INFORMATION TO USERS

REPRESENTATION OF SELF AND OTHER
IN EARLY-ELEMENTARY SCHOOL AGE CHILDREN
AS A FUNCTION OF ATTACHMENT STATUS

by

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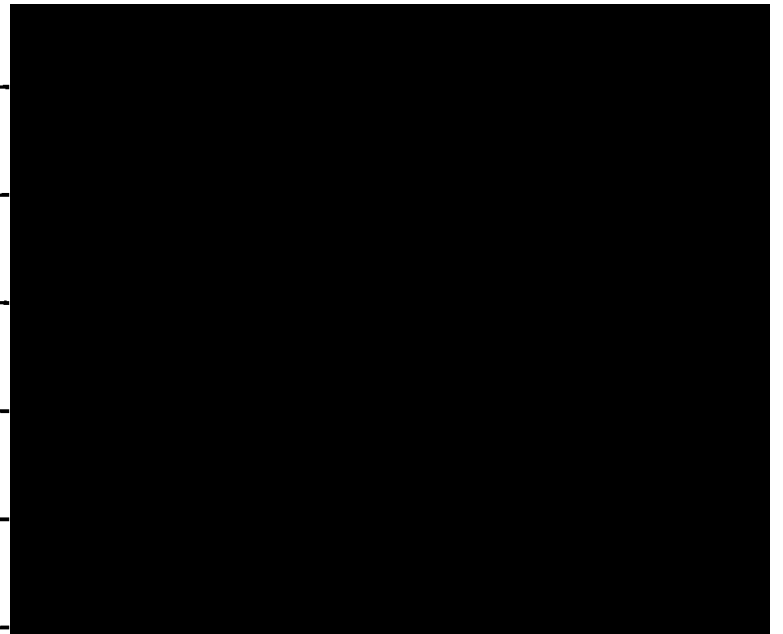
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Abstract

Research in developmental psychology is currently focused on how children understand themselves, social relationships with caregivers, and the behaviour of others. This dissertation examines concurrent relations between attachment security and representations of self and other in early-elementary school age children. A model proposed by Bartholomew (1990), based on Bowlby's attachment theory, is employed using combinations of children's self-image and image of others, which vary on a positive-negative dimension. The goal is to test whether this model of attachment predicts children's representations of self and their understanding of the social behaviour of others. The self-reliant and attachment security sub-scales from the Separation Anxiety Test are used to form the four prototypic attachment patterns (secure, preoccupied, dismissing, and fearful).

Study one examines the connection between attachment and self-representations in 176 children, 5 to 9 years. Differences between the positive and negative self-dimension are found on the self-representation measures for children younger than 7 years, but not for children older than 7 years. Stronger associations are found between the girls' degree of attachment security and positivity on the self-representation measure than the boys'.

In Study two, ambiguous vignettes are used to examine children's attributions about their peers', parents', and teachers' intentions. Attachment security and self-reliant scores are positively related to children's positive attributions about others' intentions. Expected differences between the positive and negative dimension of other were found on the attribution measures. The differences were most pronounced between the children classified as secure and fearful. Outcomes did not differentiate between the preoccupied and dismissing attachment categories.

The results highlight the need to consider gender and age differences when evaluating the connections between attachment and self-representations in this age group. This dissertation contributes to the understanding of attributions as a possible mechanism through which working models "work", applies attachment theory to children's close social relationships, and provides evidence of children having a global model of the social behaviour of others.

Acknowledgements

INTRODUCTION

Overview

A secure relationship between a young child and her or his parent is related to many aspects of healthy psychosocial development later in that child's life (Bowlby 1969/82; Bretherton, 1990; Hinde & Stevenson-Hinde, 1988). Bowlby (1969/82) posited that children develop working models of themselves and of attachment figures through interpersonal interaction patterns, and these models direct children's conception of their own behaviour and worth. He suggested that children would be more likely to develop an internal working model of self as valued and self-reliant if needs for comfort and protection have been met, and if, at the same time, there is support to explore independently the surrounding environment (Bretherton, 1992). A positive or negative view of the self emerges within an interpersonal context as a child develops representational skills during the preschool period (Cassidy, 1990; Fonagy & Target, 1997).

In this framework, the development of working models of relationships influence children's conception of their own behaviour and worth, and also serve as a mental conceptualisation on which children base expectations of the attachment figure's behaviour. Over time, children internalise their experiences with significant others, and from these experiences, they develop working models which serve as the prototype for later social relationships. Children's understanding of others comes from their experiences with, and images of, other people, just as their sense of personal worthiness forms their image of self. Although self and other are considered to be the key dimensions of internal working models, these two constructs have only been explicitly measured in models of adult attachment; they have not been measured in young children.

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Bartholomew (1990) expanded on Bowlby's constructs of self and other and proposed that adult attachment styles could be defined using combinations of adults' self-image and their image of others, which vary on a positive-negative dimension. She suggested that the intersection of models of the self and other would provide useful distinctions between attachment styles in adulthood. By employing Bowlby's concept of internal working models, Bartholomew's model linked with Bowlby's conceptualisation that attachment influences the development of self and other. Bartholomew (1990) provided a two-dimensional, four-category conceptual scheme that predicted behaviour based on these dimensions.

Attachment is proposed to be influential across the life span (Bowlby, 1969/82), and therefore, an attachment model should, theoretically, predict behaviour at different developmental stages. However, children's internal working models have not been studied directly to determine whether attachment styles can be defined similarly in terms of the positivity of a child's model of self and the positivity of a child's model of hypothetical others, and whether these proposed dimensions predict children's behaviour. This dissertation tests the dimensions of self and other in children's internal working models by examining concurrent relations between attachment security and representations of seif and other in early-elementary age children in two studies.

In the first study, the concurrent relationships between attachment security and representations of self in typically-developing children in grades primary to grade three were examined. The adult model of attachment proposed by Bartholomew (1990) was applied to early-elementary cnildren's self-reports to investigate whether their working models of self and other may follow this pattern established in adult and adolescent attachment literature (Bartholomew & Horowitz, 1991; Scharfe, 1996). In particular, the

dimension of self was examined. This study tested two specific hypotheses: 1) elements

of attachment security were expected to correlate significantly with features of self, given

that the development of self is understood to be influenced by significant concurrent

relationships; and, 2) children classified in different attachment categories were expected

to differ on measures of self and other. Those children, who, based on their attachment

classification, had a positive representation of self, were also expected to have a positive

perspective of their self on an independent measure of self worth.

The second study expanded on the results from the first. The proposed model was

used to explore in greater detail the dimension of other in the attachment model with

children. Teacher and parent evaluations of the children's feelings about themselves and

their interactions with others were assessed in addition to the children's self-reports. The

early relationship with parents is considered to be a guide for the development of

relationships across the life span. When children enter elementary school, it is

developmentally appropriate for them to begin establishing relationships with their peers

and teachers, and theoretically these should follow the model of their parent-child

relationship.

Working from this premise, this second study examined whether differences are

evident across attachment styles in the kind of attributions children make about their

interactions with others (i.e., peers, teachers, and parents). It was expected that children

who had positive representations of others would demonstrate more well-meaning

representations of others' intentions than children who had more negative representations

of others, according to their attachment classifications. Based on the adult model of

attachment being applied in this study, it was expected that how children feel about

themselves and others would predict how they interact with their peers, teachers, and

parents. These interactions would be reflected in their level of social understanding and lead to more successful relationships.

The results of these two studies will provide evidence of: 1) whether this attachment model can be used to make predictions about young children's representations of self and other based on their attachment relationship; and, 2) whether differences in the attributions that young children make about others' behaviour can be observed between attachment categories. A conceptualisation of young children's internal working models of self and other within their family environment will help to develop a framework for understanding how children's attachment style influences how they develop social relationships.

Attachment and Secure Base Behaviour

Attachment theory aims to describe "the propensity of human beings to make strong affectional bonds to particular others" (Bowlby, 1977, p. 201). Attachment behaviours are designed to maintain or obtain proximity to and contact with a discriminated person or persons, referred to as the attachment figure(s), with whom there is a relationship (Bretherton, 1985). The theory, as developed by Bowlby (1973, 1980, 1982) and Ainsworth (Ainsworth et al., 1978) makes two primary hypotheses: 1) Attachment behaviour crosses the life span characterising people throughout their lives; and, 2) attachment patterns established in childhood structure the quality of later adult relationships (Bartholomew, 1993).

Attachment theory emerged as an attempt to understand the disturbed functioning of individuals, and particularly children, who had experienced either early separations from their caregivers or traumatic losses. Despite its origins in the desire to understand abnormal behaviour, it is a theory of typical development that was influenced by a variety

of sources, including biological and social science fields, and particularly psychoanalytic

theory (Bowlby, 1969/1982). Psychoanalysts recognised that "a child's first human

relationship is the foundation stone of his personality; but there is as yet no agreement on

the nature and origin of that relationship" (Bowlby, 1969/1982, p. 177). Bowlby believed

that infant survival, both animal and human, is best guaranteed when the infant can

maintain proximity to an attachment figure. Proximity is initiated and maintained

through complementary infant and parental patterns of behaviour. For instance, infants

signal their needs by crying, which is meant to evoke a nurturing response from the

trusted caregiver, such as being picked up and comforted, or being fed. Bowlby felt that

attachment behaviour was the result of the activity of a number of behavioural systems

that have proximity to mother as a predictable outcome. He described attachment

behaviour as a class of social behaviour equivalent in importance to that of mating

behaviour and parental behaviour.

Attachment behaviour develops within infants as a result of their interaction with

their environment, and especially of their interaction with the principal figure in that

environment, namely their mother. Attachment behaviours are often activated when

young children, who have developed an attachment to a specific figure, are absent or

distanced from that care-giving figure. Other environmental conditions that may activate

attachment behaviours include the figure's departing or returning after an absence, rebuff

by or lack of responsiveness of that figure or of others, and alarming events of all kinds

(Ainsworth, Blehar, Waters, & Wall, 1978). Internal conditions such as illness, hunger,

pain, or cold could also initiate attachment behaviour. Ainsworth and her colleagues

suggested that a mother's sensitivity and responsiveness to her infant's signals and needs

during the first year of life were important prerequisites to the development of a secure attachment relationship.

Mary Ainsworth empirically tested the ideas that Bowlby proposed. She developed a method of measuring the attachment relationship that pushed attachment theory into new realms and in different directions. Her methodology employed naturalistic observations of the behavioural patterns of families who were visited 18 times in their homes, beginning with the infant's first month and ending at 54 weeks. Each home visit was four hours during which time the family's normal routine was observed, resulting in approximately 72 hours of data collection per family.

The interactive patterns between mothers and children continued to fascinate Ainsworth, and she developed a structured laboratory observation method known as the Strange Situation (Ainsworth & Wittig, 1969). This method was designed to create conditions of low and high stress during which time the children's attachment and exploratory behaviours were recorded. The Strange Situation paradigm made it possible to classify particular qualities of the relationship between infant and mother. It is described as follows:

> [It] is a 20-minute miniature drama with eight episodes. Mother and infant are
>
> introduced to a laboratory playroom, where they are later joined by an unfamiliar
>
> woman. While the stranger plays with the baby, the mother leaves briefly and
>
> then returns. A second separation ensues during which the baby is completely
>
> alone. Finally, the stranger and then the mother return (Bretherton, 1992, p. 765).

How the infant responds to the caregiver when distressed or not distressed is what determines the attachment security classification. However, the context and organisation of the behaviours is of utmost importance as the presence or frequency of particular

behaviours alone is not enough (Bretherton & Waters, 1985; Sroufe, 1985). As a result of the observations made during this procedure, the mother-child dyads were classified into one of three attachment classifications that became known as secure, anxious - avoidant, or anxious - ambivalent.

Ainsworth et al. (1978) described infants classified in Group B (securely attached) as being distressed by their mothers leaving and pleased with their return, greeting them with a smile, cry, or approach. Group B infants were observed to seek out and maintain proximity and contact with their mothers. They resisted disengagement and did not avoid their mothers upon their reunion. After the mothers' return these infants settled easily and returned to play.

Infants classified in Group A (avoidant) were usually not distressed during the separation, and if they were distressed, the presence of a stranger was enough to alleviate the distress. Often the infants in Group A ignored the mother on her return, or if the infant did acknowledge her, it was with an avoidant response including turning away, moving past, or ignoring the mother's gaze. These infants typically avoided interaction or proximity with their mother in the reunion episodes.

Infants classified in Group C (insecure - ambivalent/resistant) were highly distressed by the separation and sought out or signalled for contact on reunion, but could not be settled by the parent and showed strong resistant behaviour to both the stranger and mother. The infant's responses to a particular parent in the separation and reunion situation were considered by Ainsworth and her colleagues to reflect the history of the interaction the infant had experienced with that parent in the home and to predict important differences in later functioning (Ainsworth et al., 1978).

A fourth attachment category was added by Main and Solomon (1986) after they discovered a group of infants who did not appear to resemble one another in coherent, organised ways, but rather shared behaviours which seemed to lack a readily observable goal, intention, or explanation (Main & Solomon, 1990). They labelled this category of attachment as disorganised and/or disoriented. Main and Solomon (1990) describe these children as displaying one or more of the following features: "disordering of expected temporal sequences; simultaneous display of contradictory behaviour patterns; incomplete or undirected movements and expression, including stereotypes; direct indices of confusion and apprehension; and behavioural stilling" (p. 122). This category - labelled as D - is readily accepted as the fourth attachment category in both the Strange Situation paradigm and in other methods of assessing attachment behaviour.

Since Ainsworth's development of attachment assessment methodology, this field has expanded into using representational measures for children (e.g. Klagsbrun & Bowlby, 1976), attachment-based doll-story completion tasks (e.g. Bretherton, Ridgeway, & Cassidy, 1990), and Q-sort methods that provide a continuous measure of the attachment relationship (e.g. Waters & Deane, 1985) and maternal sensitivity (Pederson & Moran, 1995). Fundamentally, underlying each of these methods is the measurement of the "affectional bond" that Bowlby identified as central to attachment relationships; either at the behavioural level (observable proximity seeking) or at the representational level (internal working models) (see Main, Kaplan, & Cassidy, 1985). Additionally, attachment security has been examined from a physiological perspective and as a correlate of emotional regulation and temperament (e.g. Fox, 1995; Sroufe, 1985).

Bowlby posited that attachment patterns developed in infancy and early childhood influence the development of relationships across the life span. In recent years, the scope

of attachment research has expanded beyond infancy to include relationships in childhood, adolescence, and adulthood (e.g. Bretherton & Waters, 1985; Hazen & Shaver, 1987; Parkes & Stevenson-Hinde, 1982; Scharfe, 1999). For example, Hazen and Shaver (1987) established an attachment perspective of adult romantic relationships. They argued that romantic love can be conceptualised as an attachment process; established relationships between lovers and spouses are attachments, as described by Bowlby (1969/1982, 1973, 1979). Complex emotional dynamics characterise these relationships with enduring affectionate bonds. Further, they suggested that early variations in social experience produce relatively enduring differences in relationship styles. Thus, romantic love may take on different forms, depending on the individual's attachment history.

Attachment and Social Understanding

The premise of attachment theory is that the early caregiver-child relationship influences children's development across the life span. Attachment is related to differences in cognitive abilities. Judy Dunn (1988, 1995) has emphasised that the family context serves as the basis for children's understanding of mental states and the behaviour of others. Mothers of securely-attached children have been found to be more likely to treat their children as individuals with minds (Fonagy, Steele, Steele, & Holder, 1997; Meins, Fernyhough, Russell, & Clark-Carter, 1998), and secure attachment at 12 months predicts successful performance on theory of mind tasks at age five (Fonagy, Steele, Steele, & Holder, 1998). Children with secure attachment histories have been found to remember positive events more accurately than negative events, while the reverse is true for children with insecure attachment histories (Belsky, Spritz, & Crnic, 1996). Securely attached children are better able to understand mixed (opposite-valenced) or ambivalent emotions at age six (Steele, Steele, Croft, & Fonagy, 1999).

Variation in the level and areas of functioning in children classified in different attachment security categories has drawn some attention in recent years. In their longitudinal study of children followed from infancy to age eight, Bohlin, Hagekull, and Rydell (2000) found that children who were classified as securely attached as infants, were more socially active, positive, reported less social anxiety, and were rated as more popular with their peers than children who were classified as insecure. Using the Strange Situation paradigm in infancy and the Separation Anxiety Test at school-age, the authors found that early, as well as concurrent attachment security, was related to good social functioning at school age.

Variation in cognitive functioning has been noted in children from different attachment categories. For example, children classified as having a secure representation of attachment performed better on tests of concrete and formal operational reasoning than children who were classified with insecure attachment representations (Jacobsen, Edelstein, & Hofmann, 1994). As more attention is devoted to examining group differences between the attachment categories, the focus can shift from examining solely how children classified as securely attached differ from the children classified as insecure, to defining more clearly where differences lie between the children in the insecure attachment groups.

Internal Working Models

Bowlby (1969/82) posited that over time children internalise their experiences with significant others. The quality of childhood relationships with caregivers results in internal representations or "working models" of the self and others. These provide the prototype for later social relationships. Children's understanding of others comes from their experiences with and images of other people, just as their sense of personal

worthiness forms their image of self. Similar to Piaget's concept of schemas (Piaget, 1963), internal working models are "mental rules constructed from experience which provide a framework for interaction and perception of the self" (George & Soloman, 1989, p. 223). Internal working models are believed to develop in early childhood during which time they accommodate new experiences and become increasingly stable as the child matures.

The internal working model is a dynamic construct which works both to predict and interpret another's behaviour, as well as to plan one's own behaviour responses (Bretherton, 1993). Crittenden (1990) suggests that from a cognitive perspective, internal working models assist individuals in two ways: 1) in interpreting the meaning of others' behaviour and to make predictions about their future behaviour; and, 2) in facilitating the organisation of a response. She also suggests that internal working models are really an integrated pair of models containing both cognitive and affective information. The affective component functions as an appraisal system, while the cognitive component mediates the relationship between perception, affect, and behaviour (Crittenden, 1994). Working models are believed to operate primarily automatically and outside of conscious awareness (Bartholomew, 1993).

The information children obtained from early social relationships helps them to develop complementary models of self and of other (George & Solomon, 1989). Bowlby suggested that children are more likely to develop an internal working model of self as "valued and self-reliant" (Bretherton, 1992, p. 767) and a model of others as being responsive to the child's calls for support and protection (Bowlby, 1973), if their needs for comfort and protection are met, and if they are permitted to explore the surrounding environment independently. The expectations incorporated into internal working models

are some of the most important sources of continuity between early and later feelings and behaviours. The continuity between early experience and later social relationships is due primarily to the persistence of the internal models of self and of other, in the context of a stable family setting (Bowlby, 1973).

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Self
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Researchers and philosophers have been concerned with the development of the self throughout the history of psychology. William James (1890) defined global self-esteem as the ratio of one's successes to one's pretensions. He believed a person's level of self-esteem was dependent on whether feelings of competency were experienced in areas or domains where one had aspirations of success. If successes were evaluated as equal to or greater than pretensions, high self-esteem would result, and the converse if pretensions were greater than successes.

James also first introduced the distinction between the subject and object view of self. The self as subject was labelled as the I-self, the actor or knower, whereas the self as the object of one's knowledge was defined as the Me-self. The Me-self was proposed to be formed of the "material me", the "social me", and the "spiritual me". The I-self was divided into four components: self-awareness (an appreciation for one's internal states, needs, thoughts, and emotions), self-agency (the sense of the authorship over one's thoughts and actions), self-continuity (the sense that one remains the same person over time), and self-coherence (a stable sense of the self as a single, coherent, bounded entity). The essence of this differentiation remained throughout the next century of research and theory on the self. The cognitive-developmental changes in I-self processes directly influence the nature of the self-theory that the child is developing. Both the structure and content of the Me-self at any given developmental level necessarily depend upon the

particular I-self capabilities, namely, those cognitive processes that define the knower (Harter, 1999).

The influence of significant others on one's sense of self was first examined by Cooley (1902/68), who believed that our perceptions of what others think of us are fundamental to the origins of our sense of self. Cooley felt that the reflected appraisals of others form our "looking-glass self," from which we define our sense of self. The self, according to Cooley, is a social construction based on our appraisals of other's opinions about the self. Children imitate significant others' behaviours, attitudes, and values, and they adjust their behaviour to get approval of salient socialising agents. As they adopt opinions that significant others are perceived to hold toward the self, these reflected appraisals come to define one's sense of self as a person. In Cooley's looking glass self, significant others act as a social mirror into which the individual gazes to detect their opinions toward the self, and these opinions are incorporated into one's sense of self.

The impact of social influences and social interaction on self was further developed by Mead (1968) whose concept of "generalised other" identified the "pooled or collective judgements of significant others in one's life", which develops from a particular societal perspective. Both Cooley and Mead were symbolic interactionists who believed that the self was primarily a social construction, developed through linguistic exchanges (i.e., symbolic interactions) with significant others.

In her research with children in grades three to eight, Susan Harter (1990) has found support for both James' and Cooley's theories. Differences in size between the children's importance ratings and their perceived competence were related to their self-worth. The smaller the discrepancy score the higher the child's sense of worth, providing evidence for James' hypothesis. Parental and peer regard were also found to be related to

self-worth scores providing supporting evidence for Cooley's theory. The more children felt that significant others had regard for the self, the higher were their self-worth scores.

The self is a cognitive and social construction (Harter, 1999). From a cognitive perspective, changes may influence the structure of the self-system in terms of how self-representations are organised. In considering the social influences on the self, socialisation processes such as the treatment received from caregivers are focused on. Socialisation processes impact on the evaluative component of self-representations, and as such, individual differences are typically the focus of study from this perspective. Children's interactions with others in their environment have the potential to influence both the content and valence of children's self-representations (Cassidy, 1990).

From a social development perspective, a sense of self is fostered during the early stages of the attachment relationship. During this time, an organisational basis for the child's emerging self develops based on the caregiver's synchronisation with the infant (Sroufe, 1996). Children's feelings of autonomy and belief 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 attended to (Cassidy, 1988; Verschueren, Marcoen, & Schoefs, 1996). These self-perceptions that children develop impact on later development. Children's perception of themselves also plays a dynamic role in influencing their behaviour (Measell, Ablow, Cowan, & Cowan, 1998). Individual understanding of self is considered to be a critical component to social-cognitive understanding, which also influences our understanding of others and the development of social relationships (Damon & Hart, 1982). An understanding of self is necessary for a child to be aware of the aspects of his or her self (e.g., capabilities, personality, and

physical qualities) in order to be able to interact with others (Hart & Damon, 1985). As

Sroufe and Fleeson (1990) suggest:

> The coherence of the internal self system of an individual makes it possible to
>
> predict behaviour in novel situations.... At the simplest level this involves
>
> expectations concerning (anticipation of) the other's behaviour, as well as an
>
> understanding of reciprocation of one's own expectable response within the
>
> system. This is analogous to an actor knowing not only cue lines from the other
>
> actors but also enough about the other's roles to know what emotions and attitudes
>
> are called for in various scenes (p. 28).

Defining and Measuring Self

Obtaining an operational definition for the construct of self being measured is a

challenging task. Terms related to self are often defined in one of two main ways either

in relation to self-affect or self-cognition. When self-cognition is of interest, the labels

often include self-concept, self-image, self-schema, and self-understanding, and the focus

is on domain-specific evaluations. These titles suggest a descriptive reference to the self:

"a definition of the nature and qualities of the self, without necessarily being evaluative"

(Cassidy, 1990, p. 88). Self-descriptions answer questions related to "Who am I?" or

clarify "What I am" (Harter, 1999). Indisputable facts are considered in one's self-

concept (e.g. I am female. I am a student).

When the focus is on self-affect, the terms reflect the evaluative component such

as self-esteem, self-worth, or self-feeling (Davis-Kean & Sandler, 2001). Self-evaluations

answer quantitative questions related to "How good I am" from a positive or negative

perspective (Harter, 1999). Self-esteem is typically defined as a global judgement of an

individual's overall feelings, or sense of worth, and is considered to be a relatively stable

underlying component of personality. Cassidy (1990) describes self-esteem as "the value a person places on him [or her] self: The extent to which he views himself as valuable, worthwhile, and meaningful" (p. 88). In her work, Harter (1982) describes feelings of "general self-worth" and defines them as "being happy with the way one is, feeling good about the way one acts, and thinking that one is a good person" (p. 88). She defines self-esteem and self-worth as being "overall evaluations of one's worth or value as a person", not as summary states of self-evaluations across different domains.

Referring back to James' (1890) definition of self-esteem as the ratio of successes to one's pretensions, feelings of incompetence in areas not considered to be important will not influence self-esteem as they can be discounted, or ignored. However, above all other features, self-esteem remains a subjective perception, which may or may not, reflect reality. As James highlighted, differences may exist between what a person *knows* about him/herself and what s/he *feels* about him/herself. For instance, a child may know that she is good at school and can run fast, but still feel worthless in general. In this circumstance self-esteem could be thought of as independent of specific aspects of self-concept (Cassidy, 1990).

Research on the self has typically employed self-report, projective, or behavioural observations. Self-report measures of self, like other self-report methods, rely on verbal skills. It becomes particularly important to control for young children's verbosity in order to gain more confidence that individual differences are due to variation in feelings about self and not due simply to communication variance. Some researchers speculate on young children's ability to reflect on their skills and overall feelings about themselves (e.g. Harter, 1983). However, research has shown that young children do have both the language and the cognitive ability to discuss the self by the time they are preschoolers

(Damon & Hart, 1988; Lewis & Brooks-Gunn, 1979). Most recently, Verschueren,

Buyck, and Marcoen (2001) found moderately strong longitudinal relations between

children's self-worth at age 5 and age 8. They report that young children do have "at least

a rudimentary sense of being generally (un)worthy and (un)lovable" (p. 132) and that

these feelings of self-worth can be assessed using adequate, age-appropriate measures.

The methodology used to elicit information about the self dictates what aspect of

the self is measured (Brinthaupt & Erwin, 1992). In their work, Brinthaupt and Erwin

(1992) found that reactive measures (forced choice) are more likely to be self-evaluative,

whereas spontaneous measures (open-ended) tap into the descriptive part of the self.

They report that children give more spontaneous evaluative statements when presented

with statements such as "Tell us what you like and dislike about yourself" but not when

presented with statements that contain no evaluative element, such as "Tell us about

yourself" (Brinthaupt & Erwin, 1992). Questions used on self-report measures are

commonly one of three types: a direct assessment of global self-esteem (e.g. "Do you

like yourself?" "Do you think you are a worthwhile person?"), questions about

capabilities in specific skill areas which sum to an overall score (e.g. "Do you have a lot

of friends?" "Are you good at sports?"), or questions asked of specific component parts

hypothesised to be in self-esteem which result in equations describing the relationships

between different parts (Cassidy, 1990).

However, because it is very difficult to ask self-statements that are purely

descriptive without some evaluative elements, the majority of the literature pertaining to

the self involves the self-evaluative aspect and not the self-descriptive (Davis-Kean &

Sandler, 2001). Projective techniques are useful in that it is less easy for a child to give a

socially desirable answer, given that the direct focus of the task is more ambiguous. In

the same vein, the children may be more likely to answer in a manner that is less connected to reality. Inter-rater reliability plays an important role in the scientific utility of the projective measures, as does an objective scoring methodology that translates qualitative responses into quantitative scores.

Direct observation measures are useful because a child's behaviour can be captured in the natural setting, which, in theory, should be reflective of their typical behaviour. This methodology requires extensive time involvement and personal investment to ensure that the behaviour observed is ecologically valid. Researchers who examine issues related to self in young children often choose to explore this area employing a multi-faceted assessment with a combination of interview, representational, and standardised self-report measures to gain collaborative support for their findings.

Although the self has been recognised as a critical component in children's healthy development, a gap exists in the self-literature, particularly for early elementary school age children. Due to measurement difficulties, measuring the self in young children is often avoided, despite acknowledgement of the role of self in older children's development. For the purpose of this dissertation the term self-representation will be used to define children's self-understanding and perceptions of their own areas of competence that are being measured and evaluated. Issues related to the nature of the interaction of self-esteem with self-concept will not be addressed. Children's overall evaluations of their self-worth are of primary concern.

Self Research with Young Children

Few studies have been done which examine self in children under the age of eight, a time when the self is emerging and representational skills are developing rapidly. This gap in the research has led to differing views on the nature of self in young children.

According to Harter (1996; Harter & Pike, 1984) children younger than eight years of age are unable to make judgements about their self-worth, but gain increasing ability to differentiate more numerous domains of self as they mature. She suggests that self-concept becomes increasingly abstract with age, moving from concrete descriptions of behaviour to trait-like psychological constructs. However, it is interesting to note that the items Harter and Pike (1984) use in their measure of self-concept for young children contain an evaluative component as young children are asked to rate their perceived competence in four broad domains. Harter's position has been widely disputed as kindergarten-aged children and children as young as four years have been found to be able to differentiate aspects of themselves (Marsh, Craven, & Debus, 1991; Measell et al., 1998). Further, Harter's account does little to tell us where such thoughts come from, nor does it provide clear evidence in support of the contention that children's ability to evaluate specific domains is developed before their ability to evaluate themselves globally (Marsh et al., 1991).

<u>Attachment and Self: The Influence of Relationships on the Self</u>

Current theories of the development of social cognition (e.g., Dunn, 1993; Fonagy, Steele, Steele, & Holder, 1998; Meins, 1997; Meins, 1998; Meins et al., 1998) have emphasised the role of interpersonal processes in how a sense of self and other develops (e.g., Kaye. 1980; Stern, 1985). This directs attention towards the relationship context of the development of self.

Attachment theory and research posits that children who experience their caregivers as emotionally available, loving, and sensitive to their needs develop a working model of the self as loveable and competent. In contrast, children who experience their attachment figures as rejecting or emotionally unavailable, and

unresponsive to their needs, construct a working model of the self as unlovable, incompetent, and generally unworthy. Bowlby referred to self-esteem and to feelings of competence and related them to a variety of aspects, including the attachment relationship: "Typically these [securely attached] children grow up to be secure and self-reliant, and to be trusting, co-operative, and helpful toward others. In terms of attachment theory, he is described as having built up a representational model of himself as being both *able* to help himself and as *worthy* of being helped should difficulties arise" (Italics added; 1979, p. 136).

Differences in interactions between child and caregiver are presumed to influence working models of self, other, and relationships (Bowlby, 1969/1982; Main et al., 1985). Based on the observed variations in behaviour between children in each of the attachment categories, predictions may be made about how these children will interact with others, and feel about themselves. Securely attached preschool children have been rated by teachers as having high levels of self-esteem (Oppenheim, 1997), presenting a more positive representation of self, showing more self-confidence, and were rated by classroom teachers as having higher socio-emotional competence than insecurely attached children (Verschueren & Marcoen, 1996). From an early age, children's feelings about self have the potential to impact on their interactions with the world.

The connections between working models of the attachment figure and the self have captured the attention of several researchers. Cassidy (1988) found that six-year-old children, who were classified as securely attached using a child self-report method, described themselves positively in both puppet and self-interviews. These children were also able to admit personal imperfections, which was thought to indicate a sense of confidence to explore and reveal both strong and weak points of the self. Verschueren et

al. (1996) found similar relations between the positive affective quality in five-year-old 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 than were children who had a negative perception of self.

Based on the findings from the above-mentioned studies, Easterbrooks and Abeles (2000) predicted that aspects of self would be positively associated with attachment security and behavioural adaptation in eight-year-old children. Their results showed that children's ease in providing self-evaluations was related to their emotional security and coping responses on a projective attachment measure, the Separation Anxiety Test (SAT). Children who were more comfortable in discussing themselves also had fewer internalising and total behaviour problems as rated by their mothers and teachers. Concurrent and predictive relations of child-mother attachment security to self in five-year-old children were examined in another study (Clark & Symons, 2000). Concurrent attachment security scores were found to predict the degree of openness with which a child was able to talk about his or her self, similar to the results from the Easterbrooks and Abeles (2000) study. Children who were able to admit personal imperfections had higher attachment security scores at age five years. These results suggest that a secure attachment relationship is important for children to feel comfortable presenting a realistic image of themselves.

Taken together, these studies suggest that the early relationship parents have with their children influences the development of self in young children. How the parent-child relationship continues to influence the self as children develop and enter school is less clear. One goal of this dissertation is to examine concurrent relations between attachment

security and representations of self. A conceptualisation of young children's internal

working models of self and other within their most immediate environment, their

families, will help in developing a stronger framework for understanding how children's

attachment style influences how they develop social relationships.

<u>A Conceptualisation of Attachment</u>

Adult attachment styles have been conceptualised as being formed from an

internal model of the self and an internal model of others (Bartholomew, 1990;

Bartholomew & Horowtiz, 1991). Bartholomew (1990) used this dichotomy as the

framework for understanding attachment styles based on Bowlby's (1973)

conceptualisation of internal working models of self and other formed from attachment

relationships. Using the two key features of working models, an understanding of self and

other, individuals are categorised in one of four categories depending on whether they

have a positive or negative view of self and whether they have a positive or negative view

of other (see Figure 1). On the *other* dimension, an individual is classified as being either

high or low on feelings related to the attachment figure being responsive to needs for

support and protection. On the *self* dimension an individual is classified as either high or

low on feelings about whether s/he as an individual is someone others will respond to in a

helpful way. The result of assembling these two dimensions is that an individual may be

classified into one of four categories: secure, preoccupied (similar to ambivalent),

dismissing (similar to avoidant), or fearful (Bartholomew, 1990).

An individual who believes that she or he is worthy and that others are generally

accepting and available would be classified as secure. Individuals who maintain positive

feelings towards others but feel that they are personally unworthy are classified as

Figure 1.

<u>Bartholomew's (1990) Model of Adult Attachment</u>

Model of Self
(Anxiety)

	Positive	Negative
Positive	**Secure** *- comfortable with intimacy and autonomy*	**Preoccupied** (Ambivalent) *- preoccupied with relationships*
Negative	**Dismissing** (Avoidant) - *dismissing of intimacy* - *counter dependent*	**Fearful** - *fearful of intimacy* - *socially avoidant*

Model of Other
(Avoidance)

preoccupied. Typically these individuals seek self-acceptance by receiving acceptance from others. Individuals who feel generally worthy about themselves but who believe that others are rejecting and unreliable are classified as dismissing. Finally, individuals who feel negatively towards both themselves and others and therefore avoid relationships are labelled as fearful.

These two dimensions can also be conceptualised in terms of dependency along the *self* axis and avoidance of intimacy on the *other* axis. If individuals are low on dependency they do not require external validation in order to feel worthy about their self. In contrast, individuals who are high on dependency rely on others to validate or accept them in order to maintain positive self-regard. If individuals are high in avoidance of intimacy they avoid close contact with others in order to minimise possible negative consequences from the interaction, whereas individuals low on avoidance of intimacy would feel confident in their relationships with others. Both dimensions of self and other are needed to fully understand secure base behaviour. "I am loved" is a statement about other; "I am loveable" is a statement about self.

Thinking about attachment relationships along the two dimensions of avoidance and dependency can be traced back to the seminal work of Ainsworth et al. (1978) (see Brennan, Clark, & Shaver, 1998 for a review). Ainsworth et al. (1978) were able to distinguish among secure, avoidant, and anxious-ambivalent babies using two discriminant functions, similar to avoidance and attachment-related anxiety dimensions, formed by the continuous scales used to code infants' behaviour in the Strange Situation. Avoidance was defined by the child's "discomfort with closeness and dependency" and anxiety by the child's "crying, failing to explore confidently in the absence of mother, and

angry protest directed at mother during reunions after what was probably experienced as abandonment" (Brennan et al., 1998, p. 2-3).

Using a two-dimensional model to think about attachment relationships began to gain more notice after Crittenden (1988) identified a fourth attachment pattern that she initially labelled as a mixed avoidant/anxious type. Her work was further supported by Main and Solomon (1986; 1990) who found a similar pattern in their work. They called this pattern disorganised and disoriented attachment and a large number of studies have been conducted recently on this attachment category. The inclusion of this fourth attachment style helps the dichotomous thinking of self and other fit into the four identified attachment patterns.

As specified in internal working model literature, the attachment relationship influences the thoughts and feelings about self and other. However, as Bartholomew (1990) suggests, self and other are built interactionally as young children confound their perceptions of the attachment figure's availability and their own love-worthiness. The degree to which these two dimensions can be clearly identified and used to predict unique aspects of the attachment relationship is an important question, particularly as they develop in young children. Bowlby (1973) suggested that logically these variables would be independent, however in practise they are likely to be confounded. As a result, the model of the attachment figure and the model of the self are likely to develop so as to be complementary and mutually confirming.

As we think about internal working models, the discussion highlights that attachment styles are not likely to be simple mental structures. As Shaver and Hazen (1993) suggest; "[attachment styles] are linked to emotions and behaviour patterns. are parts of complex overlearned mental and behavioural structures, and probably act in part

as self-fulfilling prophecies" (p. 53). The internal working model is a dynamic construct which starts as an internalised schema and then is "externalised and maintained through the choice of social environments and partners, habitual interaction patterns, and model-driven processing of socially relevant information" (Bartholomew, 1993, p. 53).

Can children's attachment style differences be described as reflecting variance along the dimensions of avoidance and anxiety, or self and other, as Bartholomew suggests apply to adult relationships? Although Bartholomew's (1990) model of attachment relationships has been used to explain adult attachment relationships, and adolescent attachment relationships (Scharfe, 1996), this two-dimensional model has not been examined for its viability in explaining children's attachment relationship. A comparison of this approach with Bowlby's original distinction is found in Figure 2.

The Current Studies

Understanding the dimensions and importance of internal working models in young children has been largely a theoretical pursuit. The present dissertation aims to reduce the gap in this research area by examining the relation between attachment, self, and other, in early-elementary-aged children. The study designs follow from organisational attachment theory (Bretherton, 1985, 1991; Cassidy, 1988, Verschueren et al., 1996). The literature on models of children's attachment is based primarily in theory. While attention has been focused on the dimensions of self and other independently and their relation to attachment, examining both dimensions as part of internal working models, as proposed by Bowlby, has not received full attention. The present dissertation investigates the nature of the dimensions of self and other in children's attachment relationships. The purpose was three-fold.

Figure 2.

Model of the Development of the Self and Other Constructs: Bowlby and Bartholomew's

(1990) Theoretical Models

Bowlby (1969/82)

• proposed that there are 2 features of internal working models of attachment

Self   *Other*

• whether self is someone others   • whether others respond to calls
respond to in a helpful way   for support and protection

Bartholomew and Horowitz (1991)

Self   *Other*

• expectations about the worthiness of self   • expectations about the availability
of others

• degree of internalised sense of self-worth   • degree that others are expected to
be available and supportive

• associated with anxiety or dependency   • tendency to seek out or avoid
closeness in relationships

First, the model of the self and the model of the other as described were applied to the children's representations of their attachment relationships. It was appropriate to test the model's value with young children given that the attachment relationship is proposed to influence individuals over their life span, and that this model has been found to provide valuable distinctions in both adult (Bartholomew, 1990; Bartholomew & Horowitz, 1991) and adolescent literature (Scharfe, 1996). Essentially the distinctions as theorised by Bowlby would be applied in a theoretical manner to children's representations of their attachment relationships, providing distinction between feelings about self and their expectations of others.

Second, in order for the Bartholomew (1990) model to be useful in its predictive power, differences associated with each of the attachment patterns would need to be seen on both dimensions, self and other. The representation of self measures were expected to differentiate groups with a positive model of self (secure and dismissing) from those with a negative model of self (preoccupied and fearful). Furthermore, representation measures of other were expected to differentiate groups with a positive model of others (secure and preoccupied) from those with a negative model of others (dismissing and fearful).

Third, in order to increase the predictive power and ecological validity of the model, the differences along the self and other dimensions between the attachment patterns should be seen from the perspective of the significant adult observers in the children's lives (i.e., parents and teachers). Sroufe and Fleeson (1990) argue that relationships need to be considered as totalities, and as such, multiple observers of relationships should be accessed. The inclusion of observations of parents provided an overview of the children's behaviour in the home environment, while the teachers

provided their outsider perspective on how each child was functioning within the school setting, a beginning step of entry into the outside world.

In order to examine these questions, two experiments were designed. In the first study, children in grades primary to 3 (ages 5 to 9) were administered representational measures of the attachment relationship and self. The application of the Bartholomew (1990) model was explored using cluster analysis of the two measures assessing the relevant dimensions of self and other. Attachment pattern differences were examined and related to self measures.

In the second study, a subset of children from the first study were administered additional measures including attribution stories to examine the children's attributions about the behaviour of others, and to expand on the possible roles of "other" that may occur typically in a child's interactions in life. Following the work of Dodge and colleagues it is known that children's social behaviour is influenced by how they attribute the intent of interactions (e.g., see Crick & Dodge, 1994, for a review). However, attributions have not been related to working models of relationships in prior research. Further, the use of additional reporters, children, parents, and teachers, allowed for a multi-method assessment to occur, which would provide additional information about the children's functioning in different elements of their lives, independent of their own reports of their feelings about self and other.

If viable, the proposed attachment model will provide clearer distinctions of the dimensions influenced by early attachment relationships, which are hypothesised to influence relationships and behaviour across the life span.

STUDY 1

There are several areas of research that lead to the current study. First, research on the self has not focused on young children. Second, the family context of influence on children's sense of self has been alluded to throughout the history of psychology, but it is only beginning to be examined in a scientifically rigorous fashion using analyses of discourse to assess internal working models of relationships. Third, research on self and working models of relationships has suffered from a limited number of measurement tools in young children. In part, this is because Bowlby's (1969/82) concept of working models has only recently gained attention, and the methodology differs from observations of relationships in infancy (e.g. Ainsworth et al., 1978). These convergent themes underscore some of the current directions in several research areas: psychology of the self and attachment theory research.

The goal of the first study was to examine concurrent relations between attachment security and representations of self. This study tested two specific hypotheses. First, children's responses on an attachment measure were expected to correlate significantly with measures of self given that the development of self is understood to be influenced by significant concurrent relationships. Second, children classified in different attachment categories were expected to differ on measures of self and other. Those children, who, based on their attachment classification, had a positive representation of self were also expected to have a positive perspective of their self on other independent measures of self worth.

I wanted to investigate whether children's working models of self and other may follow the pattern established in adult and adolescent attachment literature (Bartholomew, 1990; Bartholomew & Horowitz, 1991). This was examined by relating self-

30

representation measures and attachment measures in a dimensional analysis. In addition, the attachment and self-reliant scales of the SAT were used to classify the children into one of four attachment categories. These two scales were chosen as their construct definitions best matched the self and other constructs identified by Bowlby and later expanded on by Bartholomew (1990) in their respective attachment models (see Figure 3).

In the current study, the attachment and self-reliant scales of the SAT were entered into a cluster analysis with the specification of forming the four attachment classifications. These were expected to represent well-established attachment categories of secure, preoccupied, dismissing, and fearful. Unequal group membership was expected given the theoretical distribution of attachment categories, which predicts that relatively more children will be classified as secure, and few children will be classified as fearful. Measures of self and other were expected to differ across the groups. A one-way ANCOVA with four levels fitting secure, preoccupied, dismissing, and fearful categories was calculated with the self-representation measures and the avoidant scale score as the dependent measures to examine these predicted differences of the self and other measures between the four attachment classifications. Relevant demographic variables were entered as covariates.

More specifically, the children who were classified as securely attached compared to the children in the other attachment categories were anticipated to admit more personal imperfections and to have a more positive perspective of themselves. Based on the Bartholomew (1990) model, the children in the preoccupied group were predicted to have more positive perspectives of others, as reflected in their less avoidant responses, than the dismissing and fearful groups. They were also expected to have a less positive

Figure 3

Model of the Development of the Self and Other Constructs: Adding in the Separation

Anxiety Test

Bowlby

• proposed that there are 2 features of internal working models of attachment

Self   *Other*

• whether self is someone others respond to   • whether others respond to calls for
  in a helpful way   support and protection

Bartholomew and Horowitz (1991)

Self   *Other*

• expectations about the worthiness of self   • expectations about the availability of
                                                                         others

• degree of internalised sense of self-worth   • degree others are expected to be
                                                                         available and supportive

• associated with anxiety or dependency   • tendency to seek out or avoid
                                                                         closeness in relationships -avoidance

Current Study

Separation Anxiety Test

Self Reliance Scale   *Attachment Scale*

• focus on enjoyment of being alone   • focus on the parents' leaving or
                                                                         unavailability

• ability to express self-confidence   • express vulnerability or need about
                                                                         the separation

• feeling "ok"

perspective of themselves than the children in the secure and dismissing groups. The

children in the dismissing group were expected to have a more positive perspective of

themselves and admit more personal imperfections than the children in the preoccupied

and fearful groups. However, they were also expected to have more avoidant responses

in relation to others than were the children in the preoccupied and secure groups. Those

children classified as fearful were expected to be less positive and less open in their

perspectives of themselves than were the children in the secure and dismissing groups.

They were also predicted to be more avoidant in their responses about others than were

the children in the secure and preoccupied groups.

As proposed by Bartholomew and Horowitz (1991), the self-representation

measures were expected to differentiate groups with a positive model of the self (i.e.,

secure and dismissing) from those with a negative model of the self (i.e., preoccupied and

fearful). These between group comparisons were calculated using the subject

classifications derived from the SAT attachment ratings. A 2 (positive vs. negative self-

image) X 2 (positive vs. negative other-image) multivariate analysis of covariance

(MANCOVA) was performed on the two self-representation measures, openness and

positiveness, to examine the differences on the self dimension. Although these

hypotheses were developed following predictions from the adult attachment literature,

given the difficulties associated with measuring self in young children, the predictions

from the attachment groupings were exploratory and intended to provide some

preliminary evidence about the nature of possible influences on self in young children.

A representational measure of children's attachment was administered to obtain

two measures: 1) continuous scores on three scales related to attachment, and; 2) cluster

analysis classification into one of four categories of attachment security: secure,

dismissing, preoccupied, and fearful. Self-report ratings of self were obtained using a projective puppet methodology. The inclusion of a measure of receptive language ability was used to control for the influence of language on the self-report measures of self and other, as the attachment measure requires a verbal response. Children who were five to nine years of age were examined.

Method

Participants

Participants were 176 children in grades primary to three, who ranged in age from 62 to 112 months, $M = 87.79$, $SD = 10.86$. The Dalhousie Graduate Ethics Committee and the Halifax Regional School Board approved the study. Six elementary schools within the Halifax Board of Education assisted with recruitment of participants. In each school, classroom teachers gave eligible children an information sheet about the study and a consent form to take home to their parents (see Appendix A). Those students who returned the required signed consent form were eligible to participate in the study. The response rate at the schools ranged from 11% to 37% ($M = 22.1\%$). One family chose to withdraw their child from the study after consenting to participate.

One hundred and eighty-eight children originally participated in the study. However, due to equipment failure, ten children had to be dropped from the final analyses because either the SAT or the Puppet Interview was unable to be transcribed due to no sound on the video-recording. One other child was dropped from the analyses because her receptive language score was more than two standard deviations below the normal mean score, and she had been identified within her school as a child with special needs. Another child chose to withdraw from the study.

Ninety-three children (53%) were female. Twenty-three (13%) were the only child in their families, seventy-eight (44%) had one sibling, fifty-four (31%) had two siblings, and twenty children (12%) had three or more siblings. Eighty-six children (50%) were the first born child in their families, fifty-eight (33%) were second born, nineteen (11%) were third born, and eleven (6%) were the fourth or later born child in their family. All of the children spoke English as their first language and thirty (17%) of the children spoke French as a second language at home. Their racial composition was predominantly White (n = 173, 98%). Two of the children were Black, and one child was Arabic. This ethnic composition is typical of the general population of Nova Scotia, in which most people are of European descent. One hundred and thirty (74%) of the children resided with married parents, sixteen children (9%) lived with a single parent, eighteen (10%) had parents who were separated or divorced, eight (5%) had parents who were living common-law, and three sets of parents were composed of the child's natural mother remarried to the child's step-father (3%).

One hundred and twenty-nine (73%) of the mothers and all of the fathers for whom information was provided were employed outside of the home. In fifteen single parent or separated families, no job record was reported for the child's father, and in two single parent families, no job record was provided for the child's mother. A wide socio-economic status (SES) range was indicated by Blishen Scores (Blishen, Carroll, & Moore, 1987) which specify scores based on a composite of the predominant income and prevailing education levels in occupations. The scores ranged from 22.08 to 101.32, M = 48.97, SD = 14.90, for outside-the-home-employed mothers and from 23.70 to 101.32, M = 49.17, SD = 13.81, for fathers. This covers the full range of the Blishen SES scale. A family SES variable was calculated as the average of the two parents' scores when both

parents were employed. In families with a single wage earner that SES score was used. No Blishen score was assigned to families where both parents were unemployed (n = 8, 5%). The family SES scores ranged from 23.70 to 101.32, M = 49.03, SD = 12.84.

The parents' highest level of education was reported. Seven (4%) of the mothers had not finished highschool, fifty (29%) completed highschool, forty (23%) attended college, forty-four (26%) completed university, and thirty (18%) obtained a post-graduate degree from university. Seventeen (11%) of the fathers had not finished highschool, forty-one (26%) finished highschool, forty-seven (29%) attended college, thirty-three (20%) completed university, and twenty-three (14%) obtained a post-graduate degree from university.

Measures

Measures of Self

Puppet Interview. 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; Clark & Symons, 2000; Verschueren et al., 2001; Verschueren et al., 1996; Verschueren & Marcoen, 1999) to assess the internal working model of self with kindergarten-age children.

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, directed to the puppet, and answered by the child. 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 its 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. All children engaged willingly in the task. In the procedure, 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]?" (see Appendix B). 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.

The children's responses were given quantitative scores on two dimensions: positiveness and openness (see Verscheuren et al., 1996). The scales take into account the number of negative comments made and the number of times the child admits personal imperfections, respectively. On both scales, a high score (most positive or most open) receives a value of six and the lowest score is scored as one. Positiveness is based on the answers to 15 of the questions and openness is scored from the answers to five of the questions.

The coding of each dimension - positiveness and openness - takes place in two steps. First, each interview is categorised as either positive or negative. A child's interview is classified as positive if she or he does not make any negative statements, or makes only 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. Second, each interview is evaluated on a 6-point scale for positiveness of self. Interviews classified as positive receive a score ranging from 4 to 6; interviews classified as negative are assigned a score ranging from 1-3, depending on the degree of positivity and negativity in the answers, respectively.

To score the openness dimension the interview is first classified as either open or closed depending on the number of realistic imperfections the child is willing to admit. A classification of "open", with scores ranging from 3 to 6, 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" and assigned a value of either 1 or 2. A score of 1 is given if the child claims to be perfect and also adopt a defensive attitude (e.g. by saying bad things about others).

The child's responses to each question were transcribed verbatim from the videotape of each session for coding. The interview was given a quantitative score. Two undergraduate volunteers coded the interviews without any other knowledge of the children. The author also coded all of the interviews from the verbatim transcripts. Inter-rater agreement between the author and the blind raters on the positiveness dimension was $r(175) = .90$, $p < .001$ and on the openness dimension $r(175) = .91$, $p < .001$. The blind raters' scores were used in all analyses.

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. In the current study, Verschueren, Schoefs, and Marcoen's (2000) revised and translated (into English) scoring manual was used. Some grammatical changes were made to the questionnaire.

To support the concurrent validity of the measure, Verschueren et al. (1996) in a study with children in kindergarten found significant relations of positiveness of self with competence and social acceptance, behavioural adjustment to school, and with behavioural manifestations of self-esteem. Evidence of the predictive validity of the Puppet Interview was reported by Verschueren et al. (2001) where the positiveness dimension at age five predicted self-perceptions and socioemotional functioning in the same children three years later. The Puppet Interview used in the aforementioned studies served as an efficient method to gather information on children's reports about their self-esteem (Cassidy, 1988; Clark & Symons 2000; Verschueren et al., 2001; Verschueren & Marcoen, 1999; Verschueren et al., 1996).

Measures of Other

Separation Anxiety Test. The Separation Anxiety Test (SAT; Hansburg, 1972; Klagsbrun & Bowlby, 1976) is a measure of attachment security for four to seven year-old children. The Slough, Goyette, and Greenberg (1988) adaptation of the Klagsburn and Bowlby (1976) version was used, with photographs by Greenberg (1985). A series of pictures are shown to the children that depict separations between a child and his or her parent(s) (in order of administration): (1) parents go out for the evening, leaving child at home; (2) child's first day at school; (3) parents go away for the weekend, leaving child with aunt and uncle; (4) child is asked to play independently at a park while parents talk together; (5) parents go away for two weeks, and prior to their departure they give the child a present; and (6) mother tucks child in bed and leaves the room. This order of presentation alternates the order of the test pictures so that strong and mild pictures alternate as specified by early studies (see McCarthy, 1998; Shouldice & Stevenson-

Hinde, 1992; Slough & Greenberg, 1990). The children are shown gender-matched pictures.

In SAT administration the researcher describes each picture to the child, with care taken to point out each of the characters, and emphasis is added to the separation event that is occurring. After the picture is described, the child is asked a series of questions; (1) "How do you think the little boy/girl might feel in the picture?" (2) "Why do you think s/he feels (child's answer)?", and (3) "What do you think s/he will do or say?"

The Slough et al. (1988) scoring method was used which addresses three components of the children's responses. First, the attachment scale assesses children's ability to express vulnerability or their needs around the separation. This scale focuses most on how the children address their parents leaving. Second, the self-reliant scale considers the children's ability to express self-confidence in handling the separations in an independent manner. The focus of this scale is on the children's enjoyment of being alone and their lack of fear when being left. Third, the avoidant scale looks at the children's ease of discussing the separations. In this scale children's inability to answer questions, their denial of distress, or their discussion of irrelevant topics is considered. In general, attachment-related answers were expected for the severe pictures and self-reliant responses were expected to result from seeing the mild pictures.

The categorisation of a response requires that three components of an answer be considered: the valence (positive, negative, or mixed) of the feeling, the justification the child provides for the feeling, and the content of how the child proposes to cope with the situation. The answer the child provides is first placed into one of the five main categories: attachment, self-reliant, attachment/self-reliant, avoidant, or additional. Then, the answer is further classified into one of 21 appropriate subcategories. Finally, the

children receive a score for each of the scales by summing the number value given to each response. The attachment scale is summed from the children's responses to the three severe pictures, whereas the self-reliant scale is summed from the three mild picture responses. The avoidant scale is scored based on the children's responses to all of the pictures. Each scale is scored with unique requirements. The three scales - attachment, self-reliant, and avoidant - are used in this study.

A primary rater, blind to any other information about the child, scored typed verbatim transcripts. To establish the reliability of the coding scheme a second rater (the author) rescored the transcripts. High inter-rater reliability was found between the two raters on the three SAT scale scores, with correlations ranging from .91 to .94. Further, to ensure that individual coding judgements were reliable, Cohen's Kappa (Cohen, 1960) was calculated on the allocation of individual responses to the 21 subcategories across participants and yielded a kappa of .83 (see Appendix C). The percent agreement of classification between the two raters was 83%. The blind, primary rater's scores were used in the analyses.

Security of attachment representations coded using the SAT have been linked longitudinally with behavioural measures of attachment security in infancy when six-year old children's SAT responses were significantly related to security of attachment to the mother as measured with the Ainsworth Strange Situation at 12 months (Main, Kaplan, & Cassidy, 1985). Concurrent relations between children's reunion behaviour with mothers and their responses on the SAT have been found with five-year olds (Slough & Greenburg, 1990) and four year olds (Shouldice & Stevenson-Hinde, 1992). Responses on the SAT have also been found to be significantly related to behavioural functioning in eight-year-old children (Easterbrooks & Abeles, 2000).

SAT attachment classification clusters. Four attachment classification groups

were formed from the attachment and self-reliant SAT scale scores, similar to the two

dimensions of avoidance and dependency (refer to Figure 2). The SAT attachment and

self-reliant scale scores were entered into the K-Means Cluster Analysis program of SPSS

8.0 with four clusters specified. The four groups were labelled based on their self-reliant

and attachment scores. Sixty-six children (37.5%) were classified in the secure group

(high self-reliant, high attachment), 64 children (35%) were classified in the preoccupied

group (low self-reliant, high attachment), 30 children (17%) were classified in the

dismissing group (high self-reliant, low attachment), and 16 children (9%) were classified

in the fearful group (low self-reliant, low attachment). Girls and boys were equally

distributed across the attachment groups: secure ($\underline{n}$ = 39, $\underline{n}$ = 27), preoccupied ($\underline{n}$ = 37, $\underline{n}$

= 27), dismissing ($\underline{n}$ = 12, $\underline{n}$ = 18), and fearful ($\underline{n}$ = 5, $\underline{n}$ = 11), for girls and boys

respectively, χ^2 = (3, $\underline{N}$ = 176) = 6.65, $\underline{p}$ > .05. See Figure 4 for a graph of cluster

membership and descriptive statistics of each of the attachment groups.   Differences in

the predictor variables between the four classification groups were compared. Table 1

displays the means and group differences on the cluster predictor variables. Because of

unequal group membership, the homogeneity of variance between groups was examined.

The attachment scale demonstrated homogeneity of variance, Levene statistic (3, 172) =

1.05, $\underline{p}$ = .37. An Analysis of Variance (ANOVA) was calculated with attachment

category as the independent variable (secure, preoccupied, dismissing, and fearful) and

the attachment scale as the dependent measure. Significant differences were found

between the groups, $\underline{F}$ (3, 172) = 113.23, $\underline{p}$ < .001. In post-hoc analyses, each of the

groups had uniquely different values on the attachment scale. The children in the secure

Figure 4

Cluster Analysis Attachment Groups

Self-Reliance Scale

* designates cluster centre
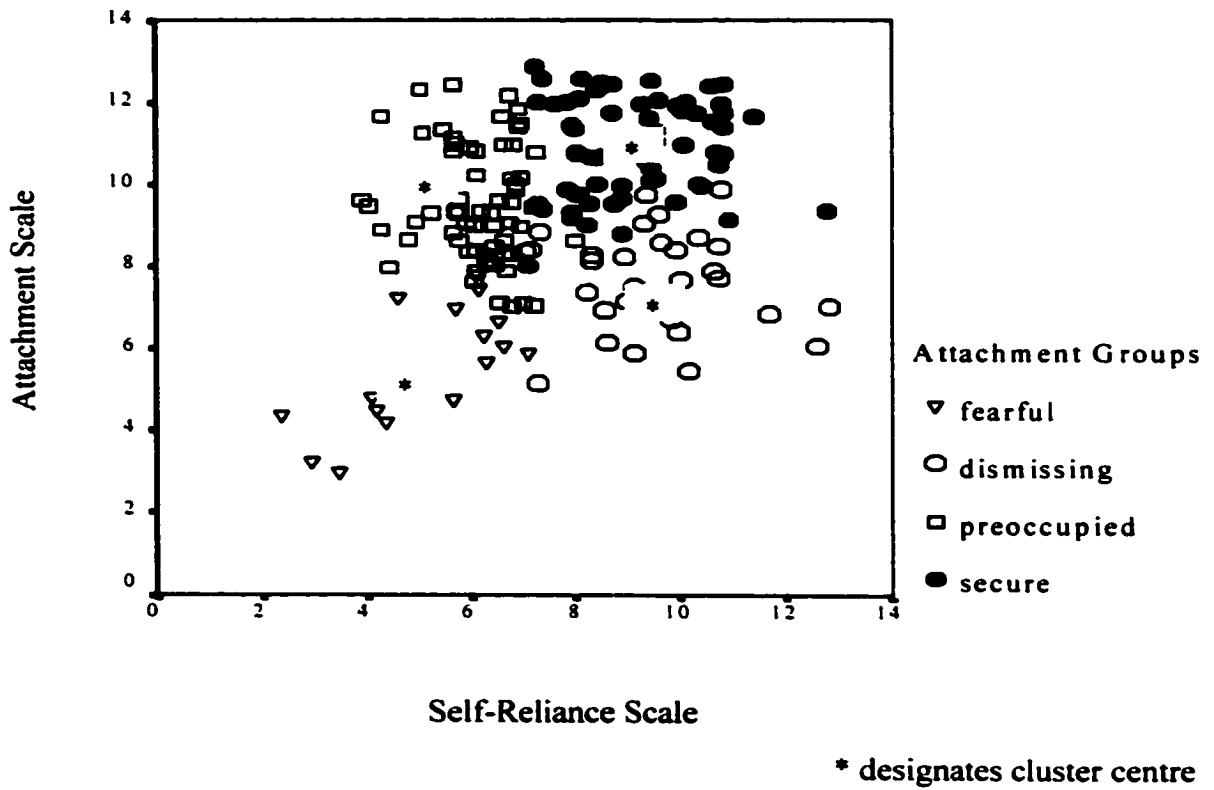
Descriptives of Attachment Cluster Membership

		Secure	Preoccupied	Dismissing	Fearful
	N	66	64	30	16
Attachment:	Mean	10.68	9.53	7.67	5.44
	SD	1.04	1.22	1.09	1.36
	Min	9	8	5	3
	Max	12	12	9	7
Self-Reliant:	Mean	9.00	5.92	9.47	5.06
	SD	1.18	0.72	1.20	1.34
	Min	7	3	8	3
	Max	12	7	12	7

Table 1

Comparison of Cluster Predictor Measures Among the Four Attachment Category

Clusters

Four Cluster Solution

Model	Secure	Preoccupied	Dismissing	Fearful
Self	Positive	Negative	Positive	Negative
Other	Positive	Positive	Negative	Negative
n	66	64	30	16

Variable	M SD	M SD	M SD	M SD	F (3, 172)

Other

Attachment	$10.68_a(1.04)$	$9.53_b(1.22)$	$7.67_c(1.09)$	$5.44_d(1.36)$	$113.23*$

Variable	M SD	M SD	M SD	M SD	χ^2 (3, N = 176)

Self

Self Reliant	$9.00_a(1.18)$	$5.92_b(0.72)$	$9.47_a(1.20)$	$5.06_b(1.34)$	$139.16*$

Note. $N = 176$. * $p < .001$. Higher scores reflect higher self-reliant and attachment scores. Attachment means with different subscripts differ according to Games-Howell post-hoc analyses, $p < .05$. Self-reliant means with different subscripts differ according to Bonferroni corrected independent t-test post-hoc analyses, $p < .05$.

group had the highest values, followed by the children in the preoccupied, dismissing, and fearful groups respectively.

The self-reliant scale did not demonstrate homogeneity of variance, Levene statistic (3, 172) = 20.09, $p < .001$, therefore, to be conservative, a Kruskal-Wallis test, a non-parametric statistic, was calculated to examine group differences. Significant differences were found between the groups on the self-reliant scale, χ^2 (3, N = 176) = 139.16, $p < .001$. In post-hoc analyses with independent t-tests, the children in the secure and dismissing groups had significantly higher scores than did the children in both the preoccupied and the fearful groups.

In order to determine the reliability of the SAT attachment classifications, a cluster analysis was conducted on the reliability coder's SAT data. The derived groups were then cross-classified with the groups derived from the coder's SAT data. Group membership was related across the two raters in the four cluster analysis, χ^2 (9, N = 176) = 316.77, $p < .001$; Kappa = .76, $p < .001$. The mean overall percent agreement was 76.

Vocabulary

The Peabody Picture Vocabulary Test – Third Edition (PPVT- III; Dunn & Dunn, 1997) is a widely recognised nonverbal multiple-choice test designed to evaluate receptive language and vocabulary in young children and adults. The child is shown four pictures while the researcher says a single stimulus word. The child then selects either verbally or non-verbally the picture that bests represents that word. The PPVT-IIIA form was used in this study. Standard scores were used from the PPVT-III, which has a mean of 100 and a standard deviation of 15. The children's standard scores ranged from 74 to 146, M = 108.18, SD = 12.13. As mentioned earlier, one child's PPVT-III score was

below two standard deviations from the mean, and she was removed from the study due to potential problems associated with receptive language abilities.

The PPVT-III has been found to be both reliable and valid (Dunn & Dunn, 1997). Split-half reliabilities for 25 age groups on Forms IIIA and IIIB ranges from .86 to .97. The PPVT-III has been reported to have good criterion validity as reflected in the correlation of .91 between Form IIIA and the Wechsler Intelligence Scale for Children – Third Edition Verbal IQ, and .82 with the Kaufman Brief Intelligence Test.

Procedure

Students in grades primary, one, two, and three whose parents completed and returned the consent form were eligible to participate in this study. The students were taken individually from their classroom for two 20-25 minute time periods. During the first session, they were informed of the procedure of the study and reassured that if at any point they wished to terminate the interview they could. The students were asked for their verbal consent using a standardised oral assent/dissent script before beginning the interview (see Appendix D).

The students completed an assessment protocol that was either videotaped or audiotaped. All of the children completed the Peabody Picture Vocabulary Test in the first session. Half of the children completed the Puppet Interview in the first session in addition to other measures which will be described in study two, while the other half of the children completed the Puppet Interview in the second session. There were no significant differences in order of presentation for either the positiveness, $t(174) = 1.33$, $p = .19$, or the openness, $t(174) = 1.39$, $p = .17$, dimensions of the Puppet Interview. All children completed the Separation Anxiety Test in the second session. The subset of children in study two also completed additional measures in the second session that will

be described in study two. Following the completion of the interview protocol, the interviewer answered any of the child's questions about the interview process and then allowed the child to choose a gift pencil from a selection of "special pencils" to take back to the classroom in appreciation for participating in the study.

The range of days between the two sessions was 0 - 8 days ($\underline{M}$ = 2.07). Only in one instance was the entire testing protocol completed in one session due to time restrictions. Inclement weather and illness accounted for the wider time gap of seven and eight days ($\underline{n}$ = 2). At the end of the study a newsletter was sent to the parents whose children participated in the study informing them of the results from the study (see an example in Appendix E).

Statistical Analyses

All statistical analyses were performed with SPSS 8.0 computer software. ANCOVAs and MANOVAs were performed with the General Linear Model (GLM) procedure with Wilks' Lambda as the main effect statistic. Prior to calculating MANOVAs, the Box's $\underline{M}$ statistic was used as a test of equality of covariance matrices to examine if there were significant difference in groups' variance. This tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups. When the Box's $\underline{M}$ value was not significant, parametric statistics were appropriate to be used. All reported significance levels are two-tailed and alpha will be noted as is appropriate.

Results

Preliminary Analyses

Means, standard deviations, and ranges of variables can be found in Table 2. The majority of the scale scores fell within the middle of the full range of possible scores and

Table 2

Descriptive Statistics of Measures

Measure	Mean	SD	Range	Possible Range
Representations of Other				
Attachment scale (SAT)	9.27	1.96	3 to 12	3 to 12
Avoidance scale (SAT)	7.63	2.18	6 to 18	6 to 18
Representations of Self				
Self-reliant scale (SAT)	7.60	2.01	3 to 12	3 to 12
Positiveness (Puppet Interview)	4.19	1.45	1 to 6	1 to 6
Openness (Puppet Interview)	3.72	1.56	1 to 6	1 to 6

Note. N= 176.

there was considerable variability in responses. Correlations of the self and other

measures with age, gender, family socio-economic status, and PPVT-III scores are in

Table 3. A significance level of $p < .01$ was used to control for Type I error. Age and

PPVT-III scores were positively and significantly related to the children's answers on

the openness dimension of the Puppet Interview. Children who were older and who had

more advanced language were willing to admit personal imperfections. Gender was

negatively and significantly related to positiveness. Girls were more positive in their

answers about themselves on the Puppet Interview than were boys. No other significant

correlations were found. Age, gender, and PPVT scores were controlled for in

subsequent analyses.

Intercorrelations, both partial and bivariate, of the self and other measures can be

found in Table 4. The partial correlations controlled for age, gender, and PPVT scores.

As expected, the scales of the attachment measure correlated significantly with the Puppet

Interview measure of self. The bivariate correlations between the attachment scale and

the openness and positiveness dimensions of the Puppet Interview were positively and

significantly related. Children who reported more secure answers in response to the

severe separation scenarios also reported feeling more positively about themselves and

were willing to admit more personal imperfections. The bivariate correlation between the

avoidance scale and the positiveness and openness dimension of the Puppet Interview was

negatively and significantly related. Children who were less avoidant in response to the

separation scenarios were more positive in their self discussion and more willing to admit

personal imperfections. The self-reliant dimension of the SAT was not significantly

correlated with either the positiveness or openness dimensions of the Puppet Interview.

The two dimensions of the Puppet Interview were not significantly correlated, suggesting

Table 3

Correlation Matrix of Descriptive Variables with Self and Other Measures

	Age in months	Gender	Family SES	PPVT-III
Representations of Other				
1. Attachment scale (SAT)	.19	-.16	.02	.12
2. Avoidance scale (SAT)	-.10	.09	.02	-.11
Representations of Self				
3. Self-reliant scale (SAT)	.06	.01	.05	.12
4. Positiveness (Puppet Interview)	.00	-.20*	-.18	.09
5. Openness (Puppet Interview)	.32**	-.03	.11	.33**

Note. $\underline{N}$ = 176, except for Family SES, $\underline{n}$ = 166. * $\underline{p}$ < .01, ** $\underline{p}$ < .001. Gender: female = 1, male = 2; Family SES: Blishen score for family.

Table 4

Bivariate (B) and Partial (P) Correlation Matrix of Self and Other Measures

		1		2		3		4		5	
		B	P	B	P	B	P	B	P	B	P
Representations of Other											
1. Attachment scale (SAT)				-.64***	-.63***	.28***	.27***	.35***	.33***	.27***	.20**
2. Avoidance scale (SAT)						-.48***	-.47***	-.26***	-.25***	-.22**	-.17*
Representations of Self											
3. Self-reliant scale (SAT)								.14	.13	.13	.08
4. Positiveness (Puppet Interview)										.13	.11
5. Openness (Puppet Interview)											

Note. N = 176. * p < .05, ** p < .01, *** p < .001. B = bivariate correlation, P = partial correlation controlling for age, gender, and PPVT-III scores.

that they measure relatively independent aspects of the children's self-representations.

Four Attachment Categories

To examine group differences between the four attachment categories formed

from the self-reliant and attachment scales of the SAT, an ANCOVA was run with the

independent variable of attachment category (secure, preoccupied, dismissing, and

fearful) and the self-representation measures as the dependent measures and age, gender,

and PPVT-III scores as covariates. The Box's $\underline{M}$ test of equality of covariance matrices

indicated that there was no significant difference in groups' variance, Box's $\underline{M}$ (6,

25933) = 6.65, $\underline{p}$ = .69.

Age and PPVT-III scores were significant covariates, $\underline{F}$ (2, 168) = 10.97, $\underline{p}$ <

.001, and $\underline{F}$ (2, 168) = 10.93, $\underline{p}$ < .001, respectively; while gender was not, $\underline{F}$ (2, 168) =

2.54, $\underline{p}$ = .08. As hypothesised, results showed a significant multivariate main effect for

the attachment classification, $\underline{F}$ (2, 168) = 2.77, $\underline{p}$ = .012. Examination of the univariate

analyses revealed the significant group differences on the positiveness dimension of the

Puppet Interview (see Table 5). Post-hoc analyses revealed that the children in the

secure, preoccupied, and dismissing groups were significantly more positive in their

thoughts about themselves than were the children in the fearful groups. No significant

group differences were found on the openness dimension.

A Kruskal-Wallis test was calculated to examine attachment group differences

with the avoidance scale as the dependent variable. A non-parametric test was used

because the avoidance scale did not demonstrate homogeneity of variance between the

attachment groups, Levene Statistic (3, 172) = 16.41, $\underline{p}$ < .001. The Kruskal-Wallis test

revealed significant group differences, χ^2 (3, $\underline{N}$ = 176) = 55.68, $\underline{p}$ < .001. Children's

Table 5

Univariate Effects of ANCOVA of Self -Representation Measures Between the Four

Attachment Category Clusters

Four Cluster Solution

Model	Secure		Preoccupied		Dismissing		Fearful		
Self Other	Positive Positive		Negative Positive		Positive Negative		Negative Negative		
n	66		64		30		16		
Variables	M	SD	M	SD	M	SD	M	SD	F (3, 169)
Representations of Self									
Positiveness	4.53$_a$(1.38)		4.15$_a$(1.44)		4.08$_a$(1.42)		3.16$_b$(1.44)		4.03*
Openness	4.00 (1.38)		3.69 (1.36)		3.45 (1.37)		3.16 (1.40)		2.01

Note. N = 176. * p < .01. Higher numbers reflect more openness, and more positiveness.

Means are adjusted for age, gender, and PPVT-III scores. Means with different subscripts differ

according to main effect Fisher's Least Significant Difference (LSD) post-hoc comparisons, p <

.05.

perceptions of others differed significantly between groups. In post-hoc comparisons

with independent t-tests, the children in the secure group had significantly lower

avoidance scores than the children in the other three groups. The avoidance scores of

the children classified in the preoccupied group did not differ significantly from the

scores of the children in the dismissing group, but were significantly lower than the

children's scores in the fearful group. The children in the dismissing group also had

significantly lower avoidance scores than did the children in the fearful group.

Examination of the effect sizes of the pair-wise comparisons revealed further

group differences (see Table 6). The difference between the secure group and the

preoccupied, dismissing, and fearful groups on the positiveness dimension found that

there were small ($\underline{d}$ = .32), ($\underline{d}$ = .32) and medium effects ($\underline{d}$ = .79) respectively, between

the groups. On the openness dimension the effect sizes between groups ranged from .19

to .89. All the effect sizes on the avoidance scale between the secure and other groups

were medium ($\underline{d}$ = .79) to large (1.04 to 3.38). The difference in effect size between the

preocccupied and dismissing groups were small (range .09-.19). The most pronounced

differences were found between the children in the fearful groups and those children in

the other groups (range .37 to 3.38).

Comparing Self Measures Across the Self and Other Dimensions

Subjects in the two groups that were theoretically expected to reflect a positive

self-representation (secure + dismissing) were hypothesised to exhibit higher scores on

the self measures than subjects in the two groups that were theoretically expected to

reflect a negative self-representation (preoccupied + fearful). Using the subject

classifications derived from the SAT attachment ratings, a 2 (positive vs. negative self-

Table 6

Effect Size (Cohen's D) Pairwise Comparisons Between Attachment Categories

	Cohen's D		
Pairwise Comparisons	Openness	Positiveness	Avoidance
Secure vs. Preoccupied	.32	.32	.79
Secure vs. Dismissing	.40	.52	1.04
Secure vs. Fearful	1.18	.89	3.38
Preoccupied vs. Dismissing	.09	.19	.14
Preoccupied vs. Fearful	.77	.56	2.21
Dismissing vs. Fearful	.61	.37	1.83

Note. An effect size of .20 is considered to be small, .50 a medium effect, and .80 or greater a large effect size, according to conventions proposed by Cohen (1988).

image) X 2 (positive vs. negative other-image) MANCOVA was performed with two self-representation measures (openness and positiveness) as the dependent variables. Age, gender, and PPVT-III scores were covariates. No significant differences in the equality of the observed covariance matrices of the dependent variance across groups was found, Box's $\underline{M}$ = 6.66, $\underline{F}$ (9, 25933) = 0.72, $\underline{p}$ = .69. Table 7 shows the self-representation scores between self and other dimensions.

Again, age and PPVT-III scores were significant covariates, $\underline{F}$ (2, 168) = 10.97, $\underline{p}$ < .001, and $\underline{F}$ (2, 168) = 10.93, $\underline{p}$ < .001, respectively; while gender was not, $\underline{F}$ (2, 168) = 2.54, $\underline{p}$ = .08. The results showed a significant main effect for the self factor, $\underline{F}$ (2, 168) = 3.88, $\underline{p}$ = .02. Upon examination of the univariate analyses, a significant effect of the self factor on the positiveness dimension was found, $\underline{F}$ (1, 169) = 6.74, $\underline{p}$ = .010. The children in the positive self-representation group had higher scores on the positiveness dimension, $\underline{M}$ = 4.31, $\underline{SD}$ = 1.47, than did the children in the negative self-representation group, $\underline{M}$ = 3.66, $\underline{SD}$ = 1.79. The children's scores on the openness dimension were not significantly higher in the positive self-representation group, $\underline{M}$ = 3.72, $\underline{SD}$ = 1.47, than were the children's scores in the negative self-representation group, $\underline{M}$ = 3.43, $\underline{SD}$ = 1.79, $\underline{F}$ (1, 169) = 1.46, $\underline{p}$ = .229.

The main effect for the other factor was also significant, $\underline{F}$ (2, 168) = 5.78, $\underline{p}$ = .004. The univariate analyses, showed a significant effect of the other factor on the positiveness dimension, $\underline{F}$ (1, 169) = 7.90, $\underline{p}$ = .006. The children in the positive other-representation group had higher scores on the positiveness dimension, $\underline{M}$ = 4.34, $\underline{SD}$ = 1.37, than did the children in the negative self-representation group, $\underline{M}$ = 3.62, $\underline{SD}$ = 1.49. A significant effect on the openness dimension was also found, $\underline{F}$ (1, 169) = 4.49,

Table 7

MANCOVA Comparing Self-Representation Measures Between Self and Other Dimensions of the Attachment Clusters

		Self Dimension						Comparing Positive vs. Negative Other
		Positive		Negative		Row Total		Univariate Effects
		Secure		Preoccupied				
		$\underline{M}$	$\underline{SD}$	$\underline{M}$	$\underline{SD}$	$\underline{M}$		
Other Dimension								
Positive	Positiveness:	4.53	1.38	4.15	1.44	4.34	Positiveness	$F(1, 169) = 7.90$ **
	Openness:	4.00	1.38	3.69	1.36	3.84		
		Dismissing		Fearful			Main Effect:	
Negative	Positiveness:	4.08	1.42	3.16	1.44	3.62	$F(2, 168) = 5.78$**	
	Openness:	3.45	1.37	3.16	1.40	3.31	Openness	$F(1, 169) = 4.49$*

Comparing Positive vs. Negative Self

Column Total Positiveness: $\underline{M}$ 4.31   3.66

Openness: $\underline{M}$ 3.72   3.43

Main Effect: $F(2, 168) = 3.88$ *

Univariate Effects: Positiveness, $F(1, 169) = 6.74$ **

Openness, $F(1, 169) = 1.46$

p = .036. The children's scores in the positive other-representation group were higher,

M = 3.84, SD = 1.37, than were the children's scores in the negative self-representation

group, M = 3.31, SD = 1.49. The interaction of self by other was not significant, F (2,

80) = .13, p = .88.

Gender and Age Potential Influences on the Dimension Differences

The potential influences of age and gender were explored to follow up on the

lack of a uniquely significant difference on the self dimension when the self-

representation measures were compared between the dimensions of the attachment

model. Age was chosen as a possible significant influence due to its influence as a

significant covariate in the ANCOVA analyses. In the ANCOVA analyses gender as a

covariate had approached significance (p = .08) so it was felt that it may offer some

valuable additional information. The age range was split at 84 months - equivalent to 7

years of age - with children younger than 85 months in the "younger" age group, and

children 85 months or older in the "older" age group. Two sets of bivariate correlations

are displayed in Table 8.

To test the difference between the younger and older children's bivariate rs, the

correlation values were transformed using the Fisher r to z transformation and then the z

test statistic was used. The younger children's bivariate correlation between the self-

reliant scale scores and the positiveness dimension of the Puppet Interview was

significantly stronger than the older children's correlation. For the younger children,

expressing feelings of self-confidence in the mild separation scenarios of the SAT was

related to the degree of positive self evaluations on the Puppet Interview. The younger

children also had significantly stronger correlations between the openness dimension of

Table 8

Age Differences in Bivariate Correlations Between the Self-Representation and

Attachment Measures

| | Self-Representation Measures | | | | | |
| SAT Scales | Positiveness | | | Openness | | |
	Younger	Older	z	Younger	Older	z
Attachment	.31**	.40***	.66	.41***	.13	1.97*
Self-reliant	.37***	-.03	2.31*	.23*	.05	1.19
Avoidance	-.32***	-.23*	.63	-.33**	-.13	1.35

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. Age groups: younger ≤ 7 years of age, n =

76; older > 7 years of age, n = 100.

the Puppet Interview and their scores on the SAT attachment scale than did the older

children. There was a relationship between the younger children's responses to the

severe separation pictures and their willingness to admit personal imperfections, while

there was no such relationship for the older children.

Table 9 displays the bivariate correlations between the girls and the boys.

Similar to the age comparisons, the correlation values were transformed using the Fisher

r to z transformation and then the z test statistic was used. The girls' bivariate

correlation between the attachment scale score and the positiveness dimension of the

Puppet Interview was significantly stronger than the boys' correlation. For the girls,

their responses to the severe separation pictures were related to their degree of positive

self evaluations on the Puppet Interview. This correspondence was not found for the

boys.

Younger children and self-representation measures. To compare the influence of

age on the model, the same MANCOVA analysis as presented earlier was recalculated

separately for the younger children and then again for the older children. Again, using

the subject classifications derived from the SAT attachment ratings, a 2 (positive vs.

negative self-image) X 2 (positive vs. negative other-image) MANCOVA was

performed with two self-representation measures (openness and positiveness) as the

dependent variables. Gender and PPVT scores were covariates. No significant

differences in the equality of the observed covariance matrices of the dependent

variance across groups was found. Box's M = 5.77, F (9, 8600) = 0.60, p = .80.

The results showed a significant main effect for the self factor, F (2, 69) = 8.63,

$p < .001$. Upon examination of the univariate analyses, significant effects of the self

Table 9

Gender Differences in Bivariate Correlations Between the Self-Representation and

Attachment Measures

| | Self-Representation Measures | | | | | |
| | Positiveness | | | Openness | | |
SAT Scales	Girls	Boys	z	Girls	Boys	z
Attachment	.51***	.14	2.74*	.34***	.20	0.98
Self-reliant	.25*	.02	1.53	.15	.11	0.11
Avoidance	-.37***	-.09	1.95	-.28**	-.15	0.89

Note. * p < .05, ** p < .01, *** p < .001. Gender: female = 1, n = 93; male = 2, n = 83.

factor on the positiveness dimension, F (1, 70) = 13.33, p < .001, and the openness dimension, F (1, 70) = 3.92, p = .05, were found. The children in the positive self-representation group had higher scores on the positiveness dimension, M = 4.72, SD = 1.36, than did the children in the negative self-representation group, M = 3.48, SD = 1.52. The children in the positive self-representation group also had higher scores on the openness dimension, M = 3.59, SE = 1.49, than did the children in the negative self-representation group, M = 2.88, SD = 1.63. The main effect for the other factor was nonsignificant, F (2, 69) = 2.59, p = .08, as was the interaction of self by other, F (2, 69) = 2.28, p = .11.

Older children and self-representation measures. A 2 (positive vs. negative self-image) X 2 (positive vs. negative other-image) MANCOVA was performed with two self-representation measures (openness and positiveness) as the dependent variables. Gender and PPVT scores were covariates. No significant differences in the equality of the observed covariance matrices of the dependent variance across groups was found, Box's M = 7.18, F (9, 3623) = 0.74, p = .67.

There was no main effect of the self factor, F (2, 93) = 0.01, p = .99. The main effect for the other factor was significant, F (2, 93) = 4.96, p = .01. The univariate analyses revealed a significant effect of the other factor on the positiveness dimension, F (1, 94) = 8.81, p = .004. The children in the positive other-representation group had higher scores on the positiveness dimension, M = 4.41, SD = 1.41, than did the children in the negative other-representation group, M = 3.33, SD = 1.55. Although the children in the positive other-representation group had numerically higher scores on the openness dimension, M = 4.06, SD = 1.50, than did the children in the negative other-

representation group, $\underline{M}$ = 3.55, $\underline{SD}$ = 1.59, this difference was not significant, $\underline{F}$ (1, 94) = 1.78, $\underline{p}$ = .19. The interaction of self by other was non-significant, $\underline{F}$ (2, 93) = 0.31, $\underline{p}$ = .74.

Figure 5 displays the main effects of the self-representation measures between the self and other factors in the MANCOVAs just presented, by age groups. The model applied to the younger children displays a significant main effect of the self factor and a nonsignificant effect of the other factor. The children in the positive self-representation groups had higher scores on the positiveness and openness dimensions than did the children in the negative self-representation groups. No differences were found between the means scores on the positiveness and openness dimensions of the children in the positive and negative other-representation groups. However, this pattern of results was reversed for the children in the older age groups. No significant differences were found between the positive and negative other-representation groups' mean scores on the positiveness and openness scores. Significant differences were found between the positive and negative other-representation groups on the positiveness and openness dimension.

Discussion

The first objective of this study was to examine concurrent relations between attachment security and representations of self. Partial correlations were run, controlling for the influences of age, family socio-economic status, and receptive language skills, in order to examine the relationship between the self and other variables independent of these characteristics of the children. Attachment was significantly related to how positively the children spoke about themselves and their willingness to

Figure 5

Age-Dependent Differences Between the Self and Other Dimensions on the Self-

Representation Measures

Younger Children (up to 84 months of age)

$Self$ Dimension

Positive ←————————→ Negative

Significant Main Effect of $Self$ Factor,
$\underline{F}$ (2, 69) = 8.63***

Positive

↑

$Other$ Dimension   No Significant Main
Effect of $Other$ Factor,
↓ $\underline{F}$ (2, 69) = 2.59

Negative

Secure	Preoccupied
Dismissing	Fearful
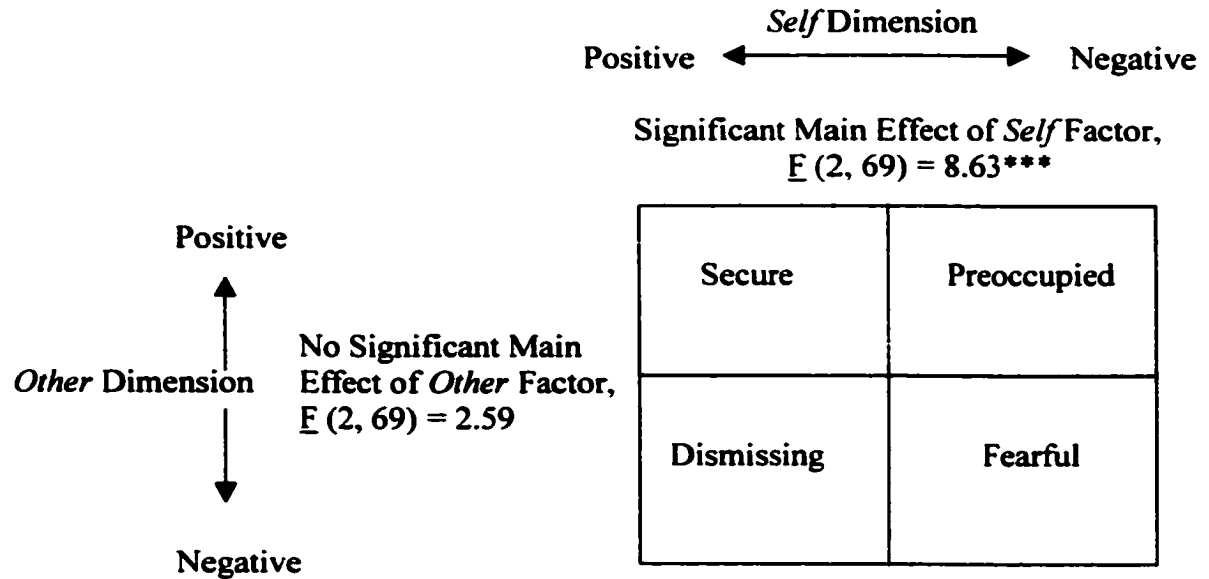
Older Children (over 85 months of age)

$Self$ Dimension

Positive ←————————→ Negative

No Significant Main Effect of $Self$ Factor,
$\underline{F}$ (2, 93) = .01

Positive

↑

$Other$ Dimension   Significant Main
Effect of $Other$ Factor,
↓ $\underline{F}$ (2, 93) = 4.96**

Negative

Secure	Preoccupied
Dismissing	Fearful
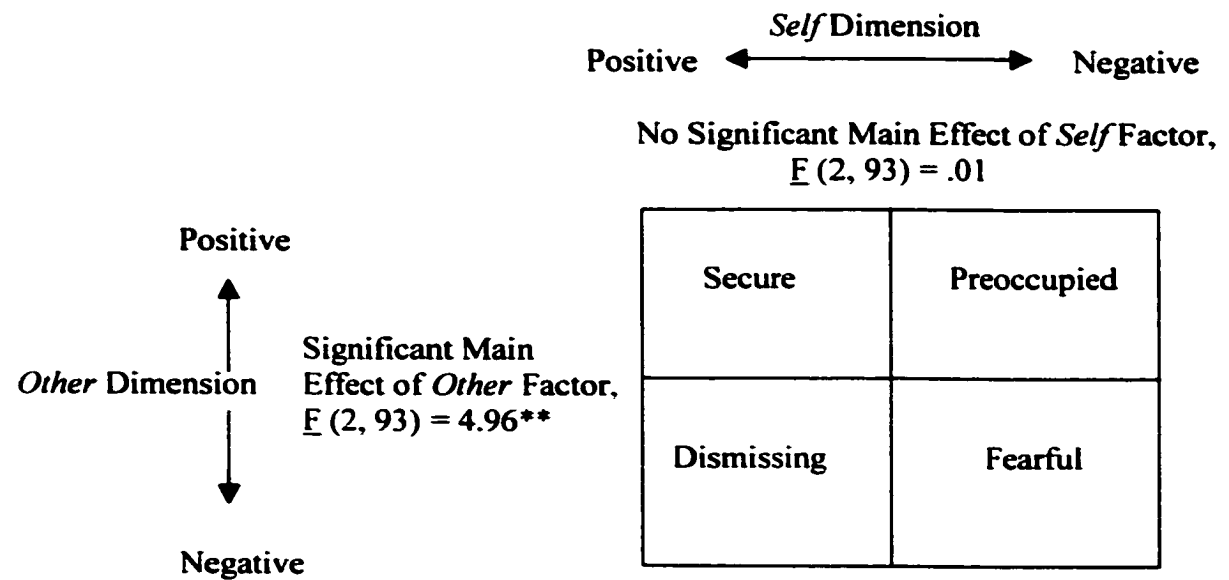
admit personal imperfections. This relationship was found in both the bivariate and the partial correlations and is thus independent of age and language. The children who expressed more secure responses on the SAT also talked about themselves in more positive ways and were comfortable in admitting that they were not always perfect. Similar relationships between concurrent attachment measures and the positiveness dimension of the Puppet Interview have been found in other studies (e.g., Clark & Symons, 2000; Verschueren & Marcoen, 1999; Verschueren et al., 1996) despite different methods employed for measuring attachment. The relation between children's degree of comfort in admitting personal imperfections and attachment has been found in previous studies (e.g., Clark & Symons, 2000) and warrants further consideration.

The second goal of this study was to determine if children classified in different attachment categories differed on measures of self and other. A model of individual differences in children's attachment in which two underlying dimensions, the child's internal models of self and of others as positive or negative, was used to define four attachment patterns. The four attachment style categories were generated by using two independent scales from the SAT, the attachment scale score on the *other* dimension, and the self-reliant scale score on the *self* dimension.

As expected theoretically, unequal group membership was found with 38% classified as secure, 36% as preoccupied, 17% as dismissing, and 9% as fearful. These percentages compare to other studies with adults and children (i.e., Bartholomew & Horowitz, 1991; Easterbrooks & Abeles, 2000) although more children were classified as preoccupied and fewer as secure than what might be considered typical. In follow-up comparisons of the between group differences, the children classified in the secure

group obtained high attachment and self-reliant scores, while the children classified in the preoccupied group had high attachment and low self-reliant scores. The children classified in the dismissing group had high self-reliant and low attachment scores, and the children in the fearful group obtained low scores on the attachment and self-reliant scales.

Whether the data should be analysed by dimensional instead of categorical analyses is called into question by the scatterplot distribution. Although the four groups differed on the measures of attachment and self-reliance, these differences may not reflect real distinctions. As others have argued (see Brennan et al., 1998; Fraley & Waller, 1998), categorisation of research participants may be in fact unnecessary when dimensional measures are available and some power and precision are lost when categories rather than continuous scales are used.

The theorised model (Bartholomew, 1990) predicts that the children in each of the attachment categories will obtain different scores on the dimensions of self and other. Significant group differences were found on the positiveness dimensions of the self-representation measures. In follow-up comparisons, the children classified as secure, preoccupied, and dismissing had significantly higher scores than those children classified as fearful. The children in the secure, preoccupied, and dismissing groups were characterised by their overall positive perspective in their descriptions of themselves. These results are similar to McCarthy's (1998). He found that children classified as secure had a significantly more positive view of self than children classified as disorganised (i.e., fearful in Bartholomew's terms). In the current study, the children in the secure category also had significantly lower avoidance scores than the children in

the other three attachment categories. The children in the preoccupied and dismissing groups did not differ from each other on the avoidance scale but the children in the fearful group had the highest avoidance scores. The groups differed in the degree to which they feel comfortable in discussing the separation from their parents.

The hypothesis that the two groups theoretically described as having a positive self-model (secure and dismissing) would differ on the self-representation measures from the two groups theoretically described as having a negative self-model was examined. Both the positiveness and openness dimensions of the self-representation measure differentiated the attachment styles with respect to the model of self. The two groups with a positive model of self (secure and dismissing) were more willing to admit personal imperfections than were the children in the two groups with a negative model of self (preoccupied and fearful). However, the groups with a positive model of other (secure and preoccupied) also differed on the positiveness dimension of the self-representation measures from the groups with a negative model of other (dismissing and fearful). This result differed from what was predicted by Bartholomew's (1990) model. Because age was found to be a significant covariate and gender approached significance, it was felt these two descriptors may provide additional insight into how the model fit - or did not fit - with the children.

The children were split into two age groups based on whether they were 1) younger than or equal to seven years of age, or, 2) older than seven years. While there were significant correlations between the openness scale and the three SAT scales for the younger children, there were no significant relations for the older group. Further, there was no significant relation between the self-reliant scale and the positiveness

dimension for the older children as there was for the younger children. These results suggest that different aspects of the attachment relationship are more influential for how children feel about themselves, depending on their age.

When the influence of gender was examined, more differences were revealed. No significant relations were found between the boys' scores on the SAT scales and the self-representation dimensions. In contrast, the girls did have significant relations between the attachment and the self-representation scales. The girls' sense of self worth was more influenced by their caregiving relationships than was the boys' sense of self worth. It is not clear what other factors may influence the boys' sense of self worth, independent of their perceptions of their caregiving relationships. Both gender and age differences contributed to the differential findings in the factors that influenced how the children felt about themselves.

Different socialisation histories may encourage girls to develop different display rules from boys to express attachment-related behaviours and affects associated with similar internal working models (Aber & Baker, 1990). However, little attention has been devoted to gender differences in attachment and working models (Simpson, 1999), despite explicit calls to do so (Bretherton, 2001). In their work, Aber and Baker (1990) found that the girls in their study were rated as more secure than the boys and were more responsive to social stimuli. In their conclusions, they called for a more serious consideration of gender differences in the attachment system.

The age differences in the children's internal working models of self and other became more pronounced when the self-representation measures were compared

between the positive and negative dimensions of self and other. The younger children differed significantly and uniquely on the self-representation measures between the positive and negative self dimensions, as predicted by the Bartholomew (1990) model. However, the older children showed the opposite pattern. They differed significantly and uniquely on the self-representation measures between the positive and negative other dimensions. This finding suggests that the Bartholomew (1990) model does not describe and predict children's feelings about self and other based on their attachment representations in a linear or smooth developmental pattern. However, interesting questions are raised about how differential components of the attachment relationship may be influencing self and other at different stages in children's development.

Limitations of the current study are related to the measure of other that was used to examine group differences across the attachment categories. While the avoidance scale scores differed between the attachment groups it was not a pure enough measure of *other* in terms of capturing the construct associated with the tendency to "seek out or avoid closeness in relationships" (Griffin & Bartholomew, 1994) and its measurement was related to the other two SAT scales. It could be important to include measures of other which more clearly assess children's expectations of, or involvement in, relationships with others. The inclusion of such a measure would allow for the dimension of other to be more clearly assessed for its utility in describing the attachment styles of children, and would support the implication of Bowlby's theory that four different attachment styles can be identified. These issues will be addressed in study two.

The focus of this study was on the children's self-reports and perceptions of themselves and of others. The exclusive self-report data collection procedure could be augmented by including the evaluations of significant others in the child's life. By including parent and teacher reports of the child's feelings about self and other, the results would no longer rely exclusively on self-report measures. Further, the additional measures may provide a snapshot of the child's behaviour in the home and at school, which could serve to broaden the areas of behaviour considered in the study. Are there differences in children's actions between attachment categories in terms of observed behaviour at school and at home, and how do these behavioural evaluations fit with the child's self-reports of self-evaluations and expectations of others? As argued by Sroufe and Fleeson (1990) and other family theorists, a relationship can not be reduced to the characteristics of participating members. Therefore the inclusion of multiple reports may provide a more complete assessment of the child's experience. If the attachment categories do differ as hypothesised then the model should predict the children's self-evaluations and their expectations of others along the two dimensions of self and other.

Children who are in early-elementary school grades are experiencing a shift in their relationships. Their parents, who were once their primary focus, continue to play a critical central role. However, their interactions with teachers and peers are gaining increasing relevance in their lives. As the focus continues to measure children's perceptions of others, it may be beneficial for this age bracket to include measures of their perceptions of their teachers and their peers' intentions as the children's conception of other expands to include these key people. Therefore, an older subset of the children was examined in study two.

STUDY 2

The first study examined the concurrent relationships between attachment security and representations of self. Specifically, the younger children's representations of self were predicted by the model of self - following the pattern established in adult and adolescent attachment literature, but the older children's sense of self worth, contrary to expectations, was predicted by their attachment related representation differences. Reliance on the students' self-reports was seen as an important first study, but one which needed to be expanded on by including additional information from other informants on the children's level of functioning in different areas - the home and at school.

Attachment is expected to influence behaviour across the life span, as well as in different environments and in various social relationships. In particular, children in early elementary school are developing new relationships with their peers and with their teachers. Theoretically, the lessons learned from children's early caregiving relationships should influence how they go about making friends and how they interact with others in their school setting. Internal working models of relationships are thought to be the mechanisms by which young children predict the behaviour of others and make motivational attributions (e.g., Cassidy, Kirsh, Scolton, & Parke, 1996; Elicker, Englund, & Sroufe, 1992; Schneider, Atkinson, & Tardiff, 2001). The attributions that children make about the behaviour of others may be one of the critical paths through which internal working models operate.

Attachment and peer representations have been linked in earlier studies from preschool to middle childhood. The security of attachment with early caregivers in the preschool period has been found to relate in theoretically meaningful ways to relationships with peers and teachers in preschool (e.g., DeMulder, Denham, Schmidt, &

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Mitchell, 2000). In middle childhood, children's perceived security with their mothers is associated with more sophisticated notions of friendship and more positive relations with a best friend and same-sex peers (Youngblade, Thurling, Tapia, Ruiz, & Reed, 2001). Children with insecure attachments to their mothers have been found to demonstrate more angry-aggressive behaviour with peers and teachers, are viewed as being less socially competent, and are less well liked than children who are securely attached (Cohn, 1990; DeMulder et al., 2000). Further, stylistic aspects of social interaction or competence have been closely related to security of attachment (Park & Waters, 1989). Children who are securely attached have been described as fostering positive social expectations which enable them to be active, positive, and to show initiative in social interactions (Bohlin et al., 2000). Securely attached children tend to approach peer interactions with a set of positive expectations and anticipate positive responses from their peers. As a result, they are likely to experience more positive peer relationships.

Cassidy et al. (1996) examined the connection between attachment and peer-related representations in three studies, the first with preschool children, the second with children in kindergarten and first grade, and the third with fourth and fifth grade students. Ambiguous stories were used to measure children's representations of peer intent in relation to a negative event. In the two studies with the younger groups, children who were classified as secure and those classified as insecure-ambivalent provided more positive responses to negative events presented in an ambiguous context than children classified as insecure-avoidant. These differences in the insecure attachment patterns mimic the differences reported by Batholomew and Horowitz (1991) in their adult studies. Cassidy et al. (1996) concluded that their data offered support for the notion that representations of the attachment figure generalise to representations of peer relations. A

key link between the family system and the peer system is the notion that the

representation of the parent generalises to the representation of peers.

In their meta-analysis of the connections between child-parent attachment and

children's peer relations, Schneider et al. (2001), found an overall effect size of .20 in

their review of 63 studies, a finding which they describe as consistent with a modest

influential role of attachment security on peer relations. They suggest that some measures

of peer-relations may assess aspects of peer relationships that are more strongly

associated with attachment than are other aspects. A stronger effect size was found for

friendship studies than for social skills required to negotiate peer relations, which they

attributed to the similarity in bonds established in family life and those formed by the

trust and intimacy of close friendships. As children mature past the age of eight, the link

between attachment and peer relations strengthens with the age at which peer relations are

measured. Further, parent-rated social interaction was linked more strongly to attachment

than was peer or teacher ratings of social interaction. The authors speculated about the

manner through which child-parent attachment facilitates peer relations. There is a need

to better understand the mechanisms that contribute to the transfer of lessons from early

to later relationships.

Elicker et al. (1992) specified three reasons why a secure attachment relationship

should promote later peer competence. First, a history of availability and responsivity on

the part of the caregiver should lead to positive social expectations in the child. Second,

being part of a relationship with a responsive and empathetic caregiver helps the child

learn about reciprocity and the nature of empathic relating. Finally, the history of

responsive care will generate a sense of self-worth in the child. These ideas suggest that

peer competence will involve, among other aspects, expectations that others will act in prosocial and mutually beneficial ways.

One method of assessing the children's representations of relationships involves the use of ambiguous negative events, such as those that have been used within the hostile attribution bias literature and have been found to relate to children's social functioning in important ways (see Crick & Dodge, 1994, for a review). As Belsky and Nezworski (1988) pointed out, these attributional processes have much in common with the affective-cognitive processes that Bowlby emphasised in discussing internal working models, and might therefore be related to attachment security (Cassidy et al., 1996). Social information processing may be the mechanism by which attachment influences social behaviour through internal working models. Affective-cognitive processes, such as those that Bowlby emphasised in discussing internal working models, are likely to be related to attachment security.

Dodge and his colleagues proposed a model of how representations of parents generalise to representations of others, which they have examined in detail (Dodge, Pettit, McClaskey, & Brown, 1986). They suggested that: 1) children's peer-related representations influence their behaviour with peers and more positive representations are associated with more positive behaviour; 2) positive behaviour, in turn, contributes to being well-liked; 3) being well-liked increased the likelihood of receiving positive behaviour from peers, and, 4) given evidence that young children use knowledge of behaviour to build representations, it seems likely that experiences of being well-treated will, in turn, contribute to the child's positive representations of peers. Thus, if young children have biased social cognitions, as may be the case with aggressive children who have a tendency to over-attribute hostile intentions to peers even when the circumstances

do not warrant such a distinction (Dodge, 1980), their potential to form quality peer relationships are limited. The thought processes that originate from early relationships go on to influence the development of later relationships.

When the findings from the attachment and peer-representation work are combined with the attribution research, an examination can be made of a possible process by which the transmission of the internal working model of *other* comes into action: how the internal working model "works" in the child's social world. The attributions that children make about their peers' intent may, as the peer-representation work suggests, be a means of observing the representation of relationships component of the internal working model, as originally proposed by Bowlby. As a further extension, do the representations that children form of the significant others have a consistent valence across members? Do children who attribute positive intentions to their peers' behaviour, make similarly positive attributions to their parents' or teachers' behaviour? Is it possible to observe some degree of continuity in the working model of other across the significant people in the children's lives as they move through the early-elementary school period? Finally, can differences in these attributions be observed on the basis of children's attachment classification?

Study 2 was designed to address these questions. The goals were to: 1) extend the proposed model of attachment to representations of other by including parent, teacher, and peer relationships; and, 2) investigate the dimensions of self and other by comparing the children's self-report, parent, and teacher measures across the dimensions of self and other in the attachment model.

To address the first goal, the children's membership in the attachment categories was maintained from the first study. The children's attributions about the behaviour of

significant others (i.e., peers, parents, and teachers) were compared between attachment groups. A one-way ANCOVA with four levels fitting secure, preoccupied, dismissing, and fearful categories was calculated with the children's positive attribution score and their social acceptance scores as the dependent measures. Relevant demographic variables were entered as covariates.

Based on the Bartholomew (1990) model, the children who were classified as securely attached compared to the children in the other attachment categories were expected to make more positive attributions about others' behaviour and to report being more socially accepted than the children in the other groups. The children in the preoccupied group were predicted to have more positive perspectives of others, as reflected in their more positive attribution and social acceptance responses, than the children in the dismissing and fearful groups. The children in the dismissing group were expected to make fewer positive attributions about others and to report being less socially accepted than the children in the preoccupied and secure groups. Those children classified as fearful were also expected to be less positive on both the attribution and social acceptance measures than were the children in the secure and preoccupied groups.

Following Cassidy et al.'s (1996) work with the attribution story measures, comparisons between attachment groups were examined for each of the story prompts. In general, it was expected that the children in the secure group would be most positive in their attributions and the children in the fearful group were expected to be least positive. The first question of the story set, "Why did the boy/girl....", was expected to elicit the most pronounced differences.

As proposed by Bartholomew and Horowitz (1991), the representation of other measures were expected to differentiate groups with a positive model of others (i.e.,

secure and preoccupied) from those with a negative model of the self (i.e., dismissing and fearful). These between-group comparisons were calculated using the subject classifications derived from the SAT attachment ratings. A 2 (positive vs. negative self-image) X 2 (positive vs. negative other-image) multivariate analysis of covariance (MANCOVA) was performed on the measures of other, overall positive attribution and social acceptance, to examine the differences on the other dimension.

To address the second goal of this study, the children's self-report, parent, and teacher measures of self and other were examined using both correlational methods and between attachment group comparisons. It was anticipated that the children classified as securely attached would be evaluated most positively by both their parents and their teachers as compared to the children in the other groups. Because these comparisons were exploratory, only if differences were observed between the four attachment categories would further between dimension comparisons be calculated.

Method

Participants

A subset of eighty-nine children in grades one to three from the first study were participants. This subset ranged in age from 75 to 112 months, $M = 91.85$, $SD = 10.51$. The Dalhousie Social Sciences and Humanities Research Ethics Board and the Halifax Regional School Board approved the study. This sample came from three of the elementary schools. The classroom teachers gave potential participants a consent form to take home to their parents or guardians. Two versions of the consent form were used, although they both contained all the same essential details. Those students who returned the required signed consent form were eligible to participate in the study. The response rate at the first school was 21%, 11% at the second school, and 21% at the third school.

Fifty-four children (60.7%) were female. Thirteen (14.6%) were the only child in their family, thirty-six (40.4%) had one sibling, thirty (33.7%) had two siblings, and ten children (11.2%) had three or more siblings. Forty-three children (48.3%) were the first born child in their families, twenty-seven (30.3%) were second born, eleven (12.4%) were third born, and eight (9%) were the fourth or later born child in their family. All of the children spoke English as their first language, twenty-two (24.7%) of the children spoke French as a second language, and one family (1.1%) spoke Arabic as the second language at home. One family reported speaking sign language as a third language at home. Their racial composition was predominantly White, 88 (98.8%) of the children, and one child (1.2%) was Arabic. Sixty-nine (77.5%) of the children resided with married parents, seven children (7.9%) lived with a single parent, eight (9%) had parents who were separated or divorced, two (2.2 %) had parents who were living common-law, and three sets of parents were composed of the child's natural mother remarried to the child's step-father (3.4%).

Seventy-one (81.6%) of the mothers and eighty-four (100%) of the fathers were employed outside of the home. In five single parent families no job record was reported for the child's father, and in two single parent families no job record was provided for the child's mother. A wide SES range was indicated by Blishen Scores (Blishen et al., 1987) ranging from 23.70 to 101.32, $M = 52.33$, $SD = 12.64$, for employed mothers and from 23.31 to 75.87, $M = 50.21$, $SD = 12.33$, for employed fathers. A family SES variable was calculated as the average of the two parents' scores when both parents were employed, and in families with a single wage-earner that SES score was used. In two families no Blishen score was assigned as both parents were unemployed. The Family SES scores ranged from 27.76 to 101.32, $M = 51.28$, $SD = 11.37$.

The parents' highest level of completed education was reported. One (1.1%) of the mothers never finished highschool, sixteen (18%) completed highschool, twenty-nine (32.6%) attended college, twenty-four (27%) attended university, and seventeen (19.1%) obtained a post-graduate degree from university. Seven (7.9%) of the fathers never finished highschool, seventeen (19.1%) finished highschool, twenty-nine (32.6%) attended college, twenty-one (23.6%) attended university, and twelve (13.5%) obtained a post-graduate degree from university.

The children in this study were compared to those who participated only in the first study. There were more girls than boys in this study, χ^2 (1, $\underline{N}$ - 176) = 4.43, $\underline{p}$ = .04. The children in the current study were significantly older than those children not included, $\underline{t}$ (174) = 5.51, $\underline{p}$ < .001. Gender and age was therefore controlled for as covariates in analyses. The remaining family and child demographics of the current subset of children did not differ significantly from non-participants.

Measures

Measures of Self

Puppet Interview. The Puppet Interview scores from the first study were re-examined in the current study. No significant differences were found between the children's scores used in this study and those scores of the children not included on either the positiveness, $\underline{t}$ (174) = 1.33, $\underline{p}$= .19, or the openness, $\underline{t}$ (174) = 1.39, $\underline{p}$ = .17, dimensions. Inter-rater agreement between the author and the blind rater on the scores in this study was high on both the positiveness dimension, $\underline{r}$ (89) = .89, and the openness dimension, $\underline{r}$ (89) = .95. The blind rater's scores were used in all analyses as before.

Global self-worth subscale. The children also completed the subscale of global self-worth from the Self-Perception Profile for Children (Harter, 1985). The six items of this subscale were designed to tap global feelings of self-worth, a generalised sense of worth without reference to functioning in a specific area. The children were given a paper with two statements and asked to choose which statement best described them, i.e. "Some kids are very happy being the way they are... but ... other kids wish they were different." The statements were read to all of the children to avoid differences due to variability in reading skills. After choosing the statement that best described them, the children were asked to further differentiate their answer from "really true for me" to "sort of true for me". Scores on each item ranged from 1 (low global self-worth) to 4 (high global self-worth). The item responses were averaged and total scores on this subscale ranged from 2 to 4 of a possible range of 1 to 4, $M = 3.51$, $SD = 0.51$. The children's self evaluations were more positive than they were negative, and few children rated their self-worth at the more negative end of the scale. The Cronbach's α for this scale was .67.

Measures of Other

Subscale of social acceptance. The children completed the subscale of social acceptance from the Self-Perception Profile for Children (Harter, 1985). The six items of this subscale tap the degree to which the child feels accepted by peers or feels popular. The items are not intended to measure competence in social skills, rather they assess the degree to which "one has friends, feels one is popular, and feels that most kids like them" (Harter, 1985, p.6). In a similar format to the global self-worth subscale administration, the children were given a paper with two statements and asked to choose which statement best described them, i.e. "Some kids have a lot of friends... but ... other kids don't have

very many friends." The statements were read to all of the children to avoid differences due to variability in reading skills. After choosing the statement that best described them, the children were asked to further differentiate their answer from "really true for me" to "sort of true for me". Scores on each item ranged from 1 (low social acceptance) to 4 (high social acceptance). The item scores were averaged and the total score on this subscale ranged from 1 to 4, M = 3.03, SD = 0.70. The Cronbach's α for this scale was .62.

Peer representations. In order to assess children's attributions about their peers' intent in ambiguous situations, the children were read five stories based on the stories by Dodge and Frame (1982) and revised by Cassidy et al. (1996). In each story the children were asked to pretend that they were the child in the story. In each scenario, a same-sex peer caused a clearly negative event to happen to the child but the peer's intent was ambiguous. An example of one complete story script read to a girl, is as follows:

Pretend you are standing on the playground, playing catch with a bunch of girls. You throw the ball to another girl and she catches it. You turn around, and the next thing you realise is that she has thrown the ball and hit you in the middle of your back. The ball hits you hard and it hurts a lot. Ouch! It really hurts a whole lot.

In this scenario the child is hit in the back with a ball while her back is turned so she can not be sure why she was hit and the intention of the peer behind the action. Following each story, the children were asked six peer-related questions in the same order. The specific form of the questions varied as a function of the story. The first two questions tapped the child's representation of the peer's intent ("Why did the boy/girl....?" and "Do

you think that the boy/girl ... on purpose or by accident?"). The next two questions

tapped the child's representations related to responses to the event ("What would you do

next after .....?" and "Do you think the boy/girl should be punished a lot, a little, or not at

all?"). The last two questions tapped the child's representation of the peer's feelings

toward the child and the event ("How do you think the boy/girl feels after...?" and "Do

you think the boy/girl liked you?"). Negative codes were given when the child attributed

a negative intention to the peer's actions, when they felt the child should be punished for

their actions and when the child felt that the peer did not feel some degree of remorse to

their actions and did not like the child.

Responses to each question were coded as indicating either a positive or negative

representation related to the event following Cassidy et al.'s (1996) scoring method.

Children's representations of the peer's intent were coded as positive when children

attributed an accidental or prosocial intent to the peer (e.g., "she was trying to help me.";

"It was an accident."). Negative scores were given when the child attributed a malicious

reason for the peer's intentions (e.g., "she wanted to hit me" "because he doesn't like

me"). Children's representations related to behavioural responses to the event were coded

as positive when children indicated a neutral, appropriately assertive, or prosocial

response (e.g., "I would say 'that's ok'."; "I'd say, 'Be more careful!'") and that the peer

should not be punished. Negative scores were given when the children said that they

would confront the peer in an aggressive manner either physically (e.g., "I would beat her

up") or verbally (e.g., "I would call him a bully."), or if the children reported that they

would tattle on the peer, and if they reported that the peer should be punished. Children's

representations of the peer's feelings were coded as positive when children indicated that

the peer liked the participant and felt regretful for the damage (e.g., "He liked me."; "She

felt sorry."). They were coded as negative when the children reported that the peer did not feel regretful (e.g., mad, mean, angry), or if they felt positive for their actions (e.g., happy, nice, glad), and if they felt that the peer did not like them or could not determine if the other peer liked him or her.

For each of the six questions, the children's positive responses were summed across all five stories to obtain a total score for each question (possible range 0-5). Alphas for each question ranged from .58 to .77, $\underline{M}$ = .65. Three summary scores were created. The first summary score, Peer Intention, combined the two questions tapping the child's representation of the peer's intent across all six stories (α = .66). The second score, Behaviour Response, combined the two questions related to the child's behavioural response to the peer's actions across all six stories (α = .75). The third, Peer Feelings, combined the two questions tapping the child's representation of the peer's feelings across all six stories (α = .78). For each story set a total summary score was created, summing all questions for all stories (possible range = 0-30; α = .87). Finally, an overall positive attribution score was formed by averaging the total summary scores for each set (α = .83).

A trained under-graduate volunteer who was unaware of any additional information about the children coded all responses from verbatim transcripts. A second coder (this author) also coded the data. Disagreements were resolved by discussion and the value obtained by conference entered. Inter-rater agreement for the three summary scores ranged from $\underline{r}$ (89) = .90 to $\underline{r}$ (89) = .98. The volunteer coder's data were used in all analyses.

Representations of parent and teacher relationships. The children were read five stories about situations that involved parents adapted by this author from the Peer-related

representation measure by Cassidy et al. (1996). The children were asked to pretend that they were the child in the story. The action in each of the five stories remained the same (i.e., the verb was the same). However, depending on the person of focus in each measure (parent, or teacher), the subject of the action changed. In each scenario an ambiguous event occurred, while the protagonist and the environment changed. The goal in each instance was to measure the child's attribution of intent to each character. Following each story, the children were asked the same six questions in the same order as those asked of them in relation to the peer stories.

Positive and negative representations were coded with the same coding system used for the peer-related representation stories. Alphas for each of the parent questions ranged from .52 to .84, $\underline{M}$ = .72, and for each of the teacher questions ranged from .64 to .89, $\underline{M}$ = .80. The three summary scores created for the peer-related representations stories were created here as well: parent intent (α = .78), parent behaviour response (α =.68), and parent feelings (α = .52). The total score was again formed by summing across all six questions (α = .81). Similar summary scores for the teacher were created: teacher intent (α = .84), teacher behaviour response (α = .74) and teacher feelings (α = .87). Again, a total score was summed across all six questions (α = .91).

Two undergraduate volunteers, one for the parent stories and one for the teacher stories coded all stories from verbatim transcripts. The author also coded all of the attribution stories. As in the peer-related representations, disagreements were conferenced, and the value agreed on through conferencing used in the analyses. On the parent attribution stories inter-rater agreement on the three summary scores ranged from $\underline{r}$ (89) = .90 to $\underline{r}$ (89) = .98. On the teacher attribution stories inter-rater agreement on the

three summary scores ranged from r (89) = .97 to r (89) = .98. The volunteer coders' data were used in all analyses.

Attachment

SAT. The SAT was used in this study using the same procedure as outlined in the first study with one modification. After each of the pictures was described, the child was asked a series of questions. The first three questions remained the same as in the first study; (1) "How do you think the little boy/girl might feel in the picture?" (2) "Why do you think s/he feels (child's answer)?" (3) "What do you think s/he will do or say?". However, the last three questions were altered to follow the format suggested by Slough et al., (1988) (4) "If you were the boy/girl in the picture how would you feel?" (5) "Why would you feel (child's answer)?" (6)"What would you do or say?" This addition was made in order to assess the children's representations of their attachment relationship from their own perspective (self) in addition to the perspective of another child (other).

The children's responses to the two sets of probes were compared to examine if there were differences in how the children's responded to the images from two perspectives: 1) as hypothetical "other", how they expected the child in the picture would react as compared, and, 2) as "self", how they reported that they would respond if they were the child in the picture. The inter-correlations among the SAT subscales are presented in Table 10. The correlations between like-variables scored for both the other child and the self are high, ranging from r (89) = .65 between self and other on the attachment subscale to r (89) = .75 between self and other on the avoidance subscale. While the children tend to produce contrasting responses between references to the hypothetical child and the self when discussing separation from attachment figures, the individual subscale scores are consistent across the two perspectives. For example,

Table 10

Bivariate Correlations Between Self and Other Perspectives of the SAT Subscales

	Attachment		Self-Reliant		Avoidance	
	Self	*Other*	*Self*	*Other*	*Self*	*Other*
Attachment						
Self	- -	.65***	.20	.25*	-.64***	-.39***
Other		- -	.20	.34**	-.52***	-.65***
Self-Reliant						
Self			- -	.67***	-.56***	-.41***
Other		?		- -	-.45***	-.54***
Avoidance						
Self					- -	.75***
Other						- -

Note. $\underline{N}$ = 89. * $\underline{p}$ < .05, ** $\underline{p}$ < .01, *** $\underline{p}$ < .001.

children who have a high attachment rating scale score when referring to the hypothetical

child also tend to have a high attachment rating scale score when referring to the self.

The relations between the self and other data provides concurrent validation of the SAT

responses.

The children's membership in the attachment categories established in the first

study, were maintained in the current study. There was no significant difference in the

number of children in each SAT category between this study and those children not

included, χ^2 (3, $\underline{N}$ = 176) = .82, $\underline{p}$ = .84. In the current study, there was no significant

difference between the distribution of boys' and girls' membership in the SAT categories,

χ^2 (3, $\underline{N}$ = 89) = 2.29, $\underline{p}$ = .51.

Parent and Teacher Measures

Teachers of eighty-one of the eighty-nine children (91%) participating in this

study, agreed to complete the measures on the children's behaviour. Two teachers of the

eight other children refused to complete any of the measures because of their lack of

support for research. The response rate for each measure will be reported in the following

sections. Eighty-six parents of the eighty-nine children (97%) participating in the study

returned the parent forms.

Social Acceptance. Parents and teachers rated children's general social skills (i.e.,

socially appropriate behaviour) using a seven item adaptation of Harter's (1985) Self-

Perception Profile for Children used similarly in previous studies (i.e., Eisenberg, Fabes,

Murphy, Maszk, Smith & Karbon, 1995). The respondent was asked to choose from two

statements which statement best described the child, i.e., "Some kids find it hard to make

friends... BUT ... other kids find it's pretty easy to make friends." After choosing the

statement that they believe best described the child, the parent or teacher was asked to further differentiate their answer from "really true" to "sort of true". Scores on each item ranged from 1 (low social acceptance) to 4 (high social acceptance). Four of the questions rated the children's general social skills (e.g., "This children usually acts appropriately." vs. "This child usually does not act appropriately."). Cronbach's alpha was acceptable on both the social behaviour subscale from the teachers', $\alpha = .90$, and parents', $\alpha = .85$, perspectives. As part of the measure of social skills, the teachers and parents also rated children's popularity with three items (e.g., "This child has lots of friends" vs. "This child doesn't have a lot of friends"). Alphas for this scale ranged .85 for the parents' rating, to .96 for the teachers. All of the participating teachers completed this measure and it was completed by eighty-four of the eighty-six parents (98%).

Children's self-worth. Parents and teachers were asked to rate the children's general self worth using the six item global self-worth scale from Harter's (1985) Teacher's Rating Scale of Child's Actual Behaviour, which parallels the Self-Perception Profile for Children (as recommended by J. Cassidy, personal communication, September 12, 2000; 1999). In a similar format to the social skills rating scale, the respondent was asked to choose from two statements which statement best described the child, i.e., "This child is unhappy with his or her self... OR ... This child is pretty pleased with his or her self." After choosing the statement that they believed best described the child, the parent or teacher was asked to further differentiate their answer from "really true" to "sort of true". Scores on each item ranged from 1 (low global self-worth) to 4 (high global self-worth) and total scores on this subscale ranged from 1 to 4. The teachers and parents completed two versions of this scale. In the first instance they were asked to complete the

self-worth scale to describe what they believe to be the "child's actual tendencies". Sixty-nine of the teachers (85%) and all of the parents completed this measure. They were then asked to complete the same scale, though from the perspective as they believed the "child sees him or herself".

Sixty-one of the teachers (75%) and all of the parents completed this measure. The two self worth scales were highly correlated from both the teachers', r (60) = .91, p < .001, and the parents', r (84) = .84, p < .001, perspectives. Because of the high correlation between these two scales, only the first scale - where the parents and teachers were asked to evaluate the "child's actual tendencies" - was used. This scale was chosen because more teachers completed it. Some teachers reported feeling uncomfortable with the second version as they did not feel they could evaluate accurately how the children actually felt about themselves. These two scales demonstrated good internal reliability. Alphas for the scale for teachers were .94 and .93 and for parents were .87 and .89.

Behaviour rating. The teachers were asked to complete the IOWA Conners Teacher Rating Scale and the parents completed the IOWA Conners Parent Rating Scale. The IOWA Conners Rating Scale consists of the 5-item IOWA Inattention/Overactivity (IO) subscale of the Pittsburgh Modified Conners Teacher Rating Scale and the 5-item IOWA Oppositional/Defiant (OD) scale of the Pittsburgh Modified Conners Teacher Rating Scale (Loney & Milich, 1982). The 10-item Abbreviated Conners Rating Scale (Goyette, Conners, & Ulrich, 1978) is also contained in this measure as is the SNAP Rating Scale (Atkins et al., 1985) which provides a measure of peer interactions. In addition one question probes whether other children actively reject the child and another question probes whether other children ignore the child. An index of the rater's opinion of the severity of the problem the child has at this time is provided. The teacher version

of the scale has three questions that query the degree to which the child's behaviour

resembles that of a "normal child" in his or her interactions. The IOWA Conners Rating

Scales are widely-used and well-validated measures (e.g. Pelham, Milich, Murphy, &

Murphy, 1989). All of the teachers ($\underline{n}$ = 81, 100%) and all of the parents ($\underline{n}$ = 86, 100%)

who returned their forms completed this measure.

For screening purposes in a classroom setting, a total score of 8 on the IO scale

would indicate referral for further assessment, as would a total score of 5 on the OD scale.

Five of the children (6%) by their teacher's ratings and ten children (11.7%) by their

parents' ratings were at or above 8 on the IO scale. Four of the children (5%) by their

teacher's ratings and thirteen children (15%) by their parents' ratings were at or above 5

on the OD scale. See Table 11 for a full listing of the teacher and parent responses.

Overall, the children were described by their parents and teachers as functioning well at

home and at school. They were reported to have few behaviour problems, as indicated by

the mean scores falling in the low range. Further, the children were described as having

medium to high self-worth and as having good social skills. The full range of possible

scores was not used by either the parents or teachers in their evaluations of the children's

self-worth and their social skills.

Chi-square analyses were conducted to examine the distribution of the children

identified by their teachers and their parents as potentially having either

inattention/overactivity or oppositional/defiant behaviour difficulties. No significant

differences were found in the distribution of those children with potential behaviour

difficulties between attachment categories: teacher Inattention/Overactivity, χ^2 (3, $\underline{N}$ =

81) = 1.13, $\underline{p}$ = .77; parent Inattention/Overactivity, χ^2 (3, $\underline{N}$ = 86) = 4.97, $\underline{p}$ = .17; teacher

Table 11

Descriptives of Parent and Teacher Measures of Children's Behaviour, Social Skills, and Self-Worth

Measure	Mean	SD	Range	Possible Range
Behaviour Evaluations - Teachers (n = 81)				
Inattention/Overactivity	2.56	3.20	0 to 13	0 to 15
Oppositional/Defiant	0.53	1.55	0 to 10	0 to 15
Conners	3.40	4.74	0 to 22	0 to 30
Peer Interaction Problems	1.10	1.99	0 to 10	0 to 21
Rejected	0.07	0.26	0 to 1	0 to 3
Ignored	0.15	0.39	0 to 2	0 to 3
Severity	0.29	0.62	0 to 3	0 to 3
Behaviour Evaluations - Parents (n = 84)				
Inattention/Overactivity	3.64	2.96	0 to 14	0 to 15
Oppositional/Defiant	2.95	2.41	0 to 9	0 to 15
Conners	5.90	5.08	0 to 22	0 to 30
Peer Interaction Problems	1.83	1.97	0 to 10	0 to 21
Rejected	0.08	0.28	0 to 1	0 to 3
Ignored	0.17	0.49	0 to 3	0 to 3
Severity	0.40	0.67	0 to 2	0 to 3
Social Evaluations - Teachers (n = 81)				
Popularity	3.29	0.78	1 to 4	1 to 4
Social Behaviour	3.51	0.73	1 to 4	1 to 4
Social Evaluations - Parents (n = 82)				
Popularity	3.57	0.61	1 to 4	1 to 4
Social Behaviour	3.62	0.52	2 to 4	1 to 4
Self-Worth Evaluations - Teachers				
Children's Self-Worth (n = 69)	3.58	0.57	2.17 to 4	1 to 4
Self-Worth Evaluations - Parents				
Children's Self-Worth (n = 84)	3.63	0.47	2.33 to 4	1 to 4

Oppositional/Defiant, χ^2 (3, $\underline{N}$ = 81) = 0.98, $\underline{p}$ = .81; and parent Oppositional/Defiant, χ^2 (3, $\underline{N}$ = 86) = 1.89, $\underline{p}$ = .60.

<u>Vocabulary</u>

The children's standard scores on the <u>Peabody Picture Vocabulary Test – Third Edition</u> (PPVT- III; Dunn & Dunn, 1997) ranged from 74 to 132, $\underline{M}$ = 107.99, $\underline{SD}$ = 11.91. These scores do not differ significantly from the subset of children's scores not included in this study, $\underline{t}$ (174) = .21, $\underline{p}$ = .84.

<div align="center">

<u>Procedure</u>

</div>

The students completed a standard assessment protocol that was audiotaped. In the first session, in addition to the measures described in study one, the students completed the <u>Peer-related Representation</u> stories and the <u>Parent-related Representation</u> stories. In the second session the children completed the Global Self-Worth scale from the <u>Self-Perception Profile for Children</u>, the <u>Teacher-related Representation</u> stories, and the Social Acceptance subscale from the <u>Self-Perception Profile for Children</u>.

After the child had completed the first session, that child's teacher was given an envelope containing the <u>IOWA Conners Teacher Rating Scale</u>, the social skills subscale, and the global self-worth scale in reference to that child. The teacher was asked to complete the three checklists at her earliest convenience and return them to the researcher. The parents were mailed an envelope containing the <u>IOWA Conners Parent Rating Scale</u>, the social skills subscale, and the global self-worth scale and asked to complete the three checklists at their earliest convenience and return them by mail to the researcher in the enclosed stamped and addressed envelope. There was no predetermined order in which the parent and teacher measures needed to be completed. At the end of the

study a newsletter was sent to the parents whose children participated in the study informing them of the results from the study. The teachers who participated were also given a copy of the newsletter with the study's results.

Results

Preliminary Analyses

Means, standard deviations, and ranges of variables can be found in Table 12. The majority of the subscales fell within the middle of the full range of possible scores and there was considerable variability in responses, with one exception. The self-worth measure demonstrates a negatively skewed distribution, or ceiling effect. Children were more likely to report positive feelings than they were to report negative feelings about themselves.

Correlations of the self and other measures with age, gender, family socio-economic status, and PPVT-III scores are in Table 13. Age was positively and significantly correlated with all three of the attribution measures, indicating that older children made more positive attributions about others' behaviour and intentions. Gender was also significantly related to the peer attribution total score. Girls made more positive attributions about their peers' intentions than did boys. The PPVT-III scores were positively and significantly correlated to the global self-esteem scale. Children who had higher receptive language skills also reported more positive global self-evaluations than did children with lower receptive language skills. Age, gender, and PPVT-III scores were used as covariates in subsequent analyses where appropriate. The family's reported socioeconomic status was unrelated to the dependent measures and was excluded from subsequent analyses.

Table 12

Descriptive Statistics of Children's Measures

Measure	Mean	SD	Range	Possible Range
Attachment Representations of Other				
Attachment - SAT	9.26	(1.98)	3 to 12	3 to 12
Avoidance - SAT	7.57	(2.53)	6 to 18	6 to 18
Children's Attributions and Representations of Other				
Peer Attribution - total score	18.12	(6.97)	4 to 30	4 to 30
Parent Attribution - total score	25.46	(4.91)	10 to 30	4 to 30
Teacher Attribution - total score	22.30	(7.50)	5 to 30	4 to 30
Overall Positive Attribution Score	21.96	(5.65)	8 to 30	4 to 30
Social Acceptance	3.03	(0.70)	1 to 4	1 to 4
Attachment Representations of Self				
Self-Reliant - SAT	7.70	(2.09)	3 to 12	3 to 12
Children's Representations of Self				
Global Self-Esteem	3.51	(0.51)	2 to 4	1 to 4
Positiveness	4.34	(1.44)	1 to 6	1 to 6
Openness	3.88	(1.69)	1 to 6	1 to 6

Note. N= 89.

Table 13

Correlation Matrix of Descriptive Variables with Self and Other Measures

	Age in months	Gender	Family SES	PPVT-III
Attachment Representations of Others				
Attachment - SAT	.20	-.13	-.07	.01
Avoidance - SAT	-.05	.02	.21	-.07
Children's Attributions and Representations of Others				
Peer Attribution - total score	.21*	-.21*	-.12	.09
Parent Attribution - total score	.21*	-.19	.03	.13
Teacher Attribution - total score	.25*	-.16	.02	.05
Social Acceptance	.09	.08	.16	.20
Attachment Representations of Self				
Self-Reliant - SAT	-.01	.04	.07	-.01
Children's Representations of Self				
Global Self-Esteem	-.20	-.04	.13	.21*
Positiveness	.09	-.09	-.10	.15
Openness	.32**	.05	.03	.27**

Note. N = 89, except for Family SES where n = 87. * p < .05, ** p < .01. Gender:

female = 1, male = 2; Family SES: Blishen score for family.

Partial correlations, controlling for age and PPVT-III scores, of the children's self and other measures can be found in Table 14. The SAT attachment subscale scores were positively and significantly correlated with the attribution measures. Children who had higher attachment security scores made more positive attributions about their peers', parents', and teachers' ambiguous behaviour than did children with lower attachment security scores. Scores on the avoidance subscale were negatively and significantly correlated with the attribution measures. Children who had lower avoidance subscale scores made more positive attributions about their peers', parents', and teachers' behaviour. High scores on the peer attribution measure were positively and significantly correlated with higher scores on the positiveness dimension of the Puppet Interview.

Children who attributed positive reasons for their peers' behaviour also felt more positively about themselves. High scores on the parent and teacher attribution measures were positively and significantly correlated with the social acceptance subscale and with the positiveness dimension of the puppet interview. Children who made more positive attributions about their parents' and teachers' ambiguous behaviours also reported that they were good at getting along with other children, and felt positive about themselves, as reflected in their scores on the positiveness measure. Children who had higher overall positive attribution scores also had higher attachment scores, lower avoidance scores, described themselves as socially accepted, felt competent in the mild separation scenarios, and evaluated themselves overall positively. Higher scores on the SAT self-reliant subscale were positively and significantly related to the children's scores on the parent and teacher attribution measures. Children who felt confident and competent in the mild separation scenarios attributed more positive attributions to their parents' and

Table 14

Partial Correlation Matrix of Self and Other Measures - Controlling for Age, Gender, and PPVT-III Scores

Measures	2	3	4	5	6	7	8	9	10	11
Attachment Representations of Others										
1. Attachment - SAT	-.65***	.41**	.45***	.49***	.53***	.19	.30**	-.05	.42***	.22*
2. Avoidance - SAT		-.36**	-.46***	-.37***	-.45***	-.19	-.55***	.09	-.26*	-.22*
Children's Attributions and Representations of Others										
3. Peer Attribution - total score			.49***	.67***	.87***	.21	.16	-.07	.35***	.15
4. Parent Attribution - total score				.63***	.78***	.33**	.37***	-.01	.34***	.08
5. Teacher Attribution - total score					.92***	.25*	.27*	-.05	.38***	.02
6. Overall Positive Attribution						.30**	.30**	-.05	.42***	.09
7. Social Acceptance							.15	.21	.18	-.01
Attachment Representation of Self										
8. Self-Reliant - SAT								-.11	.06	.01
Children's Representations of Self										
9. Global Self-Esteem									.01	.04
10. Positiveness										.10
11. Openness										

Note. N = 89. * p < .05, ** p < .01, *** p < .001.

teachers' behaviour. The global self-esteem score was not correlated with any of the measures, and not included in subsequent analyses due to the ceiling effect in the scores.

Four Attachment Categories

To examine group differences between the four attachment categories formed from the self-reliant and attachment subscales of the SAT, an ANCOVA was run with attachment category taken from study one as the independent variable (i.e., secure, preoccupied, dismissing, and fearful categories). The measures of the children's attributions of others were the dependent measures. Covariates were age and gender.

Because of the unequal group sizes, a Box's $\underline{M}$ test was calculated to test the null hypothesis that the observed covariance matrices of the dependent variables were equal across groups. No significant difference in variance between the groups was found, despite the unequal group sizes, Box's $\underline{M}' = 27.44$, $\underline{F}$ (30, 2897) = .79, $\underline{p} = .78$. Neither age nor gender were significant covariates, $\underline{F}$ (4, 80) = 1.38, $\underline{p} = .250$, and $\underline{F}$ (4, 80) = 1.27, $\underline{p} = .287$, respectively.

As hypothesised, a significant multivariate main effect was found for the attachment classification, $\underline{F}$ (4, 80) = 2.17, $\underline{p} = .014$. Examination of the univariate analyses revealed the significant group differences on each of the dependent measures - peer, parent, teacher attribution measures, and the social acceptance subscale. Post-hoc analyses were corrected for multiple comparisons to control for Type I error. They revealed that the children in the secure, preoccupied, and dismissing groups were significantly more positive in their peer, parent, and teacher attributions than were the children in the fearful groups. The children in the secure, preoccupied, and dismissing

groups also reported feeling more socially accepted than did the children in the fearful group. Adjusted means for age and gender covariates, standard deviations, and post-hoc analyses are presented in Table 15.

Examination of the effect sizes of the pair-wise comparisons between the attachment categories quantified the group differences (see Table 16). The largest effect sizes were found in comparisons between the fearful groups and the other three groups, on each of the attribution measures and the overall positive attribution score. The most pronounced difference appeared between the children in the secure group and those in the fearful group, where all of the effect sizes were large (d > .80), ranging from 1.08 on the social acceptance measure to 1.78 on the positive attribution overall score. The least pronounced difference was found between the secure and preoccupied groups where the effect sizes ranged from .01 to .24, suggesting that there is little difference between these groups in their attributions about others and their feelings of social acceptance.

Attribution Measures

To examine the expected similarities in the children's attributions about significant others' behaviour, bivariate correlations were run between the three summary scores and the total scores obtained for each of the attribution story sets - peer, parent, and teacher. Table 17 provides the correlations and significance values for these relationships. All but one of the sixty-six correlations were significant. The children who attributed positive intention to the other person's behaviour also attributed positive behaviour responses to their actions in the stories, reported that the other individual felt badly for their actions, and liked the protagonist in general, regardless of their actions in the stories. These positive attributions were seen across stories in varied scenarios with

Table 15

ANCOVA of Other Dependent Measures Between the Four Attachment Category Clusters -

Controlling for Age and PPVT Scores

Four Cluster Solution

Model	Secure	Preoccupied	Dismissing	Fearful	
Self Other	Positive Positive	Negative Positive	Positive Negative	Negative Negative	
n	34	30	17	8	
Variables	M SD	M SD	M SD	M SD	F (3, 82)
Peer Attribution	19.10_a (6.59)	18.90_{ab} (6.57)	17.69_b (6.64)	11.99_b (6.65)	2.67*
Parent Attribution	26.49_a (4.31)	25.73_a (4.33)	26.15_a (4.37)	18.60_b (4.38)	7.39**
Teacher Attribution	24.25_a (6.82)	22.51_a (6.85)	22.05_a (6.93)	13.83_b (6.90)	4.93**
Social Acceptance	3.14_a (0.70)	2.99_a (0.68)	3.18_a (0.69)	2.40_b (0.69)	2.82*

Note. $N = 89$. * $p < .05$, ** $p < .01$. Higher numbers reflect more positive attributions and

stronger feelings of social acceptance. Means with different subscripts differ according to

Bonferroni adjusted post-hoc tests, $p < .05$.

Table 16

Effect Size (Cohen's D) Pairwise Comparisons of Attribution and Social Acceptance

Measures Between Attachment Categories

Pairwise Comparisons	Cohen's D				
	Peer Attrib.	Parent Attrib.	Teacher Attrib.	Positive Attrib.	Social Acceptance
Secure vs. Preoccupied	.01	.17	.24	.16	.23
Secure vs. Dismissing	.30	.18	.44	.38	.03
Secure vs. Fearful	1.12	1.80	1.69	1.78	1.08
Preoccupied vs. Dismissing	.30	.02	.18	.21	.24
Preoccupied vs. Fearful	1.14	1.66	1.29	1.54	.71
Dismissing vs. Fearful	.99	1.39	1.15	1.37	.98

Note. An effect size of .20 is considered to be small, .50 a medium effect, and .80 or greater a large effect size, according to conventions proposed by Cohen (1988).

Table 17

Bivariate Correlation Matrix of Attribution Measures

Measures	1	2	3	4	5	6	7	8	9	10	11	12
Peer Attribution Stories												
1. Peer Intention												
2. Behaviour Response	.53***											
3. Peer's Feelings	.67***	.55***										
4. Total Summary Score	.85****	.85***	.85***									
Parent Attribution Stories												
5. Parent Intention	.50***	.36***	.37**	.51***								
6. Behaviour Response	.34***	.21*	.35***	.43***	.54***							
7. Parent's Feelings	.29**	.42***	.50***	.32**	.20	.38***						
8. Total Summary Score	.47***	.50***	.46***	.54***	.76***	.93***	.55***					
Teacher Attribution Stories												
9. Teacher Intention	.69***	.55***	.46***	.65***	.61***	.40***	.32**	.55***				
10. Behaviour Response	.55***	.38***	.45***	.57***	.35***	.57***	.45***	.58***	.62***			
11. Teacher's Feelings	.55***	.45***	.57***	.55***	.48***	.48***	.43***	.58***	.66***	.57**		
12. Total Summary Scores	.66***	.56***	.57***	.70***	.53***	.58***	.66***	.43***	.86***	.89***	.83***	

Note. N = 89. * p < .05, ** p < .01, *** p < .001.

different protagonists.

Because gender was significantly correlated with the peer attribution measure, potential gender differences were examined with four independent t-tests comparing the girls' and boys' total story attribution scores for each of the story sets (peer, parent, and teacher), and their overall positive attribution score (summed across story sets). Overall, the girls made more positive attributions, $\underline{M}$ = 22.93, $\underline{SD}$ = 5.35, about the protagonists' intentions and behaviour, than did the boys, $\underline{M}$ = 20.47, $\underline{SD}$ = 5.85, $\underline{t}$ (87) = 2.05, $\underline{p}$ = .04. In the individual story scenarios, the girls were significantly more positive in their attributions about their peers, $\underline{M}$ = 19.31, $\underline{SD}$ = 6.98, than were the boys, $\underline{M}$ = 16.29, $\underline{SD}$ = 6.62, $\underline{t}$ (87) = 2.06, $\underline{p}$ = .04. No significant difference was found between the girls', $\underline{M}$ = 26.22, $\underline{SD}$ = 4.61, and the boys', $\underline{M}$ = 24.29, $\underline{SD}$ = 3.19, parent attributions, $\underline{t}$ (87) = 1.84, $\underline{p}$ = .07. Similarly, no significant difference was found between the girls', $\underline{M}$ = 23.26, $\underline{SD}$ = 7.01, and the boys', $\underline{M}$ = 20.83, $\underline{SD}$ = 8.08, teacher attributions, $\underline{t}$ (87) = 1.50, $\underline{p}$ = .14. In subsequent analyses with the attribution measures, gender was a covariate.

Gender differences were examined in bivariate correlations between the attribution measures and the SAT subscales (see Table 18). Similar correlations were found between the attachment and attribution measures for the girls and boys. However, the girls had significant positive correlations between the self-reliant scale and three of the attribution measures, while the boys had none. Additionally, the girls had significant negative correlations between the avoidance scale and all of the attribution measures, while again, the boys did not. Various dimensions of the attachment measure appear to be more important in predicting the degree of positiveness in the attributions made by

Table 18

Gender Differences in Bivariate Correlations Between the Attribution and Attachment Measures

	Girls (n = 54)				Boys (n = 35)			
	Attribution Measures				Attribution Measures			
Attachment Subscales	Peer	Parent	Teacher	Total	Peer	Parent	Teacher	Total
Attachment	.47**	.52**	.47**	.56**	.38*	.41*	.58**	.53**
Self-Reliant	.20	.50**	.43**	.42*	.07	.17	.04	.09
Avoidance	-.47**	-.69**	-.49**	-.62**	-.17	-.12	-.20	-.19

Note. * p < .01, ** p < .001. Based on a Fisher's r to z transformation any r values differing by .44 are significantly different.

the girls than they are for the boys, though the strength of the correlations are not necessarily significantly different.

    <u>Peer-representation stories.</u> To examine aspects of the peer-related representations between the four attachment categories, an ANCOVA was run with attachment category as the independent variable (secure, preoccupied, dismissing, and fearful), the six individual questions of the peer attribution story measure as the dependent measures, and age and gender scores as covariates. No significant differences in the equality of the observed covariance matrices of the dependent variance across groups was found, Box's $M = 84.46$, F (63, 2590) $= 1.06$, $p = .34$.

    Age was a significant covariate, F (6, 78) $= 2.48$, $p = .03$, while gender was not, F (6, 78) $= 1.00$, $p = .43$. A significant multivariate main effect was found for the attachment classification, F (6, 78) $= 2.14$, $p = .006$. Examination of the univariate analyses (see Table 19) revealed attachment group differences for two of the six individual questions. In post-hoc analyses, secure, preoccupied, and dismissing children had more positive representations than did the children in the fearful group in response to "Why did the boy/girl....?". The children classified in the secure and preoccupied groups also had significantly more positive responses than did the children in the fearful group when they were asked, "What would you do next after....?"

    SAT attachment subscale scores were significantly correlated with responses to all three summary scores as shown in the partial correlations controlling for age and gender: the peer intention score, r (85) $= .42$, $p < .001$; the child's behaviour response score, r (85) $= .31$, $p = .004$; the peer feelings score, r (85) $= .32$, $p = .002$; and the total summary score, r (85) $= .42$, $p < .001$. These results indicate that the children with

Table 19

Univariate Effects from the ANCOVA of Children's Peer-Related Representations as a Function of Attachment Group - Controlling for Age and Gender

Question	Attachment Groups								
	Secure $(n = 34)$		Preoccupied $(n = 30)$		Dismissing $(n = 17)$		Fearful $(n = 8)$		$F (3, 83)$
	M	SD	M	SD	M	SD	M	SD	
1. Why did the boy/girl.....?	3.78_a	(1.34)	3.50_a	(1.37)	3.73_a	(1.36)	1.62_b	(1.36)	7.94***
2. Do you think the boy/girl ... on purpose or by accident?	4.01	(1.28)	3.74	(1.26)	3.59	(1.27)	2.91	(1.30)	1.64
3. What would you do next after ...?	3.52_a	(1.75)	3.35_a	(1.70)	2.55	(1.73)	1.57_b	(1.73)	3.49*
4. Do you think the boy/girl should be punished....?	3.43	(2.27)	3.06	(2.25)	3.45	(2.27)	3.38	(2.29)	0.17
5. How do you think the boy/girl feels after ...?	4.31	(1.17)	4.28	(1.20)	4.16	(1.20)	3.66	(1.19)	0.70
6. Do you think the boy/girl liked you?	3.48	(1.75)	3.50	(1.75)	3.09	(1.73)	2.06	(1.75)	1.66

Note. * $p < .05$, *** $p < .001$. Scores are adjusted group means (possible range 0-5), with higher scores reflecting more positive representations. Question 4 is the exception where the possible range of scores is 0-10 with higher scores reflecting more negative representations. Standard deviations are given in parentheses. Means with different subscripts are significantly different according to Bonferroni corrected post-hoc analysis, $p < .05$.

higher attachment scores on the SAT were more positive in their peer-related representations.

Significant partial correlations also emerged for all of the peer-attribution individual questions with the attachment subscale. Higher attachment scores were associated with more positive representations of why the peer caused the event, attributing the action to an accident, what the child would do next, how severe the punishment should be, how the peer felt after the event, and whether the peer liked the child (see Table 20).

To examine whether the peer representation individual questions were related to the SAT self-reliant subscale scores, partial correlations were run between the individual questions and the self-reliant scores (see Table 21). Higher self-reliant scores were associated with more positive peer-related representations in the first question only: "Why did the boy/girl....?, r (85) = .32, p = .01. There were no other significant correlations between the remaining story questions and the self-reliant scores. Partial correlations were also calculated between the three peer subscale scores and the total score. After controlling for age and gender, only the peer intention score was significantly related to the self-reliant subscale score, r (85) = .24, p = .02. The overall results suggest that the self-reliant scores were less important than the attachment scores in predicting children's attributions about their peers' intentions.

Parent-representation stories. To examine different aspects of parent-related representations between the four attachment categories, an ANCOVA was run with the attachment category as the independent variable (secure, preoccupied, dismissing, and fearful categories) and the six individual questions of the peer attribution story measure

Table 20

Children's Peer, Parent, and Teacher-Related Representations Partial Correlations With

Attachment Subcale Scores - Controlling for Age and Gender

	Attribution Referent		
Attribution Questions	Peer	Parent	Teacher
1. Why did the (boy/girl, parent, teacher)....?	.47***	.46***	.57***
2. Do you think the ( ) ... on purpose or ... by accident?	.30**	.35***	.24*
3. What would you do next after....?	.47***	.44***	.35***
4. Do you think ... punished a lot, a little, or not at all?	-.23*	-.09	-.18
5. How do you think the ( ) feels after ....?	.30**	.29**	.43***
6. Do you think the ( ) liked you?	.28**	.06	.31**

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. For all questions, except question 4, higher

scores reflecting more positive representations. Question 4 is the exception where the

possible range of scores is 0-10 with higher scores reflecting more negative

representations.

Table 21

Children's Peer, Parent, and Teacher-Related Representations Correlated With Self-

Reliant Subcale Scores - Controlling for Age and Gender

	Attribution Referent		
Attribution Questions	Peer	Parent	Teacher
1. Why did the (boy/girl, parent, teacher)....?	.32**	.27*	.30**
2. Do you think the ( ) ... on purpose or ... by accident?	.10	.28**	.10
3. What would you do next after....?	.12	.33***	.14
4. Do you think ... punished a lot, a little, or not at all?	-.03	-.08	-.20
5. How do you think the ( ) feels after ....?	.14	.12	.30**
6. Do you think the ( ) liked you?	.04	.03	.02

Note. * p < .05, ** p < .01. For all questions, except question 4, higher scores reflecting

more positive representations. Question 4 is the exception where the possible range of

scores is 0-10 with higher scores reflecting more negative representations.

as the dependent measures. Age and gender scores were covariates. No significant differences in the equality of the observed covariance matrices of the dependent variance across groups was found, Box's M = 67.54, F (21, 236) = .92, p = .57. Neither age, F (6, 78) = 1.87, p = .10, nor gender, F (6, 78) = 1.81, p = .11, were significant covariates.

A significant multivariate main effect was found for the attachment classification, F (6, 78) = 3.17, p < .001. Examination of the univariate analyses (see Table 22) revealed attachment group differences for three of the six individual questions. In post-hoc analyses, children classified as secure, preoccupied, and dismissing had more positive representations than did the children in the fearful group in response to "Why did the parent....?". No other significant post-hoc group differences were found.

SAT attachment subscale scores were significantly correlated with responses to all three parent attribution summary scores as seen in the partial correlations controlling for age and gender: the parent intention score, r (85) = .51, p < .001; the child's behaviour response score, r (85) = .31, p = .003; the parent feelings score, r (85) = .30, p = .005; and the total summary score, r (85) = .45, p < .001. These results indicate that children with higher attachment scores on the SAT were more positive in their parent-related representations. Three of the parent summary scores and the total scores were correlated significantly with the SAT self-reliant subscale score, while controlling for age and gender: the parent intention score, r (85) = .33, p = .002; the child's behaviour response score, r (85) = .33, p = .002; and the total summary score, r (85) = .37, p = .001. Children's positive parent attributions were related to both higher attachment and

Table 22

Univariate Effects from the ANCOVA of Children's Parent-Related Representations as a Function of Attachment Group - Controlling for Age and Gender

Question	Secure (n = 34)		Preoccupied (n = 30)		Dismissing (n = 17)		Fearful (n = 8)		F (3, 83)
	M	SD	M	SD	M	SD	M	SD	
1. Why did your parent.....?	4.38$_a$(1.11)		4.65$_a$(1.10)		4.47$_a$(1.11)		1.83$_b$(1.10)		14.40**
2. Do you think your parent ... on purpose or by accident?	4.84 (0.64)		4.65 (0.66)		4.76 (0.66)		4.03 (2.28)		3.27*
3. What would you do next after ...?	4.60 (1.17)		4.32 (1.20)		4.35 (1.20)		2.33 (1.23)		8.58**
4. Do you think your parent should be punished....?	1.03 (1.75)		1.25 (1.75)		1.22 (1.77)		0.48 (1.78)		0.45
5. How do you think your parent feels after ...?	4.77 (0.87)		4.57 (0.88)		4.44 (1.20)		4.03 (0.91)		1.64
6. Do you think your parent liked you?	4.84 (0.70)		4.82 (0.71)		4.86 (0.99)		4.78 (0.74)		0.03

Note. * p < .05, ** p < .001. Scores are adjusted group means (possible range 0-5), with higher scores reflecting more positive representations. Question 4 is the exception where the possible range of scores is 0-10 with higher scores reflecting more negative representations. Standard deviations are given in parentheses. Means with different subscripts are significantly different according to Bonferroni corrected post-hoc analyses, p < .05.

self-reliant scores.

Significant correlations also emerged for four of the individual questions with the attachment subscale scores (see Table 18). Higher attachment scores were associated with more positive representations of why the parent caused the event, whether the parent did it on purpose or not, what the child would do next, and how the child thinks the parent feels afterwards. Higher self-reliant scores were associated with the first, "Why did the parent....?, second, "Do you think the parent... on purpose or... by accident?", and third, "What would you do next after ....?", questions (see Table 21 for a summary).

<u>Teacher-representation stories.</u> Similar to the peer and parent attribution stories, to examine the teacher-related representations between the four attachment categories, an ANCOVA was run with attachment category as the independent variable (secure, preoccupied, dismissing, and fearful) and the six individual questions of the teacher attribution story measure as the dependent measures. Age and gender were covariates.

Adjusted means, standard error scores, and univariate results are displayed in Table 23. Age was a significant covariate, F (6, 78) = 2.57, p = .025, while gender was not, F (6, 78) = 1.60, p = .158. A significant multivariate main effect was found for the attachment classification, F (6, 78) = 2.65, p < .001. Examination of the univariate analyses revealed differences on three of the six individual questions. In post-hoc analyses, children classified as secure and preoccupied, had more positive representations than did the children in the fearful group in response to "Why did the teacher....?". The children in the secure and preoccupied groups had significantly more positive responses than did the children in the fearful group to the question, "How do

Table 23

Univariate Effects from ANOVA of Children's Teacher-Related Representations as a Function of Attachment Group - Controlling for Age and Gender

Question	Attachment Groups								$F_{(3, 83)}$
	Secure (n = 34)		Preoccupied (n = 30)		Dismissing (n = 17)		Fearful (n =8)		
	M	SD	M	SD	M	SD	M	SD	
1. Why did the teacher.....?	4.20$_a$	(1.22)	4.01$_a$	(1.26)	3.79$_a$	(1.24)	1.32$_b$	(1.24)	11.89***
2. Do you think the teacher ... on purpose or by accident?	4.32	(1.22)	4.29	(1.20)	4.22	(1.24)	3.70	(1.24)	0.58
3. What would you do next after ...?	4.15	(1.57)	3.65	(1.53)	3.69	(1.57)	2.85	(1.56)	1.68
4. Do you think the teacher should be punished....?	1.85	(2.62)	2.03	(2.63)	1.40	(2.64)	2.55	(2.63)	0.40
5. How do you think the teacher feels after ...?	4.55$_a$	(1.52)	4.14$_a$	(1.53)	4.07	(1.53)	2.41$_b$	(1.53)	4.27**
6. Do you think the teacher liked you?	4.56$_a$	(1.34)	4.49	(1.31)	4.50	(1.32)	3.10$_b$	(1.33)	2.84*

Note. + p = .056, * p < .05, ** p < .001. Scores are adjusted group means (possible range 0-5), with higher scores reflecting more positive representations. Question 4 is the exception where the possible range of scores is 0-10 with higher scores reflecting more negative representations. Standard deviations are given in parentheses. Means with different subscripts are significantly different according to Bonferroni corrected post-hoc analyses, p < .05.

you think the teacher feels after....?". The children in the secure group also had significantly more positive responses than did the children in the fearful group to the question, "Do you think your teacher liked you?"

SAT attachment subscale scores were significantly correlated with responses to all three summary scores as seen in the partial correlations controlling for age and gender: the teacher intention score r (86) = .48, p < .001; the child's behaviour response score, r (86) = .38, p < .001; the teacher feelings score, r (86) = .46, p < .001; and the total summary score, r (86) = .50, p < .001. These results indicate that children with higher attachment scores on the SAT were more positive in their teacher-related representations. The SAT self-reliant subscale score was correlated significantly with the teacher intention score, r (86) = .23, p = .031, child's behaviour response, r (86) = .23, p = .031, and the total score, r (89) = .26, p = .015. Significant correlations emerged for all of the individual questions with the attachment subscale (see Table 20). Higher self-reliant scores were associated with more positive teacher-related representations in the first question: "Why did the teacher....?, and the fifth question: "How do you think the teacher feels after ....?" (see Table 21).

Peer, parent, and teacher attribution differences between attachment groups. To compare whether children in each of the attachment categories made similarly positive attributions to the protagonist's behaviour, regardless of whether it was a peer, parent, or teacher, three of paired t-tests were calculated. Overall group differences were evident. Children made more positive attributions about their parents' intentions, M = 25.46, SD = 4.91, than they did about their peers' intentions, M = 18.12, SD = 6.97, t (88) = 11.56, p < .001. Children also made more positive attributions about their teachers' intentions,

$\underline{M}$ = 22.30, $\underline{SD}$ = 7.50, than they did about their peers' intentions, $\underline{t}$ (88) = 6.99, $\underline{p}$ < .001.

When comparing the behaviour of significant adults in the children's lives, the children

attributed more positive attributions to their parents than they did to their teachers, $\underline{t}$ (88)

= 5.29, $\underline{p}$ < .001. In each of the secure, preoccupied, and dismissing attachment

categories, children were most positive in their attributions about their parents'

behaviour, followed by their teachers' behaviour, and were least positive about their

peers' behaviour. These differences were statistically significant. The children

classified as fearful were more positive about their parents' intentions than they were

about their peers' intentions, $\underline{t}$ (7) = 3.37, $\underline{p}$ = .01. There were no significant differences

between the children's attributions in the peer and teacher, $\underline{t}$ (7) = 1.12, $\underline{p}$ > .05, and the

parent and teacher comparisons, $\underline{t}$ (7) = 1.80, $\underline{p}$ > .05.

Comparing the Attribution Measures Across the Self and Other Dimensions

The attachment model implies that subjects in the two groups that were expected

to reflect a positive image of others (i.e., secure and preoccupied) would exhibit higher

scores on the attribution and social acceptance measures than subjects in the two groups

expected to reflect a negative image of others (i.e., dismissing and fearful). A 2

(positive vs. negative self-image) X 2 (positive vs. negative other-image) MANCOVA

was calculated with the overall positive attribution total score and the social acceptance

subscale as dependent variables. Age and gender were covariates. No significant

differences in the equality of the observed covariance matrices of the dependent

variance across groups was found, Box's M = 6.42, $\underline{F}$ (9, 5579) = 0.79, $\underline{p}$ = .78.

Neither age, $\underline{F}$ (2, 82) = 2.72, $\underline{p}$ = .07, nor gender, $\underline{F}$ (2, 82) = 2.12, $\underline{p}$ = .13, was a

significant covariate. As hypothesised, a significant main effect for the other factor was

found, F (2, 82) = 6.46, p = .02. Examination of the univariate analyses revealed

significant effects of the overall positive attribution measure, F (1, 82) = 12.42, p < .001.

The children in the positive other-representation group made more positive attributions

about others' intentions and behaviour, M = 22.83, SD = 5.04, than did the children in

the negative other-representation group, M = 18.39, SD = 5.40. No significant

univariate effect of social acceptance was found for this factor.

The main effect for the self factor was also significant, F (2, 82) = 7.25, p = .001.

The univariate analyses revealed a significant effect of the overall positive attribution

measure, F (1, 83) = 10.49, p = .001, and a significant effect of the social acceptance

measure, F (1, 83) = 7.42, p = .008. The children in the positive self-representation

group made overall more positive attributions, M = 22.62, SD = 5.28, and reported

being more socially accepted, M = 3.16, SD = 0.71, than did the children in the negative

self-representation group, M = 18.59, SD = 6.16, and M = 2.70, SD = 0.86, respectively.

The interaction of self by other was also significant, F (2, 82) = 3.98, p = .02. The

univariate effects revealed a significant effect of the overall positive attribution measure,

F (1, 83) = 6.28, p = .014. The children in the negative self and negative other group

(fearful category) had significantly lower total positive attribution scores, M = 14.81,

SD = 5.03, than did the children in the secure, M = 23.28, SD = 5.01, preoccupied, M =

22.38, p = 3.75, and dismissing groups, M = 21.96, SD = 6.68.

"Other" attribution measures. In order to follow-up on the differences found

across the other dimensions, a series of independent t-tests were calculated to examine

the differences between the high and low dimensions of other, which were expected to

differ significantly on the attribution measures. Theoretically, no differences were

anticipated between the two groups that were theoretically expected to reflect a positive self-representation (secure + dismissing) and those with a negative self-representation (preoccupied + fearful).

Table 24 provides the attachment group means, collapsed across positive and negative other-representations and positive and negative self-representations. Significant differences between the positive and negative view of other were found for each of the attribution total scores. A significant difference was found between the positive and negative self-representation dimensions on the parent total attribution score, but not for the peer nor teacher total scores.

Parent and Teacher Measures

The parent and teacher evaluations of the children's interactions with their peers and how they feel about themselves were correlated with their age, gender, family socio-economic status, and PPVT scores (see Table 25). Because of the large number of correlations and to control Type I error, the correlations were examined at $p < .01$. A significant and negative correlation was found between gender and teachers' evaluations of the children's positive social behaviours. Teachers rated girls' social behaviours more positively than they did the boys'. Family socio-economic status and teacher's evaluations of peer relation problems were negatively and significantly correlated. Lower family socio-economic values were associated with teacher's higher evaluations of the children's peer relation problems. Teachers' more positive evaluations of the children's self-worth and their popularity were related to higher receptive language scores. The children's age was not related to any of the teacher social or self-worth evaluations.

Table 24

Children's Representations of Other as a Function of Attachment Group Dimensions

	Attachment Groups					
	Positive Other secure preoccupied (n = 64) M SD	Negative Other dismissing fearful (n = 25) M SD	t (87)	Positive Self secure dismissing (n = 51) M SD	Negative Self preoccupied fearful (n = 38) M SD	t (87)
Summary Scores						
Peer-Related Representations						
Peer Total Score	19.20 (6.92)	15.36 (6.42)	2.40*	18.57 (6.61)	17.53 (7.46)	0.70
Parent-Related Representations						
Parent Total Score	26.27 (3.95)	23.40 (6.43)	2.08*	26.33 (4.23)	24.29 (5.54)	1.97*
Teacher-Related Representations						
Teacher Total Score	23.64 (6.96)	18.88 (7.87)	2.79**	23.43 (6.82)	20.79 (8.17)	1.66

Note. * $p < .05$, ** $p < .01$.

Table 25

Correlation Matrix of Descriptive Variables with Parent and Teacher Measures of Children's

Social Skills and Feelings of Self-Worth

	Age in months	Gender	Family SES	PPVT-III
Social Evaluations - Teachers (n = 81)				
Peer Interaction Problems	-.21	.25	-.29*	-.13
Popularity	.00	.22	.05	.32*
Social Behaviour	.17	-.29*	.22	.22
Social Evaluations - Parents				
Peer Interaction Problems (n = 86)	.05	.08	-.23	-.08
Popularity (n = 84)	-.08	-.01	-.02	.10
Social Behaviour (n = 83)	-.04	-.31*	.17	.13
Self-Worth Evaluations - Teachers				
Child's Self-Worth (n = 69)	-.12	.00	.08	.28*
Self-Worth Evaluations - Parents				
Child's Self-Worth (n = 86)	-.22	-.07	.15	-.07

Note. * p < .01. Gender: female = 1, male = 0; Family SES: Blishen score for family: PPVT-III

= standard score. Higher scores on the peer interaction problem (SNAP) scale indicate more

problems relating with peers. High scores on the popularity, social behaviour, and self-worth

scales indicate more positive evaluations.

The only significant correlation found on the parent measures was a negative relation between gender and social behaviours. Daughters were rated as having more positive social behaviours than were sons. Parents' evaluations of the children's social and self-worth were not related to the children's age nor to the family's socio-economic status.

Measures of social acceptance. The children's self-report measure of social acceptance was correlated with the parents' and teachers' measures of the children's social behaviours and popularity (see Table 26). Of the five teacher ratings related to children's social interactions, only the teachers' ratings of the children's popularity was correlated positively with the children's ratings of social acceptance, r (81) = 32, p = .003. Of the five parent ratings related to children's social interactions, four of the five scores were correlated significantly to the children's self-report ratings of their social acceptance. Parent reports of social behaviour appear to match children's self-reports of their own social acceptance and social behaviour.

Measures of self-worth. The children's self-report of global self-worth and their positiveness and openness scores from the Puppet Interview were correlated with the parents' and teachers' ratings of the children's self-worth. Only the teachers' ratings of how they thought the child felt about him/herself was marginally significantly correlated with the children's scores on the openness dimension, r (61) = .23, p = .057. None of the other ratings was correlated between the three sources. Table 27 lists the correlations between the children's, teachers', and parents' ratings.

Table 26

Bivariate Correlation Matrix of Social Acceptance and Popularity from Children's, Teachers', and Parents' Perspectives

Measures	1	2	3	4	5	6	7	8	9	10	11
Children's Perspective											
1. Social Acceptance		-.08	-.13	-.21	.10	.32**	-.25*	-.24*	-.27*	.17	.33**
2. Peer Relations - IOWA			.42***	.45***	-.79***	-.25*	.31**	-.01	-.48***	-.02	-.36***
Teachers' Perspective											
3. Rejection - IOWA				.50***	-.39***	-.32**	.10	-.08	-.25*	-.05	-.34**
4. Ignored - IOWA					-.53***	-.63***	.13	-.12	.33**	-.27*	.27*
5. Social Behaviour						.44***	-.17	-.01	.51***	.09	-.58***
6. Popularity							-.03	.05	-.29**	.33**	.42***
Parents' Perspective											
7. Peer Relations - IOWA								.35**	.30**	-.56***	-.36***
8. Rejection - IOWA									.54***	-.16	-.34**
9. Ignored - IOWA										-.32**	-.58***
10. Social Behaviour											.42***
11. Popularity											

Note. N = 89 for children's measures, N = 81 for teachers' measures, and N = 86 for parents' measures. * p < .05, ** p < .01, *** p < .001.

Table 27

Correlation Matrix of Representations of Self from Children's, Teacher's, and Parent's
Perspectives

		Child's Perspective		Teacher's	Parent's
		(n = 89)		(n = 69)	(n = 86)
Measures	1	2	3	4	5
Child's Perspective					
1. Global Self-Esteem		.03	.03	.20	.14
2. Positiveness - Puppet Interview			.16	-.05	-.05
3. Openness - Puppet Interview				.23+	-.06
Teachers' Perspective					
4. Child's Self-Worth					.23
Parents' Perspective					
5. Child's Self-Worth					

Note. + p = .057.

Comparing measures of parent and teacher reports of children's social acceptance
between attachment categories. To examine potential attachment categorical differences
with the teacher measures of social acceptance, an ANCOVA was performed with the
attachment category as the independent variable (secure, preoccupied, dismissing, and
fearful) and the three social acceptance measures (peer relations, popularity, and social
behaviours) as dependent variables. Covariates were gender, family SES, and PPVT-III
scores. No significant difference in the equality of the observed covariance matrices of
the dependent variance across groups was found, Box's M = 19.27, F (18, 990) = 0.91, p
= .57. No significant main effect of attachment classification was found, F (3, 70) =
1.21, p = .29.

A Kruskal Wallis test was run with the attachment categories as the independent
variable and the parents' ratings of the social acceptance measures as the dependent
variables because parametric statistics were not appropriate, Box's $\underline{M}$ = 36.08, F (18,
2428) = 1.78, p = .023. None of the comparisons was significant for: peer relations, χ^2
(3, $\underline{N}$ = 86) = 2.35, p = .502, social behaviour, χ^2 (3, $\underline{N}$ = 83) = 1.17, p = .76, or
popularity, χ^2 (3, $\underline{N}$ = 84) = .88, p = .83.

Comparing measures of parent and teacher reports of children's self worth
between attachment dimensions. To examine potential attachment categorical
differences on the teachers' evaluation of the children's self-worth, an ANCOVA was
performed with the self-worth measure as the dependent variable. The children scores
on the PPVT-III scores were the covariate. No significant effect of attachment
classification was found, F (3, 64) = 1.87, p = .14.

An ANOVA was performed with the parents' evaluation of the children's self-worth as the dependent measure to examine possible attachment group differences. No significant main effect of attachment classification was found, F (3, 82) = .64, p = .59. The parents' evaluations of the children's self-worth did not differ significantly between attachment categories.

Discussion

Study two was designed to: 1) extend the dimension of other in the proposed attachment model to include representations of parent, teacher, and peer relationships, and, 2) further investigate the dimensions of self and other by comparing the children's self-report, parent, and teacher measures of self and other across the dimensions of the attachment model.

The main goal of this study was to examine the children's representation of other in greater detail than was presented in the first study. A more clearly defined measure of other, rather than relying solely on the avoidance subscale of the SAT, was needed in order to examine group differences with more clarity and confidence. To that end, the use of the peer attribution stories by Cassidy et al. (1996), adopted from the original Dodge and Frame (1982) stories, provided a method of assessing three aspects of peer-related representations: behaviour intention, response, and emotional intent. Results showed that children who attributed positive representations of peer intent to an ambiguous negative event had more positive behaviour responses to the negative event (i.e. whether the peer should be punished or not). These children also attributed more positive representations of the peer's feelings in relation to the child and the event, than did children who were more negative in their peer-related representations. The

inclusion of this measure allowed for more detailed comparisons of the children's representations of other to be made between the attachment categories.

Although peers are gaining increasing importance in the lives of early-elementary school students and are key people with whom the children interact daily, the inclusion of attribution measures of the children's representations of their parents and their teachers provided a wider scope to the children's range of interactions. Parent and teacher attribution measures were developed for this study following the same story format as was employed for the peer-attribution measures.

Significant attachment group differences were found on each of the peer, parent, and teacher attribution measures and on the social acceptance subscale. In follow-up comparisons, the children classified as secure, preoccupied, and dismissing had significantly higher scores than the children in the fearful group on the attribution measures and on the social acceptance subscale. The effect sizes of the pair-wise comparisons between the attachment categories quantified the group differences and highlighted that the differences were primarily found in comparisons between the fearful group and the other three groups. In particular, the children in the secure group compared to the fearful group were more positive in their attributions about the intent of others' behaviours and in their reports of their social acceptance in general. Little difference was noted on these measures between the preoccupied and dismissing groups. Because in the Cassidy et al. (1996) study they only made secure vs. insecure group comparisons, the differentiation found between the children in the insecure categories provides additional and important clarification about their respective styles of interacting with others.

Attachment was associated to children's peer-related representations. Similar to Cassidy et al. (1996), group differences were found in response to the reasons for their peer's behaviour and to the query of what the child would do next after the incident. The children classified as secure and preoccupied were more positive in their attributions in response to these two questions than were the children in the fearful group. Unlike Cassidy et al. (1996) no group differences were found to the question pertaining to how the peer felt afterwards.

On the two new attribution measures - parents and teachers - similar group differences as seen in the peer story set, were found in response to the first question "Why did the (parent or teacher)....?". This first question appears to be the clearest in differentiating attachment group differences and may in fact, be deemed a truer attribution or causal question than are the others. On the other five questions, group differences emerged for the question pertaining to whether the children felt their parents did the action on purpose or by accident, and to the subsequent actions the child would take in the parent story set. In the teacher story set, attachment group differences were evident in response to how the children felt after their teacher had done something to them, and whether they thought the teacher liked them.

Children classified as securely attached had positive representations about peer, parent, and teacher intent in ambiguous situations. This finding supports the proposition that positive representations of caregivers are associated with positive representations of important others in certain situations. As suggested initially by Bowlby (1969/82), securely attached children, from their experiences of having their needs met by their caregivers, develop representations of caregivers as helpful and responsive, and are

likely to develop similar representations of significant others. The consistency in their representations of others is a new finding. The three attribution story sets demonstrated that the children had developed a relatively solid construct, or working model of *other*, as they made similarly positive attributions on each dimension of the attribution measures, independent of who was the protagonist in the story.

Across attachment groups, the children were most positive in the attributions made to their parents' behaviour, followed by their teachers' behaviour, and were least positive about their peers' intentions. Oftentimes, the children had difficulty accepting the suggestion that their parent could, even accidentally, hurt them. These comparisons have not been made before. In subsequent studies with these measures, it will be interesting to observe if similar differences emerge.

Although the attachment group categorical differences highlighted potentially characterological variations in how children with each attachment style operate, the dimensional perspective of attachment also provided meaningful information. The attachment scale of the SAT was strongly related to each of the attribution measures. Children who were more positive in their attributions also reported more secure attachment representations. The attachment scale was related to more of the six questions in each of the story sets than was the self-reliance scale. The dimension of other and the more severe separation pictures were strongly related to the kinds of attributions that the children made about others' behaviour, while the less severe pictures and the dimension of self, were not related to the same degree. Further, gender differences emerged. The girls' scores on each of the attachment dimensions were

related to each of the attribution story sets, but only the attachment scale was related to the boys' attribution stories.

Particular aspects of the attachment relationship appear to be differentially related to the degree of positive attributions children of each gender make. Turner (1991) found gender differences in her study of preschoolers' peer interaction. Insecurely attached boys exhibited greater aggressive, assertive, controlling, and attention-seeking behaviour than their securely attached counterparts, and insecurely attached girls showed greater compliance than did insecurely attached boys. Similarly, Toma-Harrold (2000) found that while children's security of attachment was the largest single predictor of hostile attributional bias in the parent and peer context, there were gender differences in the peer context. Attachment was a significant predictor of hostile attribution bias in girls, but social preference scores predicted attributional bias for boys.

Given Crick and Dodge's (1996) hypothesis that social information processing models explain children's social behaviour as involving the encoding and interpretation of social cues and behavioural enactment, the gender differences in behaviour seen in both Turner's and Toma-Harrold's work may be explained in part, by the gender interpretation differences found in this study. To date, little attention has been given to gender differences in attributions, despite the acknowledged role of attributions in social behaviour (Dodge, 1980).

It was expected that the two groups theoretically described as having a positive model of others (i.e., secure and preoccupied) would differ on the other-representation measures from the two groups theoretically described as having a negative self-model (i.e., dismissing and fearful). The overall positive attribution measure differentiated the

attachment styles with respect to the model of other. However, unexpectedly, the overall positive attribution and the social acceptance measures also differed on the self-dimension. In further post-hoc exploration of the dimension differences, clearer findings emerged. The children in the groups with a positive representation of others made more positive attributions on the peer, parent, and teacher measures across all dimensions of the measures, than did the children in the groups with a negative representation of others. Only the parent total score also differed between the positive and negative self dimensions.

Differences on the parent measure were less pronounced as the children were more likely to portray their parents in a positive light and had difficulty contemplating negative reasons for their parents' behaviour. The differences are notable and lend support to Bartholomew's (1990) suggestion that individuals in the secure and preoccupied groups do seem to have more positive expectations for others' behaviour than do individuals in the dismissing and fearful groups. The children in the dismissing and fearful groups are more likely to make negative assumptions about the intentions of others in ambiguous situations.

No group differences were found with the self-worth scale. In examining the children's responses on this measure a bias in the children's responses is evident. The children in this study were more positive in their personal evaluations with this measure than they were negative. A restricted range of scores was detected suggesting a ceiling effect and there was a small degree of variance in the children's reports. The scores on this measure also did not correlate with either of the puppet interview dimensions, similar to Cassidy (1988), suggesting that the self-worth scale was measuring something

independent from that measured by the puppet interview. Additionally, no relations were found between attachment and the self-worth scale. In observing the children's responses to this measure, the children seemed to be at times, directly contradictory in their responding. When questioned, it appeared that while they seemed to understand the question and then answereed promptly, the concept of evaluating how they felt about themselves in such a direct manner was challenging. This was notable in contrast to their responses on the social acceptance scale where determining if they had friends was a much more concrete distinction to make.

The inclusion of the parent and teacher evaluations of the children's behaviour, social acceptance, and self worth was intended to provide external evidence of differences between the children in each of the attachment categories. However, the primary finding from these measures indicates that the sample of the children in this study, were for the vast majority, functioning well in home and school environments. The differences found on the other measures were not artefacts of other behaviour problems, as there were no attachment group differences on the behaviour measures. Some consistency was evident on the social acceptance evaluations between the parent, teacher, and children. No agreement was found between the child, teacher, and parent assessment of the children's self-worth. It appears that each of the reporters has a different perspective on how children feel about themselves.

Contrary to expectations, no significant attachment group differences were found on the parent and teacher measures of either social acceptance or self-worth. Similar to the children's evaluations of their self-worth, the parent and teacher measures appeared to have a ceiling effect as both were far more positive than negative in their evaluations

and little variability was observed from either of the reporters' perspectives. Again, this restricted range in scores may be due to the bias of the sample - parents consented who were willing to complete forms, who felt there was some value in their child participating in this project, and who likely, had few problems in either the school or home environment. A clinical sample with a greater range in behaviour may provide a much different picture.

GENERAL DISCUSSION

This dissertation examined a model of individual differences in children's attachment in which two underlying dimensions, the child's internal model of the self and the child's internal model of others, were used to define four attachment patterns. The conceptualisation of self and other as distinct elements that develop as a result of attachment relationships can be traced back to the origins of attachment research (Bowlby, 1969/82). Although these two elements have been discussed in the adult attachment literature (e.g., Batholomew & Horowitz, 1991; Brennan, et al., 1998; Collins & Read, 1990; Giffin & Bartholomew, 1994) they have not been tested directly in children's attachment research. The current results demonstrated that the dimensions of self and other from children's attachment representations could be used to form attachment categories and predictions based on these dimensions made. As predicted by the model, the children's internal model of others predicted their responses on attribution measures. However, the children's internal model of self, was less clearly defined. For the younger children, the dimension of self predicted the expected differences, whereas, for the older children, a more complex picture emerged.

The age differences in the predictions of the self-representation measures on the model of self and the model of others were unanticipated. The younger children's responses to the less severe separation scenarios on the SAT (intended to elicit self-confident responses and form the self-reliant scale) provided distinction between the positive and negative self model on the self-representation measures. For the older children, the more severe separation scenarios were predictive of the children's feelings about self. Is it that the basis from which children form their representations of self are

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changing at this point in development? Harter (1996) has remarked that the period from

five to seven years is a developmental shift when qualitative differences can be observed

in children's self descriptions. Ammaniti, VanIjzendoorn, Speranza, and Tambelli (2000)

found considerable stability of attachment security from 10 to 14 years of age, a time of

transition moving from late childhood to early adolescence. Perhaps the seven-year mark

is a point of transition from early childhood to middle childhood, and the change in the

predictions at this point reflects a developmental discontinuity. The children are

experiencing a shift in the emphasis they place on their caregivers or in the organisation

of their understanding of others' actions. From Bowlby's (1973) perspective, attachment

representations continue to evolve during childhood and adolescence (see also Bretherton,

1990; Oppenheim & Waters, 1995). Although internal working models become more

resistant to change over time, they still maintain some degree of flexibility to

accommodate new experiences, as potentially reflected in the changes observed.

The results of this research indicate that both models of self and models of others

are important dimensions of children's attachment orientation. It is less clear whether

they are in fact separate dimensions that vary independently, as suggested by

Bartholomew and Horowitz (1991) in their work with adults. Models of self and models

of other people are understood to have a common origin in early care-giving interactions

and relationships. Bowlby (1973) postulated that these two models are "complementary

and mutually confirming" (p. 204). Others have argued that some attachment styles have

congruent self- and other-models (secure and fearful) while other styles are defined by

differing valences of self- and other-models (preoccupied and dismissing) (Bartholomew

& Horowitz, 1991).

In the current studies, while the patterns for the children classified as secure and fearful were congruent, one being both positive and the other both negative, the non-congruent attachment styles were less clearly non-congruent. The most distinct differences emerged between the secure and fearful attachment categories. The children in the secure group consistently had more positive self-representations and more positive attributions about others' intentions, than did the children in the fearful group. The children in the preoccupied and dismissing categories did not follow as consistently the patterns that were predicted. As reflected in the small effect size differences between these two categories, the expected characteristics of these styles on the self and other dimensions were not found.

The age differences found suggest that the definitions or defining qualities of these attachment styles may not yet be solidified in children of this age range. The most significant influence appears to be the care-giving relationship, while the development of the internal model of self, is as of yet, less a consequential predictive factor. The results lend support to Bartholomew's (1990) suggestion that young children's concepts of self and other may be confounded, making it challenging for children in this age group to separate their attachment figure's availability from their feelings of love-worthiness. At each new developmental phase children are "continually renegotiating the balance between being connected to others and being independent and autonomous" (Cicchetti, Cummings, Greenberg, & Marvin, 1990, p. 3). A developmental study of these two dimensions may help to elucidate the changes occurring across time and better understand children's conceptions of each and when they became more individuated aspects of their identity.

Attributions and Internal Working Models

People have been studying attributions and social information-processing theory for decades (e.g., Aydin & Markova, 1979; Dodge & Frame, 1982; Kaplan, 1971) and we know that they are important in predicting children's social behaviour (Crick & Dodge, 1994). However, despite this association, attributions have not been related specifically to the literature on children's internal working models. This dissertation makes a significant contribution by applying attachment theory to the study of children's close relationships, which integrates ideas central to social psychology with those central to developmentalists interested in attachment. Bowlby's concept of the internal working model is similar to social psychologists' notion of expectancy confirmations or heuristics (see Baldwin, 1992 for review). However, as noted by Belsky and Cassidy (1994), there is a need to unite attachment's focus on the origins of individual differences with the social psychologist's study of the nature of the affective-cognitive biases (as evident in internal working models).

Another important step taken in this research was identifying a mechanism by which internal working models may function. As outlined earlier, it is thought that children's daily experiences with their parents contribute to children's representations of others (Bowlby, 1969/82; Sroufe & Fleeson, 1986). However, in order for the emphasis to then be placed on the attachment relationship, there must be links made between children's representations of their family system and their representations of others (Salzer-Burks & Parke, 1996; Schneider et al., 2001). The representation of the parent must then generalise to the representation of significant others.

Bowlby (1969/82) recognised the importance of predicting both potential realities and experienced ones, and raised the issue of generalisation versus specificity of

representations. From their earliest relationships, children develop specific expectations

and representations about specific people. The evidence presented here suggests that

children who have developed more secure feelings about their attachment relationships

have also developed positive models of significant others, namely their peers and their

teachers. They were making predictions about others' potential behaviour probably based

on their past experiences with others of the same group membership (i.e. peer, parent, or

teacher). The children seem to have developed a consistent construct of how they

generally expect others to act in relation to them. Children who expected that their peers

would not purposely harm them, also reported the same expectation of their parents and

teachers. It would be helpful to include measures of social behaviour to observe whether

these children also act in ways that solicit interactions that confirm the children's internal

working models of others.

As evidenced in the second study, the children attributed different intentions to the

actors in the stories. This may be due to the story details they attended to and then used

to construe story endings that were consistent with their expectations of how others act

typically. The fact that they made similar attributions across the story sets, regardless of

the actor, supports Bowlby's initial suggestion, that the children appeared to have

developed a consistent working model of others. The findings provide support for the

notion that internal working models function to anticipate and interpret the behaviour and

intentions of others (Bretherton, 1990; Main, et al., 1985). The children's attributions

become a possible means through which internal working models "work".

The protagonist's intent in the attributions story sets was ambiguous. Social

information-processing theorists believe that in ambiguous situations, general

assumptions and expectations about people and their actions are likely to play a role in

the way causal attributions about others' intentions are made (Aydin & Markova, 1979).

The results from this study indicate that the children's representations of their attachment

relationship are important influences of children's expectations about others' current

behaviour. They are also thought to influence future relationships by providing

frameworks for interpersonal understanding and guidelines for responding (Bowlby,

1973). The findings support Bartholomew's (1990) and Cohn's (1990) predictions that

securely attached children are likely to form working models of their parents as accessible

and responsive and as a result, anticipate positive reactions from their peers, and based on

the current results, significant others in their environment.

Gender Differences

The gender differences reflected in the continuous attachment and self-

representation measures support Bretherton's (2001) contention that gender must be

considered as an important aspect in attachment research. Internal representations of peer

interactions are at least partially gender specific (Markovits, Benenson, & Dolensky,

2001). Children from preschool on have developed expectations for how each gender

interacts. For instance, boys are expected to prefer group play while girls prefer dyadic

relationships (Markovits et al., 2001). In the first study, the girls' feelings about

themselves were more related to their attachment representations, than were the boys'

self-representations. Are girls socialised to be more aware of their parents' reactions?

Does this lead to a greater influence (both in terms of strength and duration), of their care-

giving relationship on how they feel about themselves?

The girls' degree of positiveness about themselves was related to their attachment

representations, but there were no similar relations observed for the boys. One might

expect that at this relatively early age, the care-giving relationship would have at least

some degree of correspondence to how the boys felt about themselves; but this did not appear. On what basis are the boys' feelings about themselves developing? If not their caregiving relationship, are their feelings about themselves more influenced by their peer interactions, their physicality, or their achievements, even at this point in development? Perhaps attachment style differences are unique across genders. What may be expected in a prototypical securely attached girl may not be so in a similarly defined boy. Future research clearly needs to take into consideration Bretherton's contention that gender is a significant variable in attachment research, and one which has been relatively ignored to date (Simpson, 1999).

Self-Representation

It is possible that children who are securely attached elicit in others more positive responses for a variety of reasons, including, but not limited to, their expectations of others. The relation between the positiveness of the self-representation measures and the positiveness of the attribution measures indicates that children who feel good about themselves also have positive expectations of others. Positive self-feelings may lead them to develop more positive relationships with others including their peers (Bohlin et al., 2000; Cassidy, 1988; Verschueren et al., 2001; Verschueren et al., 1996). It could, hypothetically, also be the reverse. Children who feel poorly about themselves may make it challenging for parents to develop or maintain a good relationship or for peers to establish a friendship. In these instances, the negative self-representation would be the cause, rather than the effect of the relationships. Alternatively, both the negative self-representations and the negative representations of others could be caused by extraneous variables such as academic performance. The findings of the first study support the idea that a connection exists between self-representation measures and children's

representations of their attachment relationships. Identifying possible mechanisms of this relation could be a topic of future study, but lies beyond the scope of this work.

<u>Attachment: Categories vs. Continuous Ratings</u>

None of the children in these studies could be said to exclusively fit any one of the attachment prototypes. Individual variability was reduced when the subjects were compared between the four-category attachment classifications on the dependent measures. The continuous attachment, self-reliant, and avoidance ratings appeared to provide stronger evidence of differences on both the self-representation and the attribution measures. As other researchers have suggested, continuous ratings have an advantage over group classification and classification may be unnecessary when dimensional measures are available (Brennan et al., 1998; Bartholomew & Horowitz, 1991; Fraley & Waller, 1998). Continuous ratings allow researchers to more precisely assess individual differences. For example, two children classified in the same group may differ in the intensity of their ratings and these differences may be clinically significant. Correlational analyses are more appropriate and useful when samples are not sufficiently large for group analyses or when one or more attachment groups are under-represented. Despite the potential benefits of continuous ratings, the attachment classification patterns are well-established within the attachment research community and the ease of describing behaviour based on categorical membership is difficult to dispute. Future work with children should compare results using both continuous and categorical methods so that we become more clear about their relative advantages and appropriate usage.

The individual differences observed in this work fall within the normal range of children's behaviour, as evidenced by the behaviour reports provided by both teachers and

parents. Because the attachment categories were formed based on the participating children's responses on each of the attachment and self-reliant dimensions, the classifications are only relative to the other children included in the studies. In future research with children from a broader cross-section of populations, socio-economic classes, and family backgrounds, it would be interesting to examine differences in attachment styles. If clear categorical characteristic differences in attachment styles can be determined with children, an important direction will then be to examine clinical populations. Are attachment styles related distinctly to specific forms of psychopathology and can certain attachment styles make a child more or less amenable to specific forms of treatment? Given that significant group differences emerged in the current research, despite the restricted range in the children's demographics (i.e. few to no behaviour problems), the results suggest that the differences observed are indicative of potential for greater variability between groups in clinical or more diverse populations.

Limitations

There are a few methodological limitations to the current studies. One difficulty lies in the sole reliance on the Puppet Interview dimensions as measures of self-representation. The inclusion of the Harter self-worth scale did not provide, in the second study, enough variability to detect individual differences in self-worth. The Puppet Interview's use of broader questions within areas of specific overall competency seemed to tap into the children's self-representations better than the self-report checklist measure. Clearly, a well-validated and methodologically strong measure of self in children in this age range is needed. This would be of value for research and clinical purposes.

It would have been valuable to include another measure of attachment that assessed attachment categorical styles appropriate for this age group, had one been

available. This would have provided concurrent evidence of attachment group membership and could have more definitely classified the children, rather than relying on the SAT cluster analyses to determine attachment style differences within this participant group. Ideally, a longitudinal study where the children's attachment styles had been assessed from infancy through to early elementary school would have allowed for more extensive predictions to be made and differences in self representations and social relationships examined with greater confidence.

The discontinuity may be due to the operational definitions of the dimensions of self and other, as employed by Bartholomew (1990), actually not mapping onto the scale dimension definitions by Slough and Greenberg (1990). Despite the apparent matching in the dimension and scale descriptions, the SAT scales may have been more sensitive to the attachment qualities, and less appropriate to assess the aspects of self needed to replicate the Bartholomew (1990) model.

An issue in any fieldwork research relates to the demographics of the sample. Issues related to ethnicity and language arise in working in this particular geographic location. In future work, it would be beneficial to find methods to avoid this response bias, either by offering a greater incentive to participate, or by soliciting participation in a setting where parent involvement is mandatory (i.e., day treatment setting).

Future Directions

The results of this research suggest several different avenues for future study. As mentioned earlier, longitudinal work within the attachment realm, when carried out well, is the ideal method for exploring many attachment-related issues (e.g., Ammaniti et al., 2000; Bohlin et al., 2000). Developmentally, questions arise around self-representation, and given the age effects on the attribution measures, around the expectations which

children have about others' behaviour and intentions. Exploring in greater detail the shift from care-giver influence to other extra-familial factors in the development of self-worth could provide clearer ideas about what factors influence the concept and worth of self. Based on the current results, gender differences in attachment is an area that needs much exploration. Finally, the attribution measures offer a view into one component of how the internal working model operates. Can attributions be altered? Given the relation observed between attachment and the attribution measures (Cassidy et al., 1996), could more effective interventions be geared at the attachment relationship, rather than focusing exclusively on improving poor peer relationships? Perhaps this is an important avenue often overlooked in intervention practises.

The development of social relationships is critical to healthy development. This work highlights the interconnections between self and other. It suggests that children's representations of their care-giving relationships relate to the development of self and other. The Bartholomew (1990) model provided a framework from which to examine the dimensions of self and other. It is theoretically valuable and intuitively appealing to think that attachment can be deciphered based on two dimensions and that Bowlby's initial proposal of learning about self and other is the key feature of attachment relationships. In light of the current findings, and given the methodological limitations, this dissertation suggests that the categories of secure and fearful can be more clearly defined than the other two categories (preoccupied and dismissing) on the basis of the self and other dichotomy. However, separating self from other may be a difficult undertaking at this point in children's development. As children mature and significant others independent from their caregivers gain increasing stature in their lives, the independence of the self from other may become more defined. But to ask at this stage: "Is the understanding of

self independent from other?" and "Will these dimensions predict our actions in the social world?", is a more challenging undertaking than first imagined.

Attachment theory hypothesises that attachment security from infancy influences individual differences in adult attachment. Continuity of attachment classification across the life span has drawn considerable attention in recent years (e.g., Hamilton, 2000; Waters, Hamilton, & Weinfield, 2000; Waters, Merrick, Trvoux, Crowell, & Albersheim, 2000; Weinfield, Sroufe, & Egeland, 2000). However, despite the focus on attachment classification continuity, no attention has been devoted to examining the continuity of the internal working model construct across the life span. Attachment as a life span theory still suffers from gaps in how the attachment processes, including internal working models, adapt and alter across development. This work would help to fill in the life span work by examining the processes by which attachment representations are maintained or altered. Given the current results, the discovery of age differences, even within this limited age group, suggests that a linear model is unlikely to capture the story of attachment as we age.

How our early relationships continue to influence our later relationships from both self and other perspectives requires consideration of multiple influences and mapping of one lesson to another. It is exciting to consider how far attachment research has come, and how far, within the realm of developmental study and a life span perspective, it has yet to go.

Appendix A

Me, My Family, and My Friends

<u>Informed Consent Form</u>

We invite you to take part in a research study *"Me, My Family, and My Friends"* being conducted by Sharon Clark, a doctoral graduate student in Psychology with her supervisor, Dr. Doug Symons of Dalhousie University. Taking part in this study is voluntary and you and your child may withdraw from the study at any time. The study is described below. This description tells you about what your child will be asked to do. This study has been approved by the Dalhousie University Social Sciences and Humanities Human Research Ethics Board and the Halifax Regional School Board. <u>You should discuss any questions you have about this study with Sharon Clark at 477-2009.</u>

The purpose of this study is to consider whether children's thoughts and feelings about their families are related to how they feel about themselves and get along with their friends. Children in grades one to three are eligible to participate in this study if they return the consent form signed by their parent or guardian. There are no direct benefits to you or your child in participating in this study. Many children do enjoy the activities that will be part of the study. Your child will receive a decorative pencil as a token gift in appreciation for his or her participation in the study.

If you agree to participate in the study, your child will also be asked if he/she agrees to participate in the study during the interview with the researcher. The interview will be terminated if your child states that this is his or her wish. Your child's name will not appear on any of the tasks s/he completes and s/he will be given an identification code so all information is kept confidential and anonymous.

Participation will involve four components:

1. Your child will be taken from his or her classroom on two occasions for 20-25 minutes and will be interviewed by the researcher. Your child will be asked questions about how s/he feels about his or her self, family, friends, and teachers. Your child will play some game-like tasks, use a puppet, and be given a vocabulary test.

2. You will be sent 3 checklist measures to your home to complete about how you think your child feels about his or her self and how s/he interacts with others. These measures will take approximately 10 minutes to complete. You will be provided with a postage-paid envelope to mail the measures back to the researcher.

3. You will be asked to complete the background information form attached to this consent form. The information you provide will be used to describe the group characteristics of the children who participate. It will not be used to identify individual children and will be kept confidential.

4. Your child's classroom teacher will be asked to complete 3 checklist measures about how the teacher thinks your child feels about his or her self, and how s/he interacts with others.

While your child completes these measures s/he will be audiotaped. The audiotapes will be accessed only by the researcher and her supervisor and kept in a secure laboratory. All information provided by your child and you, is kept confidential. All of the background information you are asked to provide on the consent form will also be kept confidential. 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 end of the study, a newsletter will be sent home with your child describing the group results from the study. Individual feedback about each child will not be given. Information about what your child's teacher said about your child on the 3 measures will also not be provided. The group results of the study will be used in a thesis and may be published in a research journal with all personal identifying information removed.

Further information about the study is available if requested. In the event that you have any difficulties with, or wish to voice concern about, any aspect of your participation in this study, you may contact Human Research Ethics/Integrity Co-ordinator at Dalhousie University's Office of Human Research Ethics and Integrity of assistance: ph. 494-1462.

Me, My Family, and My Friends

I consent that my child _____ may participate in this study. I realise that my, and my child's, participation is voluntary and that we are free to withdraw from the study at any time. I agree to complete the background information form and the checklist forms that will be mailed to me, and I agree that my child's classroom teacher may complete the three checklist forms about my child.

_____   _____
Signature of Parent or Guardian   Date

Home Address: _____ Street

_____ Postal Code

_____ Home Phone Number

PLEASE complete the following background information:

Child's date of birth: _____/_____/_____   **Gender:** Female   Male
Day   Month   Year

Child's spoken languages (in order of usage):

1. _____   2. _____
_____

Occupation of Parents/Guardians (if applicable). Please be as specific as possible:

Mother: _____

Father: _____

Education of Parents/Guardians – please circle the highest level of schooling completed:

Mother: Didn't finish   Highschool   College   University   University
Highschool   Graduate Level

Father: Didn't finish   Highschool   College   University   University
Highschool   Graduate Level

Parents' Marital Status - please circle

Married Single   Separated/Divorced   Common-law   Remarried   Widow

Number of Siblings - please circle

0   1   2   3   4
5+

Child's Birth Order – please circle:

Oldest Child   Second Born   Third Born   Fourth Born +

Puppet Interview

I have a puppet that I would like you to meet [put puppet on hand and open and close the mouth making facial gestures]. *This is Woozle. Woozle likes to play with kids and likes to talk with kids. Sometimes Wozzle likes to ask other kids questions to get to know them and become friends.*

What colour is Woozle's mouth? [child's reponse]

What kind of animal do you think Woozle is? [child's response]

What do you think these things on the side of Woozle are? [child's response]

What do you think would be Woozle's favourite snack to eat? [child's response]

You've been a big help in telling me all different things about Woozle. Now I want to play a game. I want to ask Woozle some questions about you. There's only one problem. Woozle has lost its voice. So I'm going to need your help. This time you can pretend to be Woozle's voice. Is it o.k. if I ask Woozle some questions about you? [wait for child's response] *O.K. I'll ask Woozle some questions and you can talk for Woozle.*

Let's try some questions for practise before we start the game.

Woozle, how old is (n)? [child's response]

Woozle, what is (n)'s favourite colour? [child's response]

Does (n) have any pets, Woozle? [child's response]

Woozle, what is (n)'s favourite food to eat? [child's response]

In this game there are no right or wrong answers. It can be whatever you think Woozle really thinks. [Interviewer turns and looks directly at Woozle rather than at the child and interviews Woozle].

NOTE: If after question #5 the child has responded with one strongly negative response or has two mild negative statements about him/herself and appears to be distressed, only ask questions #6, #7, #12, #13, and #15 to determine openness of the interview and then finish.

1. Woozle, do you like (n)?
2. Do you like (n) the way s/he is, or would you like her/him to be different?
   i) What would you like to be different about him/her?
3. Woozle, I want to know: Is (n) always good?
4. What's good about her/him?
5. Well Woozle, what's the very best thing about her/him?
6. Are you ever disappointed in (n)?
   - If NO - "Really, never?"
   - If YES - "What happened when you were disappointed in (n)?
7. Is (n) perfect or are there some things about him/her that are not perfect?
   - If there are things that are not so good "What are those things?"
8. Woozle, do you like to play with (n)?
9. Tell me Woozle, do you want (n) to be your friend?
10. Woozle, can (n) do lots of things? What things does s/he do? Does s/he do them well or not so well?
11. Woozle, do you like the way (n) looks?
12. Woozle, does (n) ever do anything bad?
    - If NO - "Does s/he ever do anything bad?"
    - If YES - "What does (n) do that's bad?"
13. What's the worst thing about her/him?
    - If nothing, "Absolutely nothing, or is there at least something bad?"
14. Do other people like (n)?
    - If NO - "No one, or is there someone who likes (n)?"
    - If YES - "Who likes (n)? Can you name them?"
15. Is there anything at all that could be better about (n)?
    - If NO - "Nothing?"
    - If YES - "What could be better?"
16. Do you think (n) usually does the right thing?
    - If YES - Does s/he usually do the right thing or does s/he always do the right thing?
17. Do you think (n) is important or not important? Why?
18. Do you care what happens to (n)? Why do you care?
19. What do you hope happens to (n)? Is there something you'd really want to happen to him/her? What?
20. What do you think (n) will be when s/he grows up?
    i) Will s/he be happy or sad?

Well Woozle, those are all the questions I have to ask you today. Thank you for listening so well, you were a really great helper. [turn to face child] Do you want to pretend to be Woozle now and ask me some questions?

Child's 3 Questions Asked of Interviewer:
1.
2.
3.

Appendix C

Kappa Reliability Analyses for Inter-rater Classification

Blind Coder Picture Subcategories	Second Coder – Picture Subcategories																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total
1. Typical Attachment	127	5	2		5		1		2	1											143
2. Hi Attachment	1	12	2		2		1														18
3. Lo Attachment	1		69		1		2	1		4	1										79
4. Attachment/Retribution	1			2																	3
5. Attach/Increase access to parents	6		2		138	1				7	2				2			4			162
6. Atypical Attachment	1				2	2									1						6
7. Typical Self-Reliant	1		1				161	3	2	2						1					171
8. Hi Self-Reliant					1	1	4	46	5												57
9. Lo Self-Reliant					1	7			11												19
10. Atypical Self-Reliant	5					1		2		34							2				44
11. Typical Attachment/Self-Reliant	1		1				6		1	1	41	2		1							54
12. Hi Attachment/Self-Reliant											2	1									3
13. Lo Attachment/Self-Reliant									1		5				1	1	1				9
14. Attachment/Self-Reliant/Image of Parents													3								3
15. Attach/Self-Reliant/Increase access to Parents	1										3			2	5						9
16. Avoidant																45					45
17. Anxious	2	2	2		2					1				1	1	1	141	7			159
18. Anxious/increase access to parents																6	12	53	1		72
19. Atypical																			4		4
20. Bizarre																				1	1
Total	145	20	76	4	154	8	180	53	14	51	61	3	3	6	7	48	158	64	5	1	1061

Oral Assent/Dissent Script

This will be read to the child at the beginning of each session. If the child does not agree to participate then the researcher will escort him/her back to the classroom and thank her or him for participating.

Would you like to do some activities with me, like using a puppet, and playing some games for about 20 minutes? Would you mind answering some questions for me? Is it o.k. if we play some games and talk about some things together?

[child's response here]

Some of the questions I will ask you will talk about things that you do alone and things that you do with your family and your friends. But if you tell me that you are being hurt by someone else like an adult, then I will have to tell another adult so that we can be sure that you are o.k. and can get some help. Do you understand what I just said?

[child's response here]

Is that o.k.?

[child's response here]

Do you have any questions you want to ask me about what we will be doing together today before we start? You can ask me any questions you have at anytime when we are doing the activities together or even after we stop.

What I Think About Me and My Family

Research Summary

Earlier this year your child participated in a research project that was interested in looking at how children in grades Primary through to Grade 2 feel and think about themselves and their families. Your family's participation was greatly appreciated. The study at Central Spryfield Elementary was part of a larger study, and to date, we have found some interesting results we would like to share with you.

★ ★ ★ ★ ★

We were interested in looking at whether there are age differences in the way that children feel about themselves. We found that some changes are happening.
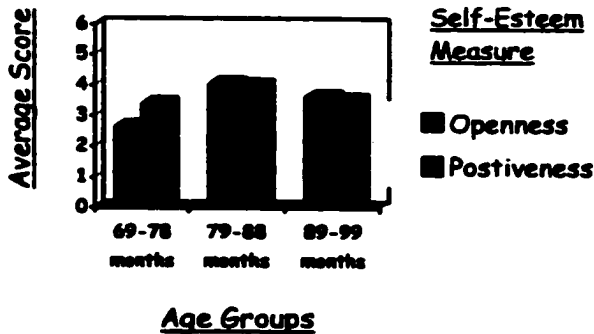
Age Groups

The children in the youngest age group were less open about admitting personal imperfections. They more often reported that they were perfect all the time and that they never did anything wrong in comparison to the children in the older age groups. However, there were no differences in how positively the children in all of the age groups talked about themselves. This result is important because it shows that how children feel and think about themselves, and what they think is important about themselves, changes as they develop.

We were also interested in seeing if how children think and feel about their families influences how children think and feel about themselves.

We found that the quality of the relationship children have with their parents (i.e., how safe and secure they feel) is related to how positive children feel about themselves as individuals. Parents have an important role to play in influencing how children feel and think about themselves.

★ ★ ★ ★ ★

Summary

★ Family relationships influence how children feel about themselves. Your job as a parent is a really important one!

★ As children get older, they are more able to admit that they are not perfect, but this does not influence or threaten how good they feel about themselves.

★ THANK YOU! We really could not have done this research project without the support of your family. We learned a lot from meeting with your children. This study is an important building block for further studies in this area.

If you have any further questions about the study, or would like to know more about the other results from the study, please feel free to contact us at 477-2009.

Sharon Clark, MSc
Dalhousie Graduate Student

Doug Symons, PhD
Adjunct Professor, Dalhousie University

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