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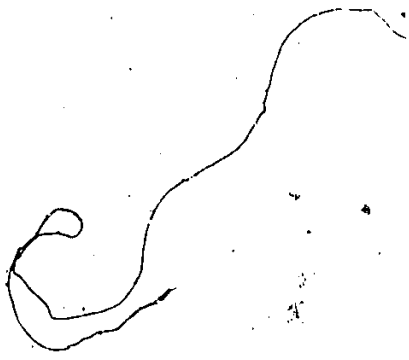
A BEHAVIORAL DESCRIPTION OF PRESCHOOL CHILDREN  
WITH AND WITHOUT EARLY DAY CARE EXPERIENCE

Jennifer Susan Kelen

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of the University of Ottawa as partial fulfillment  
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Curriculum Studiorum

Jennifer Susan Kelen was born June 8, 1952 in Rochester, Minnesota. She received the degree Bachelor of Science in Occupational Therapy from McGill University in 1976.

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## ABSTRACT

### A Behavioral Description of Preschool Children With and Without Early Day Care Experience

This study examined the behavioral effects of early (EDC) and late (LDC) substitute care experience (beginning before or after the age of 3) in preschool children. Attachment theory suggests that any disruption in maternal care during the first 3 years of life results in emotional insecurity that may be manifested in behavioral disturbances. The sample used in this study consisted of 44 boys, aged 4, who attended a community-based day care centre and who were not of a lower socio-economic background. Behavioral descriptors of emotional disturbance were measured by day-centre staff using four factors of the Connor's Teacher Rating Scale (TRS) identified by Trites, Blouin and Laprade (1982): Hyperactivity, Conduct Problem, Emotional Over Indulgence, and Anxious-Passive.

The Irwin-Fisher Exact Tests, used in the confirmatory analysis, found significant differences between EDC and LDC children on the Hyperactivity factor, in the total sample and in the one-parent family sub sample and on the Conduct Problem factor in the one-parent family sub sample. As the Trites' criterion was found to be severe, resulting in small sample sizes, an exploratory analysis using a full and partial relaxation of the Trites' criterion was performed.

The results of the full relaxation of the criteria, using a t-test, found significant differences in the total sample and one and two parent family groupings while the partial relaxation of the criteria, using Fisher-Exact tests, did not.

Observations of the data suggested that the LDC children showed less extreme differences in behavior than EDC children, although statistical support using a chi-square analysis (that relied on the Trites' criterion), did not support this.

This study found partial support for the research hypothesis that disruption in maternal care results in behavioral differences at the preschool age. The statistical findings suggested that the EDC and LDC groups differed significantly from each other but did not differ significantly from the norm. It was considered that the repeated daily separations experienced by the EDC group may have resulted in behavioural differences and that these differences may have been moderated by the day-centre environment and by the continuity of contact with the mother. Support for the hypothesis was not considered strong enough to generalize to the general population. This study is considered to be an initial step in clarifying the effect of substitute care on preschool children. Further research is indicated due to the many variables involved.

## INTRODUCTION

Substitute care requires repeated separations from the mother. Whether these short separations constitute a disruption in the maternal relationship continues to be debated. This issue is of importance as over half the preschool children in North America receive some type of substitute care. The research on the effects of substitute care is not conclusive due to the many variables involved.

This study aims to test the validity of the theory that early disruptions in maternal care due to substitute care experience, results in emotional insecurity which is manifested by a behavioral disturbance at the preschool age. This study will attempt to rectify some of the limitations found in previous research by the selection of subjects and identification and measurement of the constructs. This study tested the hypothesis that children who experienced substitute care before the age of three would manifest more behaviors indicative of social and emotional insecurity than children who did not experience regular substitute care until after the age of 3. Sub-hypotheses of the study compared children with early and late day care experience using one-parent and two-parent family groupings.

The sample used were 44 boys, aged 4, who attended a community based day centre and were not from lower socio-economic class families. Children of one and two-parent families were included in the sample. Behavioral descriptors were measured using factors derived from the Conner's

Teacher Rating Scale. This measure was chosen as it has been found to be consistent with indicators of emotional insecurity.

The first chapter of this thesis presents a review of the literature. It commences with a discussion of the development of attachment theory and its implications. This is followed by a discussion of the current research on the social and emotional effect of substitute care, and the limitations of this research. The chapter concludes by stating the experimental rationale.

The second chapter describes the procedure by which the hypotheses stated in the first chapter are tested. It sets forth the details of the study: subjects, instruments, method and data analysis.

The third chapter presents the confirmatory analysis and interpretation followed by the exploratory analysis and interpretation.

The summary and conclusions integrate the confirmatory and exploratory findings. Implications for subsequent research follow.

## CHAPTER I

### REVIEW OF THE LITERATURE

In this chapter, a review of the relevant literature is presented. In the first section, attachment theory and its implications are presented. This is followed by a review of the research, and limitations generally found in these studies. The last section outlines the rationale behind the experimental approach.

Substitute care has become part of North American culture. Statistics Canada 1981 figures estimate that over half of the preschool population, who totalled 2.2 million, received some type of non-parental care each week. These children spend an average of 22 hours per week in one or more different kinds of substitute care. The kind of substitute care varies from group care (11%), to care in another person's home (36%), to care in their own home by someone other than a relative (36%), to care in a nursery school or kindergarten (43%), with many of these children receiving more than one type of care (Statistics Canada, 1982). The effects of substitute care on the social and emotional development of young children is an issue that has received a great deal of attention in the literature over the past decade.

The review of the literature that follows will attempt to situate the problem in its historical and theoretical

perspective, thereby providing, hopefully, a sound basis for the present study.

Maternal Deprivation Due to Substitute Care

The early research on the effects of non-continuous mothering, that is, having more than one caregiver, provides one of the central arguments that is used in questioning whether daycare has some deleterious effects on the emotional and social development of children (Rutter, 1982). This research focussed on the influence of early experience on emotional development, particularly the result of disruptions in the mother child relationship. The research of the 1940s and 50s was done on institutionalized children (Baer, 1954; Bowlby, 1951; Goldfarb, 1943; Spitz, 1945). This early research concluded that when a child is deprived of continuous access to the mother, the development of a strong attachment does not occur and results in a later lack of emotional security. This statement has implications for daycare, since day care, by its very nature, requires a daily separation of mother and child. Theorists and researchers today argue whether or not child care outside the home on a daily basis disrupts the mother-child bond.

The opinion on this issue is clearly divided along two lines. Bettelheim (1969) and Clarke-Stewart (1982) are representative of these opposing views. Bettelheim (1969) suggests that group care programmes where the child is separated from the parents for nine hours a day, no matter

what the quality of the substitute care, does not allow the child the opportunity to experience a satisfactory parental relationship.

But even if the parents are free and present, and try to do a good job, it is the end of the day. After 8 or more hours of hard work, and after 2 visiting hours with their children, many of them are simply exhausted, physically and emotionally...the parents try to crowd too much emotion into a short span of time, because they feel their visit comprises the whole of their relations with their children (Bettelheim, 1969, pp. 111-112).

Clarke-Stewart (1982) questions this type of argument. She suggests that children who attend day care do not experience a lack of maternal love or care. She suggests that the fears of the harmful effects of substitute day care are based on the early observational studies of institutionalized children who are far different than the children of working mothers.

But children in day care are not deprived of mother love or even maternal care; they have love and care before they are placed in daycare and continue to experience it at the end of every day. Mothers don't put children into day care because they don't love them. What is more, the retarded children in the old orphanages were deprived of much more than maternal love....These conditions are not found in most day care centers today. Studies of residential care, whether old or new, simply cannot be used to suggest day care is harmful to the children's development (pp. 25-26).

The basis of the controversy in day care is whether the child's relationship to the primary caretaker is disrupted, and results in what has been termed maternal deprivation. The current definition of maternal deprivation considers that it results from "insufficient interaction with a mother figure". Maternal deprivation has been proposed to

be a type of attachment or relationship disorder that has its onset in infancy, around the age of 6 months, and occurs "due to the psychological absence of the mother" as may occur with disruptions of maternal care or due to the psychological lack of maternal availability due to maternal physical or mental illness (Call, 1983).

Clinicians and theorists, including Ainsworth (1973), Benedek (1952), Bowlby (1951), Call (1983), Erikson (1950), Mahler (1975) and Winnicott (1948), suggest that if the child does not have adequate access to the mother psychologically, then the child will not be able to develop a significant relationship with his mother. This can result in the development of defensive reactions and interfere in all close interpersonal relationships.

The most striking long term effect of maternal deprivation is the inability to establish and maintain deep and significant interpersonal relations - that is the inability to become attached (Ainsworth, 1973, p. 53).

The importance of the child's "first relationship" (Stern, 1977) with his mother or his "attachment" (Bowlby, 1951) to the mother, has been observed in developmental terms. The ability of a small child to become attached to an adult caregiver is considered to be essential as it forms the basis from which marriage relationships and subsequent parental relationships are based (Bowlby, 1951; Erikson, 1950, 1983; Freud, 1938; Spitz, 1965).

The early research on non-continuous mothering has implications for the children today receiving substitute care, since by its nature, the substitute care the child

receives disrupts his contact with the natural mother. To gain an understanding of the basis of the concern about the disruption in attachment, attachment theory and the development of attachment must be examined.

### The Theory of Attachment

Attachment is a term that is used to describe the affectional tie that is formed between specific persons. The term attachment was first used in the context of the mother-infant relationship by Freud in 1931. In 1938, Freud delineated the significance and importance of the mother-infant relationship. Freud explained the relationship as

unique, without parallel, established unalterably for the whole life time as the first and strongest love-object and as the prototype of all later love-relations (Freud, 1938, p. 188).

Since then, it has been widely accepted that the mother-infant relationship has a "profound and pervasive influence on all other interpersonal relationships" (Ainsworth, 1971, p.129). The recognition and significance of mother infant attachment has been supported by a variety of writers (A. Balint, 1945; M. Balint, 1949; Benedek, 1952; Erikson, 1950; Freud, 1914, 1926, 1938; Klein, 1959; Mahler, 1963, 1965; Spitz, 1965; Stern, 1977; Winnicott, 1948, 1953, 1960).

Bowlby chose the term attachment when he proposed his theoretical framework to describe "the nature of the child's tie to his mother" (Bowlby, 1958). The framework that Bowlby uses in his theory gives detailed behavioural

observations that illustrate how attachment behavior develops. This has allowed attachment theory to be broken down into constructs and be operationalized, that which is necessary for a theory to be experimentally tested.

Bowlby's attachment theory is based on ethology, "the scientific and objective study of animal behavior" (Webster's New Collegiate Dictionary, 1977, p. 393). Bowlby observed that the relationship of the infant to the mother was similar in animals and humans and that attachment behaviors were evident in all animal species. The responses that were observed were the result of instinctual behavioral patterns. Bowlby suggested that the infant's attachment to his mother had its origin in "species characteristic behavioral systems" that were

relatively independent of each other at first, which emerge at different times, become organized toward the mother as the chief attachment figure, and serve to bind the child to the mother and the mother to the child (Ainsworth, 1973, p. 4).

Bowlby postulates that the child's tie to his mother is the result of five behavioral systems that have "proximity seeking to the mother as a predictable outcome" (Bowlby, 1969, p. 179). The behavioral systems that are observable in infants are sucking, clinging, following, crying and smiling. Their manifestation in the first year vary with the reciprocity of interaction each mother-infant dyad develops in the first year. Alteration in the form of the attachment behaviors in intensity and frequency, coincides with the child's increased mobility permitting exploratory behavior.

Bowlby suggests that the attachment relationship experienced in infancy is the building block of the development of all other social relationships. Bowlby notes that attachment behaviors are evident in adolescents and adulthood in modified forms. These behaviors are observable in gaze patterns and include a change towards whom the attachment behaviors are directed. Bowlby regards attachment behavior

as a class of social behavior of an importance equivalent to that of mating behavior and parental behavior (Bowlby, 1969, p. 179).

Attachment behaviors, then, seem to have a biological function that Bowlby considers to be instinctually based.

Bowlby's attachment theory countered the existing theories of the development of the relationship between mother and child. In the social learning theories and the psychoanalytic theories, it was considered that the infant's interest in the mother was based on being cared for physically. The infant's love for the mother, in these theories, was considered a secondary drive, that occurred when the infant's dependency needs were met (Ainsworth, 1969). For example, Freud wrote in 1938 that "Love has its origin in attachment to the satisfied need of the nourishment" (Freud, 1938, p. 188).

Attachment theory differs from the learning and analytic theories in that it is not based on the meeting of primary needs but instead is based on the development of affectional bonds. The attachment behaviors that Bowlby observes, reflect the specificity of the tie to one person,

the continuity and endurance of these responses over time and include strong affective components which cannot be accounted for by the meeting of the basic needs. The attachment theorists emphasize that a child can be physically dependent on others but retain a primary emotional attachment.

Bowlby's attachment theory was supported in 1959 in Harlow and Zimmerman's experiments with rhesus monkeys. These monkeys were separated from their biological mothers at birth and were 'raised' by cloth or wire 'mothers'. The 'mothers' were cylindrical wire upright structures, one covered in soft cloth. The feeding apparatus could be placed in either model of mother. It was then assessed whether the influence of food or something to cling to was of importance. Harlow and Zimmerman concluded that their

data make(s) it obvious that contact comfort is a variable of critical importance in the development of affectional responses to the surrogate mother (i.e., model) and that nursing plays a negligible role (Harlow & Zimmerman, 1959, p. 421).

These early experiments were considered the first experimental evidence of the importance of contact and availability in mothering (Schaffer & Emerson, 1964).

The development of the affectional bonds that form the basis of attachment, is considered to be a gradual process which consolidates over several years. The process of developing an attachment relies on the availability, consistency and warmth of the caretaker. The outcome of having made secure attachment is considered to be competency in emotional and social relationships (Parmalee,

Beckwith, Cohen & Sigman, 1983) which Bowlby refers to as mental health.

What is believed to be essential for mental health is that the infant and young child should experience a warm and continuous relationship with his mother (or permanent mother-substitute) in which both find satisfaction and enjoyment (Bowlby, 1969, pp. xi-xii).

#### The Phases of Attachment

The attachment process is considered to develop over several phases. The development of attachment relies on internal processes within the child, such as cognitive and physical growth, as well as external conditions, such as the mother's response to the child.

Bowlby suggests that attachment occurs in 4 phases reflecting the emergence of the attachment relationship. In the first phase, the child orients and signals to the mother without discrimination. In the second phase, the signalling behaviors are directed toward familiar figures. In the third phase, at around 6 months, the infant begins to see his mother as a separate and independent being whom he is capable of losing. The conceptualization of mother as a separate entity is considered crucial for the formation of a permanent bond (Bowlby, 1969; Klein, 1959; Mahler, Pine & Bergman, 1975; Piaget in Coblener, 1965). In the final phase, the infant's relationship to the mother is consolidated. The need for consistency and continuity of mothering throughout the phases of attachment is stressed as the attachment behaviors exhibited by the child adapt as he emotionally and developmentally matures. This is why the child's attachment to the mother is not

considered to be consolidated until the age of three.

Empirical studies support Bowlby's theory that attachment occurs as a progression. Ainsworth (1963, 1973), Schaeffer and Emmerson (1964), Mahler et al. (1975) and Yarrow (1967) provide support that attachment does proceed in phases and is established at around age 3.

These authors emphasize that the attachment relationship is not merely a maturational process of a neurological origin but is based on the development of an emotional bond. As the mother and child relationship requires emotional reciprocity, the bond between them that results may differ in quality.

The attachment relationship of the mother and child is difficult to assess. Ainsworth and Wittig (1969), utilizing the attachment behaviors that Bowlby describes, have designed an experimental situation that assists in the evaluation of the infant's relationship to the mother. This means of assessment, termed the "strange situation", is widely referred to in the literature.

In the "strange situation", the small child experiences eight different episodes which, in total, last 22 minutes. The episodes include: observing the child's exploratory behavior in the presence of the mother to see whether he is able to use her as a "secure base from which to explore"; his responses to the two brief separations (maximum of three minutes) from his mother - one in which he is left with a stranger and one in which he is left alone; and the child's response to the mother when reunited with her after

separation.

The strange situation is considered to be an experimental design that provides a method of activating and intensifying the attachment behaviors described by Bowlby (1969).

From the analysis of the mother-infant interactions in the "strange situation", Ainsworth and Wittig (1969) described three types of relationship in the mother-infant pairs: unattached, securely-attached and insecurely attached.

The observations of the young child when separated and when reunited with his mother in the strange situation suggests that the interaction that is observable on the reunion of the mother and child, particularly when the child is under the age of two, is a more accurate assessment of the child's attachment to the mother than the child's reaction to the separation.

The entire separation literature... suggests that the response to reunion after separation may well yield a cleaner picture of the state of attachment than did the response to separation itself (Ainsworth, 1978, xii).

Ainsworth and Wittig's strange situation has been widely used as a means to classify the attachment relationship.

#### Moderating the Effects of Separation

In Bowlby's phases of attachment, he describes the infant's and small child's need to maintain proximity to the mother. The need for proximity changes as the attachment process becomes consolidated. Separations from

the mother during these early years is considered analogous to the response of "anyone separated from a loved figure" (Bowlby, 1973). The cognitive resources available to a child under the age of three are limited and tend to make separations equivalent to abandonment or permanent loss (Ainsworth, 1973). Ainsworth, a colleague of Bowlby's, describes the impact of separation of the child from the mother

a child old enough to have become attached to his mother..., but not yet old enough to sustain an attachment over a period of absence say (aged) three to four years old for relatively brief separations...is substantially distressed by the sheer breach of the attachment, although his responses are also influenced by other associated factors (Ainsworth, 1973, p. 68).

The associated factors that Ainsworth refers to that moderate or aggravate the child's distress are well described.. Robertson and Robertson (1971) classify three categories of factors that influence the child's response to separation:

1. Stress factors that occur in addition to the loss of the mother such as: a strange environment; inadequate, strange or multiple substitute caretakers; cues and language not understood; unfamiliar routines and foods; differences in discipline; illness or pain suffered by the child; bodily restriction as might occur in hospital; length of separation.
2. Factors that might reduce the stress such as: familiar substitute caretaker, known foods and routines, familiar environment, unrestricted movement, own belongings, reassurance of eventual reunion; separation of fantasy and reality of the reasons behind separation; willingness of caretakers to talk to child about his family life; support and visits by parents.
3. Factors within the child's psychological state that might moderate the distress during and after the separation and be reflected in the long term effects. These would include: level of ego maturity, quality of mother-child relationship; fantasies of mother's disappearance; and pre-separation experiences of separation.

The three categories that Robertson and Robertson (1971) describe are considered to combine to result in individual differences that are observed when the child is separated from the mother. Robertson and Robertson (1971) found that when even some of these factors were present, children cared for in non-institutional settings still suffered from some detachment when reunited with their mothers, such as turning away from the mother when she arrived even when the child had repeatedly expressed a longing for her. The non-institutionalized children, who had an adequate substitute caretaker were observed not to experience the protest and despair that Bowlby suggests that all children undergo on separation, but did show varying degrees of detachment on reunion with their mother (Robertson & Robertson, 1971). The child's variation in response depended on the associated stress factors and his psychological status.

After brief separations, when the detachment reaction subsides, an intensification of the child's attachment behaviors directed to the mother is "commonly observed" (Robertson & Robertson, 1971). The attachment behaviors, in which the child seeks closer proximity to the mother, are often maintained over a much longer period than was characteristic of the child. Ainsworth suggests that

The separation has shaken his trust in the mother's accessibility and responsiveness so that he scarcely dares to let her out of sight lest she disappear again (Ainsworth, 1978, p. xii).

The importance of moderating the effects of separation is a concern in day care. The separation of the child from "the people to whom he is most closely attached (is)...one of the most problematic aspects of day care" (Provence, Naylor & Patterson, 1977, p. 61).

#### Emotional Insecurity Resulting from Separation Experiences

The theoretical frame of reference that the attachment theory provides emphasizes the small child's need for his mother during the first three years of life. The child's need for his mother is based on the time it takes to form and consolidate his attachment to his mother. Without this basic relationship, it is suggested that emotional security will be impaired which will have far reaching consequences later in life (Benedek, 1952; Bowlby, 1951, 1969, 1973, 1979; Freud, 1938; Klein, 1952; Mahler, 1963; Nagera, 1966; Spitz, 1965; Winnicott, 1960).

Bowlby suggests that any type of separation will effect the child in some way. Robertson and Robertson give a synopsis of Bowlby's perspective.

Acute distress is a usual response of young children (between about 6 months and 3-4 years of age) to separation from the mother, regardless of the circumstance and quality of the substitute care; and by implication that there is no differentiation between the responses of those infants at varying levels of development (Robertson & Robertson, 1971, p. 265). Bowlby suggests that separations and instability in

maternal care lead to emotional insecurity that may be observed in interpersonal relationships and interactions. Bowlby emphasizes that children's behavior should not be evaluated without consideration of a number of factors,

such as the child's age, his health, the whereabouts of his mother, and the occurrence of changes in his environment (such as starting school, or the arrival of a new sibling).

Bowlby suggests that when the child has experienced lack of continuity in maternal care three behavioral responses may be observed: (1) anxious attachment, (2) aggressive detachment or (3) a mixture of these, anxious detachment (Bowlby, 1973, p. 226).

(1) The anxious attachment that Bowlby describes has been termed overdependency. Bowlby emphasizes that anxious attachment does not occur due to spoiling but has its basis in emotional insecurity. Clinging behavior is considered descriptive of this type of attachment disorder.

Adjectives Bowlby (1973) uses to describe clinging behavior of childhood and adulthood are given as jealous, possessive, greedy, immature and overdependent, and strong or intense attachment. Bowlby gives examples on how clinging behaviors would be manifested in later years:

A child who tends to be clinging, an adolescent reluctant to leave home, a wife or husband who maintains close contact with mother, an invalid who demands company, all these and others are likely sooner or later to be described with one of these words (adjectives denoting clinging) (Bowlby, 1973, p. 212).

(2) In some children, the response to disruptions experienced in mothering is not an anxious attachment, but a detachment with aggressive behaviors. These children appear to lack trust in others or caring for others, both peers and adults. The children described as aggressive detached are seen as "disobedient" and "retaliating" in their actions (Bowlby, 1973, p. 225).

(3) The third response that Bowlby describes is a mixture of detachment and anxious attachment. In these anxious detached children, ambivalent responses to the mother on reunion are evident. The behaviors that these children display are a mixture of the behaviors observed in the children who are anxiously attached and aggressively detached.

Bowlby observes that the response to lack of consistency in mothering is somewhat sex related. Girls are observed to be more anxiously attached, and boys tend to be more aggressively detached. Bowlby (1973) suggests that this is consistent with adult defensive reactions. (In adult women, anxiety is the common neurotic symptom; and in men, delinquent behavior is more prevalent).

Bowlby's observations on how the child reacts to disruptions in mothering with defensive reactions is supported by a committee of psychiatrists, the Group for Advancement of Psychiatry (GAP), who classify disorders in childhood.

Disorders in the attachment relationship of young children to their mothers is now recognized as a diagnostic classification (Call, 1983). A disruption in maternal care is considered a reactive disorder that in infants and small children may occur due to "relatively mild stimuli" (GAP, 1974, p. 51). Reactive disorders, which do occur at any age, are considered to be prevalent

in infants and preschool children because they are less likely to have the capacity to repress affect, internalize conflict and develop a structured psychopathology (GAP, 1974, p. 52).

The nature of the reaction that is observed in small children is dependent on a number of factors including the child's past experiences, level of development, his natural endowment and the adaptive resources he has available to him. The type of reactions that may be observed in children when suddenly deprived of adequate mothering are varied in that they may be manifested in many types of behaviors and symptoms. In infancy, GAP suggests that the response of the child may range from apathy, to eating and sleeping disturbances, to failure to thrive. In childhood, the reaction of the child may be observed in disturbances in conduct, active aggressive behavior, passive resistance, neurotic symptoms and depression.

The recognition of the variety of responses that children manifest in response to disruptions in maternal care is consistent in both Bowlby's theory and GAP's classification of reactive disorders due to maternal disruption.

Bowlby suggests that these behaviors may be evident in different degrees, but may be modified if an attachment is formed to a substitute caretaker who provides consistent and continuous care over time.

Bowlby's attachment theory is in conflict with current North American child rearing practices. Bowlby's theory emphasizes the small child's need for his mother during the first three years of life as this is the time frame required to form and consolidate an attachment to his mother. Without this basic relationship, Bowlby suggests

that emotional security of the individual will be impaired and that it will be evident throughout life. Bowlby's theory has become a basis of that part of the day care research that evaluates the social and emotional influence of the daycare experience on young children.

#### CURRENT RESEARCH: THREE ISSUES

The research on the social and emotional effects of day care on young children focuses around (1) whether the attachment relationship of mother and child is disrupted; (2) the importance of a secure attachment relationship in promoting social and emotional security in the preschool years, and (3) the behavioural observations that may be made from different types of substitute care experiences.

##### 1. The influence of day care on the attachment relationship

The social and emotional issue that predominates in the research is whether day care (either group or home care) disrupts the attachment process. The theoretical issue presented by Bowlby, whether the child's attachment to the mother is disrupted by the daily separations that is inherent in substitute care, is the basis of the studies.

The literature remains unclear as some researchers suggest that the attachment relationship is not affected (Caldwell, Wright, Honig & Tannebaum, 1970; Cochran, 1977; Doyle, 1975; Kagan, Kearsley & Zelazo, 1978; Portnoy & Simmons, 1978, Rubenstein, Howes & Boyle, 1981) while other

researchers (Blehar, 1974; Schwartz, 1983) suggest that the attachment relationship is affected.

These studies lack consistency in a number of areas. The Caldwell et al. (1970) study did not control for race, sex and length of time in day care; utilized an "environmentally enriched" program, and used unstandardized methods to behaviorally assess children. This study concluded the differences observed in the 41 children, aged 31 months, was related to their developmental level.

The Swedish 1977 Cochran study found no differences in the mother child attachment in the 120 home reared and centred reared children, aged 12, 15 and 18 months. Cochran's study found no developmental differences between the rearing groups but did find more exploratory behaviour in the home reared group resulting in more adult interactions. This study was limited in the unstructured observational methods that were used in the home setting.

Doyle (1975) found no differences in attachment in 24 young children (age 5-30 months) with day centre or home reared experience. Ainsworth's strange situation was used to assess the children. Doyle's findings are similar to the Cochran (1977) study in that center children were observed to initiate fewer social interactions.

One of the few longitudinal day care studies was done by Kagan, Kearsley and Zelazo (1978). Sixty-four lower socio-economic children were matched for age, sex and ethnicity (Chinese and caucasian). Half were enrolled in a university day center beginning at 3 months of age and the

other half were home reared. Measures for attachment to the mother were made using two situational tests which were done when the children were 13 months and 29 months of age.

In the first test, the infant was left in an unfamiliar room by his mother. The presence of fretting and crying behavior was recorded over a two minute period. The separation protest that was observed was considered to be primarily age related with variables being the infant's relationship with the mother and his temperament. Kagan et al. (1978) report there was no difference in the centered reared and home reared children's crying and fretting behaviors at ages 13 and 29 months and that their behaviors conformed to a developmental patterns that were consistent with other cultural studies.

In the second situational test, the infant's proximity to the mother was measured when a stranger and a familiar day care staff were present. The observations at 13 and 29 months suggested that there were no group differences (in the home reared and day care reared groups) in the proximity of caucasian children to the mother, whereas there was a difference in the Chinese sample. Kagan et al. (1978) considered that the observations of the avoidant behavior observed in the Chinese day care children's interactions with their mothers was consistent with the detachment observed in day care reared children by Blehar (1974).

Other observations that Kagan et al. (1978) made were that at 13 months, the day care sample showed an inhibition

of play and sought proximity to the mother when in the room with a peer, and at 29 months this behavior was reduced or had vanished. The home reared children at 29 months were observed to enter more into reciprocal play with peers than the day care children (when placed in a room together with their mothers) at a significantly high rate (45% to 80%). This was also true when the 29 month olds visited a strange day centre. Ordinal position in the family, but not sex differences were considered to effect the interaction.

Kagan et al. (1978) suggest that

daily experience with other children does not in itself lead to more mature and social forms of play (Kagan et al., 1978, p. 414-415).

The Kagan et al. (1978) study is limited in that the children were followed only to 29 months, and that the programme was not representative of what was generally available. In addition, attachment was measured without considering the child's reunion reaction, which Ainsworth (1978), and Robertson and Robertson (1971) consider to be more indicative of the child's relationship to his mother.

The Portnoy and Simmons (1978) study used the "strange situation" to assess attachment to the mother using a sample of 35 children (aged 3 1/2-4). This study found no significant differences between home reared and day care reared children,, although the authors and others (Schwarz, 1983) question the sensitivity of the "strange situation" in children over the age of 3 years.

Rubenstein et al. (1981) did a followup study of 23 children (ages 3 1/2-4 years), half of whom had attended a

community based day care programme and half of whom were home reared. Attachment to the mother was deduced from the child's separation behaviour when taken for testing, the child's anxiety level during testing, and his reunion reaction with the mother. Rubenstein et al. (1981) found there were no significant differences between the day care and home reared children.

Two studies (Blehar, 1974; Schwartz, 1983) conflict with the finding (Caldwell et al., 1970; Cochran, 1977; Doyle, 1975; Portnoy & Simmons, 1978; Rubenstein et al., 1981) that the attachment relationship is not disrupted in children with early day care experience. The 1974 Blehar study continues to be the focal point of the controversy as to whether repeated daily separation, that the day care child experiences, interferes with the attachment he has towards his mother.

In Blehar's experiment, 40 middle class children (aged 2 and 3 years) from intact families, were assessed. Half the group were "primarily" home reared and the other half attended a day care programme for five months. The mothers' involvement with their children was evaluated using the Caldwell Home Environment Scale and by interview. The children's attachment behaviors were assessed using the "strange situation". Significant differences were noted in the home reared and the day care groups. The differences observed in behavior of the younger and older group were manifested in a fashion that was considered relevant to the consolidation of the

children's attachment. The older day care group exhibited more ambivalent and anxious behaviours, such as exploring, crying, resisting and search behaviour than the older home reared group. The younger day care group showed more ambivalent reactions (such as avoiding) on reunion with their mothers than the younger home reared group. Both daycare groups tended to interact less with their mothers and sought less proximity to her.

Blehar considers that the ambivalent and resisting behaviours of the older daycare group and the avoidant-ambivalent behavior of the younger day care group is consistent with the observations made of children's responses to major separations that Bowlby describes. Blehar suggests that younger children (ages 2 - 2 1/2) were less able to consolidate the attachment relationship to the mother and were more likely to respond in a detached fashion, (with indifference) on reunion. Older children (ages 3-3 1/2) were less likely to become detached but are more likely to show ambivalent reunion reactions. Blehar suggests that repeated minor separations may have similar effects to major separations although not in severity.

Blehar's study has been criticized for methodological flaws. Rater biases are questioned and Blehar's data is considered to be skewed (Belsky & Steinberg, 1978; Rutter, 1982). Blehar's sample was also criticized as it was not a random one and it included too many first born children of intact families, who are considered to have more difficulty with separation (Belsky & Steinberg, 1978). Attempts to

duplicate the Blehar study have been made, although none has matched the sample Blehar used in terms of the ages, family intactness and socio-economic status.

A 1983 study done by Schwartz supports Blehar's (1974) study. Schwartz observed 34 infants (18 months old) half of whom began daycare between 9 and 12 months of age, and the other half being home reared. She observed maternal behaviour and rated the children in the strange situation paradigm both in the laboratory and at home. She found maternal responsiveness did not differentiate the day care and home care group, although mothers of first born children seemed to be more socially responsive and mothers of the part time and day care children were more physically affectionate. The reunion reactions observed in the strange situation, suggested that more avoidant behaviors were observed in fulltime and parttime day care than in the home reared sample. Schwartz concludes that the effect on the infant's relationship to the mother may be correlated with the amount of time he is separated from her.

Other research in attachment suggests that the behavior that is observed in the interaction of mother and child is influenced by the ordinal position of the child in the family (Fox, 1977; Kagan et al, 1978) and the socio-economic status of the family (Farran & Haskins, 1980). Moscovitz, Schwartz and Corsini (1977) suggest that the sex of the child influences the behaviours observed in the reunion reaction in the "strange situation". Moscovitz et al. (1977) suggest that male

children react more to separation, however this observation was not supported in the study of Kagan et al (1978).

Children who are first born (Fox, 1977; Kagan et al, 1978) are considered to be more distressed on separation from the mother than later born or female children. The reciprocal interactions of the mothers and children of lower socio-economic status were observed to differ from the reciprocal interactions of middle socio-economic status mothers and children.

In some research studies reviewed, the attachment relationship between mother and child was assessed by the proximity maintained to the mother in the presence of a familiar substitute caretaker. Farran and Ramsey (1977) and Kagan et al. (1978) found that the small child's preference for his mother was maintained even in the presence of his regular substitute caretaker.

The research studies on whether attachment is disrupted is not resolved, partly due to the difficulty of accurately defining and measuring such a construct and partly due to the large number of variables that are difficult to control. Since replication of studies in this area has not been accomplished, definite statements on the disruption of attachment cannot be made.

## 2. The influence of secure attachment on preschool competence

The attachment studies have also been used in the prediction of preschool social and emotional competence.

The studies suggest that there is a relation between the quality of attachment between mother and child, the child's exploratory behavior (Waters, Wippman & Sroufe, 1979), the child's cognitive development in the first year of life (Hock, 1980), the child's conformity to maternal requests (Rubenstein et al., 1981; Sroufe & Waters, 1977), the persistence of the child's negative behaviors as well as his problem solving behaviors in the second year of life (Sroufe & Waters, 1977). Included in problem solving behaviors are the child's ability to seek help, his attitudes in problem solving and his frustration tolerance.

The stability of the individual differences in attachment behavior has been noted to be consistent over time (Brody, Axelrad & Morah, 1976; Cohen & Beckwith, 1979; Waters et al., 1979). Predictions are made that preschoolers who are securely attached infants, are more confident and competent in their dealings with their peer group, with adults and with objects in their environment.

The consistency of the preschooler's behavior throughout the early years and in the variety of situations he experiences is considered to be mediated by the cognitive and affective inputs that are attributed to the attachment construct. For this reason, many of these studies look closely at maternal behaviors and home environment, and attempt to correlate these influences to later preschool behavior (Baldwin, 1949; Caldwell, Hersher, Lipton, Richmond, Stern, Eddy, Drachman & Rothman, 1963; Cohen & Beckwith, 1979; Londerville & Main, 1981; Parmalee et al., 1983).

Baldwin in 1949 looked at the effects of home environment on nursery school behavior. He found "democracy and warmth" versus "indulgence", as rated on a parent behaviour scale, could be correlated to the preschooler's participation and success in his dealings with peers.

More recent studies suggest that the environmental conditions and frequency of social interactions in the first year predict competence in the second year of life (Beckwith & Cohen, 1979; Parmalee et al., 1983). Londerville and Main (1981) observe that the mother's warmth and gentle interventions influenced competence at age 2. Clarke-Stewart, Vanderstoep and Killian (1979) correlated the mother's attitudes and behaviour in the first year of life to the child's IQ, language capacity and ability to relate to strangers at age 2 1/2. Farran and Haskins (1980) observed that middle class mothers tend to spend twice as much time in interaction than lower class mothers, with the result being the lower socio-economic children were less directed in their play or were more "independent" in their play activity. Anderson (1980) suggests the quality and stability in the home environment has to be consistent with the care received in the alternate daycare arrangements.

A few studies have made a correlation between the mother-infant relationship and the child's social and emotional competence at the ages of four to five.

Brody et al (1976) observed 127 mother-infant pairs

from 6 weeks and followed the children for seven years. The pairs were assessed with a maternal attitude scale and by observed maternal behaviors. This study suggested that the security of the mother-child relationship in infancy correlated with the child's ability to satisfy his needs, relate to persons and objects, at the ages of 4, 6 and 7 years of age.

Arend, Grove and Sroufe (1979) followed 26 infants from 1 1/2 years to 5 years of age. Using the strange situation paradigm, security of attachment was estimated. Security of the attachment relationship predicted ego resiliency, which was defined as the child's ability to act flexibly, persistently and resourcefully in problem situations. Less securely attached infants were observed to be impulsive and unable to delay gratification of their needs or were observed to be constrained, perseverative and tending to delay need gratification unnecessarily. In contrast, the ego-resilient preschoolers were considered to be enthusiastically involved with school tasks and peers, were able to express themselves emotionally in "situationally appropriate ways" and were "organized, persistent and flexible" when encountering problems or stress (Arend et al., 1979).

Waters et al. (1980) followed 32 children from 15 months of age to 3 1/2 years. The child's security of attachment to the mother, which was determined by a modified strange situation, was correlated with peer competence at age 3 1/2. Peer competence was measured

using observations over a 5 week period and included ratings of the child's initiative, confidence, his problem solving behaviors and his ability to relate to adults and peers.

The research seems to be consistent with the view that the mother-infant relationship that is formed in the first 2 years of life predicts the preschooler's successful ability to function socially and emotionally.

### 3. The influence of day care on preschooler's behavior

Another focus in the research is on the social development of children with and without day care experience. In these studies, social and emotional comparisons are made with the use of behavioral observations. These observations are made around the child's relationships with his peers and his adoption of adult-like social behaviors (Belsky & Steinberg, 1978). The development of the adult-like social behaviors are considered to reflect North American society and culture (Belsky & Steinberg, 1978). Theoreticians, taking a different perspective, suggest that the social behaviors of group reared children are due to "pluralistic socialization" (Bronfenbrenner, 1970), which comes with having to deal with a varied number of adult expectations. Glickman and Springer (1978) suggest that the interpersonal relations of group reared children are a "mock-social promiscuity" that reflect, according to Bettelheim (1969), "a dependency which is devoid of true intimacy". Bowlby cautions researchers in how they interpret the social behaviors of young children as the behaviors may reflect

emotional insecurity not maturity (Rubenstein et al., 1981).

The studies that have been done on the behavioral characteristics of children have compared those with and without group care experience. As the availability of infant day care in the past has been limited (National Day Care Information Centre, 1980), the applicability of the early studies to children today may be limited (Moore, 1975).

The studies of group care and nursery children (who began substitute care after age 3) suggested that these children showed more initiative, independence, self-reliance, and self assertion. In comparison, the children that were raised at home until age 5, were quieter, more sensitive, and more accepting of adult authority (Ralph, Thomas, Chess & Korn, 1968, Schwarz, Strickland & Krolick, 1974; Van Alstyne & Hattwick, 1939).

The studies of children who began group care before the age of three yield mixed results. Caldwell et al. (1970) suggests that there are no differences in social and emotional "adjustment" of 31 month old day care and home reared children, which was thought to reflect the "environmentally enriched" programme that was offered. Schwartz et al. (1974) presented a follow-up study using the Caldwell et al. (1970) subjects. In contrast, Schwarz et al. (1974) found that four year old children who had started group day care in the first year of life, were more aggressive, less compliant, more motorically active than

children who had been cared for in the home and had only attended the group care programme for 8 months. Rubenstein et al. (1981) present a follow up study (using a different sample). When early group day care children were compared with home reared group, it was found that the group care children had more temper tantrums, more fears in situations where they were alone, were less cooperative to maternal requests and were less likely to become attached to adults outside of their families.

In some of the longitudinal studies, differences between the group care and home care children were considered "minor". Doyle (1975) found no differences in the two groups of children (who ranged in age from 5 months to 30 months) except that the group care children initiated fewer "negative and positive" social interactions. Kagan et al (1978) observed that the 29 month old child's initiative in social interactions was limited in group care children when with unfamiliar adults in comparison to the home reared children. The home care children were considered equally or more anxious than the group reared children in situations with unfamiliar peers.

Caldwell et al. (1970) considered that the 30 month old day care children differed only in proximity seeking behavior, and were more sociable than the home reared children. Bowlby (Caldwell et al., 1970) questioned the interpretations of the social behavior.

It should also be remembered that the three studies (Caldwell et al., 1970; Doyle, 1975; Rubenstein et al., 1981) that suggest that there are minimal differences in how day care reared and home reared children interact, used

only young children, of 2 1/2 years of age or younger, as subjects. Whether differences emerge more clearly when the child is older and is required to interact with his peers is unclear.

Moore (1975) has done a number of longitudinal studies of children with a variety of types of rearing experiences, testing them for behavioral differences from the ages of 6 to 17. In his study, he examines the influence of the type of care (group or individual), the stability of care, and the age at which the child begins care.

Moore (1975) found that the children who experienced three or more successive regimes of care before the age of five were found to be "markedly insecure". The children's insecurity was manifested by sleeping problems, nail biting, dependence on maternal affection, on emotional support at the centre and for help and attention at home.

Children who were placed in substitute care (either group or individual care) at the age of one year, were compared with children placed in substitute care at the age of three and four years. The group who received substitute care at one year of age was found at age six to be more prone to nail biting, bad dreams, fear of the dark, to eat excessively and to be more emotionally dependent on the mother (Moore, 1975).

The results of Moore's (1975) research suggest that there are differences in children with and without day care experience and that these effects are evident in

adolescence. The differences are also found to be more "clear" in boys than in girls.

Where mother is diffused by substitute care of any kind for most of the day starting before the fourth birthday, ... boys come to care less for the approval of adults and more for that of their peers; their behavior tends to become active, aggressive, independent and relatively free from fear despite some adolescent worries and they are less likely to stay on at school and study for examinations.

In girls, the effect of (the) regime is less clear. Exclusive mothering seems to involve for them less anxious inhibition than for boys, while the aggression of diffusely mothered girls tends to be ambivalently deflected (Moore, 1975, p. 270).

Moore also suggests that the number of successive types of care the child receives and whether he began receiving care before the age of four are important factors.

Moore's study has not been replicated. His observation that there are clearer differences in the social and emotional behavioral characteristics of boys, but not in girls, has been supported in the literature (Pence, 1983).

Moore concludes and summarizes that continuity of maternal care to the age of five allows the child

to internalize adult standards of behaviour, notably self-control and intellectual achievement, relative to other children of equivalent intelligence and social class (Moore, 1975, p. 270).

A 1983 Canadian study uses a different perspective in examining the influence of early substitute care. James (1983) interviewed fourteen teachers and compiled their perceptions of children with and without early day care experience. General observations made of the day care children were that they tended to stick together in a

'clannish' fashion and that they took a longer time to develop a relationship with their teacher. Day care children were also considered to be more aggressive, louder, independent, more verbally capable, less timid and more physically active than their home reared counterparts. All but one of the 14 teachers observed differences between the two groups.

The research on the different types of substitute care suggests that there are behavioral effects at preschool age. The early studies may be seen to support the positive influences of day care programmes for children beginning substitute care between three and four years of age. The studies that found minor differences or no effect from substitute care programmes may be because of the young age at which the children were observed and tested (ages 5 to 30 months).

To summarize, the day care research suggests that a secure attachment relationship between mother and infant results in social and emotional competence at preschool age. The research has not resolved whether attachment between mother and infant is disrupted by substitute care. This issue remains unclear due to the difficulty defining what should be measured and how the observations should be interpreted. The research on the behavioral effects of early day care experiences are few in number with the studies on younger children showing few differences and those on older children showing greater differences.

### The Limitations in the Current Research

The difficulties in comparing studies that examine the social and emotional effects of day care on children originate in the nature of the research itself. Despite the use of reliable measuring techniques, there are a number of variables that are inherent in the studies that confound the situation. Researchers, such as Belsky and Steinberg (1978), Brofenbrenner (1976), Kagan (Cayley, 1983) and Pence (1983) caution that the research in daycare is limited in validity due to a number of factors.

Despite (the fulfillment of) these methodological requirements, the selected studies are subject to a number of scientific and social policy related limitations characteristic of contemporary work in the field (Belsky & Steinberg, 1978, p. 930).

Four problems in the current day care research limit the interpretation and general applicability of the findings.

#### 1. Restriction to high quality care. )

First, most of the research has been restricted to high-quality, university-based centers. The use of well-funded centers allowed for more control over the experimental conditions (Belsky & Steinberg, 1978). These centers had high staff-child ratios, and well-designed programmes that focussed on the child's social, emotional and cognitive development. The results of this research contrasted with the results of the residential day nurseries of the 1940's and 50's and provided an "empirical basis for a 180 (degree) turnabout in our researched opinion of the probable effects of day care" (Pence, 1983, p. 4).

The daycare programmes that were used in research differed in quality to what is considered available to the general public. Statistics compiled in Canada in 1982 reveal that only a small percentage of children receive government approved centre or family care. It is estimated that under 15% of children (aged 0-6) of working mothers who attend daycare are registered in government approved and licensed centres or homes (Clifford, 1982). The most common type of substitute care available is care provided by a babysitter either in the child's home (36%) or in another home (36%) (Statistics Canada, 1982). Recent Toronto-based research cited by Pence (1983) suggests unlicensed uninspected care is inadequate, and is resulting in "an epidemic of child neglect". This study has been questioned as it included a large number of immigrants. Recent American studies found "informal child care arrangements" for the "white population" are favourable (Pence, 1983). This contrasts with a 1972 study which rated the majority of the 280 non-profit and private day centres as offering little more than "custodial care" (Keyserling, 1972).

The comparison of the services offered to the community are considered to differ from the experimental projects which would not make the experimental results generalizable. One of the contradictions in the research is that the greatest amount of research has been done on centre based care, the type that is the least available.

## 2. Comparability of Samples

One of the major difficulties in the comparison of day care and home reared children is the lack of comparability of samples. Many of the studies in day care have used children of a lower socio-economic background as subjects (Bronfenbrenner, 1979). Any attempt to assess the effect of substitute care on young children requires that they come from similar circumstances. Studies that replicate previous studies often are unable to control for the child's age, sex, ordinal position, intactness of family or socio-economic status. A final area of comparability is the family's attitudes and values, which are considered to effect child rearing practices (Sears, Maccoby & Levin, 1957). Recent research suggests that the options a family chooses for their child is dependent on their attitudes and beliefs. Hock (1980) suggests that the mother's attitude of the need for exclusivity in mothering and her satisfaction in her role as a mother or worker influence the dynamics of the mother-child relationship. If the mother is dissatisfied with her role, negative reunion behaviours are likely to be observed in the "strange situation" (Hock, 1980).

The influence of parental attitudes is important but difficult to control for. The importance of controlling for maternal attitude is considered helpful in determining whether the observed behaviours are a product of the family or of the substitute care programme.

### 3. Lack of External Validity

In most of the studies on substitute care, several validity problems are apparent. First, there is the methodological problem as to how the subjects are selected. Most of the studies use a matching process. Many consider that matching is not a substitute for random sampling and assignment to experimental and control groups (Belsky & Steinberg, 1978; Petryzak, 1982). Belsky and Steinberg (1978) suggest using waiting lists to act as control groups so that comparability in sampling may be attained in an ethical fashion.

A major problem in substitute care research is that it is based on experimental psychology which requires measurable quantities. The type of variables that are selected for measurement in day care, are difficult to define and require highly sensitive measuring instruments.

Kagan, in a 1983 interview, suggested that the measures that were currently available were "crude" and that more sensitive instruments were needed in order to have an accurate assessment of the situation. In discussing the measurement of attachment in preschool children, Kagan states his hesitations.

With our superficial measures we found no difference in attachment. I wouldn't be surprised if in the next 20 years when there are more sensitive measures of attachment, maybe day care children will be found to be less closely attached....Science is always tentative, so maybe there is a difference in attachment, we can't detect it yet (Cayley, 1983, p. 12).

The difficulty in accurately defining and then assessing variables such as attachment and social and emotional

competence must be closely considered.

Another concern in the substitute care studies is the issue of generalizability. The use of psychological tests and laboratory experiments are the current research methods. Belsky and Steinberg (1978) and Brofrenbrenner (1977) argue that the generalizability of these results to real-life settings at home or in preschool are questionable and limited. Brofrenbrenner (1977) suggests that much of the developmental research is most aptly described as

The science of the strange behaviour of children in strange situations with strange adults for the briefest possible period of time (Brofrenbrenner, 1977, p. 514).

The validity problems in the research in day care are in a number of areas: subject selection, construct validity and instrumentation.

#### 4. Restriction to Immediate Effects

A final problem in the research is that the studies limit themselves to the immediate effects. Although the amount of research is increasing in this area, the knowledge of the long term effects of substitute care is limited (Belsky & Steinberg, 1978). The lack of follow-up studies is the result of the difficulty of correlating infant measures of psychological development with childhood measures. In addition, it is not possible to control for the effect of internal or external events such as the child's natural endowment or environmental stresses (Rutter, 1970). The focus, then, on very young children and on immediate effects is common in daycare research. It

is now known whether the effect of differing rearing practices disappears over time or whether " sleeper effects " ( Moore, 1975 ) emerge when the child is older ( Belsky & Steinberg, 1978 ).

The limitations in the current research must be considered in reviewing the research even when the studies appear to have good controls. This view is supported by the researchers themselves. Kagan states

(For) ethical reasons one cannot do experiments on important issues....Our conclusion about day care was very limited and constrained. It said: If a day care centre is good - good means only two or three infants to one caretaker and maybe no more than three or four preschool children to one caretaker; the caretaker is a good caretaker, nurturant, likes children; the caretaker and the staff share the values of the family....Under these conditions, children attending day care centres don't seem to grow up any different....that's all the study said (Cayley, 1983, pp. 11-12).

The current research in day centres is limited for a variety of reasons. The research results on substitute care must be critically reviewed and the results accepted with these limitations. The four limitations that have been outlined, can affect the external validity of the research, and must be kept in mind when interpreting the day care and attachment studies.

#### Strengths and Limitations of This Study

This study attempted to control for some of the validity problems that have limited the generalizability of the current research. It is recognized that as this study was not a longitudinal one, other validity problems resulted.

This study rectified some of the problems

observed in the following ways:

1. The centers sampled were community based day centre programmes, not university based ones. It was felt that these centres represented what is generally available.

2. The subjects of this sample were selected using strict criteria to get the best degree of comparability possible.

3. The measuring instrument used was one that measures behavior indicative of emotional insecurity. The behavioral indicators were comparable to what Bowlby (1973) and GAP (1974) considered to be indicative of disturbed behavior.

4. This study was not restricted to immediate effects, as it attempted to correlate early substitute care experience with behavioral observations. Variables were controlled to rule out the influences of factors that are considered to effect the child's social and emotional security (Belsky & Steinberg, 1978; Brofrenbrenner, 1979; Pence, 1983; Rutter, 1982). One important variable, that is not always controlled for but was in this study, is intactness of family; that is whether the child comes from a one or two-parent family.

It was recognized that this study had its limitations in that it could not control for the internal and external events that the child experiences (such as the child's endowment, stress in the family setting and the quality of

care within the day centre environment).

It was considered that despite these limitations, this research project would give additional information as to the effect of substitute care on young children.

#### Experimental Rationale

The theoretical research related to this study originates from the work of Bowlby (1951, 1958, 1969, 1973). Bowlby suggests that a child who has experienced disruptions in his contact with his mother or caretaker, before the age of three will manifest more behaviors indicative of anxious attachment, aggressive detachment and anxious detachment than those children who experienced consistent and continuous care.

The research that focuses on the behavior of children with and without early day care experience is limited to a few studies (James, 1983; Moore, 1975; Rubenstein et al., 1981; Schwartz et al., 1974). These studies are similar in that the children who did or did not experience substitute care were age three or under, and the behavioral observations collected were when the children were ages 3 1/2 to 5 years of age. These studies suggest that there are behavioral differences that may be observed in children with and without early day care experience.

The purpose of this study was to examine the behavioral characteristics of children with different rearing experience. Children who began some type of substitute

care before the age of three were compared with those who were reared primarily by their mothers until the age of three.

The focus of this study was to compare the behavioral characteristics of social and emotional significance in two groups of preschool children who were enrolled in a day care programme. The children were grouped according to whether they had experienced some type of substitute care for at least a six month period before the age of three, the early day care group (EDC) and those children who did not experience regular substitute care until after the age of three, the late day care group (LDC). According to Bowlby's theory and the research results of James (1983), Moore (1975), Rubenstein et al. (1981) and Schwartz et al. (1974), behavioral differences would be observed between the two groups. Bowlby (1973) suggests that aggressive detachment, as observed in aggressive, non-cooperative behavior; and anxious attachment as observed in jealous, greedy, immature, overdependent, cautious and fearful behaviors; or a mixture of these behaviors would be evident in the group that received substitute care.

The directional hypothesis tested in this study was in keeping with Bowlby's theory.

Hypothesis I: EDC children would exhibit more behavioral manifestations of emotional insecurity than LDC children.

Sub Hypothesis I: EDC children of one-parent families would exhibit more behavioral manifestations of emotional insecurity than LDC children of one-parent families.

Sub Hypothesis II: EDC children of two-parent families would exhibit more behavioral manifestations of emotional insecurity than LDC children of two-parent families.

Behavioral manifestations of emotional insecurity were evaluated with the use of a descriptive measure that identifies troubled and troublesome behavior. The Conner's Teacher Rating Scale (TRS) was selected as it identifies factors indicative of emotional insecurity that Bowlby describes. The TRS factors are named from the clusters of behavioral items they contain, and coincide with criteria used in the clinical classification of problem behavior (Conners, 1969; Trites, Blouin, Ferguson & Lynch, 1981). The items that the TRS list are consistent with the behaviors that Bowlby (1973) and GAP (1974) suggest as being indicative of problem behavior. Four of the factors Trites et al. (1982) identify will be used. These are: Hyperactivity, Conduct Problem, Emotional Over-Indulgence and Anxious-Passive. These factors will be used as an indication of the emotional insecurity that Bowlby predicts.

The study attempted to control for the limitations of previous research by choosing subjects who were similar in background (socio-economic status, intactness of family and

maternal attitude) and who were attending community-based, not university-based day centres. A measuring instrument that was recognized as identifying behavioral differences was used to ensure accurate measurement of the variables. Being a follow-up study, it was recognized that many variables will not be controlled for. Nevertheless, it was felt that the information collected would contribute to the research on the effect of substitute care on preschool children. The prediction of this study was that the children who have experienced substitute care before the age of three, even when the variables such as maternal attitude and intactness of family were controlled for, would manifest more behaviors indicative of social and emotional insecurity than children who have not experienced regular substitute care until after the age of 3 years.

## CHAPTER II

### EXPERIMENTAL DESIGN

This chapter describes the method followed in conducting the experimental research to explore the behavioural characteristics of children with early and late day care experience. It consists of a description of the subjects included in the survey, and the materials used. The procedure followed and statistical analyses applied to the data are described.

#### Subjects

The subjects of this study were 44 English speaking boys who attended community based day care centres. The boys were within the age range of 4 years 0 months to 4 years 11 months. The children selected comprised all the boys attending the centres within the age range specified who paid at least the minimum fee for their attendance. Subjects whose spaces were fully subsidized were not included. This qualification attempted to ensure that all subjects were from families that had an annual income greater than \$13,000. Children of lower income levels were not included as some research suggests that the parent-child relationship differs in this group (Farran & Ramey, 1977). Children with known or suspected physical or mental disabilities were not included in the sample.

The information questionnaire, which collected

information about the child's background, was filled out by the researcher with the coordinator of the day centre. The information questionnaire took about 5 minutes per child to complete. The Conner's Teacher Rating Scale was completed by the day centre staff who had worked closely with the child for at least 2 months. The time required to complete the rating scale was no more than 10 minutes.

The day centre coordinator and staff were told that the aim of the research was to survey usual behaviors of children. The TRS form was introduced as a rating scale that had been widely used in the Ottawa area. Parent permission forms were requested by six of the 15 day centres contacted.

The fifteen centres that were contacted for the study were selected randomly. The centres sampled included the four different types of administrative organizations commonly found in community-based day centres. The centres sampled were: 3 cooperatives, 4 municipal, 5 private, and 2 private-non-profit. The enrollment of these centres averaged 43 children.

#### Instruments of the Study

##### Information Questionnaire

The purpose of the information questionnaire was to assist in the selection and identification of subjects retained for the study. Information about the child's background was collected in the following areas: socio-economic status, length of substitute care

experience, intactness of family, the staff's perception of the mother-child relationship and the mother's initial reasons for selecting substitute care. The number of years of experience of the day centre staff was also obtained.

#### The Conner's Teacher Rating Scale

The Conner's Teacher Rating Scale, which lists problem behaviors that may be observed in the classroom, was filled out by the day care centre staff. The day centre staff were requested to assess the child's behavior as their ratings are considered to be more reliable and more sensitive than parent ratings (Barkley, 1981; Trites & Laparade, 1983). This scale is one of the more widely used scales (Barkley, 1981). It is a 39-item scale with the items grouped in three general classes: group participation, classroom behavior and attitude toward authority. The items are individually rated "not at all", "just a little", "pretty much", or "very much". This scale requires that the staff member has known the child for at least two months.

The TRS has been used extensively for research and for clinical purposes (Barkley, 1981). The scale was designed in 1969 as a behavior rating checklist to assess students who were participating in drug studies. In the initial analysis of the questionnaire, the four factors that were extracted were found to be similar to the American Psychiatric Association's classification of childhood behavioral disorders (Conners, 1969).

Since then, the TRS has been revised (Conners, 1973)

and norms have been extracted for populations in New York (Kupictz, Bialert & Wisberg, 1972), New Zealand (Werry, Sprague & Cohen, 1975), and Ottawa, Canada (Trites, Blouin & Laprade, 1982). The norms have been found to differ slightly from region to region. Werry et al. (1975) consider that although they are "comparable in some respects (the) norms are not the same". Glow (1980), Trites et al. (1982), Werry et al. (1975) stress using norms that have been developed for the region.

The norms that Trites et al. (1982) provide are derived from the scores of one-quarter of the English speaking elementary school population (n=9,583) of the city of Ottawa. Using Connors' (1969) method, factors were identified and norms were calculated for boys and girls (ages 4 to 12 years). Factors with eigenvalues greater than 1.0 were retained. Items were assigned to factors when the loading was the highest and exceeded 0.40 (Connors, 1969; Werry et al., 1975). The scored items on each factor were summed and a percentage was calculated using the total possible score for that factor (Connors, 1969). The means and standard deviations were calculated from the composite scores. The factors were named descriptively with reference to clinical classification in child psychiatry. The factors identified are, in order of statistical importance, (1) Hyperactivity, (2) Conduct Problem, (3) Emotional Overindulgence, (4) Anxious-Passive, (5) Asocial, (6) Daydreams/Attendance Problem (Trites et al., 1982). The 6 factors account for 63% of the variance

which is consistent with the analysis of Werry et al. (1975) done on a New Zealand population. Factor 1, which includes 12 behavioral items, accounts for most of the variance (36%). Factors 2, 3 and 4, which include 18 behavior items, accounts for 21.1% of the variance. Factors 5 and 6, which include 7 items, make up only 6.2% of the variance.

The factors were tested for reliability using Cronbach's alpha reliability coefficient, which gives the internal consistency of each scale. The reliability coefficients were high to moderate (Factors 1-4 being between 0.94-0.82, Factor 5 being 0.76 and Factor 6 being .61).

In reviewing the reliability studies of the TRS scales, it was decided that only the first four factors identified by Trites et al. (1982) would be used for this study. This was decided as Factors 1-4 have higher alpha coefficients, and because Factors 5-6 explain a small percentage (6.2%) of the variance.

Due to the type of scale, there are several problems that combine to make the validity of the interpretation of the results difficult. The ratings of the children have been found to be markedly skewed with the majority being scored at the no problem end (Glow, 1975). This was also evident in the large normative sample of Trites et al. (1982). The skewed curve may be related to the purpose of the scale, being to measure trouble or troublesome

behavior. Behavior problems would be expected in only a small percentage of the normal population, and this is reflected in the clustering of the scores near zero.

The basic measurement of behavioral traits poses concerns in the reliability and consistency of scores. It has been observed that the objective assessment of all behavior and personality traits, as well as some perceptual abilities and cognitive style variables, share this problem. Glow (1980) suggests that only the assessment of general intelligence has "good generality across many settings".

In a behavior rating scale, like the TRS, the influence of the situation or context in which the child's behavior is rated must be considered (Glow, 1980, 1981; Werry et al., 1975; Trites et al., 1981). The ratings the child receives in this study may reflect the environment or the organizational climate of the day centre he attends.

Rater reliability is another major validity problem of rating scales, like the TRS. Raters are influenced by their internal standards of behavior (Glow, 1981; Werry et al., 1975) and by their overall affective response to the child and may lose objectivity (Glow, 1981). The rating scale may also influence the rater due to the juxtaposition of the behavioral descriptors resulting in a tendency to use the same end of the scale throughout (Glow, 1981). Other factors that may influence the consistency of the ratings are the raters' perceived identity of the school and the socio-economic status of the child.

According to Glow (1980), the effect of the rater and the context in which the behavior is assessed may affect up to 16.9% of the variance in the ratings. In addition, sex of the child and age variables may account for up to 5.3% of the variance in the TRS. It is suggested that this scale was not contaminated by the teacher's sex, the size of class, the class grade or experience with the instrument (Glow, 1980).

Despite the problems of variance, the interrater reliability of the TRS has been found to reach significant levels. The reliability studies cited used factors identified by Connors (1969) and Werry et al. (1975) which have been found to be congruent (0.87-0.99) to the factors Trites et al. (1982) identify. The results of these studies may be considered indicative of the reliability of the Ottawa extracted factors (Trites et al., 1982).

In the correlational studies of the factors identified by Connors (1969) and Werry et al. (1975), similarity was found between ratings by different teachers of the same child (Glow, 1980; Trites et al., 1980) and ratings by the same teacher at a one year interval (Trites et al., 1980). The correlations were between .35-.57 in the Trites et al. (1980) study of the Connors (1969) factors and between .42-.75 in the Glow (1980) study of the Werry et al. (1975) factors.

The reliability and validity of the TRS is considered to be sufficiently high to justify the use of the first four factors identified by Trites et al. (1982) (Hyperactivity, Conduct Problem, Emotional Over-Indulgence and Anxious-Passive), for use in this study.

#### Procedure

The day centre coordinator was contacted initially by the researcher. The researcher completed the information questionnaire with the assistance of the coordinator. The behavior rating scale was completed by the day centre staff who worked the most closely with the child. Parent permission forms were required by 6 of the 15 centres contacted. Forty-four of the 56 forms that were returned, were used in this study. These 44 forms were rated by 18 different day centre staff members, who averaged 6 years experience working with young children. In most of the centres, the forms were left with the staff and picked up within one week. In 4 of the centres, the TRS forms were filled out in the presence of the researcher. When the forms were picked up, the raters were thanked for their assistance.

In total, seventy-two forms were distributed in the study. Six information questionnaire forms (n=6) were discarded, since an accurate history of the child's experience in substitute care was not available. One of the raters' forms (n=6) was excluded due to a strong bias expressed in the researcher's presence. (A day centre staff stated that the children to be rated did show

behavioral differences but "nothing like the children from the other centres".) Some forms (n=16) were not returned as parental permission to complete the TRS form was not given to the day centre personnel.

#### Data Analysis

In the confirmatory analysis, the research hypotheses were tested in the null form using the Irwin-Fisher Exact test of significance. This test compares proportions of 2 independent groups that are classified dichotomously on an outcome measure. In this research project, the 44 children in the sample were grouped according to whether they began attending substitute care for at least six months before age 3, the early day care group (EDC), or after age 3, the late day care group (LDC). These groups were compared with each other, and, according to whether they were from one or two parent families.

Scores located at one Standard Deviation (SD) or more above the mean on four of the TRS factors (Hyperactivity, Conduct Problem, Emotional Overindulgence and Anxious-Passive) were used as outcome measures.

An exploratory analysis was also planned to be performed on the data. This was included since it is considered that exploratory analysis should be coordinated with the confirmatory analysis to examine the data that has been collected (Tukey, 1977).

The results of the confirmatory analysis and exploratory analysis are examined and interpreted in the following chapter.

## CHAPTER III

## ANALYSIS AND INTERPRETATION OF DATA

This chapter presents the analysis and interpretation of the data. First, the results of the confirmatory analysis will be presented and an interpretation based on these results will be made. An exploratory analysis and interpretation will follow. These analyses are juxtaposed to allow for a fuller interpretation of the data.

Confirmatory AnalysisAnalysis

The hypothesis and sub hypotheses that EDC children show more behavioral manifestations of emotional insecurity than LDC children were tested in null form. On each factor scale of the Conner's Teacher Rating Scale (TRS), the proportions of children exceeding the Trites et al. (1982) criterion were compared using the Irwin-Fisher Exact Test. In the sequel, the Trites et al. (1982) criterion will be simply referred to as the Trites criterion. It should be noted that the Trites criterion corresponds to one standard deviation above the mean. The observed frequencies (T1, T2) in Table 1 represent the number of children who met the Trites criterion. Behavioral characteristics were compared using 4 TRS factors identified by Trites et al. (1982); Hyperactivity, Conduct Problem, Emotional Overindulgence, Anxious-Passive. The total sample was divided into two sub-samples, namely children from one-parent families

and children from two-parent families. Results are reported for the total sample as well as for the two sub samples in Table 1.

The total sample was divided into one and two parent family sub samples as these are variables that are considered important to the child's social and emotional security (Bowlby, 1973).

An attempt was made to control the numerous variables that would influence the child's social and emotional development. Subjects were selected according to severe criteria based on age, sex, socioeconomic status, physical and mental health and the type of substitute care experiences that he had had. An attempt was made to control for maternal attitude. The day centre staff members were asked for their perceptions of the mother-child relationship and for the mother's reasons for initially choosing a substitute care programme. Most staff members reported they were unable to provide an accurate evaluation.

The means and standard deviations, computed from raw scores, for the 4 TRS factors for boys aged 4 are presented in Table 2. The measures from this study (n=44) are displayed along with those derived for the 4 year old boys (n=315) who were part of the Trites et al. (1982) Ottawa study (n=9598). In both instances, it is observed that the means and standard deviations are comparable; the only differences in the means occurs on the Emotional Over-Indulgence Scale.

The data of the Irwin-Fisher Exact test identified significant differences in the EDC and LDC children in the TRS

Table 1

Irwin Fisher Exact Test Comparing Proportions of Early and Late Day Care Children, Using Trites Criterion of One Standard Deviation Above the Mean, Under Several Characteristics

Characteristics		Observed Frequency				2-tail Probability
		EDC		LDC		
Groups	TRS Factors	N <sub>1</sub>	T <sub>1</sub>	N <sub>2</sub>	T <sub>2</sub>	
Total	Hyperactivity	24	8	20	1	0.032*
Sample	Conduct Problem	24	7	20	1	0.057
	Emotional Indul.	24	7	20	4	0.173
	Anxious Passive	24	2	20	0	0.490
1 Parent Families	Hyperactivity	12	6	6	0	0.043*
	Conduct Problem	12	6	6	0	0.043*
	Emotional Indul.	12	4	6	2	0.390
	Anxious Passive	12	0	6	0	-
2 Parent Families	Hyperactivity	12	2	14	1	0.479
	Conduct Problem	12	1	14	1	1.083
	Emotional Indul.	12	3	14	2	0.300
	Anxious Passive	12	2	14	0	0.203

Note: TRS factors are those derived by Trites et al. (1982)  
 EDC = Early Day Care sample  
 LDC = Late Day Care sample  
 \*p < .05

Table 2

Means and Standard Deviations of TRS Factors For Boys Aged 4 From Trites et al. (1982) study (n = 315) and this study (n = 44)

TRS Factor	Measure	Trites et al.	This Study	t-value
Hyperactivity	$\bar{x}$	6.98	8.10	1.11
	S.D.	6.66	6.28	
Conduct Problem	$\bar{x}$	2.42	2.64	0.41
	S.D.	3.48	3.68	
Emotional-Indvl.	$\bar{x}$	2.08	2.97	2.42*
	S.D.	2.43	2.34	
Anxious Passive	$\bar{x}$	3.81	3.20	-1.13
	S.D.	3.57	2.04	

\*p < 0.05

factor Hyperactivity ( $p = .032$ ) for the total sample. A trend is noted in the factor conduct problem ( $p = .057$ ). When intactness of family was considered, it was found that in the one-parent families there were significant differences between the EDC and LDC children in two factors, Hyperactivity, ( $p = .043$ ) and Conduct problem ( $p = .043$ ). In the two-parent family sub sample, no significant differences between the EDC and LDC children on the 4 TRS factors were observed.

When the data from the one and two parent family sub samples are compared with the total sample, a relationship can be observed. The differences in the sub sample, one-parent family grouping, on the Hyperactivity and Conduct Problem factors seemed to carry over to the total sample since scores reaching the Trites criterion are much smaller than in the two-parent family sub sample.

The results of the Irwin-Fisher analysis of the data were not completely as expected from the research hypothesis. The research hypothesis is only partially supported, as differences in the EDC and LDC groups were fully supported by only the Hyperactivity factor. This led the researcher to examine more carefully the influences that might have affected the results. These influences were identified as: rater biases, the reliability of the Trites criterion and the sample size.

First, it is important to consider rater biases as day centre staff were relied upon to collect the raw data. It seems that the response of the day centres in this study reflected the emotional response that research in day centres frequently

elicits. Clarke-Stewart (1980) suggests that the problems and controversy that occur in day care research is due to "practical and political obstacles and fears about the effects of day care on children's development" (p. 27). Brofrenbrenner (1979) observes that research in day care is limited and presents "a curiously one-sided picture".

The research data collected in this study seemed to be affected by the day care staffs' emotional response to this study. This type of rater bias seemed to result in a low return rate of the forms by some (4 out of 16) of the centres.

Rater biases seemed to be revealed in the attitudes expressed about the factor scale of the TRS. The researcher was faithful to the method proposed by the authors in the use of the scale and the scoring. It seems that the Trites criterion was too severe; resulting in dramatically decreased proportions of children that could be compared.

The final influence that should be considered is sample size. The Irwin-Fisher Exact test is designed to compare proportions in randomly drawn samples. When samples are subdivided, as was done in this study, the sample sizes become small, and the test loses power.

While observation of the data suggest differences in proportions, the Irwin-Fisher Exact test did not confirm these differences, except on the Hyperactivity factor in the total sample and one-parent sub sample, and on the Conduct Problem factor in the one-parent sub sample. The effect of rater bias, test criterion and the strictness of the statistical analysis

yielded results that partially supported the hypothesis. In the total sample and in the one-parent family sub sample, EDC children presented behaviors indicative of emotional insecurity than LDC children. No clear structure was observed in the two-parent sample since too few subjects met the Trites criterion. This sub sample cannot then be meaningfully compared with the total sample. The severeness of the Trites criterion justifies a closer analysis of the data, namely a relaxation of this criterion. When the criterion is removed completely, comparisons are directly made from raw data. When the criterion is halved, to correspond with one-half standard deviation above the mean, comparisons of proportions are made. Such an exploratory analysis is presented in the next section.

#### Exploratory Analysis

The exploratory data analysis was done to complement information gained from the confirmatory analysis. The main objective of the exploratory analysis was to compare the effects of different relaxations of the Trites' criterion.

Three standard procedures were used in the exploratory analysis. First, the data compiled in Table 1 was submitted to a reanalysis using a relaxation of the Trites' criterion to one-half standard deviation above the mean. Hence, Irwin Fisher Exact tests were utilised. The results of this analysis appear in Table 3. Next, the Trites' criterion was totally relaxed. The criterion was bypassed with the use of a t-test, which relied on raw scores for comparison. The results of this analysis appear in Table 4. Lastly, the frequency

Table 3

Irwin-Fisher Exact Tests Comparing Proportions of Early and Late Day Care Children, Using a Relaxed Trites Criterion of one half Standard Deviation Above the Mean

Characteristics		Observed Frequency				2-tail Probability
		EDC		LDC		
Groups	TRS Factors	N <sub>1</sub>	T <sub>1</sub>	N <sub>2</sub>	T <sub>2</sub>	
Total Sample	Hyperactivity	24	15	20	9	0.551
	Conduct Problem	24	11	20	8	0.562
	Emotional Indul.	24	14	20	6	0.012*
	Anxious Passive	24	14	20	6	0.012*
One Parent Families	Hyperactivity	12	11	6	4	0.244
	Conduct Problem	12	8	6	4	1.000
	Emotional Indul.	12	9	6	4	0.653
	Anxious Passive	12	7	6	3	0.978
Two Parent Families	Hyperactivity	12	4	14	5	0.744
	Conduct Problem	12	3	14	4	0.593
	Emotional Indul.	12	5	14	2	0.374
	Anxious Passive	12	7	14	3	0.105

Note: TRS factors are those derived by Trites et al. (1982)

EDC = Early Day Care sample

LDC = Late Day Care sample

N = Sample size

T = Number of subjects scoring on criterion

\*p < 0.05

Table 4

Independent t-tests to Compare Early and Late Day Care Children Under  
Several Characteristics

<u>Characteristics</u>				
Group	TRS Factor	tobs.	Critical Value t(.975)	df
Total Sample	Hyperactivity	2.33*	2.02	42
	Conduct Problem	2.32*	2.02	42
	Emotional-Indvl.	1.56	2.02	42
	Anxious Passive	2.58*	2.02	42
One Parent Families	Hyperactivity	2.33*	2.13	16
	Conduct Problem	2.01	2.13	16
	Emotional Indul.	0.22	2.13	16
	Anxious Passive	0.29	2.13	16
Two Parent Families	Hyperactivity	1.04	2.06	24
	Conduct Problem	0.88	2.06	24
	Emotional Indul.	0.44	2.06	24
	Anxious Passive	2.90*	2.06	24

\*p < .05

distributions, where the range of scores was portioned into three intervals, were examined. The limits of the intervals corresponding to less than one-half, one-half and one standard deviation above the mean reflect the cut-off points used in the Irwin-Fisher Exact Test analyses. Only the frequencies of the factors in the total sample were compared due to the sample size required by the statistical procedure. These frequency distributions are presented in Table 5 and are compared using chi-square statistics.

When the Trites' criterion was relaxed to one-half standard deviation above the mean, significant differences in EDC and LDC children in the TRS factors, Emotional Over-Indulgence ( $p = .012$ ) and Anxious Passive ( $p = .012$ ) are identified. As well, the proportions of children meeting the criterion is closer to the ratio of the EDC and LDC sub-samples observed in the confirmatory analysis. This may be observed in Table 4.

When the criterion is totally relaxed, that is, strictly comparing the raw data with the use of a t-test (Table 4), significant differences in the total sample are observed in all but the Emotional Over-Indulgence factor. Significant differences in the one-parent family and two-parent family sub samples are displayed in only one factor, the Hyperactivity factor and the Anxious-passive factor respectively.

The results obtained directly from the raw scores may be compared with the results obtained from the full Trites criterion and the results obtained from the partially relaxed

Table 5

Chi-Square Statistics to Compare the Frequency Distributions of the Raw Scores from the Early and Late Day Care Children

Characteristics		EDC(n=24)			LDC(n=20)			X <sup>2</sup>	p-prob
Group	Factors	I <sub>1</sub>	I <sub>2</sub>	I <sub>3</sub>	I <sub>1</sub>	I <sub>2</sub>	I <sub>3</sub>		
Total Sample	Hyperactivity	9	7	8	11	8	1	5.39	.067
	Conduct Disorder	13	4	7	12	7	1	5.03	.080
	Emotional Indul.	10	7	7	14	2	4	3.93	.140
	Anxious Passive	10	12	2	14	6	0	4.33	.114

Note: The comparison for the other sub-samples is not justifiable because several cell entries are too small to apply to the technique properly.

I<sub>1</sub> = Interval 1 ( $0 \leq \text{score} < \frac{1}{2}\sigma + \mu$ )

I<sub>2</sub> = Interval 2 ( $\frac{1}{2}\sigma + \mu \leq \text{score} < \sigma + \mu$ )

I<sub>3</sub> = Interval 3 ( $\sigma + \mu \leq \text{score}$ )

\* p < 0.05

Trites criterion. These results may be found in Tables 1, 3 and 4.

In the total sample, the results obtained from the raw scores are congruent with the results obtained from the full criterion on the Hyperactivity factor. Congruency is also seen in the Anxious-Passive factor of the half-relaxation of criterion and the results obtained from the raw scores.

In the one-parent family sub sample, the results of the full Trites criterion is congruent with the fully relaxed criterion on the Hyperactivity factor.

In the two-parent family sub sample, only the raw data shows significant differences on the Anxious Passive factor which is not congruent with the results obtained using the other two criteria. This can be attributed to the small sample size that resulted from the application of the stringent criteria.

Although the full Trites' criterion is suggested, extremely small sample sizes result. This in turn implies more instability in the estimates of proportions. While in the total relaxation of the Trites' criterion, groups of 20 and 24 were used, when applying the full Trites' criterion the sample size varied from 0 to 8, and when applying the partially relaxed criterion, the sample size varied from 6 to 15.

In the one-parent family sub sample, the situation is similar. When there was total relaxation of the criterion group size was 6 to 12, with the full Trites criterion it varied from 0 to 6, and with the partially relaxed Trites criterion it varied from 3 to 11.

In the two-parent family sub sample, the situation is even more dramatic. While the total relaxation of criterion resulted in a sample size of 12 and 14, the number of subjects exceeding the full criterion was 0 to 3; and the number exceeding the half criterion was 2 to 7 subjects. Again, the small sample size in the sub samples is likely to jeopardize the stability of the estimates in the full Trites criterion than with the partially or totally-relaxed criteria.

The frequency distributions of the raw scores for the full and partial relaxation of the Trites criterion are compared in Table 5 for the total sample. The three intervals (I) that are presented in Table 5 correspond to (I1) those subjects who did not score on the full or partial criterion, (I2) those subjects who scored on the partially relaxed Trites criterion of one-half standard deviation above the mean and (I3) those subjects who scored on the full Trites criterion of one standard deviation above the mean.

The chi-square statistics suggest that the two distributions observed in the 3 intervals are not discrepant, and that the EDC and LDC populations are similar.

It may be observed, however, that there is a marked difference in proportions of children meeting the partially relaxed (I2) and the full Trites criterion (I3). The subjects that satisfy the partial relaxation of criterion and do not satisfy the full criterion are mainly from the LDC group. This indicates that the LDC group shows less extreme behaviors than the EDC group. This observation, however, cannot be generalized

to the corresponding population of EDC and LDC children as the chi-square test does not show significance. It is considered that a larger sample could detect a difference in population patterns, particularly as a trend is suggested in the first two factors, Hyperactivity and Conduct Problem, and as the chi-square statistics were based on the stringent Trites' criterion.

### SUMMARY AND CONCLUSIONS

This study was undertaken to investigate the effects of substitute care on preschool children. It was based theoretically on Bowlby (1951, 1958, 1959, 1973, 1979).

According to Bowlby, disruptions in maternal care before the age of 3 may result in emotional insecurity which would be manifested in behavioural disturbances at the preschool age. Disruptions in maternal care is considered to effect the security of the child's attachment to his mother. The defensive reaction of the child may be manifested in aggressive, non-cooperative, jealous, immature or anxious behaviours.

There has been little previous research which attempted to determine the effects of substitute care at the preschool level (Belsky & Steinberg, 1978; Bronfrenbrenner, 1979; Pence, 1983). These studies have been limited as many of them are based on the comparison of the child's social and emotional competence at the age of 2 1/2-3 years which is before peer interactional skills have really developed.

This study used 44 boys, aged 4, who were attending a community-based day centre. An attempt was made to control for maternal attitude but this was not successful. This study presented the hypothesis that early day care (EDC) children would manifest more behaviors indicative of emotional insecurity than late day care (LDC) children. Sub hypotheses predicted that the differences observed in EDC and LDC children would be evident when sub-samples made up one one and two parent groupings were compared.

The behavioral indicators used to compare the EDC children were four factors from the Conner's Teacher Rating Scale (TRS): Hyperactivity, Conduct Problem, Emotional Over-Indulgence, Anxious-Passive. This rating scale was chosen as it provided measures for the behaviors that Bowlby described, and as it had regionally-derived parameters (Trites et al., 1982).

The confirmatory analysis used Trites' Ottawa criterion of one standard deviation above the mean (Trites et al., 1982). Although this standardization is not indicative of pathological or clinical differences, it was used as a measure to determine how much the EDC and LDC groups differed from the norms.

The confirmatory analysis used Irwin-Fisher Exact Tests to compare proportions of EDC and LDC children who scored one standard deviation above the mean on the TRS factors. Significant differences were found in the total sub sample on the Hyperactivity factor and in the one-parent family sub sample on the Hyperactivity and Conduct Problem factors. There were no significant differences in the two-parent family sub sample. Further investigation of the data in the exploratory analysis used a gradual relaxation of the Trites' criterion.

In the exploratory analysis, the Trites' criterion was partially relaxed to one-half standard deviation above the mean. The Irwin-Fisher Exact tests showed differences between the EDC and LDC children only in the total sample on the Emotional Over-Indulgence and Anxious Passive factor.

It was observed that the proportions of children who satisfied the partially relaxed criterion and did not satisfy

the full criterion were mainly from the LDC group. This seemed to indicate that LDC children showed less extreme behaviors than EDC children. When this was tested with a chi-square analysis, using a frequency distribution that compared EDC and LDC children who scored on the full criterion, the partially relaxed criterion or who did not score on either criteria, no statistical difference was observed, suggesting that the populations were not discrepant. As a trend was noted in two factors of the frequency distribution, and as the sub samples were too small to analyze, it is suggested that a larger sample size may have determined a difference in the population patterns.

When the Trites' criterion was totally relaxed and the raw scores were compared with the use of a t-test, significant differences were found in the total sample on the Hyperactivity, Conduct Problem and Anxious Passive factors; in the one-parent family sub sample on the Hyperactivity factor; and in the two-parent family sub sample on the Anxious-Passive sub sample.

The results of the t-test were congruent with the results obtained from the full criterion in the total sample and one parent family sub sample on the Hyperactivity factor. Congruency on the Hyperactivity factor was expected as this factor accounts for the largest amount of the variance (36%) in the Trites et al. (1982) factor analysis.

The results of the analysis of the data with a total relaxation of the Trites' criterion permitted a comparison of all subjects in the study. Significant differences, based on

raw scores, were observed in the total sample and sub samples that were not detected by the analysis that relied on the Trites' criterion. Although the full Trites' criterion is recommended, it resulted in extremely small sample sizes which implied more instability in the estimates of proportions. This situation remained similar when the Trites' criterion was partially relaxed. The reliance on the analysis of small samples was a particular problem. Although the Trites et al. (1982) factors provided a method by which Bowlby's attachment theory could be operationalized, the use of Trites' criterion was found to be restricting. It was also questioned whether the sample used was truly representative of the population as the emotional response by some day centre staff seemed to influence the return rate of forms in these centres.

The study finds partial support for the hypotheses that EDC children exhibit more behavioral manifestations of emotional insecurity than LDC children. The support appears in the significant differences observed in the confirmatory and exploratory analysis. It appears that the behavioral indicators do not suggest the EDC and LDC groups differ from the norm; that is the groups do not show pathological or clinically significant differences. The EDC and LDC groups, however, do appear to differ from each other. The lack of clinically significant findings may be the result of factors that Robertson and Robertson (1971) describe that mediate the child's distress when separated from the mother. It may be that the repeated daily separations that were experienced by the EDC group

resulted in behavioral differences but that the familiarity of the day centre environment and routines moderated these differences along with the continuity of contact with the mother.

This study was seen as an initial attempt to clarify whether there were any differences in children with EDC and LDC experience. The partial support of the hypothesis, that behavioral differences indicative of emotional insecurity may be observed between EDC and LDC children is not strong enough to generalize to the general population, indicating that further research is required.

#### Implications for Further Research

1. In further studies of preschool children, it seems advisable to suggest that the research include measures to reduce the rater's emotional response and possible biases. This might be corrected with a measuring instrument that is broader in scope.

2. In discussion with staff at several day centres, it was reported that attachment of the children to the staff does not readily occur except in the children from lower socioeconomic status families.

The observations that staff had about the attachment relationships of the children in their centre have also been reported by Cummings (1980), and in James' (1983) study of the development of student-teacher relationships in kindergarten.

Further investigation in this area may find that lower

staff-child relations or better training of staff may be factors that influence the attachment of middle socioeconomic status children.

3: This study focused on children from intact and one-parent families. Further studies might consider comparing different blends of family groupings, such as one-parent families headed by fathers or reconstituted families resulting from remarriage.

4. Subsequent studies may also consider focussing on the behavioral differences in girls with different types of substitute care experience. While the current research suggests that clearer differences emerge in the behavioural study of boys (Bowlby, 1973; Moore, 1975; Pence, 1983), the day centre staff reported no differences between age 4 boys and girls.

5. Another study might investigate the effect of the different types of substitute care available. Government approved supervised day care is now available both in family settings and centres. A comparison of the emotional and social security of preschool children who have been exposed to these two types of care might be contrasted with less formalized care and with care given primarily by the child's mother.

6. Outcome studies of children who have been group-reared in other cultures indicate that social attitudes that do not prioritize individuality and intimacy emerge in adolescence and adulthood (Bronfenbrenner, 1970; Bettelheim, 1969; Glickman & Springer, 1978; Spiro, 1972).

Further research might examine the social attitudes and perceptions of older children and adolescents from this culture who have had early day care experiences.

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Appendix A

University of Ottawa  
Masters of Education Thesis Research

First Name of Child \_\_\_\_\_ Date \_\_\_\_\_

Age \_\_\_\_\_ Date of Birth \_\_\_\_\_ Sex \_\_\_\_\_

Centre attended \_\_\_\_\_

How long have you known this child? \_\_\_\_\_

How long has this child attended your centre? \_\_\_\_\_

Did the child receive other substitute care before attending this centre? (e.g., babysitter at own home, at someone else's home or at another centre. State hours per week, approximately, if known. \_\_\_\_\_

At what age did the child begin substitute care on a regular basis? \_\_\_\_\_

What do you think motivated the mother to choose a day care programme for her child?

Build Social Skills \_\_\_\_\_ Spend less time with child \_\_\_\_\_  
Correct Behaviour problem \_\_\_\_\_ Returned to work \_\_\_\_\_  
Parental Separation \_\_\_\_\_ Other \_\_\_\_\_

Who does the child live with? \_\_\_\_\_

Does the child have any known or suspected mental, emotional or physical handicaps? Yes \_\_\_\_\_ No \_\_\_\_\_

Is the child's fee for this programme partially subsidized or unsubsidized? Yes \_\_\_\_\_ No \_\_\_\_\_

How many years of experience have you had working with small children? \_\_\_\_\_

Thank you for helping with this study. These questions are to insure that the children who are subjects have similar backgrounds. All information will be considered confidential. If you would like more information please ask, or call me at 236-1064.

Susan Kelen

Appendix B

Spring, 1984

Dear Parents:

I am a University of Ottawa student who is doing a thesis on children who attend daycare. Your child fits into the age range that I am interested in studying. His teacher will be asked to fill out a behavior rating scale and answer a few questions about your child's day care experiences. All information will be considered confidential.

Your permission is required by your day care centre for any release of information. Please sign below if you will permit the day centre staff to fill a form in about your child.

Thank you for your assistance in this project.

Susan Kelen

I give permission to the day centre staff to fill out a form on my child.

\_\_\_\_\_  
Parent Signature.

Appendix C

Appendix C

Behavioral Items Summed in TRS Factor Constellation.

Factor I: Hyperactivity

Constantly fidgeting  
Hums and makes other odd noises  
Demands must be met immediately-easily frustrated  
Coordination poor  
Restless or overactive  
Excitable, impulsive  
Inattentive, easily distracted  
Fails to finish things, he starts-short attention span  
Disturbs other children  
Acts "smart"  
Teases other children or interferes with their activities  
Excessive demands for teacher's attention

Factor II: Conduct Disorder

Quarrelsome  
Destructive  
Steals  
Lies  
Defiant  
Impudent  
Uncooperative

Factor III: Emotional Over-Indulgence

Overly sensitive  
Overly serious or sad  
Sullen or sulky  
Cries often and easily  
Mood changes quickly and drastically

Factor IV: Anxious-Passive

Appears to be easily led  
Appears to lack leadership  
Submissive  
Shy  
Fearful  
Overly anxious to please

Factor V: Asocial

Isolates himself from other children  
Appears to be unaccepted by group  
Appears to be easily led  
No sense of fair play  
Does not get along with opposite sex  
Does not get along with same sex

Factor VI: Day Dreams/Attendance Problem

Daydreams  
Attendance problem