacher on only one or two children in the class. The use of this measure was exploratory to see whether there would be a trend toward 'secure' children eliciting teacher reports of less conflict, less dependency, and more closeness on the STRS than their 'insecure' cohort.

d) Child Behaviour Checklist (CBCL), (Achenbach, 1991)

The CBCL is a well-used and oft-quoted research tool for use with children aged 4-18 years. It is based on a multi-axial assessment model. It records in a standardised format child behavioural competencies and problems as reported by their parents or main caregivers. These take the form of 20 competence items and 118 specific problem items. The CBCL is designed to provide standardised descriptions of behaviour to be used with other types of data in evaluating a child. This instrument has been used in hundreds of published studies and has good reliability and validity data published across many cultures (Achenbach & Dumenci, 2001; Granot & Maysel, 2001; Konold, Hamre, & Pianta, 2003; Schmitz et al., 1999). The parent-report form was used in this study. Standardised t-scores on the externalising, internalising, and total problem scores are reported.

It was predicted that the children identified in the clinical range on the CBCL would be also identified on the YSAA through either receiving classifications at

compulsive, obsessional, "A/C" or disorganized levels or through identification of modifiers such as unresolved loss or unresolved trauma.

e) "At risk Questions"

The manager of the procedure asked the parent of each child three questions (in addition to the normal demographic questions about childhood illnesses and changes in family structure) about whether any serious problem behaviours had been identified in the child, and about the occurrence of events in the family that are considered in the clinical field to be "at risk" indicators (Rustin & Quagliata, 2000; Silburn et al., 1995).

- i) Have you or your child's teacher had any serious concerns about your child's behaviours now or in the past?
- ii) Have there been changes to the family e.g. separations, deaths, illnesses in the last few years that you believe have affected the behaviour of this child?
- iii) Has this child had any severe medical problems?

It was predicted that children for whom problems had been identified or who had suffered trauma or loss that the parents believed had resulted in trauma for the child would be coded insecure on the YSAA.

f) Children's Family Drawings

Children's family drawings have been used as a vehicle for understanding their attachment representations (Fury et al., 1997; Madigan et al., 2003; Pianta et al., 1999). Family drawings are made on A4 size sheets of paper and the child is asked

first to draw a picture of a person as a warm-up to the task of drawing his/her family. A set of 18 coloured markers is made available to the child. On completion of the drawing the child is asked to identify all the people in the drawing and how they are related to the child. The Fury, Carlson, Sroufe (1997) method was chosen as the method for coding in this project since the more global approach utilized by this team has been most recently identified as successfully discriminating between attachment groups (Madigan et al., 2003). Drawings are coded either by global rating scales or by specific Markers. Global rating scales include the following six scales: Vitality/creativity, Family pride/happiness, Vulnerability, Emotional distance, Role-reversal, Global pathology (Fury et al., 1997). Specific drawing signs include the presence or absence of seven markers for an avoidant style and eight markers for a resistant style (Fury et al., 1997).

The specific drawing signs and global rating scales have been shown to have construct validity for both low-to-moderate risk populations (Madigan et al., 2003) as well as high-risk populations (Fury et al., 1997). The drawings in this study were coded by an assistant from the laboratory at the University of Western Ontario, trained to reliability in the Fury Carlson, Sroufe method by Sheree Madigan. Madigan was to provide the reliability check. This had not been reported at the time of writing this dissertation.

It was predicted that the secure/ insecure classifications assigned to the drawings would show concordance with the secure /insecure classifications on the YSAA and that there would be differences in the mean score of each of the major groups on the YSAA for the various global factors. Specifically, those children who were classified as secure or "B" on the YSAA were expected to score lowest for 'global pathology' and highest for 'vitality' and 'family pride'. Those children who

were classified as "A" on the YSAA were expected to rank highest on 'emotional distance' on the global factors Scales of the drawings. Those children who were classified as "C" on the YSAA were expected to rank highest on the children's drawing global rating scales for 'role reversal,' 'tension', 'bizarre,' and 'vulnerability.' These predictions are in line with those reported in the literature (Madigan et al., 2003).

The validity of the PAA is most clearly established for the pre-school years up to about aged 5 years (Crittenden, 1995; Solomon & George, 1999). Analysis of children's drawings is possible from 5-6 years (Pianta et al., 1999) but it has been suggested that drawing techniques after six years gives a more valid index (Kaplan & Main, 1986). The AEED was normed on 7 year old children (Koren-Karie, Etzion-Carasso & Haimovich 2001). The STRS is designed to be used with school-teachers when the child enters school (Pianta, 1992) at about 6 years old. The YSAA was designed to address the 5-7 years transitional period. With these psychometric issues in mind it was decided to use the PAA and the CBCL in the year the child turned 5 and the additional measures in the following year.

Data Classifications

1. Pre-school Assessment of Attachment (PAA)

As discussed above the PAA is an extension of the Ainsworth Strange Situation tailored to pre-school-aged children. Children are classified into the Ainsworth patterns as well as the Dynamic-Maturational expansions of these. The classifications that are assigned include the secure groupings of B1-2, B3, B4-5, BO and insecure classifications of A1-2, A3-4, C1-2, C3-4, A/C, Dx, IO (Crittenden, 1995). The classifications will be briefly explained.

A1-2 or inhibited strategies include those where close and open emotional communications and proximity to the caregiver is avoided. These children prefer to explore the material environment and to organize themselves so that they have access to their attachment figures without having to negotiate or discuss feelings. True feelings tend to be minimized or inhibited rather than openly expressed in the relationship with their care-giver.

A3 and A4 strategies add false brightness and parent-pleasing activity that covers underlying agitation. As with the A1-2 children, those who use these strategies inhibit negative affect but cover this instead with a false positive, cheery expression that sometimes functions to take care of or entertain their care-giver. Both the A3 and A4 strategy requires vigilance as to the state of arousal of their care-giver, the one to please and look after and the other to comply.

C1-2 strategies combine resistant and threatening behaviours with disarming behaviours to gain the attention of the care-giver or to coerce their care-giver into supporting the child's wishes. Usually children using these strategies play in a way that is more socially focused than task or object-oriented.

C3 and C4 strategies require that children exaggerate the display of negative affect. They make noisy and angry protests and attempt to threaten or seduce the mother's continued presence in a power struggle or alternatively they may appear so overwhelmed and helpless that they require their caregivers to rescue them and constantly attend to them.

Type B strategies are identifiable in children who use a direct expression of their feelings in open negotiations and communications with their attachment figures. They both explore widely from their attachment figures and enjoy close

proximity. They regulate their internal feeling states or openly ask for information from their attachment figures that will enable them to manage their anxious and angry feelings so that they do not become overwhelmed by them. While the B1 and B2 children are reserved, the B4 and B5 children are more reactive and require more assistance to regulate their affect but do so with open and trusting communications.

Additional categories include the A/C category where an inhibited and avoidant strategy is displayed either alternatively or merged with a coercive Type C strategy. Where the child's behaviour in the relationship is accounted for by changes in the attachment figure's behaviour the strategy is considered to be organized. Where however, the child's strategies blend or switch in the face of intolerable stress so that the child is unable to implement his/her strategy smoothly the classification of disorganized or "Dx" is made.

Where behaviours do not fit any of these categories the classifications of Secure-Other "BO" or Insecure-Other "IO" are made. A cannot classify "CC" is only made when technological problems preclude making a classification.

On the basis of the data collected from the video footage of the PAA, mother-child dyads children were 'classified' by three coders trained by Crittenden to a mean reliability of 81% on the standardised reliability test. Paired inter-rater reliabilities on this sample of between .88 and .92 were achieved. Final classifications were derived by allocating the code given by two scorers. Those few transcripts on which agreement could not be reached were referred to the more senior coder for a final classification.

2. The Young School-age Assessment of attachment (YSAA)

Classifications made from the YSAA transcripts were necessarily theoretical. Whilst we know procedurally what the behaviours look like in the pre-school years, through the school years semantic memory and episodic memory become important. In developing this representational tool to identify attachment strategies in the 5-7 year old child we attempt to pull the discourse markers from the Adult Attachment Interview (Crittenden, 1999-2004) down to the maturational developmental ability of the young school-age child. The YSAA thus relies on diluted discourse markers from the AAI to accommodate the competencies of the 5-7 year old child. The Dynamic-Maturational theory would argue that with maturation comes the possibility of organizing one's behaviour around new strategies in order to manage new relationship challenges. For the purposes of this project the focus remained on identifying the known patterns of attachment behaviour seen in the pre-school years using a modified version of the representational markers observed in AAI transcripts.

The development of the marker and coding sheets for this study drew directly from the latest draft of Crittenden's "Dynamic-Maturational approach to analysing the Adult Attachment Interview (Crittenden, 1999-2004). This approach is based on neurological evidence about how information from past experiences is stored in the brain. It also identifies gaps in the retrieval process in the interview situation that are characteristic of individuals who manifest each type of attachment pattern (Crittenden, 1999-2004, Ch3, 3/04 p.38). The five memory systems used in the coding for the YSAA include: procedural memory, imaged memory, episodic memory, semantic memory, and working integrative memory. Each of these will be briefly described together with the characteristics that were deemed to be indicative of a specific attachment pattern in the coding of the YSAA (see Appendixes I, J, K for examples of

coding from the two coders). The cards were constructed so as to facilitate the child's identification with the stimulus situation, enabling the child's own issues to be triggered in response to the interviewer's question "has this happened to you?" and the memory systems to be more or less activated. For a more complete description of the memory systems see Crittenden (1999-2004).

Procedural memory is that which develops very early before language is established. It contains "rules" about behaviour and one's interactions in the world that are not explicit and are not generally available to verbal recall. These "implicit" memories are those that are enacted, repeated, habitual and generally outside one's awareness (Siegal, 2003). Crittenden identifies three types of markers of procedural memory: the presence and pattern of affective expression in the interview; the pattern of interaction or enactment with the interviewer and patterns of managing discourse. There are procedural markers characteristic of "A", "B" and "C" attachment patterns within each of these. In the YSAA procedural markers were identified as indicative of one or other of the strategies.

Markers of procedural affect -- are identified by the spontaneous expression of affect in the interview and may be classified as markers of "B" pattern or "C" pattern depending on the combination and function of the markers. They are generally not present even when one would expect them to be so in "A" patterns.

Markers of procedural interaction (enacted): are identified by the patterns of interaction the child has with the interviewer. Some children for example, will effectively enlist the interviewer's help or sympathy when careful analysis of the episode reveals no need for this, others will be overly compliant even when they have reason to object. A collaborative, but not overly compliant, nor involving interaction with the interviewer is a marker of a secure attachment pattern.

Procedural discourse is to do with the pattern the speaker shows in managing the discourse. Children with a secure attachment pattern may display dysfluencies but these do not alter the meaning of the discourse. Insecure children, for example, may cut off the discourse where the material is affective, may leave out pronouns to do with the self or others, or alternatively may have a loose associative style of discourse.

Imaged memory is also part of the implicit memory system. When the speaker is under stress, how and when he/she employs or inhibits perceptual images and to what end, provides complex information in coding the AAI. Animated images which show intense affect, dramatization, and little grasp of content in the AAI are usually associated with a high "C" pattern.

Semantic memory is part of the explicit memory system and as such develops later at about 3 years of age. This is the memory that is generalized verbally from repeated experiences, and is consciously available. Secure children make use of semantic memory to think through cause and effect and their own role in events.

Episodic Memory is how the speaker recalls and recounts events. Speakers with a "B" pattern of attachment usually demonstrate spontaneity, credibility, temporal ordering, and appropriate associated affect.

Working Integrative Memory describes the capacity to process information in the here and now and to reflect on past experiences in order to make meaning of them. Integrative memory is usually associated with "B" attachment patterns.

A "DX" classification. This is given to transcripts that show that the child is not secure but does not use either of the insecure "A" or "C" strategies. Thus, if such a child becomes anxious in response to a probe, he/she can't "cover up" by hiding discomfort, nor has he/she a manipulative strategy to get assistance from the interviewer by appearing helpless and vulnerable. The very fact that the child does not

produce verbal material in any coherent way leads to a "DX" classification which says that the child does not have an adaptive strategy.

Thus the following strategies were identified from the YSAA transcripts: secure groupings of B1-2, B3, B4-5, B0 and insecure classifications of A1-2, A3-4, C1-2, C3-4, A/C, Dx, IO. In addition, modifiers including unresolved loss (Ul) and unresolved trauma (Ut), depressed (Dp) and reorganising (R) were discernible alongside a main strategy. We can summarize the characteristics of the transcript for each strategy as follows:

"B" strategies: In general children were classified as using a B strategy when they demonstrated access to their episodic memories and were capable of constructing a coherent account of their own experiences. The dialogue in these transcripts was spontaneous and interaction with the interviewer was open and co-operative. It was clear that these children could understand causation – i.e. what caused the episodes described and they could identify their own and other people's contribution to these events. They have access to past affects and can express current feelings. "B" strategies were classified when sense could be made of both positive and negative aspects of experience and the children could talk about their experiences in a manner that was reflective and well balanced. Endings to the child's stories were classified as B when they were believable and were supported by evidence and solutions to problems were considered. The B1-2 classification was given when the child was more reserved and the dialogue more dismissive but within the B strategy. The B4-5 classification was given when the transcript reflected a more intense affective focus on fear, anger, or a desire for comfort but was maintained within a B strategy and thus did not overwhelm the child.

"A" strategies: The "A" classification was made when the transcript reflected a dismissing style of discourse. Transcripts classified as "A" showed evidence of a lack of recall of episodes, the child claimed a lack of memory, or cut off the episodes before a negative aspect could be recalled. These transcripts also showed evidence of the child's preference for talking about experiences that occurred for others. Affective statements were not volunteered in transcripts classified as "A". When asked about their feelings, these children tended to give stereotypical and minimal responses e.g. fine, happy, and sad. Explanations for their experiences were often clearly borrowed from their parents without thought and taken on by the children as their own. Semantically and procedurally these children were polite. Children using the A strategies did not show evidence of their own thinking and reasoning. The endings to their stories and episodes were mostly happy even when there was no supporting evidence for this. A1-2 strategies were characterized by positive wrap up and happy endings and false positive affect. These children also substituted place for person e.g. "my mum's house." A3-4 strategies showed more extreme awareness of other to the exclusion of self. Children using these strategies often answered interviewer probes before they were finished and were very keen to comply and to please the interviewer.

C strategies: The transcripts of children using C strategies were characterized by associative processes where they connected with one experience and then another and so on so that they ended up far away from where they began. In this process details were blurred and nonsensical endings and connections were made without the child showing any awareness of this. There were typically considerable syntactical errors and logic and temporal order suffered. Affect was present throughout the transcripts in the form of breathless marking off of arousing events and animated and excitable language on the one hand or helpless sighs and dysfluencies on the other.

The affect that was talked about was usually intense. These transcripts did not show evidence of the child taking the perspective of others or of reasoning about cause and effect. C1-2 transcripts were distinguished from the more extreme C3-4 markers by being less arousing and involving of the interviewer. The children with C1-2 strategies often ended up in control of the interview not in any power struggle but simply by fading out the ends of sentences and having the interviewer fill in the gaps. In the C3-4 transcripts there was evidence of intense affect that was arousing and overwhelmed the child so that boundaries were lost. These children also often asked questions of the interviewer that prolonged the interview and caused breaches in procedure where the interviewer ended up colluding with the child against others or failing to probe appropriately.

Modifiers: Depressed (Dp) was coded when the transcript showed evidence of generalized, free floating, sad affect. There was a sense of futility about the transcript both procedurally and semantically. Unresolved trauma (Ut) was coded when an event clearly had a continuing effect on the child, either by overwhelming him /her so that it dominated the transcript, or it was told with a surprising absence of expected affect or was marked off affectively (e.g. with sighs or dysfluency before and after its telling). Unresolved loss (Ul) was coded when a loss was suffered by the child and, again, either dominated the transcript or surprised the interviewer by its lack of apparent effect or was marked off affectively. Reorganising (R) was classified in a transcript where there was evidence of a changing strategy and a loosening of the pre-school pattern to a more sophisticated pattern as maturation allowed new reasoning. It was not disorganized but rather a period of transition between strategies as the child made new meaning of his/her experiences.

Two coders were trained in identifying the markers during the pilot phase of this study. These two coders were experienced in working with attachment-based instruments for infants, pre-school children, and adults. They had both been trained by Crittenden in the administration and coding of all her instruments including the Dynamic-Maturational patterns in adulthood. Inter rater reliability is discussed on page 141.

3. Autobiographical Emotional Events Dialogue (AEED)

Four main scales are coded in the AEED and each of these has subscales. The four main scales are Emotionally Matched (EM), Emotionally Unmatched-Exaggerating (EX), Emotionally Unmatched - Flat (FL), and Emotionally Unmatched-Inconsistent (IN). Within these are subscales, a brief description of each scale taken from the manual (Koren-Karie, Etzion-Carasso, & Haimovich, 2001) follows.

Emotionally Matched (EM). These dyads tell stories that include feelings that are matched to the card labels and refer to an emotional motive. In these dyads difficult themes are communicated openly, the story reaches its completion without interruption, and there are no hostile or dismissive reactions to the child's story. All stories constructed by dyads in this classification provide a coherent picture with a clear and believable link between the feeling requested and the story provided (p. 35). Within this are 3 sub-classifications:

EM1-Cooperative: Dialogue and reciprocity. The central feature of this sub classification is in the fluent dialogue that evolves between the partners. The stories develop based on contributions from both participants (p.38).

EM2-Cooperative - Concise and brief: In this pattern there is modest maternal structuring and low to moderate elaboration and involvement of the child. The stories

produced are short and lack richness. Although not enthusiastic the child co-operates (p.38).

EM3-Challenging or Demanding: The mother's demanding nature is the main characteristic of this sub-classification. She may be unsatisfied with the theme of the story that the child has raised, or unsatisfied with the richness and elaboration of the stories, and therefore demands additional details, or more stories. Still, the child does not get angry or frustrated, but rather cooperates with his/her mother and as a result the stories obtained are indeed more complex, elaborated, and detailed (p.39).

Emotionally unmatched – Exaggerating (EX): Stories from these dyads are charged with many emotional themes that are often quite negative and extreme. Often the dialogue is incoherent (p.40). There are three sub-classifications:

Ex1- Extreme -Hostile where the most salient feature is the hostility of one of the partners that is expressed directly and openly (p.46).

Ex2 – Extreme, overwhelming. This sub-classification is characterized by a density of words and events that do not lead the story forward but rather prevent the development of the story and lead to a feeling of being flooded and confused (p.47).

Ex3 – Extreme judgmental but not hostile. In this sub-classification the most salient feature is the mother's judgmental approach toward the child's stories and his/her contribution to the dialogue (p.48).

Emotionally unmatched – Flat (FL): The main characteristic of these dyads is that labels are given without any further elaboration or dialogue. The mother and the child mention the names of emotions and the names of events that happened but there is almost no development of the idea or the story (p.50).

Emotionally unmatched – Inconsistent (IN): This pattern characterizes cases in which one of the partners operates according to the rules of the task, is cooperative

and coherent, and is emotionally matched. The other partner blocks the opportunity for dialogue, directs the conversation to irrelevant details, confuses, or expresses hostility and anger. As a result of two contradictory patterns, we do not see a coherent dyadic picture as with matched partners (p.53).

For each dyad a classification is given as well as a score on scales that refer to the mother and on scales that refer to the child. The scores are used as a guide to the classification of the dyad. In this study classifications of the dyadic interaction only are reported. Koren-Karie encouraged use of this instrument in the project and trained a Perth coder via email on coding procedures to satisfactory reliability level. The Perth coder then coded the full sample with Koren-Karie providing a reliability check by coding half the sample. Inter-rater reliability between the author of the tool (NK) and the main Australian coder (NH) for half the total sample was $\text{Alpha} = .91$.

4. Child Behaviour Checklist (CBCL)

Standardised t-scores on the externalising, internalising, and total problem scores are reported. Subjects identified as scoring within the clinical and borderline ranges are grouped.

5. Risk factor events

In addition children were categorized on the Demographic Questionnaire into 4 categories of life experience: i) No childhood illness, no observed problem behaviour and no traumatic events reported. ii) Mild childhood illnesses or changed family structure that did not appear to bother the child. iii) Serious problem behaviour. iv) Serious illness or family change that appeared to be traumatic for the child (see Appendix L for statements from AFs that were assigned to each category). Chi-square analysis looked at concordance between secure and insecure YSAA

categories and life experiences categories, as well as these categories and CBCL categorization.

6. Student Teacher Relationship Scale (STRS)

Scores that represent the summation of items on each of the subscales: Conflict, Closeness, and Dependency are reported as well as a total score.

7. Family Drawings:

A, B, C Classifications are reported as well as scores on the 7-point Global rating scales named: vitality-creativity, family-pride, vulnerability, emotional distance, tension, role reversal, bizarreness, global pathology.

Procedure.

The research complied with all relevant aspects of the American Psychological Association guidelines, the Australian Psychological Society guidelines, and the National Health and Mental Research Council guidelines on human experimentation and received approval from all relevant ethical boards. Participation was on a voluntary basis. Permission from both children and their parents was obtained before proceeding. No individual was identified in the research findings. Christian names and ID numbers only were used to identify participants. Participants were free to withdraw from the study at any time.

A letter outlining the nature of the study was forwarded to each school and approximately one week later a follow-up telephone call was made to discuss the research in more detail and seek the school's cooperation. Once principal and teacher agreement to be involved in the study had been obtained, parents of potential

participants were forwarded a Participant Consent Form and an information sheet outlining the nature of the study. The CBCL Parent report form was also included in this mail-out and parents were asked to complete this and bring it with them to the filming session. Children's participation was conditional upon written and verbal parental consent.

Parents who agreed to participate were asked to return completed forms to their child's classroom teacher for collection by the researcher. Forms were collected and class lists coded to ensure confidentiality. Only the Participant Consent Form contained identifying information that was linked to all other information for that participant via a coding system (see Appendices E, F, G for Principal and Parent Correspondence, Parent Consent Form). Parents who consented to participate were contacted by phone and a time arranged for the dyad to attend the clinic venue for administration of the PAA.

The following year when the children entered grade one their parents were again contacted, this time by telephone, and were reminded about the study and what continued participation would entail. One family withdrew consent on the grounds that participation would take too much time, four were found but had moved interstate, and six could not be located. The schools attended by the children whose parents had agreed to continue were then contacted. All of the children had new teachers and several of the children had moved schools and thus it was necessary to renegotiate participation with the child's new school and teacher. Where testing conditions at a school were not suitable, the parent was invited to participate at an alternative venue (a private clinic). In several instances where transport was an issue the researcher traveled to the child's home after school to administer the AEED, family drawing and YSAA (N=6).

In some cases, the STRS could not be collected (N=24) and one previous teacher with three children in her class refused to participate. A research assistant visited the schools and administered the YSAA and Family drawings (N=89) and asked the teacher to complete the STRS. Those who were assessed at the clinic completed the AEED, the family drawing, and the YSAA (N= 62) and their teachers were asked to post back the completed STRS.

Data Collection 1:

Children and their primary care-givers were filmed individually at a local public children's hospital external clinic. CBCL forms were collected and any questions were answered before the manager collected demographic information from the parent (see Appendix H). The manager then gave the parent the initial instructions for the PAA procedure. The filming session (PAA) took approximately 5 minutes per mother-child dyad. A fellow researcher trained in the PAA procedure played the part of the 'stranger' and the session was filmed by a video camera from behind a one way mirror. The eight episodes of the Strange Situation were managed according to the standard Ainsworth procedure (Ainsworth et al., 1978, Crittenden, 1995 #563). At the conclusion of this film session parents were given time to debrief. Their agreement to participate in the second data collection was obtained at this time. All parents agreed to continued co-operation. One parent for whom custody issues were very pertinent requested that the film of her and her child not be shown outside the research group and indeed she was not able to be contacted for the second stage. Several participants had requested second stage appointment times to fit in with travel and work schedules and every effort was made to accommodate these. One child was so physically disabled that it was clear that the dialogue in any transcript would be unrecognizable.

This child was filmed in the PAA and the family given some mild feedback but they were not asked about follow-up.

Data Collection 2

In schools, children were given a sheet of A4 size plain white paper and a set of 18 coloured markers. First they were asked to draw a picture of a person as a warm-up to the Family Drawing. They were allowed to keep this drawing. They were then asked to draw all the people in their family. On completion of the drawing the child was asked to identify all the people in the drawing and how they were related to the child. Either the assistant or the child recorded this on each drawing. The YSAA was administered following the Family Drawing. The total session time for both tasks varied between 20 and 45 minutes.

Teachers were given the STRS and asked to complete this. Where it was not possible to collect it after the session with the child, the teacher was left a stamped, addressed envelope and asked to post it back. Of the possible 157 STRS Questionnaires, 23 were not returned, 24 were not completed by the new teachers and 3 were not completed by a previous teacher. This resulted in 107 completed forms. The STRS takes between 10-15 minutes to complete.

For those dyads who participated at the private practice, both the child and parent were shown into a playroom where there was a desk and two chairs set up. On the desk was a tape recorder and the child was invited to speak into the tape recorder, listen to him/herself and then the dyad was told about the AEED task. As per the standard instructions, each mother-child dyad was presented with four cards on each of which a name of a feeling was written: Happy, mad, sad and scared. Dyads were

asked to remember an event in which the child felt each feeling and to jointly construct a story about each of the events. The child was invited to knock loudly on the door when he/she had finished.

After completion of the AEED, the child's mother was invited to have refreshments and to wait in a room nearby while the manager asked her for demographic details and the "at-risk" questions and her child participated in the Family Drawing task followed by the YSAA. The tasks altogether took between 30-50 minutes to complete.

Statistical analysis showed that neither venue nor the additional AEED task, proved to be a covariant in concordance between the measures.

Design of the Data Analyses

PAA scores were used as the criterion measure. Chi-square analyses were done with the PAA and YSAA scores in order to ascertain the degree of concordance between the two measures. A Del PRE (Delta -Proportionate Reduction in Error) statistic (Hildebrand et al., 1977; Stemmler, 1997) was used to test precise classificatory predictions between the categorical data from the PAA and the YSAA.

For the exploration of the STRS the difference between mean scores on the three psychometric scales of the STRS for children assigned to the three attachment pattern groups (A, B & C) on the YSAA was examined with ANOVA.

The data from the CBCL (Achenbach, 1991) was analysed using chi-square to see whether children classified as "clinical" on the CBCL were identified from their classifications on the YSAA.

In addition the data from the life situations section of the demographics questionnaire was examined across attachment groups and across clinical and normal groups on the CBCL using a chi-square analysis.

As a measure of external validity the AEED categories were collapsed into matched and unmatched categories and compared with the secure and insecure categories as well as with sub-classifications on both the PAA and on the YSAA using the chi-square statistic.

CHAPTER VI: RESULTS

Results of the cross-validation study are reported in this chapter. Descriptive statistics, chi-square analyses, and the results of multivariate statistics on the main variables are included. Data screening and analyses of these were conducted using the Statistical Package for the Social Sciences (SPSS), Version 8, and an alpha level of .05 was used throughout.

For categorical analyses a Del (A) PRE (Delta –Proportionate Reduction in Error) statistic (Hildebrand et al., 1977; Stemmler, 1997) was used with analyses performed from the von Eye revised software programme (von Eye, 1997). Descriptive statistics are reported as well as analyses of the YSAA against the criterion variable the PAA, followed by analyses of the YSAA against the measures of external validity and exploratory multivariate analyses.

Descriptive Statistics

Study Participants

Of the original 168 participants, 158 were available for the follow-up session in the next school year. The children were on average 10 months older than when they were filmed in the PAA. Six boys and four girls were unavailable at follow-up.

Reliability of coding on the YSAA

Paired inter-rater coder reliability on the YSAA for coder 1 and coder 2 was .94. Final classifications for those in dispute were derived by allocating an agreed code after discussion between the scorers. The YSAA was coded by participant identification number with coders blind to all other information.

Distributions of PAA and of YSAA

Figure 1 illustrates how in the PAA in this study 39.3 % of mother-child dyads were classified as Type A, 33.3% as Type B, 20.8% as Type C and 6.5% as Dx or a combination A/C.

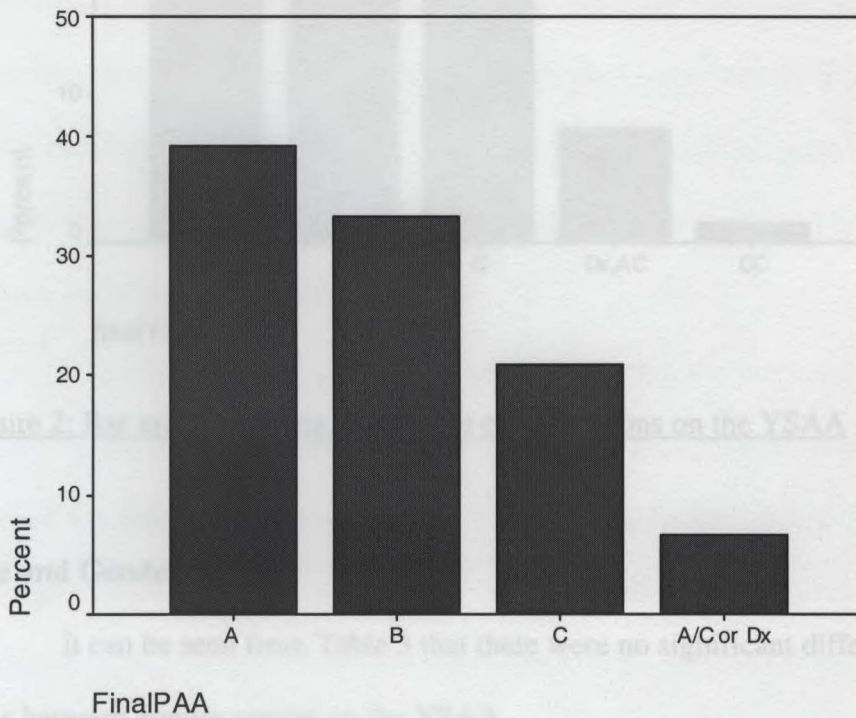


Figure 1: Bar graph showing attachment classifications on the PAA

Figure 2 shows that on the YSAA, 31.2% of children were classified as Type A, 37.6% were classified as Type B, 22.3% were classified as Type C and 7.6% were classified as disorganized or a combination A/C. Two transcripts or 1.3% were not classifiable.

Gender	Mean	SD
Female	71.01	8.84
Male	71.59	7.74
Total		158

There were no significant results for age within months on the main research variables. There was a significant relationship for gender with the PAA classifications

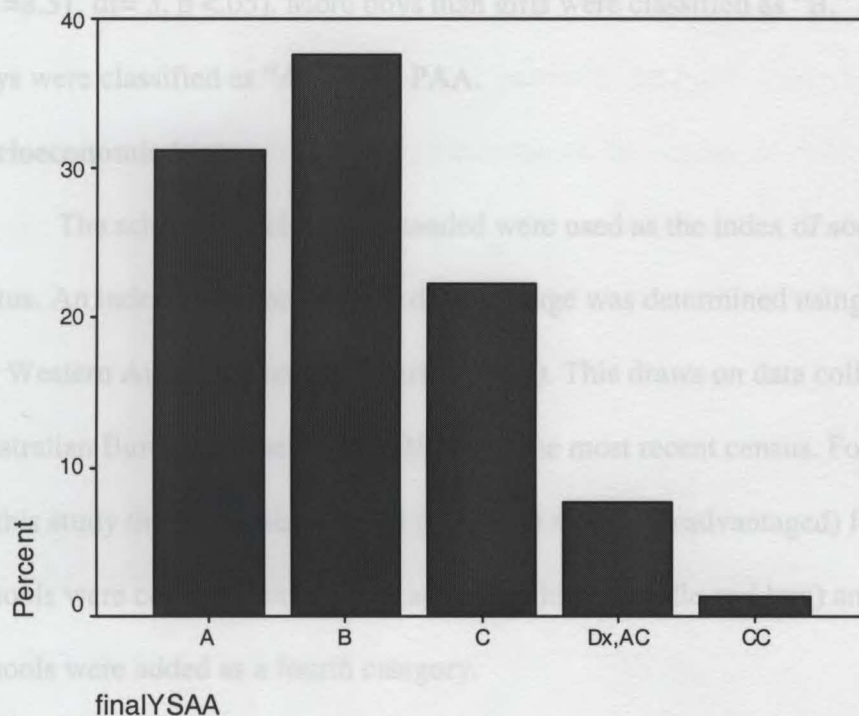


Figure 2: Bar graph showing attachment classifications on the YSAA

Age and Gender

It can be seen from Table 3 that there were no significant differences in mean ages between gender groups on the YSAA.

Table 3: Means and standard deviations for age by gender in the cross-validation phase.

Gender	Mean Months	N	Std. Deviation
Female	71.01	84	5.70
Male	71.59	74	5.78
Total		158	5.72

There were no significant results for age within months on the main research variables. There was a significant relationship for gender with the PAA classifications

($\chi^2=8.31$, $df=3$, $p <.05$). More boys than girls were classified as "B." More girls than boys were classified as "A" on the PAA.

Socioeconomic Status

The schools the children attended were used as the index of socioeconomic status. An index of socioeconomic disadvantage was determined using *The H index* for Western Australian schools (Farish, 1993). This draws on data collected by the Australian Bureau of Statistics (ABS) from the most recent census. For the purposes of this study the ten decile ranks (1 = best, 10 = most disadvantaged) for government schools were collapsed into three categories (high, middle and low) and private schools were added as a fourth category.

There was a significant effect for socioeconomic status on both the PAA ($\chi^2=17.43$, $df=9$, $p <.05$) and the YSAA ($\chi^2=24.26$, $df=12$, $p <.05$). Table 4 shows how on the PAA differences occurred in the middle socioeconomic level where more children were classified as "B" on the PAA, more children from private schools were classified as "A", and proportionally more children from low SES were classified as "C" or "A/C" or "Dx".

Table 4: PAA classification as a function of SES

	PAA Classification (Percentages)			
	A	B	C	AC/Dx
SES				
HIGH	40	35	20	5
MED	20	58	16	4
LOW	42	7	37	14
PVT SCL	58	17	17	8

On the YSAA there was a similar pattern to the PAA. Table 5 illustrates how the most noticeable difference was an increase in the number of children attending private schools who were classified as "A." The middle and high SES groups had more children rated as secure on the YSAA and the most "C", "A/C" combinations or "Dx" classifications were to be found in the low SES group.

Table 5: YSAA classification as a function of SES

	YSAA Classification (Percentages)			
	A	B	C	AC/Dx
SES HIGH	26	40	27	5
MED	33	43	14	10
LOW	30	23	30	17
PVT SCL	65	17	5	13

Other variables

There were no significant relations between changed family composition and attendance at day care on any of the research variables.

Validation analyses of the YSAA with the criterion variable

Hypothesis 1 predicted that there would be a high concordance between participants' classifications on the criterion measure (PAA) at around 6 years of age and on the YSAA 12 months later. Agreement on classifications between the two instruments was examined first by Chi-square (χ^2) analysis of the insecure and secure

categories and also by classification category. More precise Del PRE analyses follow (see Appendix M for further explanation about this statistic).

The results supported H1.

Chi square analyses determine whether there is any relation between secure (B) and insecure (A, C, Dx, AC) categories on the PAA and YSAA. Results showed there was a strong relationship between them ($\chi^2 = 42.80$, $df = 1$, $p = .00$). When analysed according to normative secure (A1-2, B, C1-2) and non-normative insecure (A3-4, C3-4, Dx, AC) there was also a very strong relationship ($\chi^2 = 10.90$, $df = 2$, $p = .00$). These held when examined for the more precise analysis by classifications ($\chi^2 = 177.38$, $df = 12$, $p = .00$). The relationship when examined even more closely via the Del PRE statistic also proved significant ($A .56$, $z = 10.76$, $p = .00$), indicating that classification success is 56.29% beyond chance, a strongly significant amount.

Table 6: Frequencies and percentages of PAA and YSAA classifications.

PAA CLASSIFICATION	YSAA CLASSIFICATION					
	A	B	C	AC/Dx	CC	TOTAL
A	40 (77%)	14 (25%)	6 (17%)	1 (8%)	1	62
B	9 (17%)	37 (66%)	4 (11%)	2 (17%)	1	53
C	2 (4%)	4 (7%)	24 (69%)	1 (8%)	0	31
AC/Dx	1 (2%)	1 (2%)	1 (3%)	8 (67%)	0	11
TOTAL	52 (100%)	56 (100%)	35 (100%)	12 (100%)	2	157

NB- Del PRE=.56, z= 10.76, p=.0000

The Del PRE statistic (Hildebrand et al., 1977; Stemmler, 1997; von Eye, 1997) permits testing of precise hypotheses in the form of row-by-row designation of predicted cells. A four by four contingency table of each attachment category was compiled. Table 6 reports the results of the prediction analysis of the four by four contingency table revealing a clear relationship between all classifications ($\Delta = .56$, $z = 10.76$, $p = .00$). More detailed prediction analyses reported in Table 7 show that a significant portion of the deviation from independence can be explained by the prediction hypotheses. A child classified in one of the four categories for the PAA is likely to be classified in the parallel category on the YSAA. There is strong support of this hypothesis with the following Del's calculated for each row: "A" row $\Delta = .47$, "B" row $\Delta = .53$, "C" row $\Delta = .71$, "A/C" and "Dx" combined row $\Delta = .70$. Classifications for "C" and "A/C" and "Dx" were the most accurately predictable at 70-71% beyond chance.

Table 7: Partial hypotheses for predictions from the YSAA classifications to classifications on the criterion variable the PAA

Partial hyp.	fo	fe	del	precis.	Del(cum)
A	22.00	41.46	.47	.26	.17
B	16.00	34.10	.53	.22	.34
C	7.00	24.09	.71	.15	.50
A/C, Dx	3.00	10.16	.70	.06	.56

ND Calculation and reporting of Del PRE analysis in this section has been reviewed by Alexander von Eye (2/11/04).

Examination of individual changes between the PAA and YSAA classifications

Close examination of the movement in classification between the PAA and YSAA revealed that most movement occurred in the direction of "A" on the PAA to "B" on the YSAA with 24 children changing in this direction and 15 of these cases identified on the YSAA as reorganising. Six children moved from a "C" classification on the PAA to a "B" on the PAA with none identified as reorganising. Three children moved from "B" on the PAA to a "C", with all of these children being originally classified as "B4" on the PAA. Five children moved from a "B" to an "A" on the YSAA and one child moved from a "B" to an "A/C".

Concurrent validity analyses

YSAA and the Autobiographical Emotional Events Dialogue (AEED)

Hypothesis 2 predicted that in cases where the mother-child dyad was classified as Emotionally Matched on the AEED, the child would be classified secure on the YSAA while children whose mother-child classification on the AEED was rated Emotionally Unmatched would be classified insecure on the YSAA. The Chi-square statistic was used for all analyses.

AEED and YSAA analyses

The results support H2.

The cross-tabulation results are contained in Table 8. Though the cell number fell below the desired minimum of 5 for the "Dx" group, there was a significant relationship between the Matched and Unmatched groups on the AEED and the Secure and Insecure Groups on the YSAA. The concordance between the two measures was statistically significant ($\chi^2 = 10.45$, $df = 3$, $p < .05$).

Table 8: AEED and YSAA Cross-tabulation and percentages

AEED	YSAA			Dx or AC	Total
	A	B	C		
Matched	11 (40%)	13 (75%)	3 (27%)		27
Unmatched	17 (60%)	5 (25%)	8 (73%)	4 (%)	34
Total	28	18	11	4	61

Only 25% of secure children (classified "B" on the YSAA) were unmatched emotionally with their mothers on the AEED task compared with 60% of those classified "A", 73% of those classified "C" and 100% of those classified "Dx" or "AC".

YSAA and children's drawings

Analyses were conducted for the YSAA major group classifications ("A", "B", "C") on both the independent family drawings classifications as well as the individual Global Ratings Scales in order to test Hypotheses 3 and 4 respectively.

YSAA classifications and Independent Family Drawing classifications

The results do not support hypothesis 3.

Hypothesis 3 predicted that there would be concordance between the classifications made on the YSAA and those made for the children's drawings when secure "B" and insecure categories ("A", "C") on both instruments were analysed using the chi-square statistic.

YSAA and Global Ratings Scale

Hypothesis 4 predicted that there would be differences in the mean score of each of the major groups on the YSAA for the various global factors in accordance with previous research (Madigan et al., 2003).

The results partially support hypothesis 4.

The differences between the means for the major classification groups on the YSAA on the Global ratings scales were significant at less than .05 for 'vitality', emotional distance and tension only. The results may be examined in Table 9.

Table 9: ANOVA analyses for Global Rating Scales and classifications on the YSAA

Global Rating scale	Df	F	Significance
Vitality	2,46	3.93	.04*
Family pride	2,46	0.36	.70
Vulnerability	2,46	2.46	.09
Emotional Distance	2,46	3.24	.04*
Tension	2,46	4.92	.01*
Role reversal	2,46	2.10	.13
Bizarre	2,46	0.29	.74
Global Pathology	2,46	0.37	.69

Examination of the means and standard deviations for each of the major attachment categories on the individual global rating scales revealed that the differences were in the directions expected for the "B" and "C" groups but not for the "A" group. The means and standard deviations are reported in Table 10 and predictions will be reported group by group.

Table 10: Report of mean and standard deviations for major attachment classifications on global rating scales

YSAA		Vitality	Family Pride	Vulner- ability	Emot. Distance	Tension	Role reversal	Bizarre	Global Pathology
A	Mean	4.58	4.26	3.89	3.68	3.05	2.63	3.15	3.84
	N	19	19	19	19	19	19	19	19
	Std. Deviation	1.54	1.44	1.79	1.85	1.47	1.38	1.64	1.42
B	Mean	5.47*	4.37	2.74	2.63*	2.16*	2.42	3.10	3.84
	N	19	19	19	19	19	19	19	19
	Std. Deviation	.96	1.34	1.56	1.53	1.21	1.61	1.66	1.38
C	Mean	4.09*	3.91	3.82	4.18*	3.73*	3.64	3.54	4.27
	N	11	11	11	11	11	11	11	11
	Std. Deviation	1.70	1.64	1.94	1.83	1.42	1.96	1.29	1.62
Total	Mean	4.82	4.22	3.43	3.39	2.85	2.77	3.22	3.94
	N	49	49	49	49	49	49	49	49
	Std. Deviation	1.46	1.43	1.79	1.81	1.47	1.65	1.55	1.43

*= significant $p < .05$

Secure "B" Group

It was predicted that the "B" group would have the highest scores on 'family pride' and 'vitality' and the lowest mean scores on 'emotional distance,' 'global pathology,' and 'bizarre'. The only significant scores were in the expected direction for 'vitality' and for 'emotional distance.'

"A" Group

It was predicted that the "A" group would rank highest on the 'emotional distance' scale, however the results for this group were not in the predicted direction and no scores were significant. The scores between the "A" and "B" groups were not differentiated on the scales of 'bizarre', 'role reversal', and 'global pathology.'

"C" Group

It was predicted that those children classified as "C" on the YSAA would rank highest on the children's drawing global rating scales for 'tension', 'role reversal,

'bizarre', and 'vulnerability'. Results for this group were mostly in the predicted directions but only the high score on the 'tension' scale was significant. A feature that was not predicted included the highest mean score for the "C" group on 'emotional distance' that was also statistically significant.

Hypothesis 4 was only partially supported since overall the "A", "B", and "C" groups scored in the predicted direction on 2 of the 3 predictions that were made and that were significant. The groups scored in the expected direction for 6 of the 8 predictions although statistical significance was not achieved. The mean scores for the "A" group did not differentiate this group from the "B" and "C" groups.

Exploratory external criterion validity

YSAA and the student Teacher Relationship Scale (STRS)

Hypothesis 5 predicted that 'secure' children would tend to elicit teacher reports of less conflict, less dependency, and more closeness on the STRS than their 'insecure' cohort. Closeness, conflict, and dependency scores were analysed with t-tests.

Data screening

The data for each group were inspected to ascertain whether assumptions of normality and homogeneity of variance were satisfied. 'Closeness', 'conflict', and 'dependency' scores for each group were examined separately. Examination of the histograms against the normal curve for these dependent variables revealed no outliers and no severe departures from normality. Homogeneity of variance was observed for each of the dependent variables. When gender was considered as a possible covariate on the tests of variance between the groups there was no significant result. It did not

contribute any significant amount to the variance between the secure and insecure groups on the 'closeness', 'dependency', or 'conflict' scales of the STRS.

Examination of the frequency distribution showed that most of the scores clustered around the mid-range with small deviations from the mean, indicating that teachers in this study did not tend to use the full range of the scale. Results are reported in Table 11.

Table 11: Mean Range and Standard deviations for STRS Scales

	Dependency	Conflict	Closeness
N	108	108	108
Mean	8.78	20.01	42.45
S. D.	2.58	7.13	6.02

The results do not support hypothesis 5.

STRS Total scale

The mean and standard deviations for teacher-rated closeness for the 'secure' and 'insecure' groups on the YSAA were examined. There was no significant differences between the STRS total scores and any classification group on the YSAA.

STRS Closeness scale

The means and standard deviations for teacher-rated closeness for the 'secure' and 'insecure' groups on the YSAA were examined. There were no significant differences between the STRS closeness scores and either secure or insecure groups on the YSAA.

STRS Conflict scale

The mean and standard deviations for teacher-rated conflict on the YSAA are reported in Table 12. Again, there was no statistical significant difference between the

groups. However, inspection of the means showed a trend in the direction expected, with the "C" group which is characterized by power struggles with the attachment figure scoring higher on the conflict scale of the STRS than the "A" group whose strategy is to withdraw and avoid confrontation or the secure "B" group.

Table 12: Mean and Standard Deviation of Teacher-Rated Conflict Scores against classifications on the YSAA

YSAA	MEAN	N	Std Dev
A	19.10	39	6.26
B	19.83	42	7.40
C	22.40	15	9.31
AC, Dx	20.25	8	4.65

STRS Dependency Scale

The mean and standard deviations for teacher-rated dependency for the 'secure' and 'insecure' groups on the YSAA were examined and showed no significant statistical difference.

Frequency and types of risk factor events reported by parents

Parental responses to the demographic questions revealed that there were 30 families experiencing significant problems which the responding parent believed to have impacted on the child's emotional and behavioural state. These problems included serious physical problems in the child such as severe eczema, tumour, one lung and one kidney, severe speech problems, cerebral palsy, pacemaker, and seizures.

Family problems included domestic violence, drug and alcohol abuse, intellectual disability in a parent, serious custody issues, death of a parent, and family dysfunction to the degree the family had sought professional help. Seven additional families reported significant problems that they felt had been overcome and were no longer affecting their child. These problems included premature birth, separation of parents, operations on the child, and mild spina bifida.

Hypothesis 6 predicted that the children in families where the identified problem was either not major or not perceived by the parents to have significantly affected the child would be classified in the low range "A", "B" or "C" categories on the YSAA in the usual proportions for this sample. Where a major problem existed it was predicted that children would be classified disproportionately as "C" or "AC" or "Dx".

The results support hypothesis 6.

The children of families where problems had not become major all received "A" or "B" classifications on the YSAA, while 64% of children for whom the parents felt that there had been serious problems received classifications of "C" or "AC" or "Dx". A chi-square analysis conducted on the YSAA classifications and three categories of problems "Serious problems reported", "Potential problems", and "No problems" was significant at the .05 level ($\chi^2 = 20.44$, $df = 8$, $p = .01$) but cell sizes for 'potential problems' were small.

YSAA and the Child Behaviour Checklist (CBCL)

Hypothesis 7 predicted that children identified within the clinical range on the CBCL would correspond to those identified insecure at obsessional and compulsive

levels on the YSAA. Chi-square analyses were performed to examine the concordance between these categories on the two assessments.

The results did not support H7.

There was no statistical difference between the categories on the two instruments.

Table 13 shows that whereas the normal range on the CBCL fitted well with the low range on the YSAA as expected, there was no relationship between the high range on the YSAA and the clinical or borderline ranges identified by the CBCL.

Table 13: Cross tabulation frequencies of CBCL clinical categories with high and low range categories on the YSAA

		YSAA	
		Low	High
CBCL	Normal	69	19
	Borderline	13	3
	Clinical	7	2

A chi-square analysis between the CBCL clinical categories and the "at-risk" problems reported by parents in three categories: "Serious problems reported", "Potential problems", and "No problems" indicated that there was no significant relationship between these variables.

CHAPTER VII: DISCUSSION

The major task of this study was to develop and begin preliminary validation of a new assessment measure called the Young School-aged Assessment of Attachment (YSAA). It was intended that that this tool have clinical as well as research relevance and that it be useful for identifying the attachment strategies of children aged 5-7 years as well as identifying attachment related problems for this age group.

Results of the study are summarized and interpreted in this chapter. Findings are compared with the literature and discussed with regard to their practical and theoretical implications. Methodological issues are highlighted. Conclusions and directions for further research are presented.

Summary of the development of the YSAA

The composition of the YSAA, including the stimulus cards and probes as well as administration procedures was piloted and refined in the initial stages of this study. This resulted in an assessment tool that consisted of seven black and white line drawings on separate cards (see appendix N). Each card depicted a boy or girl teddy in the following attachment related situations: Warm up card (mother, father and child teddy); Teddy is sleeping away from home tonight; Teddy is left out; Teddy has taken some lollies (sweets); Teddy is sick; Teddy's father is leaving the family; Teddy is running away. The cards were always presented in the above order of increasing emotional intensity.

Interview questions that were based on those of Crittenden (Crittenden, 1998) were extended and refined for this age group in order to maximize the likelihood of

generating sufficient appropriate discourse (see Appendices O, P). The interviewer must be skilled in establishing rapport with young children and it was found that, in addition, comprehensive training in an exploratory and dynamic style of interviewing is essential if good quality data is to be obtained. Finally, the transcripts were analysed closely to establish whether enough discourse markers in each memory system were generated by the YSAA in order for reliable classifications to be made.

The pilot phase of the research indicated that the YSAA was a promising measure. The young children interviewed with the YSAA by trained interviewers produced sufficient material to enable the researchers to conclude that the animal stimulus pictures with the verbal procedures were manageable for this age group. The transcripts also generated enough markers to enable coders who had extensive experience in the identification of attachment patterns in infants, pre-school children, and adults to classify them into the three basic patterns. In the validation study, 158 children in their first year of school were interviewed with the final version of the YSAA and the transcripts were coded by the two coders who had classified the patterns of attachment in the pilot study.

Reliability of coding the YSAA

The YSAA not only produced sufficient markers for the coders in addition the coders were able to reliably ($\alpha=.94$) classify transcripts into "A", "B", "C", and "A/C" or "Dx" patterns of attachment. The coders were both highly trained in the Dynamic-Maturational classification system (Crittenden, 1999-2004) and the pilot study provided practice at adapting the AAI scoring procedures to the YSAA transcripts and making the move from identifying the markers to making the classifications. As with the pilot study, examination of the coding sheets revealed that

although the two coders arrived at the same basic categorical classification for 148 of the 158 children, the concordance of markers across memory systems was not perfect. At different times different examples were chosen for entry in a memory system column.

It appears however that the patterns manifest themselves despite slight differences in marker identification. Reliability in coding will become easier when the School-age Assessment of Attachment (SAA) manual is produced by Crittenden and adapted for the younger children.

Descriptive data

To date there is little consensus on what constitutes a normative distribution of attachment classifications. The first meta-analysis to address this question was that of van IJzendoorn and Kroonenburg who found that when using the traditional Ainsworth "ABC" classifications 67% of normative, 12 month old, American infants were classified as securely attached (van IJzendoorn & Kroonenberg, 1988). Crittenden observed that as more elaborate systems are used for classification, the proportion of those infants classified as secure drops as does the proportion of secure attachment classifications in older children and adults (Crittenden, 2000). It would appear that the system used to classify participants affects the distribution. Crittenden, for example, tables a range of studies over various age groups that show that, for the PAA, the percentage of those classified secure ranges from 32-39%, whilst with the Cassidy-Marvin system the range of those classified as secure is from 54-73% (Crittenden, 2000, p. 360-362). The current study reported a distribution of 33.3% of the transcripts coded with secure classifications on the PAA and 37.6% with secure classifications on the YSAA, which is in keeping with the published literature. Also in

keeping with the literature is the high percentage of type "C" classifications reported in this study (20.7% on the PAA, 22.3% on the YSAA). In the summary of studies collated by Crittenden and referred to above, reported percentages for type "C" classifications ranged from 14-21%.

The current study reports an effect for socioeconomic status with more children from the middle and high SES level classified as secure on the YSAA and more from the low SES level classified as insecure/ambivalent or disorganized or "A/C" on the YSAA. In the literature while there is very little such data reported for children, most of what is available suggests that the proportion of securely attached individuals drops with low SES as in this study. An interesting feature of the current study was the high percentage of children from private schools whose YSAA transcripts were classified as insecure/avoidant. Perhaps this may be explained by thinking of school type as a cultural variable, in much the same way that cultural variation is explained by Crittenden (2000). In the present case, the dangers are different in the two school environments and therefore the self protective strategies required to face these will necessarily be different. It may be, that to manage a private school experience successfully, it is necessary to conform more to the expectations of others, to perform and to comply, and perhaps to dismiss rather than express any sense of discomfort with this.

Validation against the PAA

It is promising that there was such a strong concordance between the classifications made on the PAA and the YSAA ($\Delta .52, z=5.89, p=.00$). It can be claimed that the YSAA assesses the same constructs as the PAA which already has established validity. It is unique to this field of study that a representational

assessment of attachment in the 5-7 year age group has been successfully validated against an established behavioural attachment measure within a 12 month time frame.

That the two measures use the same underlying constructs and codes are expressed in the same language is an added bonus for the field, making a life-span approach to assessing attachment closer. Indeed when the classifications that differed on the two measures are examined closely, they produce considerable support for the Dynamic-Maturational model. Most of the change is in the directions predicted by the model (Crittenden, 1999-2004; Crittenden, 2000).

In 14 of the cases in this study the children moved from an insecure "A" pattern to a secure "B" pattern and in 12 of these cases the re-organization was identified from the YSAA transcripts. These transcripts were classified as "R A → B" since the old "A" strategies were still present to some degree but there was now sufficient openness and integration to earn the "B" classification. For four children classified with a "C" pattern on the PAA, the YSAA transcript was coded as "B4", a pattern in which the child still shows high arousal but manages to contain the attachment anxiety. Eight children appeared to shift from one insecure pattern to the other and of these, six moved from an "A" pattern to a "C". It was expected that this shift might be greater as both Crittenden and Marvin found an increase in "C" patterns in pre-school children compared to infants classified "A" on the infant SS though the data in the studies quoted did not necessarily pertain to the same cohort (Cicchetti, Cummings, Greenberg, & Marvin, 1990; Crittenden, 1995; Solomon & George, 1999). Of course in the current study the two measures were taken only 12 months apart.

In addition to the improved strategies or change across insecure patterns outlined above, there were 12 children who showed deterioration in their security of

attachment moving from secure to either an "A" or a "C" pattern or a combination of these. Seven of the 12 cases had "B4" classifications on the PAA. This means that they were very emotionally labile compared with those children who were classified as secure "B" but expressed this affect without inhibiting it as the child classified "A" does, or expressing angry and demanding helplessness behaviour as does the child classified "C." In the YSAA transcripts, however, these "A" and "C" patterns were now in evidence. In most cases the children had moved to extreme forms of the insecure behaviour. Three of the children appeared to have given up and their main strategy was identified as being modified by the "Dp" marker (depressed). Seven children had moved to high levels of "A" or "C" patterns or appeared to have unresolved trauma. Only 2 of the children showed mild "C" strategies of vulnerability and angry behaviour.

These shifts were examined against the "risk factor" data obtained from the demographic interview with the attachment figure, to see whether they were random error, or could be accounted for in terms of the attachment situation at home. These cases were:

ID 63. Classification changed from "B4" on the PAA to "Dp A" on the YSAA. The mother reported that this child has one lung and one kidney and has had a tracheotomy which was in evidence during the interview.

ID 66. Classification changed from "B4" on the PAA to "A/C" on the YSAA. This child had had a tumor on the spine. He or she had 'come to' during the operation. This had been traumatic for the child.

ID 85. Classification changed from "B4" on the PAA to "A3/4" on the YSAA. This child had had septicemia as an infant and had been on life support for 3 days.

ID 87. Classification changed from "B4" on the PAA to "Dp A" on the YSAA. The mother said she was having marital problems. Her current partner is not ID 87's father. She also made the comment that it is "not safe to be angry around his step father."

ID 163. Classification changed from "B1-2" on the PAA to "Dp A4" on the YSAA. There is nothing in the notes that relate to this change.

ID 90. Classification changed from "B4" on the PAA to "C3-4" on the YSAA. He is only in Perth for the one year due to father's profession.

ID 96. Classification changed from "B" on the PAA to "C3-4" on the YSAA. This child has major problems. He bites his carer and is under a psychiatrist.

ID 138. Classification changed from "B4" on the PAA to "C2" on the YSAA. This child's mother has left the home. The child is with the father who describes ID 138 as being traumatized over this.

ID 147. Classification changed from "B4" on the PAA to "C" on the YSAA. There is nothing in the notes that relates to this change.

In most cases (7 out of 9) the child had suffered some sort of bodily trauma or was currently in a difficult home situation with a break up in family patterns.

Concurrent validity

Autobiographical Emotional Events Dialogue (AEED)

Whilst it is promising that the YSAA has preliminary validation against a measure that uses the same constructs and underlying model, it is also encouraging that the YSAA has statistically significant concordance with the AEED. Reviewers in the field call for systematic concurrent validation with identified correlates of attachment in order to break the often circulatory nature of the validation data

(Solomon & George, 1999). To address this issue it was necessary to find a tool for the early school-aged child that was not solely based on attachment theory but was focused on an established correlate—the quality of the relationship between the child and his/her main attachment figure. Nina Koren-Karie's instrument the AEED was considered to be most useful. This instrument gives rich detail about the quality of co-construction of dialogue on affective topics between the child and his/her attachment figure, qualities that have clear face validity with the attachment classifications used in the Dynamic-Maturational model. It was believed the AEED would relate to the YSAA because it was a measure of the sensitive attunement of the dyad on a task that involved the co-construction of episodes.

Although the YSAA interview is undertaken with a stranger, it asks for episodes from the child's attachment experience. Children who have been able to openly display negative affect with the attachment figure and have had that person process and make sense of that experience have a good chance of being securely attached. The child for whom the expression of affect is a threat to the attachment figure may habitually inhibit that affect and it is never talked about. In other cases where the child's affect cannot be expressed clearly with the expectation of understanding dialogue, it is habitually engineered to produce a particular response—either capitulation on the part of the attachment figure or forced protection. It seemed likely that the current ability of the child and parent to have a congenial and matched discussion about recent affective experiences identified by the child would relate to attachment pattern.

The concordance between the two instruments was impressive. Seventy-five percent of securely attached dyads had mothers who could sensitively co-construct emotional episodes with them, whilst none of the dyads classified "Dx" or "A/C" were

emotionally matched on the AEED and only 25% of those classified "C" and 40% of those classified "A" were emotionally matched. Moreover when individual transcripts were examined the AEED and the YSAA together provided very rich, coherent, clinical material. For example, the coders on the YSAA noted the presence of the Crittenden modifiers of unresolved trauma (Ut), loss (Ul) and depression (Dp). Fifty percent of the YSAA transcripts identified as having the (Dp) marker were classified as Flat on the AEED. Thus when used in conjunction the two instruments provided clinical material that is worthy of further investigation. The co-operative sub-classifications in the Matched group of the AEED (EM1 and EM2) were clearly identified with the "B" classification on the YSAA. However, the third Matched sub-classification EM3, where mother is identified as "challenging or demanding" is more closely allied at face value, with Crittenden's "A3-4" classification of the dyad as "care-taking-compliant." When these transcripts were examined, 50% were classified as "A" on the YSAA and 50% as "B." Again when the two instruments were used together additional information emerges on how the mother and child relate, and could further inform clinical investigation.

The co-constructive aspect of creating narratives has raised questions about whether individual differences in verbal narrative may be due to confounding factors such as cognitive capacity and innate ability. When looked at from the perspective of the Adult Attachment Interview classification procedures, the inability to construct episodes is a salient marker of attachment representation. Adults and children who are not defensive, not conflicted, and not dealing with unresolved trauma can construct episodes from their personal experience. They can do so because open expression of affect was allowed by their attachment figures, and these attachment figures helped the development of regulatory processes by a verbal processing of the affect. This

argument is supported by the results of this study and is in keeping with the position of Oppenheim and Waters (1990; 1995) who suggest that incoherent responses in narratives result not from such internal processes as “defensive exclusion” but from children’s difficulties in emotional communication and that the source of this difficulty lies in the disturbances of parent – child communication and co-construction processes.

Children’s Family Drawings

Children’s drawings of their families have long held a fascination for those who work with disturbed children. It seemed plausible that the rich diversity and inherent symbolism of such drawings contained a key of some sort to the child’s inner representations. Research activity on children’s drawings has never been sustained but periodically it is revisited from new angles and with hopes of finding concordance between aspects of the drawings and theory. So it has been with attachment theory and children’s drawings. Over the last decade there has been a resurgence of interest in exploring whether children’s family drawings had features that could be used to differentiate patterns of attachment. The most recent studies have reported success with global approaches that aggregate markers or make overall judgements and examine the concordance between these and infant ratings of attachment (Fury et al., 1997; Madigan et al., 2003). The current study used the children’s drawings as a warm-up and rapport-building activity prior to their participation in the YSAA. It was also in a unique position to capitalise on the expertise of one of these laboratories in analysing children’s family drawings for attachment-related features and to compare these with attachment classifications on the children from pre-school rather than infancy. Madigan noted that no study has linked concurrent measures of attachment to family drawing data and writes that this is essential if drawing measures are to be

used as indicators of current attachment (2003, p.34). It was felt that global markers and judgements of attachment classifications from children's family drawings may provide some more external validity for the YSAA.

The reported results gave only moderate support for the use of children's family drawings to predict attachment classifications on the YSAA. Only three of the eight global rating scales used to code children's drawings showed statistically significant concordance with YSAA classifications. The Canadian laboratory had reported five of the six rating scales discriminated between attachment groups (Madigan et al., 2003). There was also no concordance between classifications on the YSAA and judgement of classification on the drawings in the current study. Whilst disappointing, these results are not surprising. The global markers were derived by Fury and her colleagues from the drawings of children aged 8-9 years as were the attachment judgements. The drawings that were coded in the current study were by children aged 6 years. The adaptation of the markers to this age group proved to be more difficult than expected and while two coders began on the project only the junior coder saw the project through to its conclusion. No reliability data can be reported for this part of the study. The Canadian coders of the drawings for this current study were not trained in the Dynamic-Maturational model of attachment and would have held different coding criteria in mind from those guiding the classification of the YSAA transcripts. It will be remembered from Chapter 2 that a lack of consensus exists between the Cassidy-Marvin system and PAA approaches in classifying the pre-school measures, and from Chapter 3 that cross-laboratory comparisons have consistently proven to be difficult. This is a real problem for validation studies that must compare data across models and across laboratories. Where measures are developed from the same original theories but have since taken unique directions it is

difficult to know if they still are measuring the same constructs and thus what it is that the new tool is being validated against. Validations studies with known groups will go some way to teasing this out.

As a warm up to the YSAA, however, the drawings proved very useful. They served to separate the YSAA experience for the child from that of the AED, and also gave the interviewer valuable information that might be used when administering the YSAA. For example, children usually assume that an interested adult with whom they are collaborating knows basic information about them so that when they abbreviate or use a sibling's name they expect the interviewer to know who it is. There were many occasions in the administration of the YSAA where knowledge from the drawings assisted in the interview progressing smoothly.

Clinical Relevance

The discussion of the children whose classifications had changed between the two assessment points suggests that, in most cases, the shift is due to explainable maturational change. In a few cases there is little explanation and it could be that errors in classification have occurred. In the remainder, the mother has reported circumstances which could explain the changes seen. We can not know this. But the transcripts contain rich information for clinical hypothesis.

The following material comes from the transcript of ID 163, a child who was classified as "B1-2" on the PAA. On the YSAA it was considered that the child had now developed a compliant strategy as a way of maintaining proximity to his/her attachment figure. The "A4" classification on the YSAA was modified by both coders with a "Dp" - (depression) marker since there was a sense of futility across the

transcript. The discourse was flat, almost no episodes were given nor any images used. The interviewer had to keep asking questions to keep the interview alive and the responses were brief. On the last card, the teddy is running away; ID 163 said a little more than usual.

Nvr: How do you think he's feeling (teddy) as he gets out of the house and runs away?

163: Sad.

Nvr: Why do you think he might be running away?

163: Cos he um thinks his mum's been teasing him.

Nvr: I didn't hear that.

163: He thinks his mum hates him.

Nvr: Have you ever felt like running away?

163: No.

Nvr: What about your brother. Has he ever run away? (Child must have nodded assent) Can you tell me about that.

163: Um he's runned away into the bush.

Nvr: Do you know why he did it?

163: Um because he didn't like it at our house.

Nvr: Do you know what he didn't like?

163: Um, pardon?

Nvr: Do you know what it was that he didn't like at the house?

163: Um my mum.

Nvr: So he decided to run away. And what happened in the end of your story with your brother?

163: Um he got found. He had to stay in there for a long long time.

The classification given on the AEED was "flat" and the transcript showed little evidence of any co-construction with mother and child around emotional issues. The mother gave no stress factors for the child. She said that her marriage had collapsed since ID 163 was assessed with the PAA, but that she did not think that this impinged on the child.

It could be hypothesized that the child was fairly secure in his original family. ("B" but a little inhibited, i.e. "B1-2"). The mother did not see the break up of the marriage as affecting the child and therefore did not discuss this with him. He is nevertheless anxious and he tries to maintain proximity by being "good". He has lost something though - his spontaneity and vitality. His narratives are flat and he discusses his affective experience with his mother in a minimal and lifeless way. He may be depressed in the manner that this construct is used in the AAI.

The clinical relevance of the YSAA was strikingly apparent when child classifications on the YSAA were statistically related to parental identification of major problems that affected the children. Where a problem had existed but had resolved as in a medical problem at birth that had righted itself, or where there was a change in family structure that had been harmonious or beneficial, children were all classified as low range "A" or "B." On the other hand 64% of transcripts from children whose parents perceived a problem to have had an important impact on the child were classified as "C" or "AC" or "Dx."

It is also of interest that two children (ID 82 and ID 110) whose mothers had reported break up in the family situation but who had not felt it had caused problems, had in fact moved from an insecure "A" to a secure "B" strategy. One

cannot assume insecurity from change in family structure – one must examine the attachment related data carefully.

External Criterion Validity

It is important that any new assessment tool such as the YSAA be validated against well known measures that have different but related constructs as well as against those that have validity as correlates of the construct being measured. The current study attempted to begin this process by incorporating the Student Teacher Relationship Scale (Pianta, 1992) and the Child Behaviour Checklist (Achenbach, 1991) into the design of the study. Neither instrument showed any concordance with the YSAA.

It seems that there is no relationship between behaviour at school as described by the teacher on the STRS and attachment strategy as identified by the YSAA. Nor did the current study find any relationship between the STRS and parent co-construction of emotional events (AEED). Although the STRS did not show any concordance with the CBCL clinical and non-clinical categories, there were significant relationships found between individual scales on the STRS and the internalizing and externalizing dimensions on the CBCL. It would seem that the STRS and the CBCL are assessing some common constructs but these are not related to attachment strategies. The fact that the STRS did not relate to the results of the mother/child dyadic task either would confirm that children entering school in their first year behave differently in their social interactions in the school setting than with attachment figures.

The Child Behaviour Checklist is designed to discriminate between children with clinical and non clinical behavioural issues and has never claimed to have any

link with attachment theory. When this project began it was hoped to have a known group of children with clinical issues to compare with the normal population but this did not eventuate and thus there was only a very small number of children for whom parent ratings on the CBCL fell into the clinical range. The lack of any relationship between CBCL groups and secure /insecure groups on the YSAA is in keeping with many results in the literature and supports the claim by Greenberg that studies of low risk populations are inadequate for addressing any links between attachment strategies and externalising psychopathology (Greenberg, 1999). An interesting feature of this study was that when the parent was asked about life events and experiences that might have affected their child this information did relate significantly to YSAA classifications but not at all to CBCL categories. It may be that parents are not attuned to disclosing relationship difficulties in the same way that they are willing to report negative life events and experiences. It may also be, as Greenberg suggests, that clinical disorders are usually multifaceted and the role of the attachment relationship might be to provide a buffer or a risk factor in the context of many factors so that a simple relationship will not exist between attachment classification and clinical disorder (Greenberg, 1999).

Research issues

Discussion of the YSAA in relation to questions from the literature

As reported in the review of the relevant literature, researchers have raised a number of issues with regard to the use of representational measures with school-aged children which remain unresolved. These issues revolve around three central questions:

1. Can enough material be generated for the 5-7 year age group with a representational tool that uses a visual stimulus and relies on verbal responses?

2. Is the narrative material that the children produce the result of co-construction of the meaning of their interpersonal experiences or is it more to do with their internal fantasy world?

3. What can we make of the narrative material that the children produce?

This section will discuss the contribution of this study to current debate around these questions.

Question 1: Can enough material be generated for the 5-7 year age group with a representational tool that uses a visual stimulus and relies on verbal responses?

Considerable effort has been made by various research groups to provide a stimulus that will produce sufficient material from young children that might then be examined and thought about. To this end researchers have utilized both audio and visual equipment to capture both verbal and non verbal responses from children. As discussed in the literature review, the two main stimuli used have been the doll-play story stem procedures and the Hansburg SAT (1972) derivatives. Doll-play originated with work with 3-4 year old children who communicate through physical manipulation, gesturing, and facial expressions as well as verbal words and sounds and for whom more structure is appropriate (Bretherton, Prentiss et al., 1990; Bretherton, Ridgeway et al., 1990). For the younger and for the more disturbed children doll figures have been replaced by animal figures resulting in productive narratives (Hodges et al., 2003). Another feature of doll play story stems is that they typically provide considerable structure for the young children since the interviewer sets up clear scenarios using scripted dialogue and action for the child. A standard set of instructions have been provided by the MSSB Team with encouragement to experiment with these providing the spirit of the battery is maintained (Bretherton,

Oppenheim, Buchsbaum, & Emde, 2003, p.66). Doll play with a variety of story stems has to date been used with a large number of children from ages 3-12 years.

As discussed in the literature review, the variations on the Hansburg SAT (1972) have mostly used line drawings of human figures or photographs of people as the stimulus particularly with older children. All these variations have depended on the analysis of verbal narrative, although have often been coupled with an additional procedure that is videotaped as in Main's long separation and reunion procedure (Main et al., 1985).

The current study was particularly focused on the 5-7 year age range and on the type of stimulus that would elicit the most classifiable material from these young people. Informal trials with line drawings on a clinical population suggested that they were too intimidating. It appeared that the human figures were too close to enable relaxed dialogue in the interview situation. The pilot study using animal drawings and this pictorial stimulus produced a sufficient quantity of dialogue that was also meaningful. It seemed that the animal stimulus cards provided a safe enough distance from which the children could relate to and focus on the situations until a personal response could be generated. The teddy bear stimulus cards were then used for the main study in this project.

In the main study the stimulus cards continued to work well for this age group in that the number and form of the cards was sufficient to sustain the children's interest and produce a variety of transcripts ranging from meagre to very rich with lengths ranging from 1000 words to approximately 8 000 words. Nancy Slough wrote of the YSAA transcripts from the current study *"I was impressed with the richness of the transcripts and the quality of information that the children provided (Slough, 2003)."*

An additional card, the warm-up picture, was incorporated into the YSAA assessment. A warm-up card whilst not included in the early versions using SAT type stimuli (Hansburg, 1972; Klagsbrun & Bowlby, 1976) is in keeping with latest doll-play method (Bretherton & Oppenheim, 2003). With the six main stimuli and the warm-up card, the YSAA package contained a mid-range number of stimuli when compared with all versions of representational stimuli.

The warm-up card served many purposes, varying according to the nature of the child, as well as the child/interviewer relationship. Most noticeably this initial card served as a guide to the children in the format and prepared them for what was expected. It served a further preparatory function by bringing a family to the children's mind from which they might springboard to their own situation when guided by sensitive interviewing. The length of time children spent on this card and the richness of material it produced varied considerably with some children glossing over it while others created lengthy imaginative stories.

In the MacArthur story-stem battery a warm-up card is also used but is not considered to be part of the battery for coding purposes (Bretherton & Oppenheim, 2003). In that battery the warm-up doll-play is a birthday story and the interviewer is instructed to model verbal descriptions if the child only responds minimally. In the YSAA the material from the warm-up card was included in the coding since transcripts are treated in their entirety as in the AAI (Crittenden, 1999-2004). The coders of the YSAA also found that the material from this card served a similar function to the opening paragraph of the AAI, in that the coder gained an impression of a child who was cautious, gave stereotyped responses, or who was creative or overly expansive. As with the AAI, one cue to the procedural memory system is provided by the child's stance with the interviewer. In the behavioural measures e.g.

The SS, the infant's behaviour with the interviewer is of interest only as a comparison of that with the attachment figure. However, in the representational measures the rising intensity of the probes means that anxiety mounts and the subject automatically tends to exhibit those behaviours he/she uses when requiring protection from attachment figures such as compliance, caretaking, avoidance or compulsion.

The YSAA cards and procedure purposefully provided only a limited structure for the 5-7 year old children and also required a verbal response style. In the transitional years as children move into formal schooling more emphasis is put on the verbal response style and this medium becomes more familiar to the child. It was clear from the YSAA transcripts produced in this study that 5-7 year old children were mature enough to manage a completely verbal response style for a short while, especially when engaged by an interested and collaborative adult in a one-to-one procedure. When the child became aroused or anxious, his/her strategy was often expressed both through direct verbal expression, verbal dysfluencies, vocalizations, and coughs and also through bodily agitation, such as manipulation of the cards, fidgeting, out of seat behaviours, and facial expression. Trained interviewers had no difficulty in introducing such behaviours into the tape to be transcribed in a non critical manner, e.g. "I can see a big/little smile on your face" or "your face tells me that you are working really hard on that card" or "you seem to have caught the wriggles while you were thinking about that card", or "you'd like me to hold that card now." Hence audio taping was sufficient to capture the experience for the child. Less structure in the stimulus also meant that the material produced was more likely to express the children's representation of their attachment figures in relation to themselves than when a story stem is provided. It is thus more possible for children participating in the YSAA to create their own angle on the scene before them with

only the minimal direction that comes from the probing of the interested adult who is there with them.

It is quite clear then that for young children in the transitional years when their energy is turning from home towards the wider world that school provides, the use of animal drawings as a pictorial stimulus in the hands of an interested and inquiring adult, provides an interesting but not too threatening stimulus from which these children will generate sufficient verbal material for subsequent analysis.

Question 2. Is the narrative material that the children produce the result of co-construction of the meaning of their interpersonal experiences or is it more to do with their internal fantasy world?

According to Bowlby, children's internal working models of attachment derive from their real life interpersonal experiences with their attachment figures. In contrast Melanie Klein down played the importance of such environmental experiences concentrating instead on how the intrapsychic distortions in one's inner world and projective identification influence one's relationships (1959). Bowlby's position was clearly articulated in his writing on "defensive exclusion" (1980). Researchers have taken this debate up with questions about the source of the children's narratives and questions about how much of a narrative can be attributed to reality and the child's actual experience and how much is a defensive response to arousing material (Oppenheim, 2003; Oppenheim & Waters, 1995).

The use of teddy bears as the stimulus was simply to bridge the gap across shyness and anxiety for these young children. It was found that nearly all the children moved between creating dialogue around the bears and offering their own experiences directly. Most participants quite easily gave the bears human characteristics immediately; for example, the bear felt a little scared going off for its first sleepover

but quite excited or the bear hoped to play some games and have a nice tea and watch some TV before going to bed. For most (70%) when asked "have you been for a sleepover yet? Tell me about your sleepover" it became clear that the child had drawn on real experiences to create the teddy story since very similar details appeared in the child's recalled episode. Some children, however, though giving the bear human characteristics would avow a different affective response for themselves e.g. "I wasn't scared even though it was my first sleepover" (26%). Further study might clarify what mechanism prompted the difference. Was it wish-fulfillment or avoidance for example? The two major types of identification, (those who kept the bear's experience separate from their own and those who blended the experiences) did not relate to final classification. Only six children out of the 158 in the sample failed to give empathic responses, treating the bears as bears that ate honey and slept in a tree, or launched into a bizarre fantasy that was seemingly unrelated to anyone. Two of these children had a background of clinical issues and one child's transcript was disturbingly sexualised warranting further investigation.

It seems quite clear from this study that the 5-7 year old children in a normal sample create stories based on their own real experience and the use of Teddy's situation as a springboard to their own experiences led to very rich transcripts. Dialogue such as the following illustrates the rich insight into ID 104's thinking as he/she uses the teddy's predicament to ponder his/her own position in a moral dilemma.

Nvr : They're hidden behind her back. You don't think the mum knows?

ID 104: I think she's - I think she's gonna say "where um did you eat the lollies?". I think she's gonna say that.

Nvr : And what do you think the little teddy will say to that?

ID 104: Um "yes I did". I think she's gonna say "yes I did". I think she's not gonna say "no I didn't". I think she's gonna lie cos it's bad lying. It's bad lying.

Nvr : Do you sometimes lie?

ID 104: No. Never ever. Never ever lie. (knocking sounds)

Nvr : What do you think would happen if this was you and that was your mum?

ID 104: Ah, I would get told off. .. Um

Nvr : What do you think your mum would say to you?

ID 104: Uh, I think she would say um (breath) "did you take lots of lollies?" and I would say "no I didn't". Think I would lie if that was me. I don't know what happened....."

The richness of the dialogue around the "lie/not lie" issue in this surpasses any we may have got from simply asking ID 104 directly about what she would do in this situation? There is clear evidence that ID 104 has identified with and has empathy for teddy's predicament and uses this to consider his/her own position. Here we have evidence of borrowed parental semantics "one should never lie" conflicting with ID 104's actual experience and ID 104 verbalises this in a very competent manner that is at a deeper level than a mere cognitive statement.

Another identification issue that is often addressed in research design but not often discussed fully concerns that of gender identification. The decision to use two sets of cards, one for each gender was in keeping with the MacArthur Story Stem Battery (Bretherton et al., 2003). However, in the YSAA, the interviewer began by asking the child in the warm up card "who do you think that is (pointing to little bear)?" Only 44% percent of the children attributed their own gender (which was also the one shown in the picture card) to the teddy. If the child replied "a bear" the interviewer would ask if it was boy or girl bear. This occurred in 20% of the cases in this study. Even after this, 29% of children gave the opposite gender and some of

these kept changing gender. The coders noted that this sometimes occurred as the stimulus became more threatening for the child, while at other times it occurred from the outset with the child persisting with this in the face of two attempts to redirect by the interviewer. A chi square analysis showed that whether the sexual identification to the bear matched or did not match the sex of the child or vacillated between male and female with the perceived threat of the card was not related significantly to the child's identification with the protagonist on the card. Nor was it related to the classification given. It appears that it does not make much difference with this age group whether a same-sexed or uni-sexed set of cards is used.

Question 3. What can we make of the narrative material that the children produce?

It was shown in the literature review chapter that methods used to link attachment theory with children's narratives and to identify from their narratives those children who use a secure strategy and those who use insecure strategies with their attachment figures have proven to be ad hoc and varied. Bretherton and Oppenheim (2003) point out that significant results have been reported by many of these coding systems and that the method of choice must be governed by the aims of one's study. However, this makes comparison across specific groups and across laboratories very difficult.

These issues are addressed by the adoption of the AAI scoring procedure (Crittenden, 1999-2004; George et al., 1985) for use with the YSAA.

As discussed in Chapter 4, the development of the marker and coding sheets for this study drew directly from the latest draft of Crittenden's "Dynamic-Maturational" approach to analysing the Adult Attachment Interview (Crittenden,

1999-2004). This approach is based on neurological evidence about how information from past experiences is stored in the brain. It also identifies gaps in the retrieval process in the interview situation that are characteristic of individuals who manifest each type of attachment pattern (Crittenden, 1999-2004, Ch3, 3/04 p.38). The five memory systems used in the coding for the YSAA include procedural memory, imaged memory, episodic memory, semantic memory, and working integrative memory. The characteristics of each of these will be briefly recapitulated together with the characteristics that were deemed to be indicative of a specific attachment pattern in the coding of the YSAA (see Appendixes I, J, K for a sample coding from the two coders).

Procedural memory. It will be remembered that these "implicit" memories are those that are enacted, repeated, habitual and generally outside one's awareness (Siegal, 2003). Crittenden identifies three types of procedural markers: patterns of interaction with the interviewer, affective expression in the interview and patterns of managing discourse. There are procedural markers characteristic of "A", "B" and "C" attachment patterns.

The excerpts from ID 138 show markers in each memory system from the transcript of one child who was classified by both coders as using a "C" strategy. The summary statement for this child noted that he/she appeared vulnerable, used a small voice at vulnerable moments, spoke of being victimised, of having the worst chicken pox, and of mum and dad separating before he/she was born. This child manages to enlist the interviewer to help him/her to answer at several points in the transcript. He/she is not clear regarding causality and demonstrates associative thinking in flowing one card into the next.

The spontaneous expression of affect in the interview may be a marker of a "B" pattern or a "C" pattern depending on the combination and function of the markers. In the following excerpt the child's sense of outrage is clear.

ID 138 on the "Teddy is left out" card.

Id 138: Yep. (pause) And, one time, well ... one of my friends used to be bad before but now he's nice. Well, they (can't interpret) things that happened to me, to me, he SPAT at MY face, he put other people's CHEWIES in my hair.

Later on the same card ID 138 says:

ID 138:if I told daddy, well, he would have to talk to his mother AND get angry with the kid

On the sleepover card this child also described the bear as being scared about staying away for the night, the mother bear as scared about the bear going for a sleepover (but most of his friends go on sleepovers and feel "o.k"). Fear and anger as well as desire for comfort are dominant affective themes in this particular transcript.

The pattern of interaction the child has with the interviewer is evident in this next excerpt in which ID 138 effectively solicits sympathy from the interviewer about his parents having separated and then we learn he has known no different life.

ID 138 on the "Teddy's father is leaving" card.

Nvr : You liked it better when they were both there?

ID 138: Yeah - (voice childish) but I wasn't even born when they were both there.

The pattern that ID 138 shows in managing the discourse can be used to illustrate a variety of markers for this aspect of procedural memory that are indicative of an insecure pattern: changing voice tone, arousal in the form of a sigh, dysfluency, and confusion.

ID 138 on the "Teddy is sick" card.

Nvr: Who looked after you?

Id 138: My dad and mum.

Nvr: What did they do for you?

ID 138: Well, a lot of good things (small voice, upward inflection).

Nvr: Can you tell me.

ID 138: Um, (heavy breath) um (very slight sigh) they fed me (upward inflection) and they didn't have to do anything. They did everything for me and I never had to go to school.

Imaged memory is also part of the implicit memory system. Animated images that show intense affect, dramatisation, and little grasp of content in the AAI are usually associated with a high "C" pattern and were found in ID 138's transcript. He/she provides us with graphic detail of his/her experience with chicken pox in the "Teddy is sick" card that functions to let the listener know he/she was the sickest of all.

ID 138 on the "Teddy is sick card"

ID 138: Well when Tiger had it he had, um, them in his fingers and Jessie had them in her bum. And when I had them they were in my fingers, in my bum and EVEN in my eye.

Semantic memory is part of the explicit memory system and as such develops later at about 3 years of age. This is the memory that is generalized verbally from repeated experiences and is consciously available. Secure children make use of semantic memory to think through cause and effect and their own role in events. ID 138 demonstrates the unclear causality and associative thinking that is usually associated with a "C" pattern in the following excerpt:

ID 138 on the "Teddy has taken the lollies" card

ID 138: Because he eat, um, those lollies before dinner, he, um, got chicken pox

Episodic Memory is how the speaker recalls and recounts events. Speakers with a "B" pattern of attachment usually demonstrate spontaneity, credibility, temporal order, and appropriate associated affect. ID 138 is not able to use semantic memory effectively and this extract illustrates the muddled thinking of a child using the "C" strategy.

ID138 on the "teddy is left out" card

Nvr : Umm. Have you ever been left out like that?

ID 138: Mmm. Yes (upward inflection).

Nvr: Can you tell me a bit about that?

ID 138: Well, yeah because, um, (voice firm but now going childish) sometimes, well, um, other people boss me around and I can never play with them.

Probing elicited nothing specific, only more of the same.

Working Integrative Memory describes the capacity to process information in the here and now and to reflect on past experiences in order to make meaning of them.

Integrative memory is usually associated with "B" attachment patterns. The following examples are taken from other transcripts to illustrate integrative statements as there were no signs of integrative working memory in ID 138's responses to the questions. This absence is characteristic of a "C" transcript. When the markers from all systems were considered together as a pattern, the transcript of ID 138 was classified as a "C".

Examples of integrative memory

ID 151 from the "Teddy's father is leaving the family" card is helped to make meaning of his/her experience.

Id 151: Um sometimes my dad says swear words and sometimes I shout at them really loud, like a dinosaur. And so does Millie cos she helps me scream to get louder. And that's it.

Nvr: And when you're screaming to get really loud, why do you think you might do that?

Id 151: Um,

Nvr: What are you trying to tell mummy and daddy?

Id: 151: To um stop arguing

Another example comes from ID 43 on the "Teddy has taken some lollies" card

Nvr: not quite sure....has anything like that ever happened to you.....what happened

ID 43: ... I took some stickers from my teacher

Nvr: umuh

ID43: and she didn't actually know.....so I gave them back

Nvr: and does she now what happened or is it that she still doesn't know

ID 43: ...she knows.....

Nvr: and how did you feel..

ID43: embarrassed

Nvr: uhum, embarrassed that you took them and what about when you gave them back what did you feel

ID43: okay then cause she, she knew I was good for giving them back

Nvr: okay, and why did you give them back

ID43: ...because then it wouldn't be such a habit again ..

Although specific integrative questions were not always asked for, the following example was included to demonstrate how a child's ability to reflect on his/her situation emerges naturally in the YSAA. Indeed integration as it is observed in adults did not occur very clearly in the children's transcripts. Characteristics of integration in the YSAA that were observed included a reflective capacity as illustrated below, and an ability to draw conclusions from what they have said as well as their affects or to be actively attempting to do this.

ID 4: on "the "Teddy is running away"

Interviewer: Okay. This one is actually called the bear is leaving home. He's running away.

ID 4: Why?

Interviewer: Why do you think he's running away?

ID 4: It's because my his parents might have done something mean to him or like that.

Interviewer: Okay. So how do you think he'd be feeling?

ID 4: Sad.

Interviewer: *Feeling sad.*

ID 4: *And a bit angry.*

Interviewer: *And angry right and why would the teddy bear be feeling sad and angry?*

ID 4: *It's because he would probably like never see his family again.*

Interviewer: *And what do you think he'd be thinking?*

ID 4: *He would be thinking now that should show my parents that and that they would like me.*

Interviewer: *And what do you think the little teddy bear would do next?*

ID 4: *He would like find his friend's house to live at?*

Interviewer: *Is there anything else that the teddy bear could do?*

ID 4: *He could ask his teacher if they he could live with them.*

Interviewer: *Ahah and why might he do that?*

ID 4: *it's because he didn't want to be by hisself*

Interviewer: *Right and what do you think that the mother and father teddy bear would be thinking?*

ID 4: *They would be thinking we've been we've been very very stupid to our son.*

Interviewer: *Have you any idea why they would think that?*

ID 4: *Cause they didn't cause they couldn't find him they were very sad.*

Interviewer: *And what do you think the parents would think the little teddy bear was feeling?*

ID 4: *He was feeling very sad.*

Interviewer: *Oh so what do you think the mother and father teddy bear would want to do?*

ID 4: *Get him back.*

Interviewer: *Ahha. So if this was you how do you think you would feel?*

ID 4: *I'd feel so sad.*

Interviewer: *And what would you do?*

ID 4: *I would ask my best friend her name's Megan she's my bestest friend ever and I would ask her if I could live with her.*

Interviewer: *Okay. Has anything like this every happened to you before?*

ID 4: *No.*

Interviewer: *So if we go back to this story here what do you think would happen at the very end of the story?*

ID 4: *.. He would say oh this is rubbish I really want to see my family and he would come home to his real home.*

Interviewer: *and why would he do that?*

ID 4: *Its because he really missed his family.*

The study included three disturbed children who were identified only by their ID code. All three of their transcripts were assigned a "DX" classification. This is given to transcripts that show that the child is not secure but does not use either of the insecure "A" or "C" strategies. Thus if such a child becomes anxious in response to a probe, he/she can't "cover up" by hiding discomfort, nor has he/she a manipulative strategy to get assistance from the interviewer by appearing helpless and vulnerable. The very fact that the child does not produce verbal material in any coherent way

leads to a "DX" classification which says that the child does not have an adaptive strategy. The following is an excerpt from a transcript classified as "DX" in this study.

ID 29 on "the teddy is sleeping away from home tonight" card

Nvr: What do you think might happen next, to this Teddy holding the Mum's hand.

ID 29: The car will run into the Mummy right into the house -(making car sounds)

Nvr: What will happen next?

ID 29: That's the end of this one - that is the end.

Nvr: so you don't want to talk about that one anymore..... This is the next one "This Teddy is left out"

ID 29: The Teddy bear is feeling sad. That is the end of that one

Nvr: O.K. so the Teddies won't let him join in and he is feeling pretty sad.

ID 29: And that is the end of that one

Nvr: Can we talk about this one just a little bit more. What do you think will happen next if the Teddies won't let him play and he is feeling sad.

ID 29: Bash...bash

Nvr: So you are showing me that the little Teddy will kick them and bash them?

ID 29: No kick..bash kick bash

Nvr: So the little Teddy will kick them and bash them.?

ID 29: They will go BASH BASH BASH (accompanied by sounds) He'll go kick and go bang and then he'll get the ball (laughs)

N: So the little Teddy will join in, in the end?vr

ID 29: Finish this one

Nvr: Have you ever been left out?

ID 29: Yeah sometimes but Nia won't let me share her toy toy.

Nvr: Who won't share with you.?

ID 29: Nia, Nia, Nia

Nvr: Shania?

ID 29: She doesn't - boy boy toy toy bang bang toy toy

From the discussion above it would appear that the material produced by the YSAA can be successfully classified using the same principles as those used in the Dynamic-Maturational system of classifying AAI transcripts. To the extent that the markers for each of the memory systems identified above and the constructs of the Dynamic-Maturation model measure attachment constructs then it would appear that the YSAA also has the capacity to assess the attachment strategies used by young children.

Further methodological issues relating to the literature

Stimulus Intensity

The literature regularly refers to the level of intensity of the stimulus, usually in a descriptive manner. Hansburg (1972) for example created the SAT with 12 separation situations ranging from mild and usual to stressful and less frequent occurrences. However, he varied the order of presentation so as to reduce the influence of affect from one to another. This procedure has traditionally been followed by those using SAT based procedures (Klagsbrun & Bowlby, 1976; Shouldice & Stevenson-Hinde, 1992; Slough & Greenberg, 1990; Wright et al., 1995). Although doll-play situations are generally more thematically based and standardisation of the procedures has not been a priority, researchers using this method still dramatically act

out the scenario in order to engage the child. Indeed in the Manchester Child Attachment Story Task (MCAST) (Green et al., 2000b) ‘...there is an induction phase where the interviewer amplifies the intensity of distress represented in the child...(p.51)’. Both these paths are counter to the approach of the AAI (Crittenden, 1999-2004; George et al., 1985) in which the interview questions themselves are designed to increase the intensity of arousal in the participant over the course of the interview.

The YSAA developed along the lines of the AAI and the main consideration for this procedure was how much intensity of affect was required to stimulate the attachment system for children in this age group without becoming overwhelming. In the YSAA procedure, the cards were presented in the same order each time in what was deemed to be increasing order of intensity. Examination of the transcripts revealed that children generally experienced this order of intensity as predicted unless a particular issue held emotional valence for the child. In these instances markers of unresolved trauma or loss were most easily identified, especially when the child continued a disturbing theme into later cards. In general the “sleep over” and “left out” cards worked well at accessing affective material around very pertinent peer relationship issues. Mostly these were low level but real and troubling issues for the child but not at a level requiring specialist intervention. The “taking lollies” card probed issues of disobedience and compliance around attachment figures. The “teddy is sick” card did not hold much emotional valence for these children but, as the coders discovered, provided rich detail about the care-taking system in the child’s family, in much the same as in the AAI when participants are asked “*what happened when you were sick as a child?*” The last two cards “father leaving” and “teddy running away” on the other hand tapped into a deeper level of awareness and affect. These issues

clearly touched the lives of the children or people they knew. There were occasions when children ran a theme from one card through several others. There were two places that this occurred most often. Children would sometimes connect the sick child (card 5) with having eaten too many lollies from the previous card. Many children identified that the child was running away (card 7) to be with the father who had left home in the previous card. For example ID 165

Nvr : In this story, how do you think the little bear's feeling?

ID 165 : Sad.

Nvr : What do you think he's thinking?

ID 165 : Um, thinking that he'll miss his dad like I do as well.

Nvr : You miss him a lot don't you?

ID 165 : Well my little nanna died and then my nanna's uncle Peppo died.

Nvr : Is that the nanna in your picture?

ID 165 : Yeah.

Nvr : She's died has she?

ID 165 : The little nanna but my real nanna that was in the picture didn't die, she was just the little nanna's big nanna.

Nvr : So this little teddy is a bit worried?

ID 165 : Mmm. Like I am about my dad. Now the number 7.

Nvr : Just how do you think that story might end?

165 : Um, the dad might come back.

Nvr : And who would make that happen, if he did come back?

165 : Um may be he broke up with the other lady that he left with that he lived with for a little while.

Nvr : Okay. In this card C..., the teddy is running away.

165: May be to daddy.

The combination of cards presented in this order produced some very rich material that the coders found akin to material produced by the AAI question "to which parent did you feel closer and why?" For some children for whom father leaving home was real, this card was high in emotional intensity. But even those children who in reality are in an intact home situation have a secret fear of separation and become anxious on the father leaving card. Dysfluencies such as stutters and avoidance behaviours were among the markers identified on this card. The running away card was particularly useful in identifying those children who had a sense of futility rather than a feeling of self efficacy in their relationships. Due to the powerful nature of these latter cards it was very important that children were given time and means to lower their state of arousal before leaving. This was not built into this procedure in any standard way, but was found to be necessary by the interviewers who did so naturally. The order of these two cards could be explored further in future studies, once clearly defined coding procedures are in place and validity has been established. Like Bretherton and Oppenheim who suggest that new versions of doll-play scenarios be carefully pilot -tested (2003), I would encourage a complete validation process occur before variations are explored.

Interview and administration

The administration of the YSAA largely followed the directions as outlined by Crittenden in 1998. These pull for more information from the child than was ever asked in the early versions of the SAT (Klagsbrun & Bowlby, 1976; 2003; Slough et al., 1988) and draw on a clear model of attachment for their theoretical basis (Crittenden, 2000). However, it became apparent after the pilot study that these directions required adaptation in line with the evolving theory. Changes were

therefore made in consultation with Crittenden for this study (Crittenden, 1998). The set of directions used for the administration of the YSAA in this study is included in Appendix O.

The transcripts from this study suggest that further refinements in interviewing style for the 5-7 year age group are necessary. For example, the instruction to "make up a story" appeared to cut across the initial identification with the character and it took some time for the gap between bear and self to be breached. When two by two tables were constructed of the administrative styles 'asked for a story' versus a more open ended approach and levels of identification with Teddy, there was a significant statistical difference ($\chi^2=7.68$, $df= 2$, $p <.05$). More children asked in the open ended manner identified easily, moving smoothly between teddy and themselves, rather than clearly differentiating between teddy's experiences and their own. The instruction type did not relate to attachment strategy as identified by the YSAA. Improved instructions would avoid the use of the word "story" for this age group and emphasise the more open-ended "Tell me about what you see in the picture, for example what might happen next.....". Appendix P contains an improved set of administrative procedures suggested for future use. Open-ended probes are in keeping with Hansburg's observation that feelings are more likely to be elicited when children are less personally threatened and when questions are open and oblique rather than direct (Hansburg, 1972). This also meshes well with Bretherton and Oppenheim who are aware that the narrative frame set in the first few minutes has considerable influence and ought to be as open as possible (Bretherton et al., 2003).

Limitations of the study.

Many of the problems encountered in the study have been highlighted throughout the discussion in the context of continuing difficulties in the attachment paradigm. Others were unique to the design of this project. These will all be revisited in this section.

The major difficulty highlighted in the discussion was that of finding criteria against which to establish external validity for the new measure. This study used the PAA, The AEED, Children's Drawings, and parent identification of issues. The CBCL and STRS were used as possible correlates.

Although the PAA and YSAA had high concordance with each other, a limitation of this is that we really do not know whether these two instruments are measuring some real individual difference that is manifest in the everyday behaviour of children or simply some theoretical artifact. In an attempt to elucidate this, the current study used two known groups. The first was that of mother-child dyads that could mutually co-operate in a task of co-reconstruction of the affective experience of the child and those dyads that could not as determined by the AEED. The AEED proved successful at discriminating attachment groups identified on the YSAA. The second known group comprised children who had suffered either recent physical or emotional stress as compared with those who had not. These two known groups of children differed on the attachment classifications they were assigned from the YSAA.

External validity for the YSAA was not provided by children's drawings, the CBCL, or STRS. Each of these tools, in retrospect, had limitations that were theoretical but also to do with the design of this particular study. For example, had it been possible to find coders for the Children's Drawings who were conversant with

both the global markers and attachment classifications from the Dynamic-Maturational perspective perhaps better concordance might have been achieved.

The lack of any relationship between attachment classifications on the YSAA and CBCL categories is in keeping with studies reported in the literature (Greenberg, 1999). The current study had hoped to attract a large enough clinical population to explore links between attachment categories and externalising behaviour in children but this did not eventuate. Future YSAA validity studies wishing to explore such links would do better to examine large populations of known groups of children with psychopathology. There were many parents in the current study who did not complete the CBCL or who expressed discomfort with completing such a long unwieldy document. In the interests of avoiding assessment fatigue future studies wishing to continue with such an exploration may do well to consider the more user-friendly Strengths and Difficulties Questionnaire (SDQ) for this purpose (Goodman, 2003; Goodman, 2001).

It appears from this study that the child-teacher relationship is not related to the child's attachment strategies. However, the child-teacher relationship is multifaceted, and perhaps not all aspects are captured by the STRS. In addition, it must be noted that there were limitations with our use of the STRS instrument. To further explore possible connections between teacher-child relationships and attachment classifications in the future an improved design would have the teachers alerted to the need to use the full range of the scale to rate the target child and also complete the STRS for the entire class in order to gain a better grasp of the norms associated with it. Perhaps detailed observations of the teacher-child relationship in the classroom as undertaken in the home in the Ainsworth study would complement the STRS and provide more insight into this very important relationship.

In the development of the measure new ground was broken with the application of the scoring procedures of the AAI (Crittenden, 1999-2004) to the children's transcripts. The idea for, and initial draft of, this adaptation was the work of the Bertinoro Consortium in the context of the development of the SAA (Crittenden, 1998) for older children. The international project was halted due to changing priorities and this study moved ahead adapting straight from the AAI procedures to the YSAA instead of through the SAA to the YSAA. The coding procedures used here were therefore more experimental than was anticipated.

A continuing problem for any work with in-depth assessments of attachment patterns is the expensive cost and time consuming nature of training in these methods, a feature that severely limits the pool of expertise available for research projects such as this one. This is especially so within Australia, since most training occurs in Europe. It was very encouraging that with practice and thoughtful discussion those classifying the YSAA achieved concordance rapidly. However, is there a danger that the coders have gradually moved mutually toward their own unique understanding of attachment? It will require a larger pool of trained coders to revisit this data with a clear coding manual to clearly answer this question.

Conclusions and suggestions for future directions

This research study has made an important and unique contribution to the efforts of the international research community to develop a representational measure by which to assess attachment security in 5-7 year old children. The current study had as its aims to develop and refine the representational stimulus and administration for the YSAA through a series of pilot studies, to establish whether the coding procedures

of the Dynamic-Maturational model for the AAI (Crittenden, 1999-2004) could be used in assessing the transcripts of young children, and also to begin some preliminary validation work. It has succeeded in all three tasks, and in the process, contributed unique data to researchers in the field who are grappling with associated issues in establishing methods to assess the attachment strategies for young children in these transitional years.

The YSAA is user-friendly, simple to administer, and does not require elaborate equipment. It employs constructs that are consistent across the life-span within the Dynamic-Maturational model of attachment (Crittenden, 2000) making longitudinal studies within the childhood years achievable as well as making possible predictive construct validity studies for attachment related measures. The use of the YSAA does, however, require a comprehensive knowledge of this model as well as skills and experience in interviewing children. The AAI coding manual (Crittenden, 1999-2004) has been shown by the current study to hold great potential as a model from which to develop a manual to code YSAA transcripts. It is clear from this study that the YSAA can be coded reliably by coders who are steeped in the Dynamic-Maturational model of attachment and conversant with coding procedures available to date.

The current study has also made an encouraging start on the lengthy process of validating this new instrument. The YSAA as a result of the current research now has preliminary validity against a known attachment measure taken only 12 months earlier and that draws on the same constructs, the PAA (Crittenden, 1995). There is no other measure for this age group that has been tested against an attachment theory-based measure so close in time. It is also clear that the YSAA has validity when classifications made on the YSAA were compared with parental views of their

children's adaptations when significant real life events had occurred. The YSAA was demonstrated to be capable of identifying unresolved issues and more extreme attachment strategies when children were faced with severe illness or major upheavals to the child's family structure. This is a very significant result for a tool that was intended for use in clinical settings. Promising concurrent validity was also achieved for the YSAA when classifications were compared with the matched and unmatched groups on the AEED. The AEED is itself a new instrument. However, it was felt that the notion of co-construction that is the basis for the AEED tied in well theoretically with the YSAA and, as such, a useful comparison could be made. Indeed the two instruments together provided very useful systemic information about how the child related with his/her parent around emotional topics compared with how the child uses these strategies to manage in the wider world of relationships.

It was disappointing that for this study a larger group of children with known clinical issues was not available. Since there are no tools available to date that have validity and reliability with which to compare the YSAA it will be important for future validation that more data such as the real world problem data reported by parents of children in the current study be used for validation purposes. Once a coding manual is made available, and with it the concomitant training, it will be possible to further validate the YSAA with known groups of children such as those for whom there is a clear psychopathology. It is only when such studies have been undertaken many times that it will be possible to say with any certainty that the YSAA is assessing children's attachment strategies in the same ways that the infant SS, pre-school measures, and AAI do.

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APPENDICES

Appendix A: Markers for each memory system. Examples of the markers for each of "A", "B" and "C" classifications are given as well as a description of the memory system. In the pilot study these markers were checked card by card. In the main study transcripts were coded as an entirety using these same markers.

Procedural Affect: Does the interview generate enough material to assess whether the child accesses or expresses true affect in this interview? Does the interview generate enough material to assess whether the child can name and expand on affective experience?			
Accesses affect Expresses affect openly Describes feelings approp to the situation	Absence Affect False Affect. Gives flat stereotyped affect	Intense, involving affect Affect predominates, overwhelms. Splits negative affect eg "I'm not scared"	Other: Is affect used to avoid or to influence interviewer?
Procedural Enacted: Does the interview generate enough material to assess how the child interacts with the interviewer especially under stress?			
Co-operative, open, relaxed. Trusts nvr will support	Compulsively good False Bright	Involving, struggle for control of interview. Refuses to answer	Other
Procedural Discourse: Can we get enough discourse markers from the transcript to of the types used to classify in the AAI?			
Dysfluencies present that don't distort the information	Omissions of self Cut/offs where material is affective, causal, p's perspective	Omissions of others, loose, assoc ROS, blaming, oscillates, confusions tense, involving, PST	Other
Episodic: Is there sufficient material generated to identify whether the child can relate past episodes or imagine them with order, time sequence, causation, ending			
Self relevant, credible. Temporal order and spontaneity	Other relevant, lacks memory, parental semantics, rituals, happy endings	Part episodes, vaguely related, confused, impt details missing, not credible.	Other
Imaged: Does the interview generate enough material to assess whether the child has visual, aud, memories of past events or can create lively rich narratives?			
Lively appropriate images. Realistic and self relevant	Relies on dry description with little detail. Creates distance.	Animated, intense, fragmented images. Associative, repetitive	Other
Semantic: Does the interview generate enough material to assess differences in the child's use of semantic memory?			
Uses semantic as well as images to reflect on experience	Child uses words, borrowed from parents with no evaluation of these.	Associative commentary, illogical, meaningless, difficulty accessing words.	Other
Integration: What material is generated by the interview that assesses whether the child is able to sum up or overview his/her experiences?			
Child names links between events and outcomes	Child holds self overly responsible for experiences	Child takes no responsibility and does not name connections.	Other
Modifiers: Does the interview generate enough material to assess the modifiers that are present in the Adult Attachment Interview			
Dp/ DX	Utr/Uloss	Self Efficacy	AF's role

Appendix B: Coding sheet used in the main study

Name

Id:

Reality/Fantasy/Identification w teddy
Interviewer Issues
Developmental Issues
Card Issues
Endings
Representation of AF's
Representation of Self
Summary and Attachment Strategy
Quantity and quality of markers for coding
Markers
Procedural AFFECT
Procedural ENACTED
Procedural DISCOURSE
Episodic
Semantic
Imaged
Integration
Modifiers

Appendix C: Frequency of markers identified for each card.

Only the final matrix for coder 1 will be discussed. There were three pairs of cards which correlated more than .5. These were Card 1 (sleepover) and Card 3 (stealing sweets) with a correlation of .61. Card 1 also correlated .53 with Card 2 (left out). The remaining cards were Card 4, (sick) and Card 5, (Fa leaving), and Card 6 (running away).

MARKERS	CARD						TOTAL
	1	2	3	4	5	6	
Affect	25	18	19	20	19	15	116
Enact	31	24	21	20	18	15	129
Discourse	27	23	29	24	23	17	143
Episode	17	19	16	15	11	10	88
Semantic	15	14	12	14	17	18	90
Imaged	8	10	7	10	9	5	49
Integration	7	3	7	7	9	3	36
Modification	2	2	1	0	2	3	10
TOTAL	132	113	112	110	108	86	661

An inspection of the markers assigned by coder 1 showed that Card 1 (sleepover) and card 2 (left out) contributed uniquely to the memory domains. Card 1 loaded heavily on procedural memory and Card 2 was the most useful card for examining episodic memory. Card 3 (stealing sweets) yielded high discourse markers and. Card 5 (father leaving) contributed to semantic memory and integration while Card 6 (running away) contributed to the evidence for semantic memory and also to the modifiers. The internal consistency alpha was .7025 and the shortened version would help in the maintenance of concentration throughout the procedure with these young children.

Appendix D: Table showing correlation matrix of the internal consistency of the final set of cards.

	CARD1	CARD2	CARD3	CARD4	CARD5	CARD6
CARD1	1.0000					
CARD2	.4217	1.0000				
CARD3	.2268	.3866	1.0000			
CARD4	.3886	.2916	.5967	1.0000		
CARD6	.3586	.3816	.0055	.1357	.3385	1.0000
N of Cases =	31.0					

Appendix E: Letter to parents of children in the pilot study

Dear Parents

Thank you once again for agreeing to participate in our research project. I am extending Dr Noel Howieson's original research to children in the early pre-primary and primary school years. This project is now a collaborative project between the Education Department of WA, Princess Margaret and King Edward Hospitals and Edith Cowan University.

The project aims to investigate the ways in which young children relate to others. We require your permission for us to contact the school your child attends to organize a session where he/she will be audiotaped talking about a series of picture cards. Your child's teacher will be asked to complete a checklist of how your child relates to others and we will ask you to complete a short questionnaire about your own style of relating as well as to complete a behaviour checklist related to your child.

All the information collected in this study will be confidential and you and your child will not be identified in any way. You and your child are free to withdraw from the study at any time. There are no foreseeable risks to anyone participating in this study.

If you have any questions or queries in relation to this study please contact Mrs Lynn Priddis on [REDACTED]

If you are willing to continue to participate in this study please complete the form below and return it in the envelope provided to.

Permission

I, (please insert your name) _____ give my permission for _____ my son/daughter (your child's name) to participate in the research project. I understand that participants may withdraw at any time and that names will not be used.

Daytime Phone Number:

Address:

Signature:

Date:

Appendix F: Letter to parents of children in the main study

Dear Parents

Researchers at Edith Cowan University and Princess Margaret Hospital are committed to finding new ways to help young children make the best possible start to school. In order to continue our work we need the help of a large group of pre-primary aged children and their parent to participate in the project.

The project aims to investigate the ways in which young children relate to others. There are three parts to this project and parents are invited to participate in two of the following:

1. A videotape of you playing with your child in a special hospital playroom in Shenton Park will be made. There will be about 20 minutes of videotaping but we would like to allow about 40 minutes for this session.
2. Next year we will contact the school your child attends to organize a session where he/she will be audiotaped talking about a series of picture cards.
3. This final part involves your child's teacher being asked to complete a checklist of how your child relates to others.

All the information collected in this study will be confidential and you and your child will not be identified in any way. You and your child are free to withdraw from the study at any time. There are no foreseeable risks to anyone participating in this study.

If you have any questions or queries in relation to this study please contact Mrs Lynn Priddis on [REDACTED]

If you wish to participate in this study please complete the form below and return it to your contact person. Our assistant will contact you in the near future to make an appointment.

Permission

I, (please insert your name) _____ give my permission for _____ to participate in the research project. I understand that participants may withdraw at any time and that names will not be used.

Daytime Phone Number:

Address:

Signature:

Date:

Appendix G: Sample letter to Principals of schools that children participating in the study attended

Dear Mr. A....,

I am writing to ask for your permission and co-operation to allow students from your school to participate in a university based research project. The project is a collaborative venture between the Education Department (EDWA), Princess Margaret Hospital (PMH) and Edith Cowan University (ECU). The project aims to investigate the ways in which young children relate to others.

We are seeking children who are in pre-primary (or who are turning 5 this year) to participate in the study. The child's parents will be asked to travel to a purpose designed facility that is part of PMH. There they will be filmed in a standard 20 minute procedure and the parent will also be asked to complete a well known behavioural checklist. Following this a research assistant from our Project team will contact the child's classroom teacher and organize to withdraw the child from class for a period of approximately 45 minutes for a child oriented interview.

Parents of potential participants will be forwarded a Consent Form and an information sheet outlining the nature of the study. Parents who then agree to have their child included in the study will then be asked to return completed forms to their child's classroom teacher for collection by a research assistant from the project.

All data from testing sessions will be entirely confidential. Teachers, children or parents will not be identified in any way. Data will be coded numerically to ensure anonymity and raw data will be kept in a locked cabinet. The project has appropriate ethical clearances from both PMH and ECU. Parents are free to withdraw from the study at any time. There are no foreseeable risks to anyone participating in the study and there is no extra work being asked of teachers in classrooms where children participate in the study.

You will be contacted in a week or two as a follow-up to this letter. If you have any questions or queries in relation to this study, please contact Lynn Priddis at home on [redacted] or at Princess Margaret Hospital on 9382.0757.

Mrs. Lynn Priddis
Senior Clinical Psychologist
Family Early Intervention Program
Princess Margaret Hospital for Children

Appendix H: Demographic Interview

Demographic Interview Schedule: ID

1. Date of interview.
2. Would you please give me the date of birth of the child whom we are observing today
3. What other children do you have; please give me the names, ages and gender of each child.
4. Where were you born? Where was your partner born? Where was this child born? What nationality were both sets of grandparents.
5. Please give me a contact phone number or address of a next of kin or close friend in this state, through whom we could contact you at a later date.
6. What is your marital status?
7. Are you still living with the father/mother of this child? If not, could you tell me briefly your marital history since the birth of this child.
8. Could you give me the occupation of the child's father?
9. Have you worked, full or part time since the birth of this child? If yes, could you give me details of this work history
10. Has this child been in day care. If so please tell me how many days per week each year since birth.
11. If you were working and the child was not in day care who looked after him/her before she/he went to school.
12. Did this baby suffer from any physical problem at birth or in the first 3 months of his/her life.
13. What Pre-school does this child attend and which Primary school will he/she attend next year.
14. You may have already mentioned illnesses and changes to family structure. Could you now tell me whether any of the following have occurred and if so could you tell me about it please, even if you mentioned it previously?:
 - iv) Have you or your child's teacher had any serious concerns about your child's behaviours now or in the past?
 - v) Have there been changes to the family eg separations, deaths, illnesses in the last few years that you believe have affected the behaviour of this child?
 - vi) Has this child had any severe medical problems?

Appendix I: Sample coding sheets for "A" classification on the YSAA

Id: 18 Coder 1	Id: 18 Coder 2
Procedural Affect	Procedural Affect
He sounds a bit "fed up" at times with the questions but he complies and answers without making a complaint.	No affect present in the interview. He/she can give the Teddy appropriate affects eg he felt cheeky, happy and naughty when he got away with the lollies.
Procedural Enacted	Procedural Enacted
# 18 begins co-operatively but loses interest. He tries to avoid having to do the task with a lot of "I don't know"s . he doesn't really protest.	He co-operates basically but doesn't feel constrained to answer everything. He says often that he "doesn't know what the Teddy might be thinking or feeling.
Procedural Discourse	Procedural Discourse
He gives mostly one word answers. He can never give anything for "what would Mum be thinking" except in the lolly card where he says "Teddy's mother thinks he is an angel" implying "but he isn't"	It is very brief unelaborated dialogue with one word answers. He remains silent often
Episodic memory	Episodic memory
Nothing happens to him and he won't do hypothetical situations until the lolly card. Here he says: "I would feel sneaky. I'd eat them and keep it a secret."	He can put things in sequence -- On the lolly card for example he says that Mum counts the lollies and knows some are missing.
Imaged Memory	Imaged Memory
His answers are nearly all one word and very stereotyped but he had a flight of fantasy over what might happen to Teddy on his sleepover and said "A comet might crash into the house"	One lively mention of an imagined comet crashing on a house. It isn't an imaged memory but it is really one of only a few lively responses.
Semantic Memory	Semantic Memory
He occasionally provides some processing eg for the Teddy left out card he says "they are nasty" Teddy could do something to them. After probing -- "he could punch them."	There is little description of remembered events and little construction of stories. He does however provide some dialogue around Teddy's actions eg when left out and on the lolly card.
Integration	Integration
Not really but Mother thinks he is an "angel" showed an appreciation of irony.	Teddy says "why is it me and not someone else" ie some capacity for mentalizing but there is no real summing up of experience.
Representation of Attachment figure	Representation of Attachment figure
He doesn't know what mothers are thinking. Mother would smack for disobedience but try to help if left out. Dad is important.	Teddy's Mother is no fool. She counts the lollies and knows some are missing. She punishes bad deeds. She would help if Teddy were left out.
Representation of Self	Representation of Self
Does as he is told basically. He has one naughty lapse with the lollies.	He presents as mostly doing what he is supposed to do. He gives Teddy the odd bit of spirit.
ATTACHMENT STRATEGY	ATTACHMENT STRATEGY
#18 is not engaged. He is avoidant of entering into the task. He answers all questions but mostly in a minimal way. Classification A1-2	He is co-operative and there are no "C" markers. The transcript is too flat and minimal for a "B". There is avoidance of the task rather than of specific scenes But he does not protest. It shows an "A" strategy.

Appendix J: Sample coding sheets for "B" classification on the YSA

Name: Id: 155 Coder 1	Name: Id: 155 Coder 2
<p>Procedural Affect</p> <p>Open and clear about his own experience eg he is open about his mother and father having fights." I have an argument. They could give me \$10 every time they lose their temper"</p>	<p>Procedural Affect</p> <p>No affect in the interview but he is open eg . He says "I felt like running away once. Mum made me so cross I went out of the house. But I'd only go to someone's house where I knew the way home."</p>
<p>Procedural Enacted</p> <p>Very co-operative – not doing it dutifully – appears really interested.</p>	<p>Procedural Enacted</p> <p>Lovely rapport, open, friendly, relaxed and he really enters into the whole thing with enthusiasm.</p>
<p>Procedural Discourse</p> <p>Clear and coherent. Very spontaneous. Enters task immediately giving a long story about Teddy's sleepover. Teddy does all the things he'd like to do but he hasn't had a sleepover yet.</p>	<p>Procedural Discourse</p> <p>No hesitation – he is at home with making up a story or telling about his own experience. It is flowing and organized.</p>
<p>Episodic memory</p> <p>Can construct an episode with a beginning and end e.g. Well it was brother (got left out) He was um - wanted to join in when we were having a game but we wanted to play it only for 2 people so we made a draw then when anyone hit the net Edwards gets in</p>	<p>Episodic memory</p> <p>He can put an episode in a time frame. Eg Teddy got out of his car, said goodbye, went in and watched a movie and played on the game boy with his friend. They had a night's sleep and then played again until his Mum came.</p>
<p>Imaged Memory</p> <p>He uses images which enliven his stories. Eg I have all these toys in my bedside cabinet. If it was me sick I could just reach up to my cabinet. There is a glow in the dark dinosaur.</p>	<p>Imaged Memory</p> <p>Not much use of images but he talks of Teddy "sneaking out the window and going to see some friends next door."</p>
<p>Semantic Memory</p> <p>He is very clear about consequences e.g. Teddy put the lollies behind his back so his Mum wouldn't see but he'll eat them all up when his Mum is not looking and be caught chewing the lollies in his mouth He'll get telled off and go to bed with no supper.</p>	<p>Semantic Memory</p> <p>He mostly uses semantic memory e.g. When I had chicken pox we went out to the chemists' to get some stuff for me. Edward got them after me and he had lots of scars. He scratched them too much. I didn't scratch any or mine.</p>
<p>Integration</p> <p>Yes eg "The father saw someone better than the Mum and the son has to choose to stay with his mother or the dad. He chose Mum. I know who Edward would choose. He loves Dad better. I'd stay with Mum"</p>	<p>Integration</p> <p>Yes. He knows where it is safe to run away to, who he'd go with if M & D split up and he says, sadly, that he wishes he could have sleepovers.</p>
<p>Representation of Attachment figure</p> <p>Mother looks after him and makes sure that they obey the rules but she can lose her temper too and she fights with Dad sometimes. She is a person.</p>	<p>Representation of Attachment figure</p> <p>Mo makes the rules and keeps to them but she gives him attention when sick and lets him have a "lazy day" watching TV</p>
<p>Representation of Self</p> <p>He can solve problems and he can make rules too</p>	<p>Representation of Self</p> <p>A little grandiose. He can stop M & D fighting.</p>
<p>ATTACHMENT STRATEGY</p>	<p>ATTACHMENT STRATEGY</p>
<p>He is mostly clear and coherent. He makes causal statements that are quite unique as opposed to being "borrowed semantics". He can construct episodes, recall imaged events, and discuss affects B1-2</p>	<p># 155 has access to all memory systems. He co-operates and is interested and imaginative. He can put events in a time frame with causality and can reason about attachment issues. B1-2</p>

Appendix K: Sample coding sheets for "C" classification on the YSAA

Name: Id:100 Coder 1	Name: Id:100 Coder 2
Procedural Affect	Procedural Affect
Physically child is agitated throughout, constantly out of seat. When asked about feelings she often avoids e.g. "Can I choose the next card?"	High arousal. Can't sit still. Wants to play with toys. Distracts from questions about feelings.
Procedural Enacted	Procedural Enacted
A power struggle set up immediately. #100 Cuts across the questions - Can I choose the next card now? Can I draw? The interviewer controls - "No you must stay here"	Very contrary. What is the next one? What does it say? What are we going to do after this? Can I play with those toys? I'll choose the next card.
Procedural Discourse	Procedural Discourse
Answer to "sleepover" uses repetition in a sing song way "I slept away in my mum's room, I slept away in my dad's room, I slept away in my brother's room and I slept away in my room" It does not give information. Repetition again "he's going a long long long away on a holiday. Can take mother's perspective. Mum will feel good - She'll have time to herself.	Constantly questions. What are we doing after this? Why aren't we playing with the toys? Answers when eventually given are brief are brief. (Little girl Teddy) will play games and do some drawings. Sometimes repeats in a sing song voice.
Episodic memory	Episodic memory
# 100 does not give episodes. She has never been left out. She has never taken anything without asking. Her brother did. He eats before tea and her mother says "Wait for dinner" When sick "I put a pack on my head or foot or anything and walk like this"	Since most responses are questions about something else we get little personal material. There are no complete episodes. She gives one brief one for her brother. It has a consequence he eats before tea and Mum shouts and shouts at him.
Imaged Memory	Imaged Memory
She gives her mother's words to her brother "Wait for Dinner" She shows how she walks with a pack on her foot. She demonstrates the monster who frightens the Teddy and makes her run away.	She produces no memories and hence no imaged memory. She does recall the words her mother uses to growl at her brother who eats before tea. She also demonstrates various poses eg her walking with a pack on her foot - a monster frightening the Teddy
Semantic Memory	Semantic Memory
She does not describe experiences that she has had. She is able to use language to infer a probable feeling state of the Teddy Mother. She'll be happy because she'll get time to herself.	Most answers are brief and disinterested but her comment on mother enjoying time to herself suggests that she can verbally process her experience.
Representation of Attachment figure	Representation of Attachment figure
AF shouts when angry. Is pleased to leave the Teddy and have time to herself. #100 puts her own packs on when sick.	She does not say much about attachment figures. They seem somewhat indifferent to what is happening to the children. E.g. she looks after herself when sick and Mum enjoys it when Teddy is away.
Representation of Self	Representation of Self
Why aren't we playing with the toys - nothing ever works. There is a lack of creative energy - what vitality she has goes into obstructing the process.	There is an indifference to the task. She likes to be active. She tries to do something about it -- asks to draw and play with the toys but in the end says "Nothing ever works"

ATTACHMENT STRATEGY	ATTACHMENT STRATEGY
<p>It does not appear that the specific pictures are anxiety provoking for Georgia. She is contrary from the start. It appears that she never expects good things and the position she takes is "why can't we? Or Why do we have to? She enters into a struggle. But the strategy does not work. She is neither "good" and obedient nor vulnerable to get emotional proximity. Nor is she happy and engaged about exploration.</p> <p>Procedurally and in her preference for imaged memory as well as the oppositional stance would suggest a "C" pattern. It is not however working in a positive way for her. She has no successful strategy.</p> <p>Dp C</p>	<p>G's habitual stance is to question and oppose though she does co-operate enough to get the task done. There is no joy. She is not endearing. She gets this interviewer off side. There is a facility about it. She relies on imagery rather than semantic memory or episodes.</p> <p>She has a C pattern and there may be a modifier of Dp.</p>

Appendix L: Responses from Attachment figures about real life incidents

Mild childhood illnesses or changed family structure that did not appear to bother the child

Parents separated - share responsibility no problem
Father left in pregnancy - in second marriage- no problems
Was significantly premature but no follow up problems
Child was significantly premature - no problems
Operation at birth - no residual problems
Meningitis at 7 days. OK now
Mild spina bifida - not seen as problem

Serious problems or behavioural issues

Domestic Violence in family
Marital problems and family therapy, father lost job, and family home
Hearing and language problems and shy relating to strangers
Mother under a psychiatrist and psychiatrist interested in child's functioning
Oppositional defiant
Sensitive child, bedwetting a problem. ADHD
Ongoing and severe medical problems in the child

Serious illness or family change that appeared to be traumatic for the child

Mother under psychiatrist for depression
Problems in new relationship, in counselling
Domestic violence
Terrible year. Fa ill. Lost job. Lost home.
Terrible eczema child very nervous
Domestic violence
Father left unexplained
Both parents disability Autism in child questioned.
Mother on maldextrone programme
Mother intellectually disabled
Boy has speech problems
Referred by clinic - behaviour problems
PMH one lung- one kidney - tracheotomy
Tumour on spine, came to in op, trauma
Cerebral palsy
Child has pacemaker
Around 3 had septicaemia, life support for 3 days

Abnormal seizures around 14 mths. Never spoke at pre-school.

Father of 3 children died, new husband, expecting twins

Wouldn't do CBLC -too distressing

There are problems with father-in-law drunk in house

Major problems at pre-school - bites carer, runs away

Hole in heart, ops, infections a danger, grommets, hearing

Custody battle

First marriage violent - child violent mother sexually abused

Born with problem bowel - fixed. Father left family

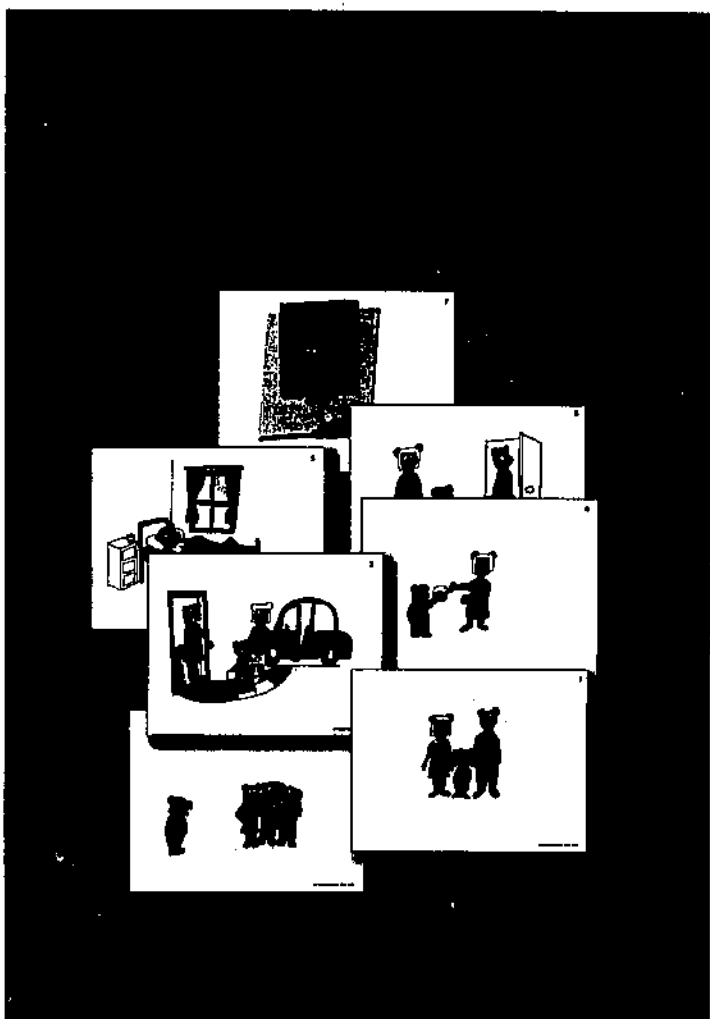
Separated - no problems

Outpatient mental health referral case

Mother left family on mother's day. Father is traumatized

Appendix M: The Del Pre

Appendix N: Stimulus pictures for the YSAA



Appendix O: YSAA Interview Questions used in this study

YOUNG SCHOOL-AGED ASSESSMENT of ATTACHMENT

Adapted from Hansburg (1972), Bowlby and Klagsbrun (1976), and Resnick (1993) and Crittenden (1998).

Directions: For use with children from 5-7 years old

Setting

The interview is designed to be audiotaped and transcribed verbatim. Therefore it is essential that it is conducted in a soundproofed or quiet space. If conducting this interview in a school or pre-primary school setting ensure the interview room will not be interrupted and is at some distance from class activities. Time the interview so that the school siren will not go in the midst of the interview. It is best that the room be pleasantly furnished and comfortable but free of obviously distracting items. Pre-record the child's details on the beginning of the tape eg. Have child's name, school, date of testing, age of child etc prerecorded on the tape.

Equipment

A table and chair that is comfortable for the child is required. An audioplayer with a powerful built in microphone is suggested. Use the set of YSAA cards that match the gender of the child.

Use the set of seven YSAA cards that match the gender of the child

Style and tone of the interview

Have in mind this is an audiotape (repeat hard to hear dialogue, describe actions subtly without criticising the child e.g. bending the card, out of seat, nonverbal behaviours)

This assessment is designed to be a **child led activity** where the child owns the stories. The interviewer's style is to be one of **curiosity** about how the child feels and what the child's perspective is. The interviewer must aim for a collaborative partnership with the child over the activity ie the interviewer must not be overly directive or controlling nor passive but must be interested and probe in order to get real and pertinent dialogue about the topics from the child. The fantasy's presented in this assessment have a bias towards negative affect and such affect must be permitted by the child (do not try to soften impact or negate a child's negative descriptions).

The fantasy stimuli presented are used designed to stimulate the child's thoughts and feelings around attachment related topics. The purpose is to thereafter emphasise reality of what happens for this child around his home life. Do not correct the child or add material not introduced by the child. Ask about incoherence and inconsistency's

giving the child a chance to make sense but only once. Be especially careful when restating the child's answers that it is the child's slant that is given. (ie do not clean it up or interpret or reframe it differently).

Show the pictures one at a time, asking the following questions in a conversational style. The order of the questions may be changed and in some cards not all questions will be appropriate. Follow the child's lead in using pronouns, eg use "you" if the child uses "I" or "your friend," or teddy as the child does. Similarly follow the child's lead in using the tense. Aim to keep it as reality based as possible. Ask follow-up probes, and encourage dialogue around the cards and labels but do not lead the child or suggest conclusions. Avoid turning the interview into an interrogation, make transitions between topics smoothly using wording that is adapted to fit the immediate context and child.

Card one is designed to be a non-threatening card that will elicit dialogue around the child's family. For this card only begin with an introduction like "This is the teddy family, show me teddy, which one is his/her daddy /mummy" ie the child is invited to be an active participant and not be passive in the dialogue. Then "What might happen next?" Continue exploring the child's story in the manner described below. Aim to create a collaborative partnership with the child.

For subsequent cards

1. Encourage dialogue around the child's fantasy of the teddies by giving vague and non-specific encouragers (mm, aha, so ..) as well as non-verbal encouragement (nod, lean forward etc). Let the child elaborate his/her fantasy for as long as is natural.
2. When the dialogue dries up from the above only then focus more on the reality of his/her family (keep it oriented to family not friends if possible) by saying to the child "This story is about..... Has anything like this ever happened to you?" eg in card 6 (have your mummy and daddy ever had a fight?) Listen and encourage dialogue around this. If no response is given ask "have you ever worried about this" and if still no response ask "Do you know anyone who....." (NB If the child chooses the story to be another topic allow the child their own interpretation of the picture initially and redirect gently twice only to the written descriptor. In card 6 If child doesn't take up father is leaving for good bring the child back after allowing him/her to tell own story and say "lets change the ending This mum and this dad had an argument and this daddy left and didn't come home- continue on again with the rest of the questions).
3. Probe feelings but gently and in an interested and curious manner. These questions are a guide only. Make them applicable to each child in a mildly curious manner NOT an interrogation. eg : I wonder ...The aim is to have evidence of feeling states but to get this from young children it is not always possible to ask these questions directly.
 - a. How did you (would you or would your friend or would this teddy as a last resort) feel? [Tell me about when you felt (...worried, excited, sad etc)? Did you feel anything else? Where the child's verbal answer is incongruent with

the story, ask him/her to make it with his/her face or show how that feeling would look.

- b. *What were you (do you think your friend or the teddy would be) thinking?*
4. Probe behavior: Again gently and curiously with "I wonder .. or what might ...
 - a. *What did you or would you (or your friend or teddy) do next? (Probe for a full sequence of events, up to a conclusion, but don't suggest answers.)*
 - b. *What else could you have done? (Note the child may revise the answer to number 2 after being asked this question.) Why would you do that?*
5. Probe perspective-taking (only asking about characters presented in the story):
 - a. *What do you think your mother/father was thinking? Why?*
 - b. *What would mum/dad think you were feeling? eg in card 2 I wonder what was happening back home when you weren't there, how might mum or dad have felt?*
 - c. *What would mum/dad want to do?*
6. Probe causal attributions:
 - a. *What happened (do you think would happen) in the end?*
 - b. *How did that happen?*
 - c. *Who made that happen (you, your friend, teddy, mum or dad)?*
 - d. *Would your mother/father/friend have helped to make that happen?*
 - e. *So who would be responsible for that happening?*

Transcribe:

Transcribe the child and interviewer's words verbatim, including stutters, non-verbal sounds, and all mistakes.

Appendix P: Crittenden directions for administering the SAA with suggested adaptations for the YSAA appended.

Administering the *School-age Assessment of Attachment (SAA)*

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Purpose

The SAA cards are intended to elicit a child's representations of the relationship between him- or herself and other people (specifically, protective or threatening people), together with the child's self-protective strategy when faced with threat or danger. As with other assessments based on discourse analysis, different representations are compared (specifically, procedural, imaged, semantic, episodic, and integrative representations). It is necessary, therefore, to insure that these representations are either present in the child's responses or have been actively excluded by the child. The "critical elements" (below) are intended to enable the adult who administers the SAA to evaluate quickly whether or not the essential elements for inferring the representations are present, thus, determining the extent and type of follow-up questions that are needed.

Structure of the SAA procedure

The function of card #1, given that there is no danger in the child's response, is to establish interpersonal rapport with the child and the procedure for responding to the remainder of the cards. The adult's behavior should indicate to the child that the adult is attentive and interested in what the child thinks and says and will engage with the child in a dialogue that assists the child to articulate his or her own perspective.

On the other hand, if danger is included in the child's response to the first card, the adult does not have the opportunity to establish this non-threatening rapport and must move immediately to dealing with danger and comfort.

The cards progress from no danger and high self-reliance to substantial danger and dependence upon others (particularly attachment figures) for protection and/or comfort. During the procedure, the adult should function as a surrogate attachment figure, giving the child the confidence to think and talk about threatening material. This role is far more important than any teaching or disciplinary role, both of which should be avoided.

- **General Instructions:** Before displaying the SAA cards, begin with introductions. Tell the child who you are and what you will be doing. Then ask the child to tell you about him/herself:
"Before we begin, can you tell me a little bit about you and your family? Things like how old you are, who is in your family, where you go to school and what grade you are in, and things you especially like to do."
After the child answers, with or without further help from the interviewer, ask whether he/she has moved to different houses or schools and whether anyone else

lives in their house with them. As much as possible, ask open-ended questions rather than yes/no questions or questions that call for a single-word answer. The point is to elicit a narrative from the child, not to get demographic data.

- Then take out the cards. Begin with simple, overall instructions: *"I'm going to show you some pictures. For each one, you should tell a story about what happens in the picture. Then we'll talk a bit about your story. If something like that has occurred to you, we can talk about that too."* Ask if the child understands or has questions and if he or she agrees to do this with the adult.
- For the first card (and for each card thereafter), show the card, read the caption, and say: *"Now you tell me a story about a boy (girl) who (goes out alone)."* This statement can and should be varied over the seven cards (so that the adult will not sound like an automated test-giving mechanism), but the statement should remain clear and short.
- After eliciting the imaginary story, ask whether something like this has happened to the child. If it has, ask for the story and direct the follow-up questions to the actual experience. If it hasn't, elaborate the imaginary narrative.
- If the child introduces his or her own experience immediately, this, rather than the imaginary story, should become the focus of the follow-up questions (except when the personal elements of the story seem unrelated to the topic of the card and, instead, function as a diversion).
- Avoid using too much time on the early, low-threat cards.
- The focus and extent of the follow-up questions is based upon the presence or absence in the child's response of the critical elements listed below.
- The final question for each card (#2-7) should be: *"If something like this happened to you in the future, what would you do?"*
- The tone of the adult-child dialogue should be relaxed and encouraging; this is not a test and should not feel like one to the child.

The critical elements of the child's narrative

The adult administering the SAA should evaluate the child's spoken narrative in terms of the two general types of information, cognition and affect (Crittenden, 1995), as expressed in five memory systems (procedural, imaged, semantic, episodic, and integrative working memory, Schacter & Tulving, 1994.)

The presence of the following elements will insure that the narrative can be analyzed properly after being transcribed:

- Understanding of the central point of the story: in each of the cards concerned with danger, the child includes some aspect of danger in the story, even if it is actively minimized or set aside;
- Cognitive information: temporal and causal order of the events, including the sequence of events and the reasons for behavior;

- **Affective information:** descriptive detail (that contains implicit information about the affective state of the child) and/or feelings that (1) motivate behavior or (2) accompany or result from actions taken in the story;
- **Mentalization:** thoughts of the people in the story (e.g., what the child thinks, what the mother or father thinks);
- **Perspective-taking:** the point of view of the mother or other person (including feelings, thoughts, and actions)
- **Threat or danger.**

Follow-up questions

Follow-up questions are needed if the story is too brief or does not contain the elements in a-f (above). If (a) some, but not all, of the critical elements are present, (b) there is some story, and (c) there is no threat or danger, one can move on to the following card. However, even if the story is sufficient as originally given, the interviewer should make comments and ask some questions that express interest in the story - without implying any evaluation.

The follow-up questions begin by addressing the temporal order of events, i.e., what happened. They progress to feelings and then the theory of mind, i.e., mentalizing, questions. They conclude with a concrete ending to the story, followed by an integrative application of this experience to the future. Individual questions should be omitted if the child spontaneously answers them. For example, the adult might ask:

What do you think will happen next?

What happened before (he went out)?

How did the boy/girl feel?

How do you think his/her mother felt?

What does you think the boy/girl was thinking?

What do you think the mother/father was thinking?

How do you think it ends? (Ask this if the story isn't complete or, if no other questions have been needed, only to show interest.)

Final question: *If something like this happened to you in the future, what would you do?*

Adapting the follow-up questions to individual children

Information is represented in many different ways. Some are verbal, some are not. The non-verbal forms include motoric actions, including the expression of feelings (procedural memory) and sensory images (imaged memory). The verbal forms include semantic generalizations (semantic memory) and episodic stories (episodic memory). Naming feeling states is a form of semantic representation and should not be confused with actual expression of feeling. The final question, "*If something like this happened to you in the future, what would you do?*" addresses working, integrative memory.

People differ in how information was initially encoded and how easily each of these forms of information is accessed. That is, some children will act out the story best, some will experience affective arousal, others will speak only in generalizations, and still others will focus most on a storyline. The adult should be sensitive to these differences and select follow-up questions that explore each form of information.

When the child uses action to tell the story, the adult should say in words what the child seems to be doing and ask if that is correct. Or the adult could ask the child to tell what he had just demonstrated. When the child interacts in unusual ways, particularly disruptive ones, the adult should speak about these descriptively (in order to include them in the narrative that will be transcribed), but the adult's words should not be disapproving or have a disciplinary quality (unless this is necessary for the child's safety).

If the child seems to respond best to particular forms of information, the adult should direct probes preferentially to those memory systems. Nevertheless, in all cases, a few probes should be offered, across the entire set of cards, that probe the other memory systems. The purpose of these two recommendations is to:

- (1) elicit as much information as efficiently and easily as possible by favoring the child's preferred memory system(s);
- (2) provide evidence, across the range of severity of danger, that the other memory systems are systematically avoided.

Concluding the SAA

The SAA procedure should be concluded in a positive manner, thanking the child, expressing interest in what he or she has said, and showing approval of his or her effort. If there is any distress, appropriate comfort should be offered.

In all, the procedure should be perceived by the child as a pleasant experience with an adult who was interested in, and approving of, the child's thoughts and ideas.

N.B.

For younger children ie 5-7 years the following adaptations are recommended

1. General instructions- Have the child draw his/her family doing things they usually do. Whilst the child is drawing ask exploratory questions as appropriate.

2. Introduce the cards- Take out the cards and collaborate with child in discussing the teddy family using the warm up card eg *"This is the teddy family, We will be seeing teddy in six more cards and each time we will talk about something different that happens for teddy and you can tell me if anything like that has happened to you.*

Which one do you think is teddy, which one is mum, who is that (point) How old do you think teddy is?" What shall we say about this teddy family?

Collaborate with the child in creating dialogue that has a beginning middle and end. Eg *What do you think might happen next? What might teddy be thinking?* Listen and encourage the child's dialogue.

3. For each card thereafter read or have the child read the caption and then ask the child about teddy e.g. *Tell me about how teddy might be feeling,*

thinking, what teddy might do next? Encourage dialogue around the child's fantasy of the teddies by giving vague and non-specific encouragers.

4. *As this dialogue dries up ask "Tell me about a time that this happened to you. (if necessary or to yourbrother, sister, cousin etc)? "Tell about a time when....."*