A LONGITUDINAL STUDY OF ATTACHMENT AND SELF-PROCESSES

by

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Abstract

Concurrent and predictive relations of child-mother attachment security to self-concept and self-esteem in 29, 5-year-old children were examined. Self-concept was measured using The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (Harter & Pike, 1984). Self-esteem was measured using the Puppet Interview (Cassidy, 1988), and groups were formed based on whether children portrayed themselves in a positive or negative manner (positive vs. negative) and whether they were able to admit imperfections about themselves or not (open vs. closed). Q-sort attachment security at two and five years of age did not predict overall self-concept. Attachment security scores also did not differ across self-esteem classification groups. However, a significant interaction of age by openness was found. Children classified as open had lower attachment security scores at age 2 than at age 5, whereas children classified as closed had no change in security scores between ages. Children classified as open spoke more words during the interview than those classified as closed, but this confound did not account for this interaction. Contrary to expectations, self-concept and self-esteem measures were unrelated. Results are discussed in terms of goodness-of-fit models of parenting, internal working models of children, and methodological considerations.

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The attachment relationship between a child and parent is the first social relationship a child develops. Attachment is related to many aspects of healthy psychosocial development and relationships later in life. One of the fundamental, although not clearly understood, associations of attachment is its relation to the development of self in a child. The self can be divided into two main components for more clarity; self-concept and self-esteem.

In the present study, it is proposed that children who are categorised as having a secure attachment with their mothers throughout the preschool period will report feeling better about themselves in kindergarten as reflected in the evaluative component of the self, self-esteem. It is also proposed that the secure attachment relationship will be related to the descriptive component of self in a child's positive self-concept. Researchers are now beginning to understand how to assess self-esteem and self-concept in five-and six-year-old children. Relations between self-concept, self-esteem, and attachment will therefore be explored to further our understanding of the internal working models children develop of attachment relationships and their personal self in both descriptive and evaluative terms.

What is Attachment and Why is it Important?

The degree of security felt and the extent to which a child's needs are met are determined by the nature of the attachment relationship that develops between an infant and her or his primary caregiver. Two main theorists, John Bowlby (1969) and Mary Ainsworth (Ainsworth, Blehar, Waters, & Wall, 1978) significantly influenced the development of this area as a focus of study. Bowlby is noted for revolutionising our understanding of "a child's tie to the mother and its disruption through separation,

deprivation, and bereavement" (Bretherton, 1992, p. 759). He posited that children develop working models of themselves and their attachment figures. These models, which develop through interpersonal interaction patterns, greatly influence the way a child will operate in the world. He believed that if a child's needs for comfort and protection are met, and if at the same time the child is permitted to explore independently the surrounding environment, the child is more likely to develop an "internal working model of self as valued and self-reliant" (p. 767). The development of a working model of relationships influences not only children's conception of their own behaviour and worth, but also serves as a mental conceptualisation on which children base expectations of the attachment figure's behaviour.

Mary Ainsworth (Ainsworth et al., 1978) developed the concept of the "attachment figure as a secure base from which an infant can explore the world" (Bretherton, 1992, p. 759). She emphasised the role of a mother's sensitivity to infant signals and needs, particularly how this responsiveness is critical to the quality in the development of attachment patterns between infant and mother. Her Strange Situation paradigm has become synonymous with assessment of attachment in infancy as it serves as a method of classifying child-mother dyads in terms of the attachment security a child displays when reunited with his or her mother following a period of separation.

Using the Strange Situation paradigm, attachment relationships are classified in the following terms. A secure attachment (Type B) relationship is noted when a child shows distress at maternal departure and upon her return, the child immediately goes to her. This is a child who is most comfortable in the presence of the parent and is calmed by the parent's holding and hugging of him or her. A child who has an avoidant

attachment (Type A) ignores the mother when she returns. This infant pays little attention to the mother when she is in the room and the child has minimal distress when she is not in the room. A stranger can provide the avoidant child with the same degree of comfort as the mother can when the child is distressed. A resistant attachment (Type C) is characterised by the child being ambivalent toward the mother. The child may appear to both want and resist physical contact with the parent. The Strange Situation, however, is limited because it is suitable only as a laboratory-based, qualitative measure of attachment. In the mid-1980s, Q-sort methodology was developed to quantitatively assess attachment security during intensive home-based observations of parent-child dyads (Bretherton, 1985). This methodology has proven to be a more reliable and valid measure of attachment as the child-parent dyads are observed in their natural environment at home.

It is believed that the qualities of a secure attachment relationship encourage the development of a positive sense of self. This sense of self is fostered from the early stages of the attachment relationship because the caregiver's degree of synchronisation with the infant provides an organisational basis for the child's emerging self (Sroufe, 1996). When children experience confidence in the relationships they have with their parents, their sense of confidence in their own abilities is encouraged, just as their self-reliance strengthens when they feel secure in their attachment relationship (Sroufe, 1996). Children's feelings of autonomy and the personal sense that they as individuals are valued and worthy of care develops from their sense of security in the child-parent attachment and the experience of having their personal needs addressed. However, there

is little data to support this theoretical proposition (eg. Cassidy, 1988; Verschueren, Marcoen, & Schoefs, 1996)

Attachment influences many aspects of a child's development, including the development of the self in terms of friendships and self-perceptions. Cassidy, Kirsh, Scolton, and Parke (1996) studied attachment security and peer-related representations and found that secure children are more prosocial than insecure-avoidant children. The insecure-avoidant children offered few positive responses and displayed an inability to provide examples of emotional support or instrumental support when asked. The children's responses to six peer-related questions following an oral story indicated that the extent to which the children's self-perceptions included feeling likeable influenced the degree to which they liked their peer. Further, there was a relationship between greater perceived rejection by both mothers and fathers and greater perceived hostile peer intent. Children who had developed representations of their parents as being rejecting also had less positive representations of unfamiliar peers.

The attachment relationship between parent and child provides the child with a model of interpersonal interaction patterns. This relationship is influenced by the parent's responsiveness to the child's needs, which in turn, affects how the child conceives of her or his self.

The Self

The conceptualisation of self is surrounded by an aura of mystique. Self may be used in reference to "the emergence of an awareness that one can affect people and objects and a consciousness of one's feelings and competencies...the 'I-feeling'" (Kagan, Hans, Markowitz, Lopez, & Sigal, 1982, p. 173). Preyer [(1889) as cited in Kagan et al.,

1982] believed that once children are capable of reflecting on their sensations and actions they are in the process of gathering information on the "I-feeling."

Young children's understanding of who they are may be subdivided into four components: the physical, active, social, and psychological self (Damon & Hart, 1982). These four components of self develop from infancy to adolescence. Damon and Hart (1982) focused on the development of self because they believed this conceptualisation was necessary before understanding self-esteem. In Kagan's (1981) study of cognitive development in two-and three-year-old children as an example of the appearance of self-awareness at around 24 months. At this age, children are able to recognise activities of which they are capable or incapable. This understanding indicates that they have identified their self-limitations. Kagan stated that at this age children begin to use verbal statements as an indication of self-awareness and in fact, differentiate between active components of "me" statements - "I play", and physical components of "me" - "I have red hair". By making self-descriptive statements, children are demonstrating awareness of the qualities that form the self.

The development of self-understanding can be conceived of as occurring in four stages (Damon & Hart, 1982). Initially, there is a shift from defining the self in purely physical terms to using psychological descriptors of self. Second, a stable social personality emerges which characterises the self, followed by the development of a self-reflective nature of self-understanding. Finally, the diverse aspects of the self become unified into a self-system. These changes, the authors state, develop in parallel with the cognitive development patterns of children, and adolescents. The complex nature of the developmental understanding of self necessitates the use of a systematic, developmental

model that is accommodating and can potentially explain how the multiple dimensions of the self interact.

Self-Esteem and Self-Concept

Terms used to relate to the self may be broken down into two major groups: self-cognition and self-affect (Cassidy, 1990). Self-concept is made up of cognitions of a descriptive nature, which define the contents and qualities of the self. These qualities are understood as fact and may consist of physical descriptors or qualities believed to be possessed by the self. These properties are not evaluative in nature, rather they contain a qualitative component in that they may be labelled as characteristics and compared with others. The comparative nature of these qualities makes them more susceptible to change and their degree of importance may be related to their distinctiveness in relation to others (Kagan et al., 1982).

Terms that are related to self-affect are used to describe the value a person holds of her or himself as a valuable, worthwhile, and meaningful person. These terms form the self-esteem of an individual because they serve as a global judgement of an individual's overall sense of worth (Cassidy, 1990). The degree of value may be related to how the self is conceptualised in terms of self-concept, but it is a different category of understanding the self.

Harter (1993) accounted for both the multidimensional nature of self-evaluations and the overall sense of self-worth in her integrated model of self. She differentiated self-concept from global self-worth (i.e. self-esteem) by labelling self-esteem as an overall judgement of "one's worth as a person"(p.88), which must be evaluated using non-domain-specific questions. Harter suggested that only in separating self-concept and

global self-worth are we able to look at how specific self-concept domains relate to global self-worth. This dates to James's [(1889) as cited in Harter, 1993)] understanding of global self-esteem to be a ratio of "one's successes to one's pretensions"(p. 88). If feelings of competency arise in the areas in which there is desire to display a degree of competence, high self-esteem is more likely to develop. The opposite scenario is also possible. If feelings of failure are experienced in an area in which feelings of competence were desired, low self-esteem is more likely to be the outcome. Thus the attribution of importance to a particular domain is crucial in how experiences in a particular area may influence self-esteem.

Harter (1993) proposed that children around the age of eight begin to develop evaluations of their competence in specific domains as well as an overall concept of their worth as a person. The domains determined to be most relevant include scholastic competence, athletic competence, social acceptance, physical appearance, and behavioural conduct. Harter chose to account for James' postulation that the importance of success is critical in determining the degree of influence each area could potentially have on the overall self-esteem index. She included importance items in her measures of self-esteem to allow her to assess the value a child places on each domain. She discovered that children who consider themselves weak in one area but do not place a high degree of importance on this domain do not experience this weakness as detrimental to their self-esteem. In contrast, a child who places high value on a domain in which they do not feel they have a high degree of competency will indicate low self-esteem as a result of this discrepancy. In fact, the larger the discrepancy between importance ratings and perceived competency, the lower self-esteem should be.

Burnett (1994) attempted to clarify the distinction and relationship between self-concept and self-esteem using a self-report questionnaire with children in grades 3-7. Rather than focusing on the descriptive/evaluative distinction equated with self-concept and self-esteem, Burnett chose to define self-concept as having a cognitive/thought orientation that encompasses both descriptive and evaluative/comparative beliefs about one's characteristics. In contrast, self-esteem was conceived of as a global cognitive and affective/feeling orientation that focuses on how an individual feels about him or herself as a person. He found that there was a high correlation between cognitive and affective statements about oneself as a person. Burnett suggested that self-esteem can be defined both in terms of beliefs and feelings and may be combined to form a unitary global self-esteem scale. He drew attention to the close relationship between a child's perception of how good-looking they are with global feelings and beliefs about oneself, as well as the relationships between global self-esteem and how well a child perceives her or himself as doing at school. Burnett concluded that descriptive and evaluative statements about specific characteristics of the self are closely related and should not be treated as separate constructs. The only exceptions are school, physical ability, and math self-concepts.

Thus, the relationship between self-esteem and self-concept is still not clearly defined in the literature and needs to be more readily understood, particularly in the work with young children. Children who are five to six years of age are still in the formative stages of their development. Additionally, they have had minimal exposure to intimate relationships outside of their families, so their attachment relationships and their developing sense of self provide particularly important sources of information.

Self-Esteem and Self-Concept in Young Children

People regularly make reference to other individuals' "low self-esteem" as a possible explanation for their unsatisfactory behaviour. Recent research supports this popular association. In adolescents and older children, correlations between self-esteem and a continuum of cheerful to depressed mood range from .72 to .80 (Harter, 1993). Low self-esteem is related to hopelessness and helplessness (Harter & Marold, 1992), and is predictive of suicidal behaviour (Harter, 1990a). Times of transition (e.g. shifting from elementary to junior high or high school to university) are key times when self-esteem is most likely to alter (Harter, 1993). These transitions may prompt a change in perspective on perceived competence, alter the hierarchy of importance of domains, and provide an opportunity to establish new social networks that provide either approval or disapproval.

Young children's self-esteem and self-concept has not been studied as frequently as older children's or adults'. Perhaps because of the lack of research in this area, researchers tend to disagree on several fundamental issues, particularly whether self-esteem even exists and/or is able to be measured in young children. Marsh, Craben, and Debus (1991) found that while young children's self-concept factors are still relatively unstable and more reflective of an overall general self-concept than domain specific self-concepts, they are better defined and more distinct than had been previously assumed. Using one of the scales of the Self Descriptive Questionnaire - a self-report measure of self-concept for preadolescents - general self-concept was found to be well-defined at Kindergarten, Grade One, and Grade Two. This supports the notion that children under eight years of age do have a general self-concept. Another interesting finding was that

as children get older there is a greater differentiation of multiple dimensions of self-concept.

In earlier research, Harter and Pike (1984) found that the number of self-concept domains increased with age. Children 4-7 years of age are able to make reliable judgements on cognitive competence, physical competence, social acceptance, and behavioural conduct, as these are meaningful areas to them and they are capable of expressing judgements about the self in these domains.

For young children, parental approval or disapproval plays a crucial role in the development of self-esteem (Harter, 1987, 1990b). Further, the degree of conditionality of the support that children receive is influential in the development of self-esteem (Harter, 1993). The more conditional the support, the lower the child's self-esteem, regardless of whether the support is at a high or low level. This is suggested to occur because the child experiences a lack of validation of the self and instead has specific behavioural contingencies placed on her or him in order to please the caregiver. This situation becomes even more complex when one considers the conditions that children perceive they must meet to receive support. Often children believe that they must be good-looking, likeable, and athletically talented in order to receive support from their peers, and they must excel at schoolwork and be well behaved to be worthy of receiving support from their parents.

It has been suggested that children younger than 8 years of age are unable to make judgements about their self-worth (Harter, 1996). Although Harter believes they possess a sense of self-worth, she does not think that they are able to make meaningful and reliable judgements in relation to questions concerning their level of self-esteem. Thus

children in this age group, according to Harter, are limited in their cognitive ability to differentiate between distinct areas of the self-concept, and are unable to express verbally self-esteem evaluations. It is not until middle childhood that children have gained sufficient cognitive skills to differentiate more clearly the domains of self-concept and only then does self-esteem become something that they understand.

In order to validate self-concept measures in young children, Haltiwanger and Harter (1988) (as cited in Harter, 1990a) developed eighty-four descriptors of children's behaviour. According to early childhood educators and kindergarten teachers, these phrases best discriminated between children who had low and high self-esteem. The selected behavioural descriptors were then used in a Q-sort procedure by another set of teachers who sorted the cards into groupings of behaviours along a continuum of high to low self-esteem in a child. The nature of the behaviours that were found to discriminate between high-and low-self-esteem children could be classified into two main dimensions: active - reactive, and adaptive - non-adaptive. They found that high self-esteem was associated with displays of confidence, curiosity, initiative, independence, adaptive reactions to change or stress, and the ability to tolerate criticism and teasing. Children who had low self-esteem did not display these attributes, and instead were more likely to give up when they experienced frustration and reacted inappropriately during periods of stress or accidents. Six behaviour areas were found not to discriminate between high and low self-esteem children: competence, attention, motivation to complete tasks, activity level, friendships, and need for teacher encouragement.

Harter (1990a) studied behaviours that were indicative of high or low self-esteem in young children and found that discriminative behaviours were very similar to those

behaviours studied in attachment theory, that differentiate between securely and insecurely attached infants. She extrapolated from these results that measures of parent support "should be highly predictive of our behavioural self-worth composite" (p. 93). Thus, if self-esteem is based on both our own and others' conceptions of our worthiness, the role that significant others assume in the development of self-esteem is important to understand. Similarly, McCrery-Juhasz (1989) studied the role of significant others in the development of self-esteem and found that same-sex models who were significant in a child's life had the following characteristics: "warm and nurturant, in control of child's needs, shows interest, offers encouragement and support, and is actually involved" (p. 583). All of these characteristics could also be used to describe a nurturing relationship. These results suggest that individuals who significantly influence the development of self-esteem in a child may possess the characteristics that also influence the quality of the attachment relationship.

Internal Working Models of Self in Relation to Attachment

Building from Bowlby's conception of internal working models as "mental rules constructed from experience which provide a framework for interaction and perception of the self" (George & Solomon, 1989, p. 223), it has been proposed that children's internal working models of relationships with parents will be significantly influenced by their attachment relationships. Representational models of attachment suggest that mental structures or rules develop from experiences children have with their attachment figures. These experiences combine to form a schema of both the affective and the behavioural components of the transaction. Another feature of attachment representational models is that these models are understood to develop in early childhood, when they are flexible to

accommodate new experiences, but gain increasing stability as the child matures. Finally, and most important in the present study, internal working models are constructed from information about the attachment relationship and eventually form two complementary models of self and other (George & Solomon, 1989). These two complementary models, which are accepted by leading attachment theorists, are thought to include the child's beliefs concerning worthiness of care in the conceptualisation of self, and statements regarding the dependability and acceptance of the attachment figure in other. One of the hypothesised statements that would make up the child's concept of self in terms of the attachment relationship would include "I am worthy of care" (George & Solomon, 1989).

Inge Bretherton (1990) outlines Bowlby's working model as functioning as an early internalised pattern of relating with the child's primary caregiver. This pattern of relating goes on to govern the relationship patterns that a child establishes with others. Because the internal working model includes a model of self and a model of other in attachment relationships, it serves as a guideline that the child uses to interpret the behaviour of others and the behaviour of him or herself. The patterns of communication between the child and caregiver function in a complementary manner. Children will develop working models of the self as unlovable if their working models of their parent are those of rejection. Conversely, children who experience their parents as accepting and nurturing will create working models of the self as loveable.

Very little research has addressed the relations between attachment security and the self. Intending to explore the connections between the working models of the attachment figure and of the self, Cassidy (1988) expanded on Bowlby's notion that a child's representational model of the self is closely related to the representational model

of the attachment figure. She was particularly interested in children's reports of their self-esteem when exploring the connection between self-esteem and attachment. Cassidy expected that if children perceive their parents to be available, responsive, and emotionally accepting, they would concurrently develop both secure attachment and high self-esteem. When children feel they are worthy of parental treatment necessary to develop a secure attachment, Cassidy proposed that they also feel inherently worthy which then leads to high self-esteem. Attachment was assessed in the Cassidy study using a nine-point scale of secure to insecure attachment and a classification system of one of four patterns of child-parent attachment: secure, insecure/avoidant, insecure/ambivalent, and insecure/controlling.

Cassidy found that in the reunion situation, a warm and intimate relationship was observed between children who were securely attached and their mothers. In puppet interviews, children 6 years of age were asked questions intended to reflect their levels of self-esteem. The securely attached children described themselves positively in both the puppet and self-interviews, and also demonstrated an ability to admit imperfections in themselves. This was thought to indicate a confidence to explore and reveal both strong and weak points of the self. The study's findings support the idea that there is a connection between self-esteem and child-mother attachment, although how this connection functions is not yet understood clearly. Cassidy suggests that while attachment is readily seen as determining the quality of self-esteem, it may also be that children with low self-esteem may make it difficult for a good relationship to develop between themselves and their parents. In the absence of longitudinal data, the direction of this relation cannot be determined.

In a recent study of self in 5 year old children, Verschueren et al. (1996) used Cassidy's Puppet Interview to assess representations of self, and a story completion task to assess child-mother attachment. They found that there was a relation between the positive affective quality of the children's self representations and their degree of security in their representation of attachment with their mothers. Children who had a positive working model of self were more likely to have a secure attachment with their mothers. Children with negative models of self tended to be classified as having an insecure attachment representation. Additionally, those children who had secure attachments were more likely to be able to admit having imperfections in their self, while still maintaining an overall positive perception of themselves. The results of this study suggest that young children are able to be classified both in terms of their degree of attachment to their mothers and in relation to the evaluative component of their self, their self-esteem.

The attachment relationship is suggested to influence the development of children's internal working models of relationships and their conceptualisation of both self and other. Securely attached children using concurrent measures of self-esteem and self-concept have been found to describe themselves positively and admit personal imperfections, and both are considered to be signs of positive self-esteem. Although presence of a relationship between attachment and self-esteem has been explored, an understanding of the connections between the two is not understood clearly.

The Present Study

The primary purpose of this study is to examine concurrent and predictive relations of child-mother attachment security throughout the preschool period to self-concept and self-esteem in children 5 years of age. It is hypothesised that children with

secure attachment at 5 years of age will have a positive self-concept and high self-esteem in comparison to children who have insecure attachment relationships with their mothers (see Figure 1). Because of the importance of developmental processes, security at age 2 should also be positively related to self-concept and self-esteem even controlling for concurrent attachment security. Observational methods will be used to assess attachment security.

Second, it is expected that self-concept and self-esteem will be related. Children, who describe themselves in a positive manner, as evaluated on a pictorial self-report self-concept measure will also evaluate themselves in a positive manner on the a puppet interview used to assess self-esteem. Self-report discourse methods will therefore be used to assess self-esteem and self-concept.

Method

Participants

Participants consisted of 29, five to six year-old children and their mothers. They were recruited from a larger follow-up study of 46 dyads. Because the current investigation began part way through the larger study, only 34 dyads were eligible to participate. Of these, four could not be contacted and one declined due to other time commitments, resulting in a 96% (29 of 30) participation rate of those contacted.

Mothers had been initially contacted at the birth of their infants and then reassessed at three, six (Symons & McLeod, 1993, 1994), and 24 months (Symons, 1998). For the current study, the mothers were re-contacted around the time of their children's sixth birthday. Twenty-two of the children were age 5 and seven were age 6, but for simplicity of presentation this age will be referred to as 5 years. The children (10

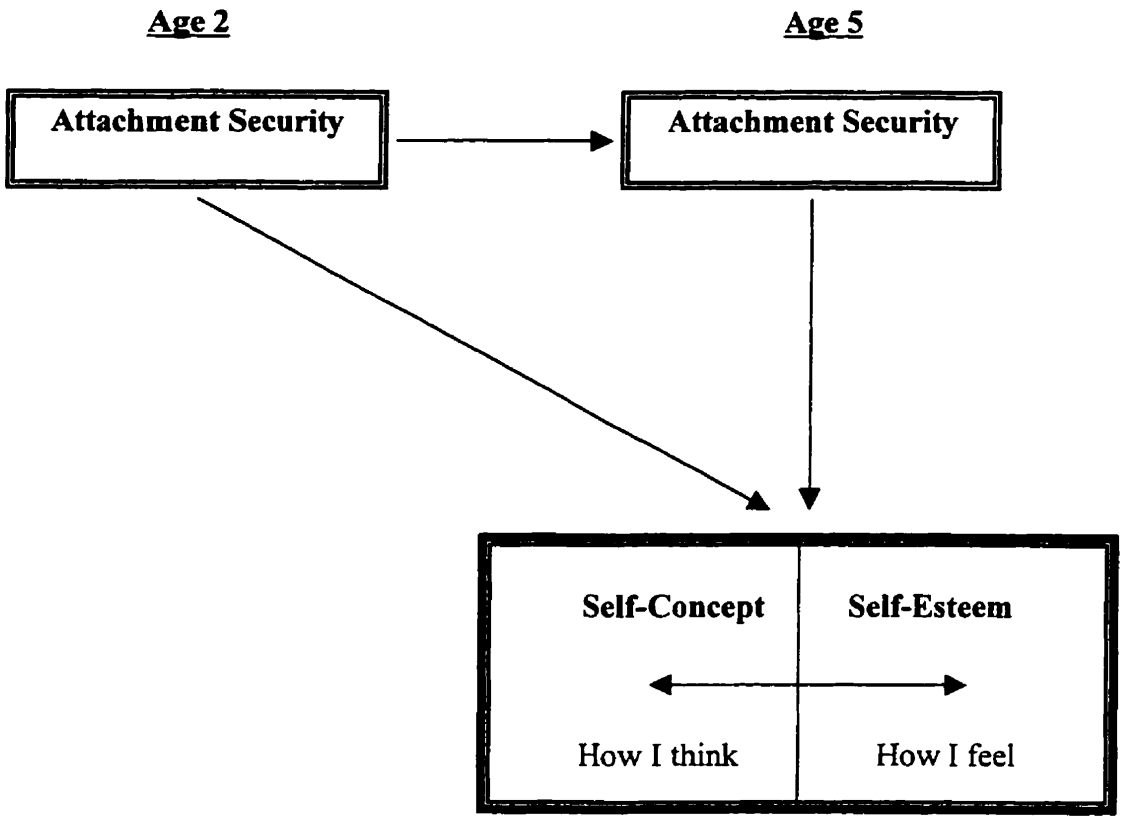

Figure 1. Proposed prediction model of attachment, self-concept, and self-esteem.

females, 35%) ranged in age from 66 to 81 months (M = 70.31 months). Two (7%) of the children were the only child in their families, 12 (41%) had one sibling, 12 (41%) had two siblings, two (7%) had three siblings, and one child (3%) had four siblings. Mothers' ages when the children were 5 years old ranged from 28 to 42 years (M = 34.24) and fathers were somewhat older (M = 36.18 years, range = 28 to 49 years). Ninety percent of the children's parents were married, one (3%) lived common-law, and two (7 %) were single mothers.

Twenty-one (72.4%) of the mothers were employed outside the home and twenty-two (84.6%) of the fathers were employed outside the home. A wide socio-economic status (SES) range was indicated by Blishen Scores (Blishen, Carroll, & Moore, 1987) from 23.70 to 63.64 (M = 44.89) for mothers and from 23.41 to 101.32 (M = 44.14) for fathers. Examples of Blishen scores are as follows: 23.70 for a childcare worker, 63.64 for an elementary school teacher, and 101.32 for a physician. A family SES variable was calculated as either the average of the two parents' scores in dual-earner families or one parent's score in single earner families (M = 41.19, SD = 17.63). In two of the families both parents were unemployed.

Measures

Attachment security. The Attachment Behaviour Q-set (AQS; Waters, 1987; Waters & Deane, 1985) was used to provide an index of attachment security during home visits at both 2 and 5 years. This is a widely used home-based observational measure of secure-base behaviour. There are 90 items pertaining to infant behaviours and relevant contextual information in the AQS. The cards are sorted into nine piles of ten, on a continuum from "most unlike" to "most like" the child based upon observing the mother-

child interaction. The sort obtained from the observed child's secure-base and related behaviours is correlated to a criterion sort of a prototypical securely attached infant to obtain an attachment score for the child presently being assessed. A correlation score is obtained (-1.0 to + 1.0) with higher scores representing higher secure-base behaviour.

At 24 months, observations of infant-mother attachment security were completed independently by two observers after a 1.5-hour laboratory contact and a subsequent two hour home visit scheduled to occur within two weeks of the lab visit. During the home visit, both researchers attended to the infant and mother, particularly during naturally occurring separations and reunions, as well as when the child was competing for his or her mother's attention. Within 24 hours of the completion of the home visit, the observers recorded their impressions and independently completed the attachment security Q-sort.

Measures of attachment security at age two were obtained from research records (see Symons, Clark, Isaksen, & Marshall, 1997). The mean score on the attachment security Q-sort at age 2 was .39 (SD = .20, Range -.07 to .72) and at age 5 was .43 (SD = .22, Range -.13 to .86). Fisher r-to-Z log transformations were conducted on scores to provide some correction for the negatively skewed distributions typical of Q-sort data (see Figures 2 and 3).

At age 5 the mothers and children were asked to play a game ("Guess Who") together, provided by the researchers, and then were free to continue to play the game or to follow their typical routine during a 30-minute observation period. The mothers were asked privately by one of the researchers to leave the room and then return again at some

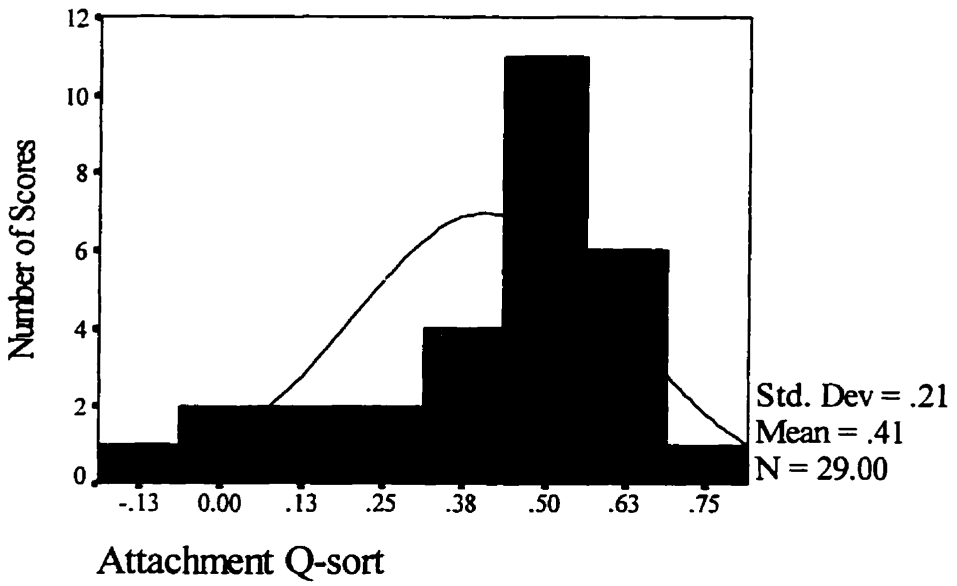

Figure 2. Mean scores of attachment Q-sort for the primary observer at age 5.

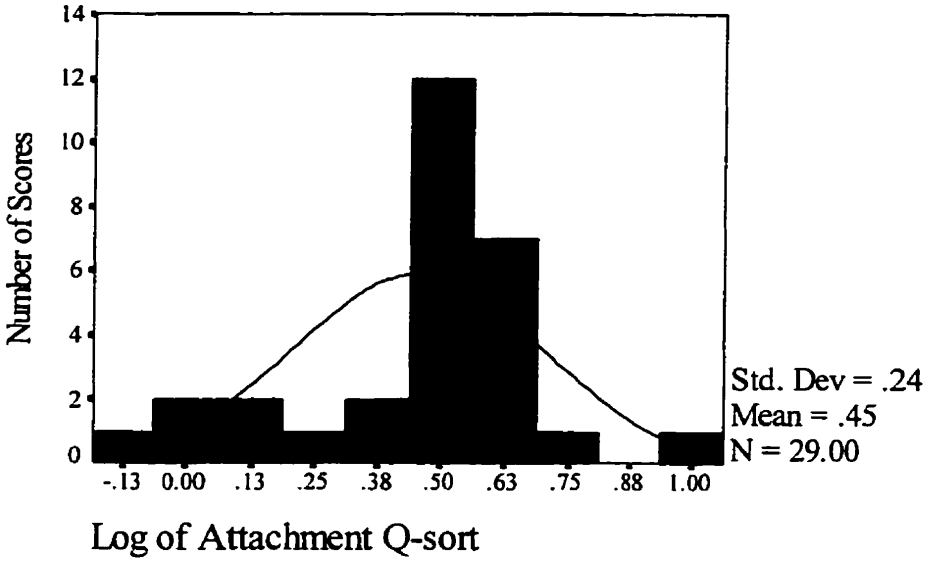

Figure 3. Mean scores of log of attachment Q-sort for the primary observer at age 5.

point during the 30-minute observation period. As the child was unaware that the mother was asked to leave the room, this allowed separation and reunion behaviour to be observed by the researchers. Within 24 hours of the completion of the home visit, the observers independently completed the attachment security Q-sort.

The AQS was completed at age 5 by two observers. The primary observer visited with the mother during the first interview and observed the play period with the mother and child together. The secondary observer completed activities for another study with the child during the first visit, and administered the self-concept and self-esteem measures and observed the play period during the second visit. This methodology ensured that the primary observer remained blind to the self-concept and self-esteem assessment.

One of the three observers switched from secondary observer to primary observer during the data collection due to employment changes and vacation times. In only two home visits, however, did the primary observer change from the first visit to the second visit. In each of these two instances the secondary observer was constant. Inter-rater reliability on the Q-sort scores for these two visits was good, $\underline{r} = .56$ and $\underline{r} = .74$ on item-by-item correlations. This suggests that data was not negatively impacted by this variance in the procedure.

Preliminary analyses (Isaksen, 1997) of the complete data set found that there was a high degree of reliability between attachment security at age 2 and age 5 (Symons et al., 1997). In this current study, there was a high inter-observer agreement between the AQS sorts of the primary and secondary observers at age 2, $\underline{r}(29) = .77$, $\underline{p} < .001$, and at age 5, $\underline{r}(29) = .73$, $\underline{p} < .001$ (see Table 1), although relations between ages were weak.

Table 1

Intercorrelations of the Log of Attachment Security Scores of Primary and Secondary Observers at Age Two and Age Five

Age in Years	Observer	1	2	3	4
Two	1. Primary	--	.76***	.17	.43*
	2. Secondary		--	.18	.25
Five	3. Primary			--	.72***
	4. Secondary				--

Note. N = 29, *** p<.001, * p < .05

Self-concept. Measuring self-concept in young children is a challenge, particularly in the preschool and kindergarten age groups. Limitations of young children include an inability to read well enough to understand the questions and a reduced attention span. These were overcome by using a pictorial format rather than a written questionnaire. The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (Harter & Pike, 1984) was used in the present study. The picture format of this measure captures the young child's attention and leads to more meaningful responses. In the pictures specific skills and activities are depicted, so that a young child is able to relate to the behavioural description of specific abilities. There are two sets of the pictures to allow for gender of the depicted child to match the child answering the questions.

With this measure, children are read a brief statement explaining the pictures they are observing and asked whether they are more like the picture of the child who is good at the desired activity or the child who is not very good at the activity. For example, "This girl is pretty good at puzzles. This girl isn't very good at puzzles. Which girl is most like (child's name)?" After the child has chosen the picture which best describes her or him, the child is then asked for further differentiation. If the child chooses the picture of the child successfully completing the task, the child is then asked "Are you really good at puzzles or pretty good?" If the child chooses the picture depicting the less successful image, he or she is asked "Are you sort of good or not very good at puzzles?" Each item on the scale is scored on a four-point scale. A four corresponds to the most competent or accepted response, and a one indicates the least competent or accepted response. There are six items per subscale.

The scales assess four domains of self-concept: cognitive competence, physical competence, peer acceptance, and maternal acceptance. All of these areas taken together are thought to provide a profile of self-perception. The four scales provide two main factors: general competence formed from an aggregate of the cognitive and physical competence subscales, and social acceptance formed from an aggregate of the peer and maternal acceptance subscales. An overall self-concept score is obtained by summing the four subscales. This scale has been documented to have acceptable psychometric properties (Harter & Pike, 1984). The reliability of the total scale (i.e., all 24 items), was in the mid to high .80s using a coefficient of α that provided an index of internal consistency. After they completed the measure, the administrator asked the children for definite reasons for their alleged competencies, which resulted in a 96% convergent validity rate with their self-report responses to the self-concept scale.

In the current study, the version of the scale for children ages 4 to 7 was used to assess perceived competence and social acceptance. Four children who were entering grade one completed the grade 1 to 2 version, and the remaining children who were entering or attending grade primary completed the preschool-kindergarten version. Scores between versions were comparable and similar to Harter and Pike's (1984) mean scores on each of the subscales. Because little variation was found between versions, all scores were used together in the analyses.

Table 2 shows the intercorrelations of the four subscales of the self-concept measure. The cognitive and physical competence subscales define, and were highly related to, the general competence factor. The maternal and peer acceptance subscales

Table 2

Intercorrelations of The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children

Subscales	1	2	3	4	5	6	7
1. General Competence	--	.77***	.85***	.45**	.32	.49**	.81***
2. Cognition		--	.31	.36*	.33	.33	.63***
3. Physical Ability			--	.37*	.21	.46**	.68***
4. Social Acceptance				--	.90***	.88***	.89***
5. Maternal Acceptance					--	.60***	.76***
6. Peer Acceptance						--	.83***
7. Overall							--

Note. N = 29, ***p< .001, ** p< .01, * p < .05

define the social competency factor. These two subscales were highly related with the social competency factor as well as with each other.

Self-Esteem. Cassidy (1986) developed the Puppet Interview to assess a child's representation of self. The Puppet Interview has been used in previous studies (Cassidy, 1988; Verschueren et al., 1996) to assess the internal working model of self with kindergarten-age children. To support the concurrent validity of the measure, Verschueren et al. (1996) found significant relations of positiveness of self with competence and social acceptance, behavioural adjustment to school, and with behavioural manifestations of self-esteem.

In the Puppet Interview the child is asked questions by a large hand puppet about her or his worthiness. The questions are posed by a researcher and directed to the puppet to answer about the child (see Appendix A). The responses the child gives are thought to be an indication of his or her level of self-esteem as they reveal "perceptions of how an unspecified 'other' views him or her" (Cassidy, 1988, p. 121). The use of a puppet provides a playful means of indirectly obtaining the child's conscious and implicit aspects of the self. After a brief introduction to the puppet, the child is told that "Woozle" has lost his voice. The child is then asked if he or she is willing to talk for Woozle and answer the researcher's questions that Woozle is asked about the child. The researcher manipulates the puppet and faces the puppet when asking the questions. The child answers 20 questions about her or his self through the puppet, for example "Woozle, are you ever disappointed in [child's name]?" Following the 20 standard questions, the children were asked if they wanted to use the puppet to ask the examiner three questions of their own.

Responses were classified along two dimensions of the self, positive-negative and open-closed, using specific guidelines (see Appendix B). Positiveness is based on the answers to 15 of the questions. A child's interview is classified as such if she or he does not make any negative statements, or one half-negative statement (indicated by the scoring procedures to be a less strong negative statement) about the self on these questions. If the child makes at least one strong negative or two mild negative statements, then her or his interview is classified as negative. Openness is determined based on the responses to five questions that address realistic imperfections. If no imperfections are provided, the child is prompted a final time for any imperfections in his or herself. A classification of "open" is given to an interview when a child has admitted at least one imperfection, because it is considered to be an indication of the ability to admit to realistic "flaws." If a child does not admit to having any imperfections, the interview is labelled as "closed". Each interview can then be classified in one of four models of self categories: (a) positive-open, (b) positive-closed, (c) negative-open, or (d) negative-closed.

The child's responses to each question were transcribed verbatim from the videotape of each session for coding. A second rater independently coded a subset of eight interviews and classified them as positive or negative and open or closed. The percent agreement between the two raters' classifications was 100% for the openness scale and 75% for the positiveness scale. Differences between the first and second raters' classifications were due to subtle scoring differences in half negative scores of individual questions where the primary rater had classified one interview as positive and the second rater classified it as negative, or vice versa. To explore these differences, a third rater

blindly coded the same subset. The third rater's responses had 100% agreement with the primary rater's classifications, so the classifications were determined to be reliable.

Verschueren et al. (1996) translated the original English version of the Puppet Interview into Dutch. They also developed a revised scoring method from Cassidy's original scoring procedure. The new scoring method expanded on Cassidy's to provide more detailed instructions on the classification procedures and separated out the positiveness of the interview from the openness of the interview, which previously had been confounded in Cassidy's scoring procedure. The scoring manual of Verschueren, Schoefs, and Marcoen (1994) needed to be translated into English, and two separate individuals undertook the translation procedure. Both translations provided identical scoring decision rules, and were thus seen as reliable. The translation of the revised scoring method was used.

Procedure

While considerable data was collected at each age, only Q-sort, self-concept and self-esteem data are germane to this study. Two trained researchers who independently completed the AQS within one or two days of the second visits at each age conducted observations. There were three to four hours of contact with dyads at each age, and a small number of supplemental questions were used at each age to gather information about behaviour that could not be observed. The primary observer at age two consisted of a single individual, and the secondary observer was one of four different observers. At age 5, the primary observer consisted of one of two different individuals, and the secondary observer varied among three different researchers. All observers were trained according to procedures laid out by Pederson and Moran (1995). AQS security sorts

(Waters, 1987) were scored according to the Waters, Vaughn, Posada, and Kondo-Ikemura (1995) loadings.

In the follow-up component of the study at age 5, the mother-child dyads were visited at their home twice, each visit requiring approximately 90 minutes. The visits occurred when there would be minimal distraction from other family members. At the first visit, mothers provided informed consent (see Appendix C) and the children were asked if they agreed to participate. The mothers were interviewed by one of the researchers on employment activity and non-parental care history, and also completed a package of self-report questionnaires between the first and second visits that were not relevant to this study. The children participated in a series of tasks and measures that were videotaped. During the second visit, the measures in the current study were administered. At this time the children were alone with one of the researchers to complete the self-concept and self-esteem measures, which were administered in random order and videotaped. Following the completion of those tasks, the mothers joined their children and the dyads were then engaged in a play activity, during which the two home visitors observed attachment behaviour. The observers separately conducted Q-sorts within one or two days following the second visit.

Results

Descriptives and Gender Effects

Means, standard deviations, and ranges for AQS scores at each age and for each observer can be found in Table 3. Age 5 attachment security scores higher than age 2 attachment security scores, but this difference was not significant, paired $t(28) = 1.38$, $p > .05$. Family SES was significantly correlated with age 5 attachment scores (r (29) =

Table 3

Descriptive Statistics of Attachment Security Scores

Age in Years	Observer	Mean	SD	Range
Two	Primary	.38	.21	-.13 to .65
Five	Primary	.45	.24	-.15 to 1.00

Note. N = 29

-.404, p = .030), indicating that higher SES families had lower security scores. There were no significant correlations found between attachment at age 5 and the children's age in months (r (29)= -.046, p = .815), mothers age in years (r (29) = -.276, p = .148), or fathers age in years (r (29) = -.213, p = .278). Two one-way analyses of variance (ANOVAs) found no significant differences between attachment security at age 5 and the number of siblings the children had at age 5, F (4, 24) = .770, p = .555, and the relationship status of the parents, F (2, 26) = .009, p = .991. Two independent sample t-tests were conducted for both mothers and fathers as a function of employment status. There were no significant differences for mothers, t (27) = .41, p = .683, or fathers, t (25) = .87, p = .394. Except for family SES, all other demographic variables were not related to attachment security scores, and therefore not entered into any subsequent analyses.

Descriptive information about the self-concept measure can be found in Table 4. The means and standard deviations for each of the four subscales were quite similar to the norms given by Harter and Pike (1984). A multivariate analysis of variance (MANOVA) was conducted using Hotellings T^2 as a test statistic with gender as the independent variable and the four self-concept subscales as the dependent measures to explore possible gender differences on the self-concept subscales. No multivariate effect was found, T^2 (4, 24)= 1.26, $p > .05$. Even though no multivariate effect was found, in order to be conservative and control for possible gender confounds with the self-concept subscales, the univariate tests were examined. A significant univariate effect of maternal acceptance was found. Girls reported higher levels of maternal acceptance than did boys (see Table 4), but all other univariate analyses were non significant.

Table 4

Self-Concept Subscales Broken Down by Gender

Self-Concept Subscales	Girls (n = 10)	Boys (n = 19)	Total	Gender Effect F (1, 27)
Cognitive Competence				
Mean	3.45	3.45	3.45	.00
SD	.52	.45	.47	
Range	2.50 to 4.00	2.33 to 4.00		
Maternal Acceptance				
Mean	3.28	2.81	2.97	4.31*
SD	.43	.65	.62	
Range	2.50 to 4.00	1.50 to 4.00		
Peer Acceptance				
Mean	3.33	2.98	3.10	2.63
SD	.46	.60	.57	
Range	2.50 to 3.83	2.00 to 4.00		
Physical Abilities				
Mean	3.45	3.26	3.33	.72
SD	.43	.62	.56	
Range	2.83 to 4.00	2.17 to 4.00		

Note. N = 29, *p< .05

Table 5 contains the distribution of subjects across the four categories on the self-esteem measure. A chi-square analysis of the distribution of subjects in the four categories was non significant (χ^2 (1, N = 29) = .42, p = .51). Two separate chi-square analyses were conducted due to the small ns in each cell, to determine whether there were gender differences across the classification groups. The first analysis looked at the relationship of open and closed categories with gender, and the second at the positive and negative categories with gender. There were no significant differences in the distribution of girls and boys across each of these classifications, χ^2 (1, N = 29) = .41, p = .52, and χ^2 (1,N = 29) = .03, p = .87, respectively.

Predicting Self-Concept from Attachment Security

In order to examine the prediction of self-concept from attachment security at age 2 and age 5, a hierarchical regression analysis was conducted. Because gender was correlated with a component of self-concept and family SES correlated with attachment security ratings, both were entered as covariates in the initial step. These were followed by attachment security at age 5 at the second step, and attachment security at age 2 at the third step. Overall self-concept at age 5 served as the dependent variable. This analysis was conducted to examine the amount of variance in overall self-concept that could be uniquely explained by attachment security at age 5 and at age 2. The a-priori data analysis plan was that further analyses of self-concept subscales would proceed only if this predictive model was significant.

Gender and family SES were entered at step 1 of the equation (Total R^2 = .094). At step 2 attachment security at age 5 was entered (Total R^2 = .094), followed by

Table 5

Distribution of Subjects Across Puppet Interview Categories

Openness of Self	Positiveness of Self		
	Positive	Negative	Total
Open	5	6	11
Closed	6	12	18
Total	11	18	29

Note. N = 29

attachment security at age 2 at step 3 (Total $R^2 = .130$). The results of the analysis are contained in Table 6. At no point was the predictive model significant. Attachment security at either age level did not predict a significant amount of variance in overall self-concept.

Comparing Attachment Scores Across Self-Esteem Classification Groups

To determine whether there was a difference between the self-esteem classification groups in children's attachment at 2 and 5 years of age, attachment security scores were compared between the two dimensions of the self model using a mixed ANOVA. The within-subjects factor was age (2 vs. 5 to 6). The between-subjects factors were openness (open vs. closed) and positiveness (positive vs. negative) on the self-esteem measure. It was predicted that children classified as open would have higher security scores at age 2 and at age 5. Further, children classified as positive were also expected to have higher security scores at age 2 and at age 5. Main effects of openness and positiveness would have reflected these results.

There were no between-subjects main effects found for openness, $F(1, 25) = .03$, $p > .05$, or for positiveness, $F(1, 25) = .07$, $p > .05$. No significant interaction of these two factors was found, $F(1, 25) = .04$, $p > .05$. The within-subjects factor approached significance, $F(1, 25) = 3.90$, $p = .059$, suggesting that there was an increase in attachment security scores between age groups, which is consistent with earlier analyses. There was a significant interaction found between age and openness, $F(1, 25) = 5.07$, $p = .033$ on attachment scores (see Figure 4). To explore this interaction between openness and attachment, two paired sample t-tests were conducted. For children classified as closed there was no significant difference between attachment at age 2 and age 5, paired $t(17) = .34$, p

Table 6

Summary of Hierarchical Regression Analysis for Variables Predicting Overall Self-Concept

Variable	B	SE B	β	F
Step 1				
Gender	-1.009	.627	-.301	F(2, 26) =1.345
Family Employment	-.004	.017	-.044	
Step 2				
Attachment Age 5	-.175	1.408	-.026	F(3, 25) = .868
Step 3				
Attachment Age 2	-1.498	1.598	-.196	F(4, 24) = .897

Note. N = 29

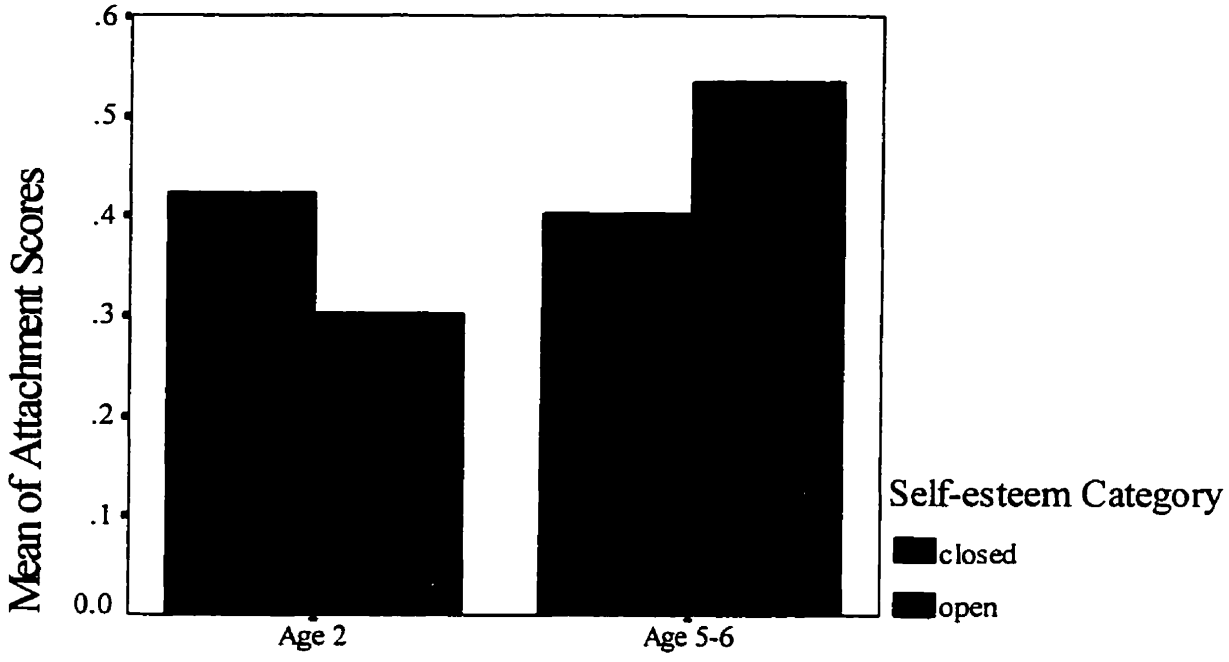

Figure 4. Attachment security scores by open vs. closed classification on the self-esteem measure.

>.05. However, there was a significant difference between attachment at age 2 and at age 5 for children classified as open, paired t (10) = 2.62, $p < .05$. Attachment scores at age 2 were lower (M = .303, SD = .232) than at age 5 (M = .536, SD = .216). There were no significant differences between attachment scores at each age across the two classification groups as tested with two independent sample t-tests, $t(27) = 1.52$, $p > .05$ at age 2, and $t(27) = 1.45$, $p > .05$ at age 5. These results occur despite the apparent difference in scores at age 2 where the children classified as closed had slightly higher mean scores (M = .423, SD = .19) than the children classified as open, and the reverse pattern occurs at age 5 when children classified as open had higher mean scores than the children classified as closed (M = .403, SD = .23).

To examine further this interaction, a change score was calculated by subtracting age 2 attachment from age 5. A positive change score therefore reflects an increase in attachment security score from age 2 to age 5, and a negative change score reflects a decrease. Using an independent sample t-test, no significant difference was found in the children's change scores in the positive and negative classifications, t (27) = .56, $p > .05$. However, there was a significant difference between open and closed classifications in the children's change scores as measured with an independent sample t-test, $t(27) = 2.43$, $p < .05$. Children classified in the open category had a higher mean change score (M = .233, SD = .294) than children in the closed category (M = .021, SD = .258).

No significant interaction was found between attachment and positiveness ($F(1, 25) = .09$, $p > .05$). The repeated measures ANOVA was then rerun without the between-subject factor of positiveness. The increase in power resulted in the within-subject factor

of age reaching a significant level, $F(1, 27) = 4.14$, $p < .05$, while the interaction between openness and attachment gained more strength, $F(1, 27) = 5.92$, $p = .02$.

Self-Concept Scores Across Self-Esteem Classification Groups

It was proposed that children who described themselves as positive on the self-concept measure would also evaluate themselves in a positive manner on the self-esteem measure. To examine the connection between self-esteem and self-concept, two Hotellings T^2 tests were computed with the four self-concept subscales as the dependent variables: cognitive competence, physical competence, peer acceptance, and maternal acceptance. Open (open vs. closed) and positive (negative vs. positive) scores on the Puppet Interview were used as the independent variables. Both tests were non significant Hotellings T^2 (4, 24) = .256, $p = .22$, and .320, $p = .14$ respectively.

Influences on Self-Esteem Classification

Children used a variable number of words during the puppet interview, which could influence their results given that open classifications require more elaborate responses. To pursue the possible influence of the children's verbal abilities on the classification procedure, a word count was done on all interview transcripts. The total number of words spoken during the 20 standard interview questions was counted, as was the total number of words spoken during the entire interview, including the child's questions posed to the examiner. A one-way ANOVA revealed that there was an effect of verbosity on the self-esteem classification the child received. The total number of words spoken over the entire interview and the number of words spoken by the child in the 20 interview questions, significantly differed among classification groups, F (3, 26) = 4.12, $p < .05$, and F (3, 26) = 3.27, $p < .05$, respectively. Tukey's HSD was used as a

follow-up test to reveal that there was a significant difference over the whole interview in terms of the number of words the children classified in the negative-closed group spoke (M = 62.67, SD = 28.39) compared to those spoken in the negative-open group (M = 120.17, SD = 64.07).

Further follow-up independent sample t-tests found that the total number of words spoken during the 20 questions and the total number of words spoken during the entire interview significantly differed between children classified as open or closed. Children classified as open had a higher mean word total in the 20 interview questions (M = 93.82, SD = 42.13) than children classified as closed (M = 62.06, SD = 23.24). This is a significant difference, t (27) = 2.73, $p < .01$. Those children in the open classification also spoke significantly more words during the whole interview (M = 119.36, SD = 50.62), than the children in the closed classification (M = 75.83, SD = 34.00), t (27) = 2.78, $p = .01$). The verbosity of the children was related to the classification of open or closed on the puppet interview.

Because the verbosity of the children was related to classification in the open or closed categories, the Hotellings T^2 test of the self-concept subscales by open vs. closed categories was rerun with the word totals entered as covariates. The results remained non significant, T^2 (4, 22) = .162, $p > .05$, and changed none of the patterns of findings reported here. The repeated measures ANOVA of the attachment security scores compared over the two dimensions of the self-esteem measure was also rerun with the word totals entered as covariates. The covariates were non significant, F (2, 23) = .18, p = .84. Again, no between-subjects effects were found for openness, F (1, 23) = .04, p = .835, nor for positiveness, F (1, 23) = .09, p = .764, and no significant interaction of these

factors was found, F (1, 23) = .04, p = .842. The within-subject effects remained the same as reported earlier. Differences in the amount of verbal response therefore did not account for the findings reported here.

Discussion

The first objective of this study was to explore the concurrent and predictive relation between attachment, self-concept and self-esteem. Attachment security was not related to overall self-concept at age 5. Q-sort scores at age 2 and age 5 did not predict a significant amount of variance in concurrent (age 5) overall self-concept. These results differ from previous work (Cassidy, 1988; Verschueren et al., 1996) where attachment has been found to be related to self-concept using the same self-concept measure as used in the current study. The current study's attained self-concept subscale scores closely replicate those found by Harter and Pike (1984), so the self-concept measure itself is not suspect. What does differ between this study and the other two are the number of subjects and the measurement methods for attachment security.

In Cassidy's (1988) work, concurrent attachment classification for 52, 5 to 6 year old children was determined on the basis of reunion behaviour in a lab setting. Observers rated attachment on a nine-point scale, and also categorised the dyads as displaying one of four patterns of child-parent attachment. Thus, the categorical nature of the attachment ratings restricts the variability of the attachment scores. Further, the lab-based assessments may limit the opportunities to observe more naturally occurring attachment behaviours. On the other hand, lab-based separations may be more stressful and thus elicit secure-base behaviour better than naturalistic home-based observations, particularly in older children.

In Verschueren et al. (1996), attachment ratings were obtained from the children themselves. Fifty children were asked to complete attachment-related story beginnings with dolls, and on this basis were given a score on a 5-point scale for attachment security and placed in one of four classification groups. This introduces shared measurement variance. The children's ability to verbally express themselves on a self-report measure for both the attachment measure and self-concept scale may have enhanced potential relations because verbal children may have scored highly on both verbal-dependent tasks. The subjective nature of the attachment measure may also lend itself to a positive self-presentation bias, and may more easily corroborate with the self-report self-esteem and self-concept measures. In contrast, the current study's use of a blind observational method of assessing attachment provides a more objective measure of attachment security than those based on children's self-report, which may have lead to the null findings. With only 29 subjects in the current study compared to the 52 and 50 subjects in the other two studies respectively, the power of this study was less than the other two. Nevertheless, the inclusion of the age 2 attachment security scores in the current study provide a dynamic picture of attachment relationships and led to the significant interaction between age and openness.

Attachment security at both age 2 and age 5 was not significantly different between the self-esteem classification groups of openness and positiveness so there was no support for the hypothesised main effects of higher attachment security in positive and open categories. However, a significant interaction between attachment security and openness was found. Children who were classified as closed on the self-esteem measure had stable attachment security ratings between age 2 and age 5. In contrast, children who

were classified as open on the self-esteem measure showed significant increases in attachment security scores from age 2 to age 5. Their levels of attachment security appeared to be dynamic. These results were unanticipated and offer an interesting perspective on how attachment security may be examined.

The change in attachment security from age 2 to age 5 may reflect a shift in the interaction patterns of the attachment relationship that the children in the open category have experienced. The lower attachment security scores at age 2, may reflect a mother-child dyad that has experienced some difficulties. Their attachment relationship may have provided the mothers with an opportunity to recognise problems in the synchronicity of the relationship. These families may have been more accepting of discussions about all aspects of behaviour and emotions, this may have initially presented as a less stable environment. Later, these children may grow up feeling that it is acceptable to present different perspectives on who they are. Crittenden (1994) stated that securely attached children are able to view others and themselves from several perspectives. They have parents who help them to understand discrepancies in their behaviour, which may encourage a securely attached child to feel confident enough in themselves to accept that they can admit imperfections and still feel good about themselves. Now, as 5 year olds, they are experiencing secure attachment relationships and because of their earlier experiences, they recognise these imperfections in themselves and verbally acknowledge them.

It may be the change from lower to higher attachment security that is critical. The less synchronous interactions, as reflected in the age 2 scores, have changed as the child has matured. Now these children are experiencing security in their attachment

relationship. This recognition, due to the contrast from earlier years, has created a sense that these children may freely admit less than perfect aspects of themselves because they have experienced less than perfect times in their earlier years. In fact, these children may actually have a more realistic perspective of themselves. Bowlby (1980) stated that the internal representational model a child develops is a mental structure of self and other (the attachment figure in the context of this relationship) and the affect associated with the relationship. In Bowlby's terms, their internal working model of self and other has experienced variability and as a result a more realistic perspective of self has developed. The children in the open category are displaying metacognitive skills and a realistic view of self. Harter (1993) stated that the transition to elementary school may be a key time in altering self-esteem. The children in the current study may have experienced changes in their attachment as they have recently come into contact with an expanded group of adults, who may influence both their attachment relationships and how they feel about themselves.

It could also be that children who have a tendency towards interacting with others in a manner which encourages freedom of expression of all aspects of themselves at younger ages, interact with their parents in a manner which leads to classification as less secure when young. But as they mature, the same qualities that led to a less secure classification have become adapted in the parenting interaction. This adaptation may lead to a more secure classification as both parents and children are more open about their feelings and thoughts.

The interaction pattern raises questions about the importance of parenting styles and how these may fit with attachment theory. The goodness-of-fit parenting model,

(Thomas, Chess, Birch, Hertzig, & Kon, 1963) suggests that the interaction between the dyad in a relationship takes into account the temperament of the infant, prior expectations, and experiences. A match in expectations and behaviour leads to a high degree of fit. The goodness-of-fit construct is a dynamic one where the partners in the relationship are changing based on their interactive histories, expectations, and cultural background (Seifer & Schiller, 1995). The mothers may be recognising their child's increasing autonomy and are now self-regulating their own behaviour to adapt from a protective mode to one which encourages the development of skills and autonomy in the child (George & Soloman, 1989), better matching the child's style. Therefore, a critical component may be the recognition by parents that their relationship with their children be open for expression of both good and bad aspects of life, and that it adapts to these changes. It is possible that when children are able to express short-comings in themselves, and still feel good about how they perceive themselves, they will also have attachment relations which are both flexible as well as increasing in security. These children would then be experiencing unconditional regard from parents who accept them for who they truly are.

It was expected that children who positively evaluated their competencies on the self-report, self-concept scale would also describe themselves in a positive manner on the self-esteem measure. But this was not found. Instead there was no significant relation found between the openness and positiveness of the self-esteem measure and the subscales of the self-concept measure. This finding supports Cassidy's (1988) work where she too found no significant correlations between Harter and Pike's (1984) self-concept measure and the Puppet Interview. Cassidy attributed this lack of relation to the

possibility that the self-concept subscales were tapping into domain-specific self-perceptions, as they were designed to assess, rather than overall feelings about the self. Verschueren et al. (1996) found that only the children classified as negative-open on the self-esteem measure could be differentiated in their scores on the self-concept measure from the children classified as positive. Children classified as negative-closed gave similar ratings as the children classified as positive on the self-concept scale, which Verschueren et al., attributed to an inability to admit imperfections in these children.

The small sample size in the current study restricted the comparisons that could be made. In conjunction with the earlier studies', these results raise questions about what is being measured when children are asked to evaluate themselves on these dimensions. Based on the proposed relation between self-concept and self-esteem, these discrepancies warrant further examination to decipher more clearly where the connection between the two exists.

To explore the possibility that the children's verbal abilities may have influenced their scores on the self-esteem measure, a word count was done on each of the transcribed interviews. A significant difference was found between the number of words children classified as open said than those in the closed category, as children in the open category spoke more words in both the initial 20 questions asked of them and over the entire interview. Children who are classified as open seem to be better able to verbally express themselves, and may therefore be more likely to admit imperfections in themselves. A child who is less confident in his or her verbal abilities may resort to shorter answers and refrain from elaborating on her or his answers, thus reducing the chances that imperfections will be expressed, and increasing the chances of being classified as closed.

This finding has implications for the use of the Puppet Interview. Cassidy (1988) included a measure of verbal and quantitative ability in her study and found that the scores had "no systematic relation"(p. 128) to the Puppet Interview. Verschueren et al. (1996) reported that there was no significant correlation between positiveness and the children's results on a vocabulary test, but did find a significant correlation between the vocabulary test scores and the openness category, yet chose not to include this variable in subsequent analyses. Together, the results of the current study and those of Verschueren et al. (1996) suggest that the Puppet Interview's results are dependent on a child's verbosity, yet when entered into further statistical analysis the number of words spoken did not influence the findings.

Harter (1990a) stated that young children 4 to 7 years old tend to "inflate their sense of adequacy"(p. 88). The current study's results on the self-concept scale support this supposition, as reflected in the negative skew of the scores. However, Harter also claims that a young child "does not have a concept of his or her worth as a person"(p. 89) based on her belief that young children do not possess the ability to verbalise their perceived worth. Some of the answers that were offered by this study's participants present a different view to this position as displayed in examples of the children's responses to the question: "Do you think (child's name) is important, or not so important? Why?"

"She's important because she is really nice and she is a nice friend."

"Important. He's important because he's special."

"Not important, yes I am, I do lots of stuff my mom and dad does."

"Important, because has to clean up his room and feed the dog."

The children's responses to the question: "What's good about him/ her?" also suggest an ability to self-reflect at age 5.

> "He be nice to his friends. He doesn't bud, he doesn't push and hurt, he doesn't steal, he doesn't do anything to his friends."
>
> "She is really nice to me and she is really cute."
>
> "He's being good and he doesn't say bad words."
>
> "She always kisses her mom and dad goodbye."

The responses provided to the self-esteem interview suggest that some of the children are capable of self-reflecting on their abilities and are also able to verbally express these thoughts. Perhaps age distinctions in assessing children's levels of self-esteem should not be the focus of intense study, rather it may be more prudent to explore the developmental processes associated with changes in self-reflective verbal expression when looking at self-esteem assessment measures.

It would be interesting to attempt this study with more subjects. Due to limitations in the number of mother-child dyads available to be contacted, the sample size is quite small. Increasing the number of subjects would provide more variability and would also allow multivariate analyses to be conducted. This could help us to better understand the nature of the relationship between openness and positiveness on the self-esteem measure and would provide more children in each of the self-esteem classification groups. An increase in sample size would also increase the power of the statistics to permit detection of possible differences that may be present in the data yet remain undetermined due to the small numbers. Further, a larger number of mother-child dyads would have had more variability and may have lead to a significant predictive

relationship between age 2 and age 5 attachment security, thereby contributing more to the development of a predictive model of attachment, self-concept and self-esteem.

A number of future directions for research emerge. The interaction found between openness on the self-esteem measure and attachment security raises some interesting questions that warrant further study. In the exploration of attachment security, particularly in the fortunate circumstance of a longitudinal study, it may be beneficial to include measures of parenting styles. This would provide more detail to look at possible patterns in parenting interaction with children's temperament and behaviour styles (Belsky, 1984; van den Boom, 1997) that may contribute to a child feeling good about her or him self in later life. It could be that parents who do not attempt to shelter their children from the reality of the world, might be assisting their children to gain a broader perspective of themselves. This "reality-check" also raises questions about how these children who acknowledge their weaknesses will fare over the years through school and beyond. Do children benefit from this perspective, or are they acquiring too much knowledge too soon? The results of the current study suggest that the former is a more accurate assumption in the early elementary ages, but perhaps this becomes a less adaptive strategy as the child matures.

The Puppet Interview may provide a clinician with an insightful method of assessing a child's perspective on his or herself. The children in this study readily accepted the role of speaking for the puppet and this interaction provided a fascinating view of how they perceive themselves, if nothing else other than how they want to portray themselves to a stranger. Work with a clinical population may provide more variability in the answers to the self-esteem and the self-concept measures, which may

then allow for stronger patterns to emerge between the self-concept and self-esteem measures. Children who have been abused or are depressed may be more negative or hesitant to talk about themselves, but they may find that the puppet serves as a third party to talk through rather than talking directly.

The AQS methodology provides a small snapshot of families' interaction history and focuses only on the mother-child interaction. Future research could take a family systems approach to studying attachment (Cowan, 1997) and look at the critical role fathers' interaction patterns and attachment with their children may play independently (Belsky, 1996), and in collaboration with mothers' (Fagot & Kavanagh, 1993) in the development of self-esteem and self-concept. Further, other contextual information such as social support systems (Belsky, 1984) and extended family influences may be influencing the attachment relationship, particularly in a longitudinal study. Self-esteem and self-concept may be more influenced by the broader family ecology (Harter, 1993) than the attachment measure used in the current study assesses.

If the sample were larger, it would be interesting to continue to follow this group of mother-child dyads well into adulthood. The advantage of a longitudinal study is that it provides a picture of relationships which cannot be obtained from a single encounter. In continuing to monitor these families, more insight may be gained on how children continue to develop in terms of their self-concept and self-esteem, and whether their attachment relationships provide a predictive basis for these changes.

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Appendix A

Subject #:_____

Puppet Interview

Sex: F M

Age: 5 years 6 years

Date of Interview: _____

Transcribed by: _____

1. **Wozzle, do you like (n)?**
2. **Do you like (n) the way he/she is, or do you want to make him/her better? How?**
3. **Wozzle, I want to know: Is (n) a good boy/girl?**
4. **What's good about him/her?**
5. **Well Wozzle, what's the very best thing about him/her?**
6. **Are you ever disappointed in (n)? [if no, "Never?"]**
7. **Is (n) perfect? [if yes, "Totally, in every way?"]**
8. **Wozzle, do you like to play with (n)?**
9. **Tell me Wozzle, do you want (n) to be your friend?**
10. **Wozzle, can (n) do lots of things? Does he/she do things well or not so well?**
11. **Wozzle, do you thing (n) is nice-looking?**
12. **Wozzle, is (n) ever a bad boy/girl? [if no, "Never?"]**
13. **What's the worst thing about him/her? [if nothing, "Nothing?"]**
14. **Do other people like (n)? Who? [after first pause, "Anybody else?"]**

15. Is there anything at all about (n) that could be better? [if no, "Nothing?"]

16. Do you thing (n) usually does the right thing? [if yes, "Usually does the right thing? How about always?]

17. Do you thing (n) is important or not important? Why?

18. Do you care what happens to (n)?

19. What do you hope happens to (n)?

20. What do you think (n) will be when he/she grows up?

<u>List questions child asked interviewer:</u>

Appendix B

Puppet Interview Scoring Instructions

Positive and Negative Classification

#1
Positive = yes and mostly
Half negative = sometimes, a bit
Negative = no

#2
Positive = good the way he/she is
= yes, but needs medical help for physical illness
= wants to make self better, in physical change
= sometimes
= would like to be better but don't know how
Negative = I don't know
= don't know anything to do about it

#3 & #4
Positive = mostly good or sometimes not good (3) but can give an example (can be trivial but has to be about self) (4)

Half Negative = sometimes good
= says good (3) but can't say what is good about them (4) or how they could be good
= says good and give example (3) but (4) not an example of being good, or good because fear of being spanked or punished
Negative = don't believe they're good

#5
Positive = plausible answer (trivial or not)
= don't know
Negative = something bad
= says nothing

#8
Positive = yes
Negative = no

#9
Positive = yes
Negative = no

#10
Positive = yes, mostly do well, completely do well
= yes, can do things well, but not sure how well, sometimes good, sometimes not so good
Negative = no, can't do anything well
= things can do well, but mostly not

#11
Positive = yes
Negative = not attractive,
= give an example of what's ugly

#14
Positive = others like to be with them, can name
= sometimes yes, but can name
Half Negative = not sure
= not sure but can name people
= some would like to but can't name them
= some don't want to but then can name them
Negative = no one likes me, can't name anyone

#16
Positive = yes mostly, or always
Half Negative = sometimes
Negative = mostly never

#17
Positive = yes, important
= yes important, give example
= don't understand but give negative because don't understand
Negative = give clear negative and they understand the question and give explanation

#18
Positive = it does matter
= it doesn't really matter, but give positive explanation (can look after themselves so don't have to worry about it)
= don't understand the concept but answer negative because don't

understand

Negative = understand and gives negative answer and no doesn't care in explanation

#19

Positive = yes, something would like to have
= nothing would really like to have happen, but if asked again can come up with something
= can't understand the concept no strong sense of future, can't look past "now" stuck in present

Negative = speak negatively, don't want anything
= understand what's asked, really clear there's nothing they want

#20

Positive = know what they will be and will be happy
= don't know but will be happy

Negative = don't specify anything

Open – Perfect Classification

For an answer to be "Open" must be clearly open.

- Have to reveal a short-coming
- If begin to reveal a short-coming but pull back, it is not open

#6 Ever disappointed in him/her?

Open = "Yes" (if can specify, it support it, but has to be something they aren't happy about themselves)

Closed = may say yes but doesn't say what happened
= say yes but blame someone else or say others aren't happy with me
= no

#7 Is he/she perfect? In every way?

Open = child admits having done something wrong and can give an example

Closed = yes, but no example
= I don't know
= or give positive feedback

#12 Is (n) ever a bad boy/girl? #13 What is the worst thing about (n)?

Open = admits bad and can give an example (12 & 13)

= admits and gives an example (12)
I don't know (13)

Closed = doesn't admit bad or give an example (12 & 13)
= sometimes admits bad but can't give an example(12)
no example (13)
= admit sometimes bad and eventual example (12)
doesn't admit anything (13)

#15 Is there anything that could be better about (n)?

Open = yes admits something could be better & gives an example

Closed = nothing could be better
= not sure, doesn't know
= yes something could be better but can't give an example or is a physical appearance change (not as a person)

Classification Decisions

Open - Perfect

Open

The interview is classified as open if child can admit an imperfection at least on one occasion. The admission has to be clear and complete.

Perfect

If the child is unable to admit an imperfection on any of the required questions, then the interview is classified as "perfect".

6-point scale

The openness of admitting imperfections is also rated on a 6-point scale for "openness of self". Interviews in the open categories receive a score of 3,4, 5, or 6, depending on the number of admissions.

Interviews in the perfect category receive a score of 2 if they don't admit any imperfections, or a score of 1 if they don't admit any imperfections and they show signs of defensiveness. (answer that other kids are bad but not me)

Positive – Negative

Positive

The interview is classified as positive if the child does not make any negative statements about the self on any of the 15 questions. May make one mild negative (1/2 negative) statement about the self.

Negative

The interview is classified as negative if the child makes at least one strong or two mild negative (1/2 negative) statements about the self.

6-point scale

Interviews rated as positive are given a score of 4, 5, or 6, depending on the presence of a mild negative statement and the degree of positivity.

Interviews rated as negative are given a score of 1, 2, or 3, depending on the number of negative statements about the self.

Appendix C

Informed Consent Form

I _____and my child_____
agree to participate in a study called "Relationships and social understanding" being conducted by Dr. Doug Symons of Acadia University. I recognise that my previous involvement in a study 2-3 years ago has no bearing on my current participation, and I am free to withdraw at any time. In addition, verbal consent will be confirmed with my child during the first visit.

Participation involves 2, 90-minute visits to my home by 2 research assistants. During the first visit, I will be interviewed, and my child will be videotaped drawing a picture of my family and playing with some Lego materials brought in by the researchers. Tasks will use common toys (i.e. Duplo blocks and play characters) and objects (e.g. Smarties box), and my child will be asked to identify objects, the location of objects and people, and his/her current emotional state by pointing at pictures of facial expression. Questionnaires will be left with me for completion. Videotapes will be accessed only by those involved in the research. All data is confidential.

During the second visit, the researchers will ask me to engage my child in a play or craft activity of our own choosing, and otherwise observe "normal" family behaviour. My child will also participate in a puppet interview with 1 of the research assistants and answer some questions about how she/he thinks and feels about her/his self.

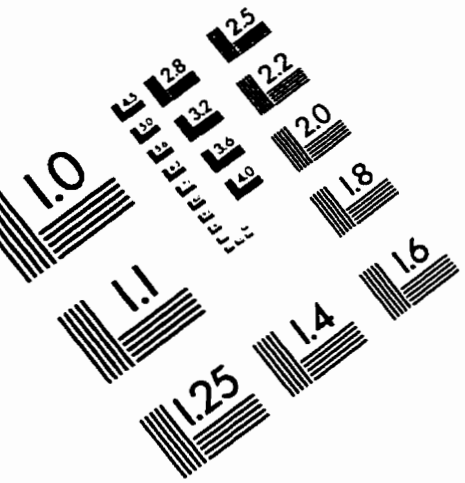
Questionnaire address issues related to child behaviour problems, parenting attitudes, and my own personal adjustment. In the event of significant problems in any of these areas or if my child reports any problems, Dr. Doug Symons will contact me to discuss these issues and suggest potential options. The only limit to confidentiality is that the researchers are required to report the names of children in need of protection to Family and Children's Services.

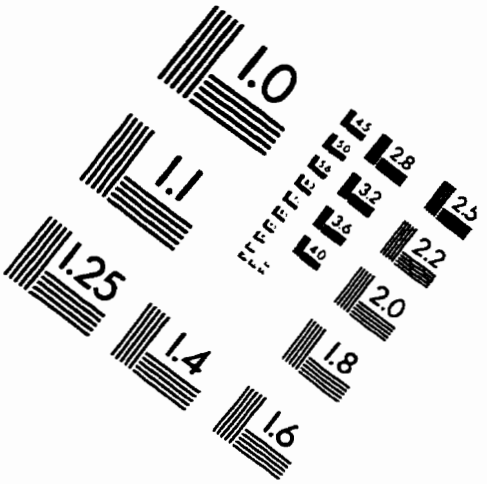
At the close of the study a newsletter will be sent to us describing the study. Further information is available if requested.

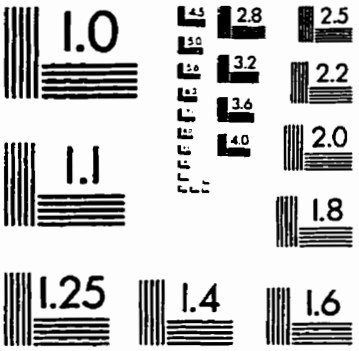
_____ _____
Signature of Mother Date

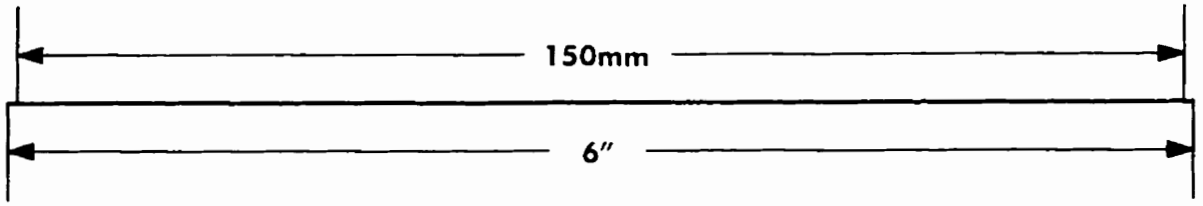
_____
Witness

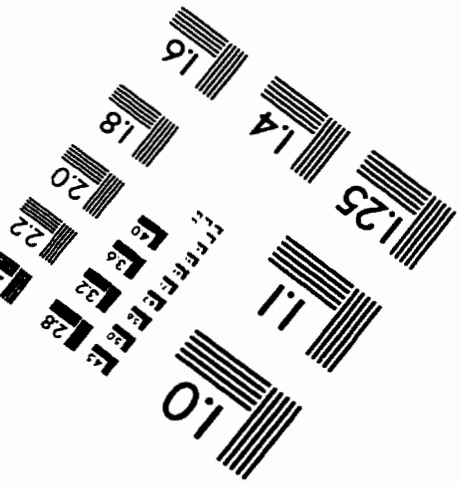
IMAGE EVALUATION
TEST TARGET (QA-3)

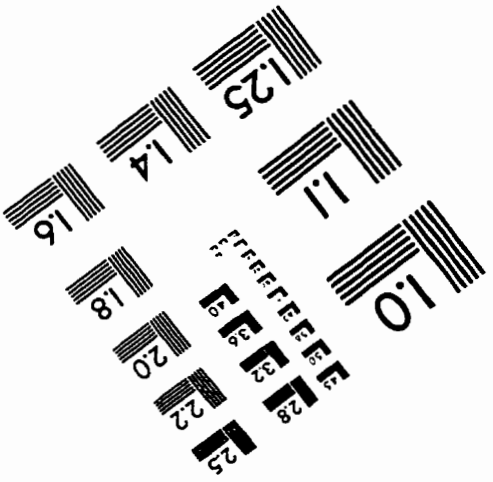












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