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UNIVERSITY OF ALBERTA

# THE RELATIONSHIP BETWEEN MATERNAL CHILDHOOD ABUSE AND MATERNAL-INFANT INTERACTION

BY

ELIZABETH A. WHITE-MACDONALD

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF NURSING

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SIGNED E. White-MacDonald

PERMANENT ADDRESS:

10612 - 135 STREET

EDMONTON, ALBERTA

CANADA

T5N 2E1

Date: Aug 30. 1990

UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

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SUBMITTED BY: ELIZABETH A. WHITE-MACDONALD

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M. Ruth Elliott
DR. M. RUTH ELLIOTT (SUPERVISOR)

Margaret J Harrison
DR. MARGARET HARRISON

DR. TOM MAGUIRE

DATE: August 22, 1990

## DEDICATION

To my husband, Wayne, who provided me with his unending love, patience, support, and understanding throughout my Master of Nursing education and the completion of this research thesis. Without his help, these accomplishments would be nonexistent.

## ABSTRACT

Child abuse is a pervasive problem in our society which has only recently gained recognition primarily in the early 1960's. Several theoretical models have been developed and explored in hopes of identifying antecedents to child maltreatment. One of the most salient theories common in research findings is the identification of an intergenerational transmission of abuse. Despite criticisms of research methods, a prior history of childhood abuse is considered a major risk factor for future abusive behaviour in adulthood. Hence, individuals are labeled as "potentially abusive" if they possess such a background. This is in spite of research evidence which identifies that abused individuals may not necessarily go on to become abusive parents.

The current study is descriptive in nature and was designed to explore whether the cycle of abuse hypothesis was supported among a voluntary group of 13 new mothers with a history of childhood physical abuse. Direct behavioural observations of mother-infant interactions, which are indicators of parenting style, were measured using the Nursing Child Assessment Feeding Scale (NCAFS) at six to eight weeks post partum--the peak of infant crying and, therefore, a potentially stressful period during early infancy. These scores were then compared to NCAFS population norms. Mothers were also asked to describe the amount that their infants cried. These scores were correlated with NCAFS scores to determine if the two variables were related.

Results indicated that the cycle of abuse hypothesis was not supported in this sample. Means for the sample NCAFS scores were not significantly lower than those of the NCAFS norms. Infant crying was

found to be significantly and negatively correlated with maternal-infant interaction scores, with mothers of excessively crying infants demonstrating a tendency toward less social-emotional growth fostering and less cognitive growth fostering behaviours. Findings tend to support the need to view the phenomenon of child abuse within a broader conceptual framework, such as the ecological model of abuse described by Belsky (1980, 1984).

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# Chapter I

## Introduction

This research study was motivated by the investigator's experience as a foster parent, as well as work experience with abused and neglected foster children and their families. These children all displayed varied and, in many cases, extensive adverse developmental effects such as low self-esteem, poor academic achievement, and aggressive behaviour which could be attributed to their family history and maltreatment experiences. It became apparent that rigorous efforts to discover the etiology of child maltreatment needed to be continued in order that children and their families could be spared such negative experiences. Nurses constitute the majority of health care personnel in hospital, institutional, and community settings. Consequently, they have a major role to perform in assessing and providing health care services to families in crisis. As such, nurses will benefit from knowledge gained in the area of child abuse.

"In 1968, it was estimated that more children under the age of five died from parentally inflicted injuries than from tuberculosis, whooping cough, polio, measles, diabetes, rheumatic fever, and appendicitis combined" (Newsweek, cited in Strauss, Gelles, & Steinmetz, 1980, p. 9). Accurate statistics for the incidence and prevalence of child abuse are impossible to obtain due to the varied definitions of child abuse and the fact that only a percentage of child abuse acts are reported. Publicity and information on the problem heavily influence reporting rates. "When looking at any incidence figure based on reported cases it is important to consider the general level of awareness in the community and the extent of the investigation of the reports" (Creighton, 1988, p.

34). In the United States published estimates have ranged from 41,000 cases to 4.07 million nationally. In the province of Alberta, social workers with the Department of Family and Social Services are mandated to investigate reported concerns regarding child maltreatment for children under 17 years of age. Based on completed investigations for the year 1989/90, documented cases of child maltreatment and parenting problems totalled 11,102 (Alberta Family & Social Services [AFSS], 1990). Further, of these there were 2,794 (25%) documented cases of physical and sexual abuse, 2,412 (22%) cases of neglect, 2,816 (25%) cases related to parent/guardian problems, and 2,004 (18%) cases of parent/child conflict.

Abuse involves children of all ages and can begin at any age. One of the problems with research completed in the area of child maltreatment is the failure of authors to specify the actual ages of children when the abusive acts occurred. However, several authors have reported that abuse has a higher prevalence during infancy (Brown & Daniels, 1968; Browne, 1989; Strauss et al., 1980) and toddlerhood (Brown & Daniels; Browne & Saqi, 1988). It is believed that parents who abuse their children in the first year of life have serious defects in their capacity to establish an attachment with the child (Ohrenstein, 1984). The reactions by abusing parents varies from withdrawal and neglect to physical abuse. It is felt that many abusive mothers are unable to tolerate the dependency and helplessness of the infant. They have a tendency toward possessing unrealistic expectations of their infant and, consequently, may engage in maladaptive parenting techniques (Ohrenstein, 1984). In order to determine whether parent(s) and child are establishing an adaptive relationship, their interactions must be

observed and fully understood. Roberts (1988) stated that examination of parent-child interactions at the earliest possible time is the best means for lessening the incidence of child abuse.

Child abuse has occurred for as long as there have been families but this phenomenon has only gained earnest recognition by health care professionals and the public primarily since the early 1960's. After the publication of The Battered Child Syndrome (Kempe, Silverman, Steele, Droegemueller, & Silver, 1962), intense interest has focused on this problem. With early detection and intervention strategies, it was anticipated that the problem of child abuse could be lessened, and affected families better assisted to return to healthy functioning. Initially, researchers and practitioners assumed abusing parents were a homogeneous group. They studied individual families in which incidents of abuse had taken place and attempted to identify a specific cause. Specific models were developed and explored in the hope of identifying and explaining the dynamics involved in abuse. Four theoretical models evolved: (1) the psychological model, which views problems as arising from within the abusing individual (Kempe et al; Spinetta & Rigler, 1972; Steele & Pollock, 1974); (2) the sociological model, which proposes that the antecedents of abuse emanate from within society; (3) the social-interactive model, which theorizes that children themselves can influence parental behaviours; and (4) the ecological model, based on Bronfenbrenner's (1977) model of human development, which integrates factors identified from the first three models with elements related to the interaction between individuals and their social environment (Belsky, 1980, 1984; Garbarino, 1977; Joy, 1986a ).

Consistently reported in the majority of child abuse research is

identification of the intergenerational transmission of abuse. This factor originated from several clinical reports which described the majority of abusive parents as having a prior history of experiencing abuse (Fraiberg, Adelson, & Shapiro, 1975; Kempe et al, 1962; Oliver & Cox, 1973; Oliver & Taylor, 1971; Spinetta & Rigler, 1972; Steele & Pollock, 1974). These and other retrospective types of investigations provide support for intergenerational transmission because they are based on interviewing known maltreating parents about their childhood histories. However, due to the fact that in these studies researchers do not interview parents who were maltreated but are now providing adequate care to their children, there is a tendency to overestimate the incidence of the cycle of abuse (Zeanah & Zeanah, 1987). Although it is felt that such a finding should not be equated with fact (Belsky, 1980), the assumption that childhood abuse predisposes individuals to abusive behaviour in adulthood now underlies many beliefs about the nature and causes of child abuse. Despite weaknesses in research reports supportive of the intergenerational transmission of abuse, the frequency of such findings necessitates consideration.

## Purpose

The purpose of this research has been to help clarify what is known about the intergenerational transmission of abuse, by examining the relationship between the experience of abuse in a mother's childhood and current maternal-infant interaction behaviours, measured during a feeding session. Behaviours exhibited by the mother during the feeding process are theorized to represent her overall behaviour toward the infant (Brody, 1976; Funke-Ferber, 1978), and the infant's behaviour

during feeding is considered a salient indicator of his/her personality (Barnard, 1978b, 1978c; Gesell & Ilg, 1937). In abused infant cases it is not uncommon for the abusive behaviour to be triggered by an unsuccessful feeding session (Roberts, 1988).

The majority of studies completed in the field of child abuse have utilized actual reported incidents of child abuse or neglect as the dependent variable (Altemeier, O'Connor, Sherrod, & Tucker, 1986; Altemeier, O'Connor, Vietze, Sandler, & Sherrod, 1984; Altemeier, Vietze, Sherrod, Sandler, Falsey, & O'Connor, 1979; Hunter, Kilstrom, Kraybill, & Loda, 1978; Murphy, Orkow, & Nicola, 1985). However, it is the investigator's belief that earlier intervention, prior to the actual occurrence of abuse, would be advantageous to promoting optimum child and family development. Schmidt and Eldridge (1986) stated that parent-child relationship disorders originate in the early months of the child's life. "During this period, the relationship is in the process of formation and has the special advantages of the parents' reparative hope for their child as well as the infant's inborn growth potential. Therefore, intervention during this period can be particularly beneficial ... to prevent disturbances before they become firmly established foundations for ongoing maladaptive functioning of parent and child" (p. 272). With this viewpoint in mind, maternal-infant interaction was measured through behavioural observations at six to eight weeks postpartum, which is the peak of infant crying (Brazelton, 1962; Rebelsky & Black, 1972), and a potentially stressful period common to all families. Infant crying, whining, and other distress signals have been shown to often precipitate child abuse in infancy (Call, 1984; Murray, 1979). It is believed that in stressful environments excessive

or grating cries may trigger abusive behaviours toward the infant (Frodi, 1981). The ecological model of abuse proposed by Belsky (1980, 1984) formed the basis of the conceptual framework for the study. However, the independent variable of interest has been the mother's history of childhood abuse.

Childhood abuse, as defined in this research, has been based on self-reported accounts by participants, fulfilling the criteria for physical abuse as defined in the Alberta Child Welfare Act (Government of the Province of Alberta [GPA], 1985) (see Definitions p. 10).

It is hoped that results from the proposed study will add important information to the existing knowledge about child abuse. It is felt that only through continued research that the questions surrounding the etiology and ultimate prevention of abuse can ever hope to be resolved.

## Assumptions

The study has been based on the following assumptions:

1. The etiology of abuse is best explained using the ecological model as defined by Belsky (1980, 1984; Bronfenbrenner,1977).

2. Maternal-infant interaction assessments are effective descriptors of both parenting styles and the potential for less optimal parenting behaviours.

3. Subjects will respond to the interview in an honest manner.

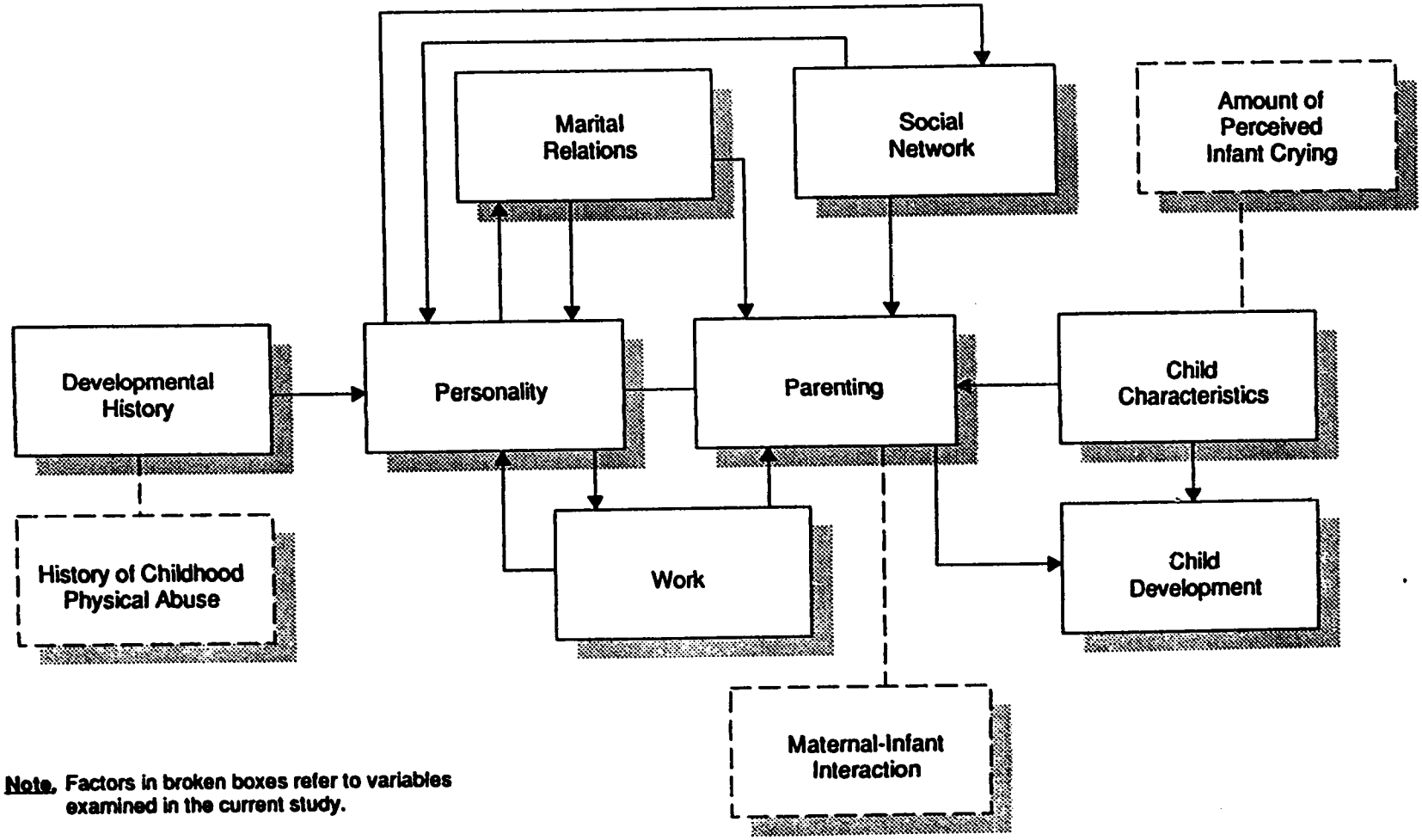
4. Frequent and/or prolonged infant crying may be perceived as a stressful phenomenon.

## Conceptual Framework

The conceptual framework for this study is based on Belsky's ecological model of abuse (see Figure 1), in which child maltreatment is conceptualized as a multi-determined social-psychological event. Stimuli from within the individual (ontogenic development), the family (the microsystem), as well as the community (the exosystem), and the culture (the macrosystem) in which both the individual and the family exist, are believed to interact to result in child maltreatment. Since the focus of this research is the relationship of the experience of abuse in childhood with current maternal-infant interaction behaviours, the conceptual framework for ontogenic development and child characteristics, as related to this study, will be described.

The significance of ontogenic development relies heavily on the examination of the childhood histories of abusive parents. The one consistent characteristic found in abusive individuals, is the history of abuse in their childhood (Belsky, 1980; Fraiberg et al., 1975; Kempe et al., 1962; Spinetta & Rigler, 1972, Steele & Pollock, 1968; Hunter et al., 1978). It is theorized that exposure to, and experience with, violence in childhood or merely parental rejection, may culminate in the acquisition of aggressive methods for coping with parent-child conflict as an adult (Belsky, 1980). However, since many adults who experienced abuse in their childhood do not mistreat their own children, it is believed that parents' developmental histories serve to predispose individuals to react to particular situations in aggressive (abusive) or insensitive (neglectful) manners. Factors which influence the adult's response come from the micro- and exosystems, particularly increased levels of stress (Belsky, 1980).

**Figure 1.** An adaptation of the process model of the determinants of parenting (Belsky, 1984, p.84).




**Note.** Factors in broken boxes refer to variables examined in the current study.

Belsky (1980) conceptualizes that the lack of experiencing caring (nurturing) behaviour as a child, may also impact upon the maltreatment process. Nurturing behaviour which leads to healthy socioemotional infant development has been defined as "attentive, warm, stimulating, responsive, and nonrestrictive caregiving" (Belsky, 1984, p.85). It is believed that parents who are sensitively attuned to their children's developmental capabilities promote healthier development of their children in areas such as emotional security, intellectual achievement, social competence, and behavioural independence. Without proper role modelling and practice, affected individuals are unable to fulfill effectively the nurturant parenting role in adulthood.

It has been identified that the peak of infant crying occurs at six to eight weeks post partum (Brazelton, 1962; Rebelsky & Black, 1972; St James-Roberts, 1989). It is an assumption of this study that this period can be stressful to the caregivers. Also, Frodi and Lamb (1981) found that abusing parents reported more aversion and less sympathy to infant cries than do nonabusers. Therefore, frequent or prolonged infant crying may pose as an instigator for abusive behaviour as well as serve to increase stress levels.

## Research Questions

The questions explored in this study were:

(1) Is there a relationship between a history of childhood abuse and current maternal-infant interaction behaviours, measured at six to eight weeks postpartum, following the delivery of a healthy full term infant?

(2) Is there a relationship between mothers' perception of amount

of infant crying and maternal-infant interaction?

## Definitions

### Theoretical/Conceptual Definitions

History of childhood abuse. Participants' recollected accounts of experiences in their childhood limited to physical abuse or maltreatment by their caregiver(s), fulfilling the criteria from the Alberta Child Welfare Act (GPA, 1985) as follows: "1(3)(b) A child is physically injured if there is substantial and observable injury to any part of the child's body as a result of the nonaccidental application of force or an agent to the child's body that is evidenced by a laceration, a contusion, an abrasion, a scar, a fracture or other bony injury, a dislocation, a sprain, hemorrhaging, the rupture of viscus, a burn, a scald, frostbite, the loss or alteration of consciousness or physiological functioning or the loss of hair or teeth ..." (p. 6).

Maternal-infant interaction behaviours. Observable behaviours the mother and infant express toward each other and in response to one another in an interactive process. The maternal behaviours may be summarily defined as the extent to which the mother recognizes and appropriately responds to the individual needs of her infant, as surveyed throughout her ministering and communication activities with her infant. The infant's behaviours include his/her responses to the mother, as well as initiating interactions with his/her mother.

Healthy term infant. A singleton infant who is born at or between 37 to 42 weeks gestation, who is healthy and free of genetic problems or abnormalities, and who does not require unusual medical and/or nursing care due to altered physiological status.

Excessive crier. Classification of the infant as an excessive crier is based on the definition by Wessel et al. (1954), who defined colic as "inconsolable crying lasting a minimum of 3 hours of total crying per day at least 3 days a week for at least 3 weeks (Elliott, 1987, p. 3).

## Operational Definitions

History of childhood abuse. Measured using participants' self-reported responses to the background history interview.

Maternal-infant interaction behaviour. Measured using the Nursing Child Assessment Feeding Scale (NCAFS) (Barnard, 1978a).

Healthy term infant. Measured through self-reports of gestational age at birth by the participants.

Excessive crier. Measured through self-reports by the participants to the "Questions For Determination of Infant Crying" interview (see Appendix B).

## Objectives

1. To determine whether there exists a statistically significant relationship between experiences of physical abuse in childhood and current maternal-infant interaction behaviours.

2. To determine whether there exists a relationship between amount of infant crying and maternal-infant interaction.

3. To add to the current body of knowledge regarding intergenerational transmission of abuse.

4. Dissemination of findings to researchers and clinicians in order that they may benefit from study results.

## Chapter II

## Literature Review

In order to confirm what is really known about intergenerational transmission of abuse, an intense literature search was conducted. For the purpose of this review, the writer surveyed research since the early 1960's in nursing, psychology and related disciplines via computer and manually. Computer searches were conducted of several data bases including PsychLit, Medline, and Cumulative Index for Nursing and Allied Health. Available published reports along with unpublished dissertations were included in the literature search.

The majority of research to date studying child maltreatment is correlational or pre-experimental in design, utilizing nonprobability sampling procedures and group selection methods. Since the experience of child maltreatment cannot be manipulated, it is not possible to use random assignment methods with this population when examining the effects of having been abused versus not having been abused. Therefore, simple statistical generalizations cannot be made. Inferences to other samples must take into consideration the effect of selection bias and the equivalency of groups.

The literature review is presented in three main segments: Intergenerational Transmission of Abuse, Abusive Families' Relationships, and Crying in Infancy. Due to inconsistencies in defining the variable "history of child abuse", the literature review was expanded to include other variables used in different studies which included: history of prior physical abuse and/or neglect, poor parenting, inadequate parenting, and maltreatment.

## Intergenerational Transmission of Abuse

Clinical Case Studies. Several clinical case studies have been reported which focus on abusive parents in treatment. In these studies researchers have found a tendency for abusive parents to report a history of childhood abuse, neglect, or poor parenting (Fraiberg et al, 1975; Oliver & Taylor, 1971; Oliver & Cox, 1973; Steele, 1970; Steele & Pollock, 1974).

Oliver and Taylor (1971) described a case history wherein five generations of ill-treated children occurred in one family pedigree. Oliver and Cox (1973) demonstrated four generations of severe child abuse and neglect in yet another family. Each of these studies, based on two individual families, was used to support the validity of the cycle of abuse hypothesis.

Fraiberg et al. (1975) found that morbidity in the parental history did not necessarily lead to subsequent abusive behaviour in adulthood, but when it interacted with the repression of memories of the past, in particular, the associated affective experience of abuse, abandonment and rejection, women were more prone to repeat these behaviours with their children.

Steele and Pollock (1974) focused on the interaction between caregiver and infant through direct observations. They found that abusive parents were involved in the process of role reversal with their children, in which a reversal of the dependency role exists. Here parents have looked to their children to provide them with nurturance and protection. Involved in this process are two basic elements: parents demanding that children perform in a manner which has exceeded their capabilities, and disregarding the children's own needs and

capabilities. Researchers concluded that this was a result of early unmet needs in the parents' own backgrounds.

Korbin (1986) attempted to gain an understanding of nine women imprisoned for fatal child maltreatment by undertaking a descriptive research study. The qualitative data were obtained through in-depth individual interviews, reviews of prison and sentencing records, and participant observation at weekly self-help groups. Findings supported an intergenerational transmission of child maltreatment among these women. Another factor present in five of the seven married women's lives was the experience of being a victim of spousal abuse. All nine women endured financial stress at the time of their children's deaths.

The previous studies have little internal or external validity which prevents any generalization of findings beyond the particular subjects, yet they serve to provide much of the evidence upon which support for the cycle of abuse is based. These types of "retrospective investigations, almost without exception, provide support for intergenerational transmission.... Because these investigations do not have access to parents who were maltreated but who are now providing adequate care to their children, they tend to overestimate the incidence of the maltreated-maltreating cycle." (Zeanah & Zeanah, 1989, p. 179)

Etiology of Abuse. In attempting to understand the etiology of abuse, several correlational studies were completed which focused on the selection of parents who had been reported to relevant authorities for the actual act of abusing their own children (Kent, Weisberg, Lamar, & Marx, 1983; Quinton & Rutter, 1985; Rutter, Quinton, & Liddle, 1983). The main criticism of these types of studies is the reliance on

subjective retrospective data which may be influenced by distortion, selective memory, or amnesia (Korbin, 1986). Other criticisms involve inconsistency in operational definitions; invalidation of the occurrence of prior childhood abuse; inconsistent use of similar measurement tools, thereby preventing comparison of findings; and the omission of adequate control groups.

Findings from these correlational studies were generally supportive of the need to view child abuse within an ecological model in which child maltreatment is conceptualized as a multi-determined social-psychological event. Stimuli from within the individual, the family, the community, and the culture in which both the individual and the family exist, are believed to interact to result in child maltreatment (Belsky, 1980). The authors cautiously have suggested that when compared to nonabusing families, abusing families as a group have tended to exhibit such factors as lower socioeconomic status (SES), have been composed of younger parents with greater incidence of a history of childhood abuse or neglect, have suffered from lack of supports, and have demonstrated a higher incidence of alcohol and drug abuse. However, it was noted that not all abused individuals continued on to exhibit significantly more poor parenting behaviours and, therefore, authors questioned the cause for that break in transmission. It was felt that other risk factors must co-exist to increase the likelihood of poor parenting (Kent et al., 1983; Quinton & Rutter, 1985; Rutter et al., 1983).

In a study defined as comparative by the authors (Caplan, Watters, White, Parry, & Bates, 1984), data compiled from 422 cases of child abuse in Toronto during the period 1973 to 1977 were assessed to examine

similarities and differences in abusive families as reported in studies conducted in Canada, England and the United States. Among the identified differences was the finding that there were fewer reported incidences of a history of childhood abuse among the Toronto participants. In general, the findings from this study were stated to be similar in many respects to those of the previous researchers which were being compared. Factors considered to be consistent with other findings included: young children as the abused (preschool or younger); low SES; parents possessing lower levels of education; previous criminal record; and presence of spousal conflict. These findings lend further support in favour of questioning the cycle of abuse hypothesis as well as to viewing child abuse within an ecological model.

In a 3-phase study completed by Herrenkohl and Herrenkohl (1981), the ecological model was applied to discern potentiating factors and characteristics of abusing families. The authors found a relationship between: the number of maltreatment incidents and the number of stressors as perceived by respondents ($r = .16$, $p < .05$), and frequency of child maltreatment and frequency of violence toward adults ($r = .28$, $p < .01$). Also, physical abuse tended to be described by mothers as triggered by behavioural characteristics exhibited by the child.

The authors felt that children raised in such a milieu may experience physical injuries, heightened frustration, lack of self-control, and lack of proper nurturance and positive reinforcement, possibly leading to decreased social competence as an adult and parent. Consequently, the maltreating cycle might continue.

A 3-year prospective study was conducted in which the researchers examined whether 23 mothers considered high risk for parental

dysfunction differed from 23 matched low-income mothers and whether maternal differences differentially affected infant behaviour at 12 months of age using the Ainsworth Strange Situation procedure for assessment (Lyons-Ruth, Connell, Grunebaum, Botein, & Zoll, 1984). Infants in the study ranged in age from birth to nine months at the time of entry. Findings indicated that high risk mothers had reported experiencing significantly less adaptive family environments than control mothers on the dimensions: major pathology in families of origin ($t$ = 3.93, $p$ < .001), parental warmth ($t$ = 2.55, $p$ < .02), relationships with peers ($t$ = 3.06, $p$ < .006), and structure and supervision in their families ($t$ = 2.25, $p$ < .04). Also, the proportion of securely attached infants at 12 months of age increased from 36% among high risk families to 75% among mothers providing good to excellent care. In short, parent-child attachment was adversely affected by maladaptive parenting styles.

Byron, Jacobvitz and Sroufe (1988) conducted a retrospective study to identify factors that distinguished mothers who possessed a history of childhood abuse and who were also abusing their own children ("continuity group", $n$ = 18) from mothers with a history of childhood abuse but who were providing adequate care to their own children ("exception group", $n$ = 12). The sample was drawn from a larger sample of 267 women participating in a prospective longitudinal study. Over a 64 month interval maternal interviews and questionnaires were completed resulting in data measuring mothers' past and current relationship experiences, personality characteristics, and stressful life events. Findings analysed with $t$-tests indicated that women in the exception group were significantly more likely to have developed an emotionally

supportive relationship with a nonabusing adult in their childhoods; to have received extensive therapy during any period of their lives; and to have described their relationships with their partners as stable, intact, more emotionally supportive, and satisfying. Women in the continuity group experienced significantly more life stress as well as being more immature, depressed, anxious and dependent. The researchers concluded that an intervening emotionally supportive relationship in childhood with either a nonabusing adult or a therapist may have served to enhance the affected individual's self-esteem and ability to trust others. Also, an emotionally supportive partner may serve to provide the affected parent with some of the emotional resources necessary to provide adequate child care. Consequently, "despite the strong impact of early relationship experiences, change is possible with intervention .... the formation of supportive relationships ... play a role in enabling individuals to change" (Byron et al., p. 1087).

Prospective Studies. A number of prospective correlational studies were undertaken to explore the relationship between experiencing childhood abuse and later adult personalities or parenting behaviours (Altemeier, O'Connor, Sherrod, & Tucker, 1986; Hall, Pawlby & Wolkind, 1979; Quinton & Rutter, 1985). Of these studies, only Hall and colleagues used random sampling procedures, and therefore, could generalize their findings to the target population.

Operational definitions of childhood abuse are not consistent in these studies which limits comparison of findings. Data collection procedures varied between studies. Altemeier et al. (1986) used interviewing techniques; Hall et al. (1979) conducted observations in

the home; and Quinton and Rutter (1985) used interviews to collect data relating to childhood experiences, later life experiences, and current experiences.

It is important to note that in using an ecological approach to child abuse, findings tended to be supportive of the theory that life events are affected by a multitude of factors, which if occurring simultaneously, may instigate abusive behaviour. A history of childhood abuse was demonstrated to have an association with various types of stressful events. It was also evident that among this group of subjects, the abused group possessed other risk factors which have been associated with becoming an abusive parent. These included low self-esteem, isolation, and distrust of others. This information supports the initial hypothesis that, "abuse during childhood could lead to more stress and other characteristics that predispose to abuse, thus providing the foundation for becoming an abusive parent" (Altemeier et al., 1986, p. 329). However, when searching official reports for actual incidents of abusive behaviour toward children, no significant differences in the identified risk factors were found between abused and control groups (Altemeier et al., 1986; Quinton & Rutter, 1985).

Hall et al. (1979) failed to demonstrate that being cared for away from home during childhood due to child abuse (i.e., foster home placement) had any more significant adverse effects on future parent-infant interactions when compared to parental separation due to non-abusive situations such as death, divorce, or separation, in this population.

In an article by Egeland (1988) the author discussed a longitudinal study of high-risk parents and their children conducted by Egeland,

Jacobvitz and Papatola and reported in 1987. The researchers examined over a period of twelve years 267 primiparous women and their children considered at risk for parenting problems on the basis of lower socioeconomic status, youthfulness, unmarried status and unplanned pregnancy. Data collection included interviews and observations of maternal-infant interaction at various times in the children's lives. Based on subject responses, they were then categorized as either abused or not abused.

Over the interval of the study findings revealed 44 substantiated incidences of child maltreatment and a borderline group of mothers in which child abuse was suspected but not substantiated. The findings were supportive of the cycle of abuse hypothesis ($\chi^2 = 27.15$, $p < 0.001$). Of the severely physically abused mothers 34% ($n = 16$) were currently abusing their children, 30% ($n = 14$) were in the borderline group and 6% ($n = 3$) belonged to another problem group. Of the abused mothers who had emotionally supportive parents 3% ($n = 1$) were currently maltreating their children, 40% ($n = 14$) were in the borderline group, none were in the other problem group, and 57% ($n = 20$) were in the adequate care group. Of women who had been raised in nonabusing homes but where there also existed limited emotional support from their parents, 9% ($n = 7$) were currently abusing their children, 30% ($n = 24$) were in the borderline group and 9% ($n = 7$) were in other problem groups (Egeland, 1988). Consequently, about one third of abused parents were found to be at risk for abusing their own children (Egeland, Jacobvitz, & Sroufe, 1988). However, Egeland (1988) stated that the findings suggested that factors other than the cycle of abuse hypothesis are also involved in the phenomenon of abuse. "Most of the mothers who broke the

cycle of abuse were currently in an intact, long-term, stable relationship with husband or boyfriend.... were also likely to have reported that foster parents, a relative or one of their parents provided them with emotional support as children.... there was someone there for nurturance and support" (Egeland, p. 93). Mothers who had broken the pattern of abuse were very aware of their past abusive history and were generally considerably verbal in discussing their intentions of how they would parent their children. Abused mothers who were abusing their children tended to speak in generalities of their history of abuse and possessed vague recall and a lack of understanding of the relation between their childhood experiences and their current parenting behaviours. Consequently, there seemed to exist a tendency to repress the abuse in their childhood. This same phenomenon was described by Fraiberg et al. (1975). Other factors which seemed to influence the continuity of abusive patterns of parenting were large amounts of life stress, poverty, maternal high anxiety which may have had an adverse effect on mothers' ability to be flexible and tolerate frustration when caring for children, depression, and lowered emotional stability leading to being more easily frustrated (Egeland, 1988). Egeland stated that although possessing a history of childhood abuse may be a risk factor for becoming an abusive parent, the "unqualified acceptance of the intergenerational hypothesis has negative consequences. We must make sure that parents be reassured that abusive caretaking across generations is not inevitable" (p. 98).

Predicting Abuse. In nine descriptive correlational studies the prospective approach was used in order to attempt to predict

maltreatment (Altemeier et al., 1984, 1979; Hunter & Kilstrom, 1979; Hunter et al., 1978; Monaghan, Gilmore, Muir, Clarkson, Crooks, & Egan, 1986; Murphy et al., 1985; Sherrod, Altemeier, O'Connor, & Vietze, 1984; Vietze, Falsey, Sandler, O'Connor, & Altemeier, 1980; Webster-Stratton, 1985). Each group of investigators developed their own prediction interview tool, however, the tools were based on similar antecedent variables implicated in the ecological model of abuse. Outcome variables varied in that some investigators used a more expanded definition of child maltreatment, which included nonorganic failure to thrive (Altemeier et al., 1979). Due to the fact that findings were directed towards the specific categories used in each study, comparisons among subjects who physically abused their children were able to be completed for the purpose of this literature review. The research questions were reasonably explicit and the need to examine multiple variables in the etiology of child abuse was acknowledged. Sampling techniques used in the majority of studies were based on nonprobability methods. Age of child upon entry into the studies varied from newborn (Hunter et al.; Monaghan et al.) to eight years (Webster-Stratton), with the majority being less than four years old. The majority of follow-up procedures to measure the outcome variable was based on reported cases of child maltreatment by the appropriate social agencies and authorities.

The findings from the nine studies were reasonably consistent. Each tool was found to be a good predictor of later abusive behaviour. Variables found to be good predictors within the tools were: a history of childhood abuse or neglect found in all of the studies; increased levels of stress as perceived by parents (Altemeier et al., 1979, 1984;

Murphy et al., 1985; Sherrod et al., 1984; Vietze et al., 1980); decreased social support from family and friends, and social isolation (Altemeier et al., 1979, 1984; Murphy et al., 1985; Hunter & Kilstrom, 1979; Hunter et al., 1978); and rigid or unrealistic expectations of the child (Murphy et al., 1985; Monaghan & Gilmore, 1986). Other variables included poor mother-infant interaction at one month, and perception of the child as being difficult (Vietze et al., 1980); frequent change of address, emotional problems and lower intellectual ability (Monaghan & Gilmore, 1986); greater incidences of physical negative behaviour, total commands, and criticisms when interacting with children, and low family income (Webster-Stratton, 1985); financial problems, marital conflicts, and inadequate child spacing (Hunter & Kilstrom, 1979; Hunter et al., 1978; Webster-Stratton).

A study developed to test the reliabililty of a screening tool based on indexes of social support and parenting attitudes for detecting problem parenting, was conducted by Avison, Turner, and Noh (1986). Through application of the tool, the scale correctly identified over 90% of maladaptive and comparison mothers. When the scale was cross-validated on another independent sample of maladaptive and comparison mothers, the tool was found to correctly identify with almost 90% accuracy. Maladaptive mothers were found to have less social support, a rejecting attitude of parenting, and used more punitive control with their children.

It is important to note that findings from all of these studies identified a range in number of high risk mothers who did not subsequently maltreat their children, from 24% (Murphy et al., 1985) to 95% (Altemeier et al., 1984) and classified mothers as low risk who

later maltreated their children. These ranged from 1.2% (Altemeier et al., 1984) to 11% (Murphy et al., 1985).

Cycle of Abuse. In a correlational study, Joy (1986a) investigated the intergenerational transmission of abuse hypothesis using four groups of parents: parents abused as children and who were known abusers, parents with a history but not presenting with abusive parenting behaviours, parents without a history and who were known abusers, and parents without a history and who were not abusive parents. Joy also explored several dependent variables which have been implicated in the etiology of abuse and used to predict abusers from nonabusers. These variables included level of self-esteem, parental perceptions of their children, extent of social support available, and perceived level of negative stress.

Findings from this study supported the cycle of abuse hypothesis in that a significantly higher proportion of women with a history of abuse were in the abusing sample than in the nonabusing sample. Also, mothers with a history of abuse had a significantly higher purported potential for abuse than mothers with no history of abuse. However, Joy (1986a, 1986b) in discussing limitations of her study suggested using caution in interpreting the results and that for a more definitive test, a prospective study would be required. Findings for the three variables, stress, social support and parents' perception of their children as difficult, were not significantly different between groups. Self-esteem was partially supported as being different between groups.

Ney (1988) conducted a study to examine the cycle of abuse hypothesis by sampling four groups of parents and their 5 to 12 year old

children: parents who had phoned the Child Helpline because of problems with their children or their own maltreating parenting styles, parents of children who were hospitalized on a psychiatric unit, nonabusing mothers who had delivered a healthy second baby in hospital, and nonabusing mothers who had delivered a healthy second baby at home. Through the use of interviews directed towards discovering information regarding their past and present life situations, assessment with the Parent Bonding Instrument and the Denver Check-list, as well as home observations of psychiatric unit families, the frequency and severity of abuse was surveyed on visual analogue scales.

Findings revealed that similar types of child abuse tended to be passed down from one generation to the next. The researchers found that although many of the parents tried to avoid repeating abusive styles of parenting stressful conditions often negatively affected their parenting behaviours leading some to become abusive with their children. "It was found that mothers abused their children and their husbands abused them in many ways as they were abused by their parents" (Ney, 1988, p. 151). The researchers used the concept of entropy, whereby human and human system energy tends to dissipate so that it no longer functions in a useful manner for play, work or clear cognition, to attempt to explain why some people repeat the cycle of abuse and aggression. The author suggested that these individuals "need to understand what happened to them in order to prevent reenactment of past experience" (p. 151). However, the author did not discuss the findings relating to those parents who had been abused as children but who were not abusing their own children, and the nonabused parents who were currently abusing their children.

Learned Interaction Styles. Based on the theory that child-rearing style is learned from the individual's parents and their style of parenting, Crittenden (1984) designed a descriptive, correlational study to observe infants between the ages of 6 to 11 months interacting with their mother, with a sibling, and with a second adult. Families were divided into the categories: abusing, depressed neglecting, disorganized neglecting, or adequate. Operational definitions were provided for all categories. Procedures used to increase internal validity included a single blind technique where observers were blind to group status, and stringent coding procedures for the observations. Results demonstrated that siblings as young as 2 years old displayed similar patterns of interaction as their parent, however, the sample size was small and no randomization procedures were used.

In summary, there appears to be support from the literature substantiating intergenerational transmission of abuse. However, it is evident that not all abused parents go on to abuse their own children, and that not all abusive parents report a prior history of childhood abuse. Equally significant is the number of falsely identified high risk and low risk parents when implementing any of the current prediction models.

## Abusive Families' Relationships

Child abuse has been described as being the result of a breakdown in the parent-child interaction system (Helfer, Bristor, Cullen, & Wilson, 1987). This system provides an overall indication of parenting

style and child temperament and/or personality (Barnard, 1978b; Brody, 1976; Gesell & Ilg, 1937). The interaction process is described as a behavioural dialogue, the elements of which include the many "communicative acts" in which the parent and child engage (Bakeman & Brown, 1977; Spietz, 1978). "When this interaction goes poorly a vicious cycle can develop when the infant and the new parent(s) do not engage, resulting in a degree of discontent and frustration which can lead to a breakdown in the interactions ..." (Helfer et al., 1987, p. 566). Child abuse is on the continuum of maladaptive parenting behaviours as reflected in poor quality interactions (Barnard, 1978c). Abusing families have been shown to possess poorer quality parent-child interactions, as demonstrated in the following literature review.

Parent-Child Interactions. Thirteen studies focused on parent-child interactions of mothers known to have parenting problems as compared to parents with no record of parenting problems (Azar & Rohrbeck, 1986; Azar, Robinson, Hekimian, & Twentyman, 1984; Bee, Disbrow, Johnson-Crowley, & Barnard, 1981; Bousha & Twentyman, 1984; Browne & Saqi, 1987; Burgess & Conger, 1978; Crittenden, 1981; Crittenden & Bonvillian, 1984; Herrenkohl, Herrenkohl, Toedter, & Yanushefski, 1984; Kavanagh, Youngblade, Reid, & Fagot, 1988; Lyons-Ruth, Connell, Zoll, & Stahl, 1987; Mash, Johnson, & Bonvillian, 1983; Shuman-Wood & Cone, 1986). Categories included known abusing, neglecting, problematic and nonabusing parenting styles. All studies included observations of interactions between parent and child, and provided evidence of interobserver reliability. Sample sizes tended to be small, except in the study by Herrenkohl et al. (1984), and recruited

through non-random selection. Children ranged in age from one to nineteen months (Crittenden, 1981) to 3 years to 11 years (Kavanagh et al., 1988). In three studies age of children was not discussed (Azar & Rohrbeck, 1986; Azar et al., 1984; Burgess & Conger, 1978). In the majority of studies, reported ages of children were 4 years and under. Measurement tools were appropriate for studying the research questions which were specified.

Findings were similar. Abusive mothers were found to respond more negatively to their children; tended to be actively involved with their children but did not respond appropriately to their cues, consequently frustrating their children; tended to be more controlling and aggressive toward their children; and demonstrated less positive parenting than did control parents. Bee et al. (1981) identified that mothers in abusing families were less sensitive to their child's cues and provided less cognitive and social-emotional growth fostering. Abusive mothers were found to exert excessive directiveness in relation to their child's ongoing behaviour (Mash et al., 1983); to be more likely to demonstrate hostility toward their infants in subtle ways; to interfere with their infants' activities and goals; and to have low involvement in the interaction as demonstrated by the lack of verbal communication, high disengagement, and flatness of affect (Lyons-Ruth et al., 1987). Bousha and Twentyman (1984) also described the interactions of abusive mothers as characterized by negative and aversive behaviour. In presenting their findings of how mothers rated normal child behaviours, Shuman-Wood and Cone (1986) found abusive mothers tended to rate most behaviours as more negative than control mothers. Abusive parents were found to have unrealistic expectations of their children (Azar & Rohrbeck, 1986; Azar

et al., 1984; Browne & Saqi, 1987). It was felt by these authors that abusive parents may perceive their child's behaviour as a threat to their own self-esteem, leading to the elicitation of a punitive attitude and insensitive approach to childrearing.

Abused infants tended to become frustrated by their mothers' style of interaction. Abused children were found to have the highest rates of physical and verbal aggression, demonstrating behaviour modelled after their parents (Bousha & Twentyman, 1984). In the study by Bee et al. (1981), abused children were less responsive to the parent and were less clear in communicating cues. Lyons-Ruth et al. (1987) found that as maternal involvement decreased to the point of neglect, infants responded first with active resistance then with avoidance.

Neglectful parents tended to be withdrawn and uninvolved with their children to the extent that social isolation occurred in the home. Neglected infants demonstrated depressed levels of activity which the authors believed to be due to lack of stimulation. There existed a mutual passivity between the mother-infant dyad (Bousha & Twentyman, 1984; Crittenden, 1981; Crittenden & Bonvillian, 1984).

In the study by Herrenkohl et al. (1984) the researchers employed an ecological conceptualization of child abuse to examine parent-child interactions in abusive and nonabusive families. The sample consisted of 259 families with children ranging in age from 16 to 78 months ($\underline{M}$ = 49.5 months). The findings indicated a high positive correlation between family income and an overall positive tone and warmth of the interaction. The amount of verbal interaction also increased as income level increased. Maltreating parents were found to exhibit more rejection and less warmth toward their child, and to be more hostile

than nonmaltreating parents. The authors believed that "maltreatment ... may be viewed as an extreme at the negative pole of the continuum, triggered perhaps by overwhelming accumulations of the frustrations that go with unemployment, illness, housing problems, and other stresses related to insufficient income" (p. 646).

The findings from these thirteen studies strongly support that abusing and neglecting parents when compared to nonmaltreating parents have more negative interactions with their children, representing maladaptive parenting styles.

Main and Goldwyn (1984) carried out a correlational study with white, middle class women to explore the possibility of predicting a mother's rejection of her infant based on the mother's representation of her own childhood experiences. Findings indicated that the experience of rejection in childhood by the mother appeared to affect her ability to develop attachment to other people in adult life. This is suggested to be a defensive response to the reproduction of childhood maternal rejection in the adult women. As Fraiberg et al. (1975) found, abused women who suppressed the memories of their childhood experiences were more likely to be unable to develop attachments with their children, and displayed avoidance and rejection of their infants. The authors inferred that it was partially due to the shutting away of memories or the defensive denial of information from certain levels of processing, that the cycle of rejection and abuse continued (Main & Goldwyn, 1984).

Parenting Style. In two studies parenting behaviours and discipline strategies were examined in abusive and nonabusive families (Lahey, Conger, Atkeson, & Treiber, 1984; Trickett & Kuczynski, 1986).

Sample sizes were small (N = 24, Lahey et al.; N = 40, Trickett & Kuczynski); children's ages ranged from 2 to 11 years. Although the abusive acts had already occurred at the time of inclusion in the study, no information was provided regarding the ages at which the abusive acts had occurred. In each study different observation tools were used. Either the observers were blind to group association (Lahey et al.) or the observation coders were blind to group association (Trickett & Kuczynski). Interobserver reliability was established and reported in each study.

The findings in each study differed on child behaviours. Lahey et al. (1984) found no statistically significant differences among the abusive and nonabusive groups in relation to child behaviours. These results are similar to those from the studies performed by Bousha and Twentyman (1984) and Burgess and Conger (1978). However, in the study by Trickett and Kuczynski (1986) the authors found abused children to be more aggressive and less compliant in relation to parental interventions than control children.

Findings from these two studies (Lahey et al., 1984; Trickett & Kuczynski, 1986) were similar in relation to parental behaviours. Abusive parents were more likely to use physical punishment, and to be less positive and more negative in their interactions with their children than control parents. In their analyses of findings, Trickett and Kuczynski described the interactions of abusive families as coercive and escalatory in nature. Other identified findings included that abusive parents demonstrated far greater depression and physical distress than control mothers (Lahey et al., 1984). Further, as maternal distress increased the less positive and more negative were the

maternal-child interactions. The authors postulated that perhaps "parents' threshold for the range of child misbehaviors that will elicit punitive upper limit controls is variable .... This putative threshold may be controlled by many factors but primarily by emotional or somatic difficulties ..." (Lahey et al., p. 1069).

In a clinical research study based on 3 years of experential data with parents who had attended a Parents Anonymous group Roth and Johnson (1984) examined interpersonal patterns in abusing parents. The researchers identified four types of interpersonal patterns: (a) self-centred parents, who are concerned solely with their own needs fulfillment; (b) perfectionist parents, described as possessing high, and sometimes unrealistic, expectations of themselves and their children; (c) authoritarian parents, described as being consumed by the necessity to control their children's lives; and (d) impersonal parents, described as being withdrawn, unemotional, detached and requiring excessive provocation to interact. All of these interpersonal styles were considered maladaptive and seen to influence adversely parenting abilities.

In summary, the findings from the previous studies on parent-child interaction demonstrate that parent-child interactions of maltreating parents are different from nonabusing parents. Interactions are described as being less positive, more negative and coercive in nature, with maltreating parents tending to use more physical forms of discipline regardless of concomitant child behaviours. Maltreating parents were also described as possessing unrealistic expectations of their children. Consequently, it can be said that parent-child

interaction is a useful variable for measuring parenting style and a negative interaction is indicative of maladaptive parenting, potentially leading to abusive patterns of parenting.

Crying in Infancy

Infant crying in the first three months of life has been described as a signal to promote proximity and contact with the mother through activation of her behaviour (Bell & Ainsworth, 1972). Further, Bell and Ainsworth stated that this method of communication is a signal for the need for close physical contact. When mothers interpret the signal appropriately, it leads to maternal intervention, often in the form of soothing verbal and nonverbal communication and picking up the crying baby in attempts to soothe the infant. Consequently, a positive interaction may occur, representing infant and maternal behavioural adaptation. However, it has already been indicated through the previous review of research on parent-child interaction in abusing families, that abusing parents tend to have less positive and more negative interactions with their children. Also, infant crying, whining and other distress signals have been shown to precipitate child abuse in infancy (Call, 1984; Murray, 1979). It is believed that in stressful environments, excessive or grating cries may trigger abusive behaviours toward the infant (Frodi, 1981). Call describes this reaction as a "breakdown in the parent's capacity for elaborate empathically organized meanings to the infant's distress behaviors and need states" (1984, p. 188). The parent is said to perceive the infant as bad, poorly behaved or greedy. Further, the infant may be perceived as attacking or defiant and purposefully depriving the parent of basic needs, leading to

the possible elicitation of aggressive assault by the parent (Call, 1972; Frodi, 1981; Murray, 1979; Steele, 1970).

In two quasi-experimental studies, researchers examined responses of maltreating and nonmaltreating mothers to child-related stumuli (Bauer & Twentyman, 1985; Frodi & Lamb, 1980). Observers were blind to group membership and sample sizes were small ($N$ = 36, Bauer & Twentyman, 1985; $N$ = 28, Frodi & Lamb, 1980). Results were similar in that abusing mothers demonstrated more annoyance, aversion and less sympathy to child-related stimuli, such as infant crying. Abusing mothers were also more likely to perceive their child as purposefully acting to annoy them, reflecting an attributional style of blaming their child (Bauer & Twentyman, 1985). In the study by Frodi and Lamb (1980), mothers' physiological responses to infant cries and smiling were measured. Interestingly, abusers responded to infant smiles in the same physiologic manner as they did to the cries, thereby responding as if any social elicitation were aversive. Consequently, the findings from each of these studies supports the view that stimuli perceived as aversive, such as prolonged infant crying, are more likely to elicit aggression leading to abusive acts in high risk individuals. Also, "the greater the social stress and isolation, ... the greater the likelihood that parents will respond abusively to a child's aversive features" (Frodi, 1981, p. 347).

Descriptive correlational studies were completed to measure crying in infancy (Brazelton, 1962; Rebelsky & Black, 1972; St James-Roberts, 1989). Non-random techniques were used in order to obtain "normal" samples of infants and positive approaches to mothering. Authors demonstrated that study infants reached a peak of crying between the

ages of 42 days and 56 days. These findings have been replicated in subsequent research (Elliott, 1987; Elliott, Fisher, & Ames, 1988).

In summary, it can be assumed that frequent or persistent crying, as may occur between six to eight weeks of age, may serve as a stressor and potentially instigate abusive behaviour by the caregiver.

## Chapter III

## Research Design and Methods

### Design

The study design is descriptive in nature. However, comparisons were done with population norms for the Nursing Child Assessment Feeding Scale (Barnard, 1978a), in relation to maternal-infant interaction scores, parent-related scores, infant-related scores, and individual subscale (6) scores. In the study the volunteer sample of women with a history of childhood physical abuse, and their 6-to-8-week-old infants, were studied and compared with a subset of the population norms compiled in October 1984 for the NCAFS (Barnard, 1978a). The subset consisted of parent-infant dyads where the infant ranged in age from newborn to 2-month-old infants ($N$ = 147), in order to match the study group on age of infant.

This is an area that has not been carefully examined using this method and the present study can be thought of as a preliminary assay--a "testing of the waters" to see whether there is any information that warrants further investigation. It is a means of examining abused mothers in the early stages of their interactions with their newborn infants in order to determine patterns of parenting. Through comparisons with normed data, and use of a prospective design, it is hoped that rather than focusing on already abusing mothers and retrospectively interviewing them regarding their developmental histories, mothers with a known childhood history of abuse without a set pattern of parenting can be followed to determine how they will interact with their infant. This would serve to alleviate the effects of inflation caused by selecting already abusing mothers and looking at

parenting factors retrospectively.

## Sample

Original design. The study was originally designed to include thirty women with a history of childhood physical abuse, and their 6-to-8-week-old infants. Recruitment was planned to extend over a 9-month interval, and to take place within the greater Edmonton area. Method of recruitment was planned to occur via media advertisements, such as newspapers, television, posters displayed in various agencies and services within the greater Edmonton area. The contact phone number was connected to a telephone answering machine when the principal researcher was unavailable in order to provide 24-hour telephone coverage. It was anticipated that data collection would be of approximately 12 months duration. Advertising commenced in October 1988. After 5 months of advertising, and recruitment of only three subjects, it was decided to expand the method for recruitment. The departments of Alberta Family and Social Services (AFSS), Alberta Mental Health, the Family Service Association of Edmonton, and the Edmonton Board of Health (EBH), as well as various other service agencies in Edmonton, were approached for their assistance in disseminating information regarding the study to potential subjects. The researcher was required to present the study proposal to the ethics committees for AFSS and EBH prior to their approvals to assist in advertising and recruitment. This was completed for the EBH by March 1989 and posters were placed in all EBH offices in the city of Edmonton. Also, Participant Information Documents (see Appendix C) were provided for distribution to interested women. The AFSS, Edmonton Region, approved

the proposed study in June 1989 and agreed to their employees distributing information letters to potential subjects.

In May 1989, 8 months and 7 subjects after advertising and recruitment had commenced, it was decided that recruitment would have to be extended to other centres in Alberta. A research assistant qualified in administration of the NCAFS was hired in Calgary. Recruitment was then extended to Calgary and the Red Deer areas. The main method of advertising in these centres was via newspaper. Calgary Health Services and the Grace Hospital Women's Health Centre also agreed to display posters and distribute information letters to interested women.

In consultation with the thesis supervisor, it was decided that recruitment would be terminated at the end of October 1989, 13 months after it had been initiated. At this point 16 women had been recruited for participation in the study. Due to attrition, 3 of these 16 women were lost from the study. Data collection was completed in March 1990--18 months after initiation of recruitment.

Actual design. Thirteen women who had experienced childhood physical abuse, and their 6-to-8-week-old infants were the focus of this study. This period is the interval during which infants reach their peak of crying (Brazelton, 1962; Rebelsky & Black, 1972; St James-Roberts, 1989). Classification as having experienced physical abuse was based on mothers' self report of their recollected childhood experiences. This information was obtained through a personal interview for the women in the greater Edmonton area and via telephone interview for out-of-town women, using the criteria defining child physical abuse within the Alberta Child Welfare Act (GPA, 1985) (see Definitions p. 10). Criteria for participant inclusion in the study were: residence

within the greater Edmonton area, Red Deer area, and Calgary; 18 years of age or over; ability to speak English; delivery of a healthy term infant, with full term infant defined as 37 to 42 weeks gestation; and fulfillment of the criteria for physical abuse, determined at the initial interview through subject responses.

Recruitment was carried out through advertisements in the greater Edmonton area, Red Deer, and Calgary (see Appendix E for sample ad). Advertisements were placed in local newspapers; newsletters; in offices of Edmonton Region AFSS agencies, EBH, and other participating service agencies in both Edmonton and Calgary; and on television. Through distributing Participant Information Documents, individuals were then able to decide for themselves whether or not they were interested in participating in the study and to contact the researcher on their own initiatives. Consequently, there was no coercion involved.

A total of 16 women completed the initial interview, met the criteria for inclusion in the study, and gave birth to healthy term babies. Of these, one mother-infant dyad was lost due to a geographical move and one dyad was lost because the infant had been ill and hospitalized at 6-to-8-weeks of age. One dyad completed the study but results were discarded due to a false score resulting from the subject not complying with the procedure required for completion of the NCAFS observation.

One mother gave birth to an infant at 35 to 36 weeks gestation. However, her pregnancy dates were unsure. Also, her baby weighed more than expected for the timing of delivery, and required no special medical care or time away from mother in the immediate neonatal period. Consequently, this dyad was included in the study.

Instruments

Background history interview. The background history interview, adapted from Joy (1986) and Disbrow and Doer (1982), was completed on enrollment into the study via a home interview for the greater Edmonton area women and via telephone for out-of-town women. This tool was used to obtain demographic data in order to describe the sample and to verify childhood physical abuse through the women's recollection and descriptions of their childhood experiences. Specifically, participants were requested to provide information on their age, marital status, partner's age (where applicable), level of education, partner's level of education, income, and childhood abusive experiences (see Appendix A).

Nursing Child Assessment Feeding Scale. Observation was selected as the means to measure maternal-infant interaction because this method is considered to be a direct way of collecting data as well as possessing the capacity to capture data of increased depth. In order to reduce observation problems related to human perceptual errors, the instrument selected for the behavioural observations of mother-infant interaction was the NCAFS tool (Barnard, 1978a) which is rated objectively rather than subjectively. This instrument was developed in order to assess and describe parent-child interaction during feeding. Behaviours exhibited by the mother during the feeding process are theorized to represent her overall behaviour toward the infant (Brody, 1976), and the infant's behaviour during feeding is considered a salient indicator of his/her temperament (Gesell & Ilg, 1937). A positive interaction is described as, "having rhythmical quality with each member

of the interaction being flexible, sensitive, and sympathetic to the needs of the other. When the balance is not equalized, or a member is out of tune, the interaction takes on a negative quality" (Spietz, 1978, p. 8). These are reflected in NCAFS scores through the parent-related and child-related scores. Parent-related scores include 4 subscales and the child-related scores include 2 subscales. Behaviours in each of the two main scores are related to one another. The interaction process has also been found to be related to the child's developmental outcomes (Barnard, 1978c).

The NCAFS is composed of 76 behavioural items, 26 child-related and 50 parent-related, to observe during the feeding period. These items have been sub-divided into six conceptually-derived categories, each providing important indicators of the nature of the interactive process: parent's sensitivity to infant cues, parent's response to infant distress, social-emotional growth fostering behaviours by the parent, cognitive growth fostering behaviours by the parent, child's clarity of cues, and child's responsiveness to parent. The scales are binary in nature, thereby providing for more objectivity in scoring and requiring less time to become proficient in observing. The tool is applicable for infants from birth to one year of age or older infants if they are behaviourally immature (Barnard, 1978b).

The norms for the NCAFS were collected in 19 western states. Most of the mothers observed were married, Caucasian, and had an average of 13 to 15 years of education (Barnard, Hammond, Booth, Bee, Mitchell, & Spieker, 1989). It was found that marital status affected overall scores, with married mothers, regardless of ethnic group or educational level, receiving higher scores than did the unmarried mothers. In

addition, the average score increased in relation to higher levels of education. Norms were developed for the overall population as well as for educational level, marital status, and race (Barnard, 1978b).

The NCAFS has been demonstrated to have internal consistency of items and categories. Cronbach's alpha ranged from .56 to .73 for the individual subscales, and .83 and .86 for total parent scores and total child scores, respectively. The total scores provide the most accurate basis on which to compare groups (Barnard et al., 1989). Correlations were calculated for the four parent subscales with the total parent-related scores for both the NCAFS and Nursing Child Assessment Teaching Scale (NCAST). These correlations ranged from .15 to .47 ($p < .01$). Correlations of the infant subscales with total infant score ranged from .26 to .29 ($p < .01$) (Barnard et al., 1989). Test-retest reliability was calculated comparing the tool at one month with four months, four months with eight months, and so forth. Generalizability coefficients for the total parent score and total infant score were .75 and .51 respectively. Differences obtained at 3-4-month intervals were believed to be due to the fact that a minimum of a three-month time interval occurred between testings, with differences relating to actual maturational changes rather than unreliable measures. This theory is also supported by the fact that mothers' behaviours did show more consistency over the test-retest periods than did that of their infants (Barnard, 1978b; Barnard et al., 1989).

Content and construct validity have been established through repeated use, testing, assessment and revision of the scale. Concurrent validity was assessed indicating that the feeding scale was significantly positively correlated with the Home Observation for

Measurement of the Environment (HOME Inventory) (Caldwell, 1978), with correlations for total parent and total infant scores of $r = .48$ and $r = .54$, respectively, each significant at the $p < .01$ level. The NCAFS was also found to possess predictive validity with the Bayley Mental Development Index ($r = .67$, $p < .01$) (Barnard et al., 1989).

Individuals using the NCAFS tool must be trained in its administration by qualified Nursing Child Assessment Satellite Training (NCAST) instructors and achieve a minimum inter-rater reliability of 85% agreement. Specific guidelines are provided for administration of the standardized tool. The NCAFS tool is available from the NCAST Institute at the University of Washington, Seattle.

Crying questionnaire. The third instrument used to collect data was a simple questionnaire used by the researcher to request subjects' responses related to the amount of time their infants spent crying (see Appendix B). "Colic" is the term often used to refer to otherwise healthy infants who cry inconsolably in spite of their parents' attempts at soothing. In order to classify infants as normal or excessive criers, mothers were asked to estimate the amount of their infants' crying, according to the definition by Wessel et al. (1954), using two specific questions: "What is the total amount of time your baby spends crying each day? ... How many days a week does your infant cry for a total of 3 hours or more?" (Elliott, 1987, p. 83). "The incidence of 'colic', thus defined, has been estimated in the literature across eight different studies as approximately 20%, with a range from 12% to 36%" (Elliott, p. 3). The information on maternal perceptions of infant crying was used to measure correlation between perceived amount of infant crying and total NCAFS score. This would provide information

regarding the effect(s) that infant crying may have on maternal-infant interaction and consequently, parenting style.

Method

Initially, consenting participants were administered the background history interview in their own homes or through telephone interviews by the principal investigator, in order to confirm the occurrence of physical abuse according to the specified criteria based on the definition of physical abuse in the Alberta Child Welfare Act (GPA, 1985) and to obtain demographic data. Then, at six to eight weeks post partum--the peak of infant crying according to Brazelton (1962) and Rebelsky and Black (1972), direct participant observations of mother-infant interaction were conducted in subjects' homes by the researcher or trained assistants. The home setting was selected for observing mother-infant interaction in order to reduce some of the effects related to being in an artificial laboratory setting, such as behavioural distortions. It was felt that subjects would be more comfortable in their own home settings, thereby allowing them to behave more naturally despite the presence of an observer. Also, it was felt that if the participating women were required to travel to another setting in order to complete the study, this would reduce the numbers of volunteering participants.

The principal investigator and a research assistant established inter-rater reliability for the NCAFS initially using ten nonabused participants not included in the overall study (range = 86% - 100%). Inter-rater reliability between the principal investigator and the same research assistant was reassessed at four monthly intervals using

nonabused mother-infant dyads in order to maintain a reliability level of a minimum of 85% agreement (range = 89% - 99%), as recommended by Barnard et al. (1989). The second research assistant lived outside the Edmonton region and obtained inter-rater reliability on the NCAFS with another individual trained in the use of the NCAFS.

In the Edmonton area, two of the observation sessions were conducted by the first research assistant, with the remainder being completed by the principal researcher. All of the observations with mother-infant dyads residing outside of the Edmonton area were conducted by a second research assistant.

Maternal-infant observations occurred during feeding times, with duration affected by the length of the feeding process. Subjects were explained the procedure and asked to verbally indicate both the commencement and termination of the feeding. Duration of feeding is measured on the NCAFS according to categories. The feeding process lasted an average of 10 to 30 minutes (range = < 10 minutes to > 30 minutes). Subjects were asked to avoid discussions with the researcher during the actual observation in order to simulate as closely as possible a typical feeding interaction. After scoring of the feeding observation, the researcher discussed the findings with subjects, providing encouragement, support and recommendations where applicable. Consequently, once the observation period was completed and scoring done, the session was used also as a teaching/learning opportunity. Following the feeding observation mothers were asked to comment on the amount of their infants' crying in order to classify infants as "normal" or "excessive criers".

Data Analysis

The data from the background history interview were used to describe the characteristics of the sample using descriptive statistics. In order to compare composition of the sample group with population proportions on the variables, level of education and marital status, a $z$-test comparing proportions was used. The means for level of education were also compared using a $z$-test. All statistical tests were assessed using the significance level $p < .05$. Despite significant differences between the sample and population norms, with the sample possessing fewer years of education ($z = -3.05$), for the sake of comparison, NCAFS normed data were used since no other data were available for comparison. The $z$-test was used to compare the sample mean and population mean for the total NCAFS score, total parent score, total infant score and subscale scores. Descriptive data obtained from the NCAFS, such as type of feeding, age of mother at birth of target infant, and parity, were also analyzed and compared with the NCAFS norms.

Amount of infant crying, as perceived by the mother, was correlated with the total NCAFS scores, total parent scores, total child scores, and individual subscale scores using Pearson's correlation to determine if the variables were related in this study. The data used to calculate the correlation was based on responses to the crying questionnaire (see Appendix B), whereby respondents indicated how many hours per day their infants cried. There were four available responses, with each being assigned a number of 1 to 4. These were considered to be interval-level data. All of the respondents stated that their infants were consistent and cried the specified amount seven days per week, that is 11 women

stated their infants cried less than 1 hour per day 7 days per week and 2 women stated their infants cried more than 5 hours per day 7 days per week. Consequently, only the score achieved for the amount of crying (1 or 4) was used in the correlation with NCAFS scores.

Ethical Considerations

Study procedures were explained to interested individuals (see Appendix C). Informed consent for participation in the study (see Appendix D) was obtained from each participant prior to the commencement of any data collection. Participants were informed that the study was an investigation of parenting patterns and how they may be the same or different from one generation to the next. Participants were advised of their freedom to withdraw from the study at any time without fear of retaliation or prejudice or restricted access to health care.

Since the focus of the study was to explore a relationship between the experience of prior childhood abuse and current maternal-infant interaction, an ethical dilemma existed about the issue of guaranteeing participant confidentiality if the observer suspected child maltreatment at the time of the observation. This is a common dilemma in this type of research owing to the mandatory reporting laws for suspected and actual cases of abuse in each of the Canadian provinces and many U.S. states. Any suspected incidents of child maltreatment in participant families would have to be reported, thereby breaking the code of confidentiality. The informed consent specified what the investigators' responsibilities would be in the event of a perceived maltreatment situation, in order to ensure that participants were aware of the researchers' legal responsibilities. Since the advertisements utilized

for recruiting subjects specified that part of the criteria for study participation was the experience of physical abuse in childhood, it was not felt that an ethical dilemma existed about informing subjects of the true purpose of the research.

Due to the sensitivity of the topic, care was exercised to ensure that participants were not left in a distressed state. Subjects were also advised that a list of appropriate referral agencies that could be accessed for further assistance would be provided upon their request by the researcher. None of the subjects requested this service. The ethical guidelines of the Canadian Nurses Association (1983) were also adhered to.

# Chapter IV

## Results

### Demographic Data

The women ranged in age from 19 to 37 years ($M$ = 26.62, $SD$ = 5.11); partners' ages ranged from 18 to 37 years ($M$ = 28.25, $SD$ = 4.77). Mothers' education ranged from 9 to 17 years ($M$ = 12.23, $SD$ = 2.31, mode = < high school) and partners' education ranged from 8 to 16 years ($M$ = 12.58, $SD$ = 2.81, mode = 13 - 15 years). Sixty-nine percent of the women were married ($n$ = 9), 15 % were separated ($n$ = 2), and 15 % were in common law relationships ($n$ = 2). Subjects' total reported income ranged from $5,000 - $9,999 to over $40,000 (mode = $15,000 - $19,999). Eight babies (62%) were male, and five babies (46%) were female. Two babies (15%) were reported by their mothers to be excessive criers (see Appendix F for raw data). Classification of the infant as an excessive or normal crier was based on the definition by Wessel et al. (1954), who defined colic as "inconsolable crying lasting a minimum of 3 hours of total crying per day at least 3 days a week (Elliott, 1987, p. 3).

Comparison of sample and NCAFS norms on education. The sample was compared with population norms for the NCAFS for babies up to 2 months old on the variable 'level of education'. Level of education is divided into the categories: less than high school, high school, post-secondary 13 - 15 years, and post-secondary 16 - 20 years as well as being available as years of education. The sample was significantly different from that of the normative data in the less than high school category only ($z$ = 4.47 $p$ < .05). Thirty-eight percent of the sample were in the less than high school category as opposed to 6.8 % in the population

norms (see Table 1). When comparing the means for years of education the sample had significantly fewer years of education ($M$ = 12.23, $SD$ = 2.31; $\mu$ = 14.36, $\sigma$ = 2.52; $z$ = -3.05, $p < .05$).

Comparison of sample and NCAFS norms on marital status. The sample was compared with population norms for the NCAFS for babies up to 2 months old on the variable 'marital status'. The variable 'marital status' was divided into married and not married. The proportion of people in the sample was not significantly different from the population group for these categories ($Z$ = -1.13) (see Table 2).

Comparison of sample and NCAFS norms on descriptive data from the feeding scale. There were no identified significant differences on the descriptive or situational factors related to the feeding scale except for education and the category, "greater than 30 minutes", in length of feeding (see Table 3).

Types of abuse. All women reported experiencing physical abuse in their childhoods, ranging from being consistently disciplined with a belt to the point of leaving welts, bruises or cuts; to being left outside in a snowstorm at the age of 6 years without protective clothing; to consistently having hair pulled out; to being severely scalded at the age of 4 years, or being physically hit so that a tooth was chipped or an eye was left blackened. All of the reported descriptions of physical abuse met the criteria for the study which was based on the current definition in the Alberta Child Welfare Act (GPA, 1985). Respondents were not specifically asked about their own perceptions of the severity of abuse sustained, nor were they specifically asked the age(s) at which they had experienced abuse. Numbers and respective percentages of women's reports to experiencing

either physical abuse, emotional abuse, verbal abuse, sexual abuse, or neglect are in Table 4.

Eleven women reported experiencing both physical and verbal abuse. Ten women reported a combination of emotional, verbal, and physical abuse. Five women reported experiencing all types of childhood maltreatment, however, one of these women could not definitely state that she had been sexually abus[illegible]

Research Question # 1--Compa[illegible]ple and Norms on NCAFS

Comparison of means. Despite the sample group being significantly different from the population from which the normative data were derived on level of education, the normative data were still used to compare the NCAFS scores since no other basis for comparison existed. Z-scores comparing means were used to compare the sample group's total NCAFS scores, total parent scores, total infant scores, and individual subscale scores. There were no significant differences between the two sets of data on total score or parent score. However, the sample group scored significantly higher than the normative population on infant score ($M$ = 21.85, $SD$ = 2.03; $\mu$ = 18.93, $\sigma$ = 3.86, $Z$ = 2.73, $p < .05$), as well as the subscale, "Clarity of cues" (See Table 5 for comparisons).

Comparison of sample scores with interquartile ranges for NCAFS norms. Interquartile ranges for the population normed data were graphed and the sample data plotted against these scores as a means of visually comparing the groups on total NCAFS score, total parent score, total child score, and each subscale score (see Figure 2). Only one subject in the sample group scored in the first quartile for total score of the population norms, with nine subjects lying in the interquartile range

for the population norms, and three subjects scoring in the fourth quartile. Two subjects scored in the first quartile for total parent score of the population norms, nine scored in the interquartile range, and two in the fourth quartile of the population norms. None of the subjects scored in the first quartile for total infant score, five scored in the interquartile range, and eight subjects scored in the fourth quartile for the population norms.

Research Question #2--Infant Crying

The women's responses to questions on perceived infant crying (see Appendix B) revealed a polarized result (see Figure 3). Eleven women reported that their infant never cried more than one hour per day, thereby achieving a score to question #1 of 1. Two women reported that their infants cried more than five hours per day, seven days per week, thereby achieving a score of 4 on question #1. None of the respondents achieved a score of 2 or 3 on this same question. All respondents reported that their infants were consistent in the amount that they cried on a daily basis. Infant crying was found to have a strong negative correlation with total NCAFS score ($r = -.79$, $p < .005$), total parent score ($r = -.72$, $p < .005$), and total child score ($r = -.73$, $p < .005$).

One of the NCAFS subscales, "Response to distress", measures parent's response to child distress. Distress is defined broadly, including arching of the back, turning away, crying, hiccoughing, etc. (Barnard, 1978b). If a child does not demonstrate distress during the feeding episode, the examiner notes that in the appropriate box and scores a "yes" for all of the behaviours in that subscale so that the

dyad would achieve a score of 11/11. In the study sample, all of the women's infants showed signs of distress during the feeding observation. Scores for this subscale ranged from 9 to 11 out of the possible 11. It is interesting to note that the two women who reported their children as excessive criers and who also obtained the lower total NCAFS scores, both obtained a score of 10 on this particular subscale. Correlation of infant crying with "Response to Distress" was not significant ($r$ = .053). (See Table 6 for correlational statistics).

Relationship of Selected Demographic Variables to the NCAFS

Education and NCAFS. There appears to be a curvilinear relationship between education and total score, with score being higher with increased level of education up to the 13 - 15 year category. The relationship then shows scores to be lower with subjects possessing 16 - 20 years of education (see Figure 4). Pearson's correlation was not computed because one of its assumptions is that of a linear relationship. The relationship between education and NCAFS score appeared to be curvilinear, and therefore, would not fit the linear assumption.

Age and NCAFS. The correlation between subject age and total NCAFS score, was moderately strong ($r$ = .40) (see Figure 5).

Income and NCAFS. The correlation between total income and total score was .49 (see Figure 6 for graph). (See Table 6 for correlations).

Table 1

Absolute and Relative Frequencies for Sample and NCAFS Norms on Level of Education

| | Sample | | NCAFS Norms | | |
|---|---|---|---|---|---|
| Group | n | Percentages | n | Percentages | z-scores |
| 6 to 11 years | 5 | 38% | 10 | 7% | 4.47 * |
| High school (12 yrs) | 4 | 31% | 36 | 24.5% | 0.55 |
| 13 to 15 years | 2 | 15% | 43 | 29.3% | -1.11 |
| 16 to 20 years | 2 | 15% | 58 | 39.5% | -1.81 |

Note. * = significant at $p < .05$

Table 2

Absolute and Relative Frequencies for Sample and NCAFS Norms on Marital Status

| | Sample | | NCAFS Norms | | |
|---|---|---|---|---|---|
| Group | n | Percentages | n | Percentages | z-scores |
| Married | 11 | 85% | 137 | 93.2% | -1.13ns |
| Not married | 2 | 15% | 10 | 6.8% | 1.29ns |

Note. ns = nonsignificant

Table 3

Comparisons of Descriptive and Situational Data Related to the NCAFS Between the Sample and Norms

| Category (Sample Data in Bold Type) | n | Percentage | z-score |
|---|---|---|---|
| Usual feeding time | 12 | 92% | -0.74 ns |
| | 141 | 95.9% | |
| Person observed | | | |
| Mother | 13 | 100% | - |
| | 147 | 100% | |
| Major caregiver observed | 13 | 100% | - |
| | 147 | 100% | |
| Type of feeding | | | |
| Breast | 7 | 54% | -0.37 ns |
| | 87 | 59.2% | |
| Bottle | 6 | 46% | 0.44 ns |
| | 59 | 40.1% | |
| Length of feeding | | | |
| Less than 10 minutes | 2 | 15.4% | -0.61 ns |
| | 33 | 22.4% | |
| 10 to 20 minutes | 4 | 30.8% | -1.82 ns |
| | 82 | 55.8% | |
| 20 to 30 minutes | 3 | 23.1% | 0.69% ns |
| | 24 | 16.3% | |

Table 3 continued

| | n | Percentage | z-score |
|---|---|---|---|
| Greater than 30 minutes | 4 | 30.8% | 4.31* |
| | 8 | 5.4% | |
| Setting | | | |
| Home | 13 | 100% | - |
| | 147 | 100% | |
| Race | | | |
| White | 12 | 92.3% | 0.37 ns |
| | 131 | 89.1% | |
| Non-white | 1 | 7.7% | - |
| | 16 | 10.9% | |
| Marital Status | | | |
| Married | 11 | 85% | -1.15 ns |
| | 137 | 93.2% | |
| Not married | 2 | 15% | - |
| | 10 | 6.8% | |

| | Mean | SD | Range | N | z-score |
|---|---|---|---|---|---|
| Education | 12.23 | 2.31 | 9-17 | 13 | -3.05* |
| | 14.36 | 2.52 | 8-20+ | 147 | |
| Mother's age at birth | 26.54 | 5.24 | 18-37 | 13 | -0.41 ns |
| | 27.02 | 4.20 | 18-37 | 147 | |

Note. Sample data are in bold type. * = $p < .05$, ns = nonsignificant

Table 4

Numbers and Percentages of Women's Reported Experiences of Childhood Maltreatment

| Type of Abuse | n | Percentage |
|---|---|---|
| Physical abuse | 13 | 100% |
| Emotional abuse | 10 | 77% |
| Verbal abuse | 12 | 92% |
| Sexual abuse (definite) | 5 | 39% |
| Sexual abuse (unsure) | 2 | 15% |
| Neglect | 7 | 54% |

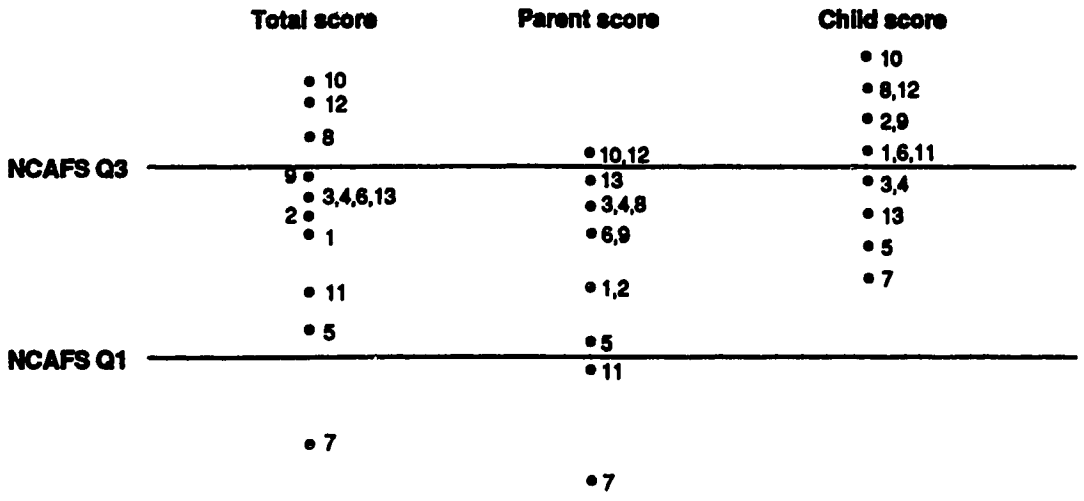
Table 5

Comparison of Sample Means, Standard Deviations, and Ranges of NCAFS Scores

| Scale | Mean | SD | Range | z-score |
|---|---|---|---|---|
| Sensitivity to cues | 14.23 | 1.42 | 11-16 | -.43 |
| | 14.43 | 1.69 | 8-16 | |
| Response to distress | 9.92 | 0.64 | 9-11 | -.96 |
| | 10.22 | 1.13 | 5-11 | |
| Social-emotional growth fostering | 11.54 | 1.45 | 8-14 | -.80 |
| | 11.96 | 1.89 | 6-14 | |
| Cognitive growth fostering | 7.46 | 1.39 | 6-9 | 1.90 |
| | 6.41 | 1.99 | 1-9 | |
| Total parent score | 43.15 | 3.48 | 35-47 | .09 |
| | 43.01 | 5.27 | 23-50 | |
| Clarity of cues | 13.62 | 1.04 | 12-15 | 2.76* |
| | 11.99 | 2.13 | 2-15 | |
| Responsiveness to parent | 8.23 | 1.42 | 6-10 | 2.13 |
| | 6.94 | 2.18 | 1-11 | |
| Total child score | 21.85 | 2.03 | 18-25 | 2.73* |
| | 18.93 | 3.86 | 3-26 | |
| Total NCAFS score | 65.0 | 5.05 | 53-72 | 1.37 |
| | 61.94 | 8.04 | 31-75 | |

Note. Sample statistics are in bold type; NCAFS statistics are in regular type. Sample N = 13; NCAFS norm N = 147. *p < .05.

**Figure 2.** Comparisons of subject scores in relation to NCAFS population quartile scores.



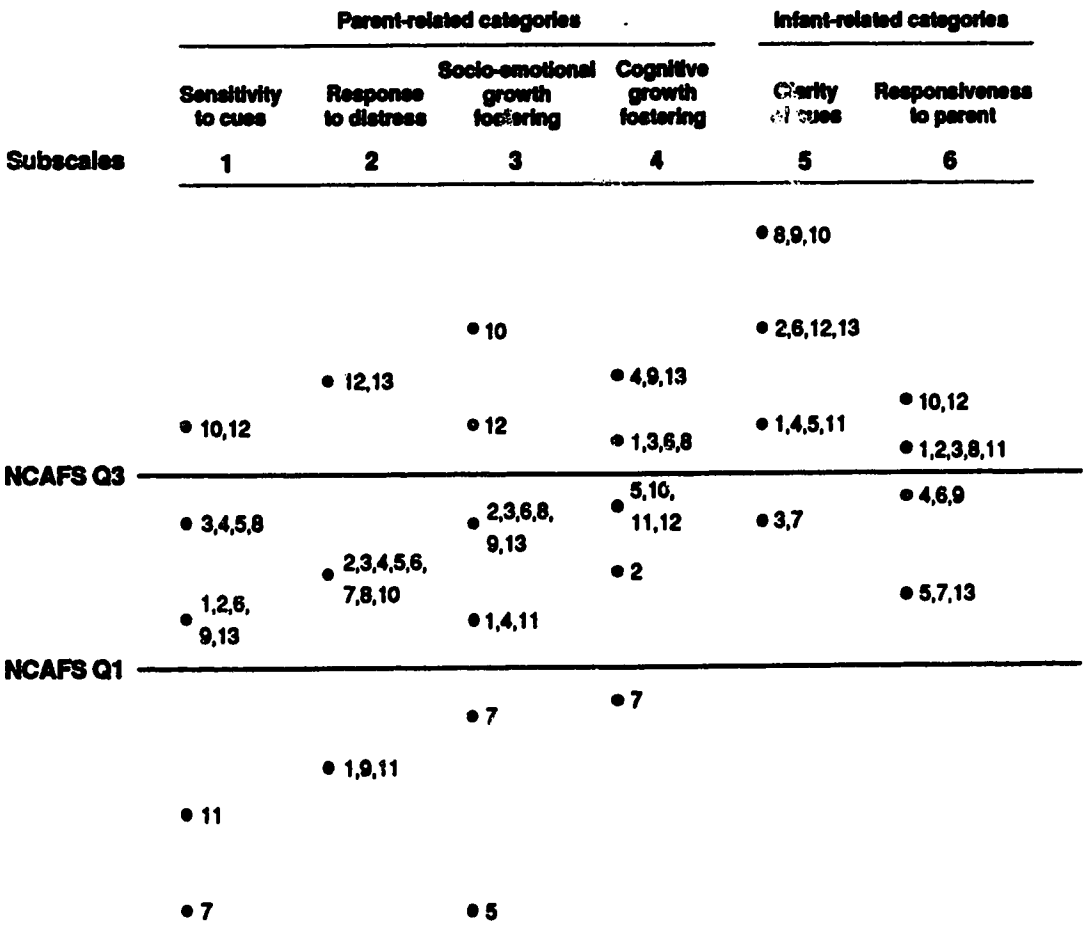



Figure 3. Amount of perceived infant crying and total NCAFS score.

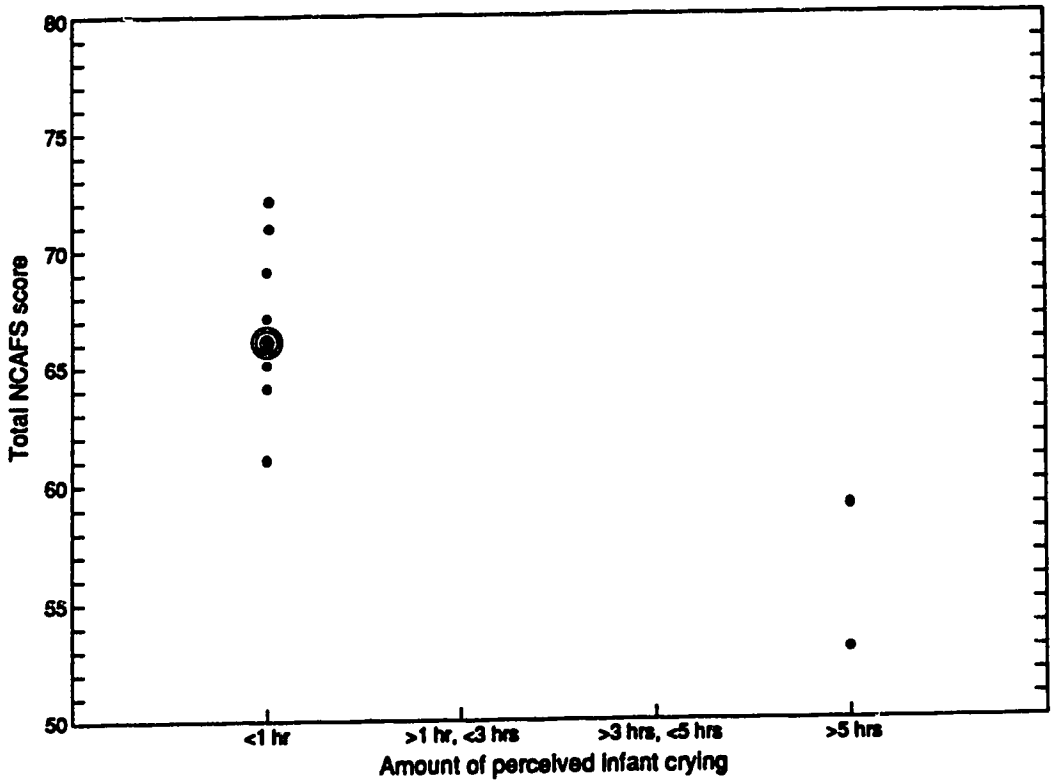



Figure 4. Subject's education and total NCAFS score.

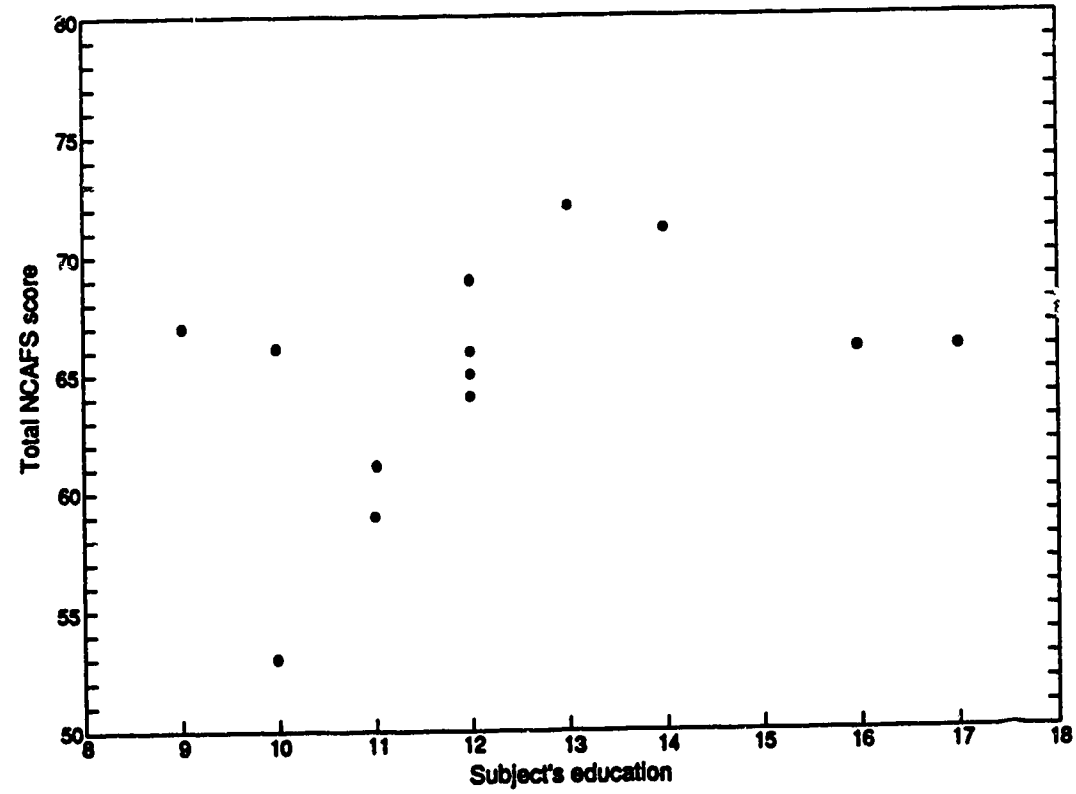


Table 6

Correlations of Age, Income, and Crying with NCAFS Scores

| Variable | Total NCAFS score | Parent score | Child score |
|---|---|---|---|
| Age | .40 | .43 | .27 |
| Income | .49* | .56** | .26 |
| Crying | -.79*** | -.72*** | -.73*** |

Note. * = $p < .05$ ** = $p < .025$ *** = $p < .005$

| Subscale | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Crying | -.38 | .05 | -.78*** | -.63** | -.47 | -.69*** |

Note. * = $p < .05$ ** = $p < .025$ *** = $p < .005$

Subscale 1 = Sensitivity to Cues, Subscale 2 = Response to Distress, Subscale 3 = Social-Emotional Growth Fostering, Subscale 4 = Cognitive Growth Fostering, Subscale 5 = Clarity of Cues, Subscale 6 = Responsiveness to Parent

**Figure 5.** Subject's age and total NCAFS score.

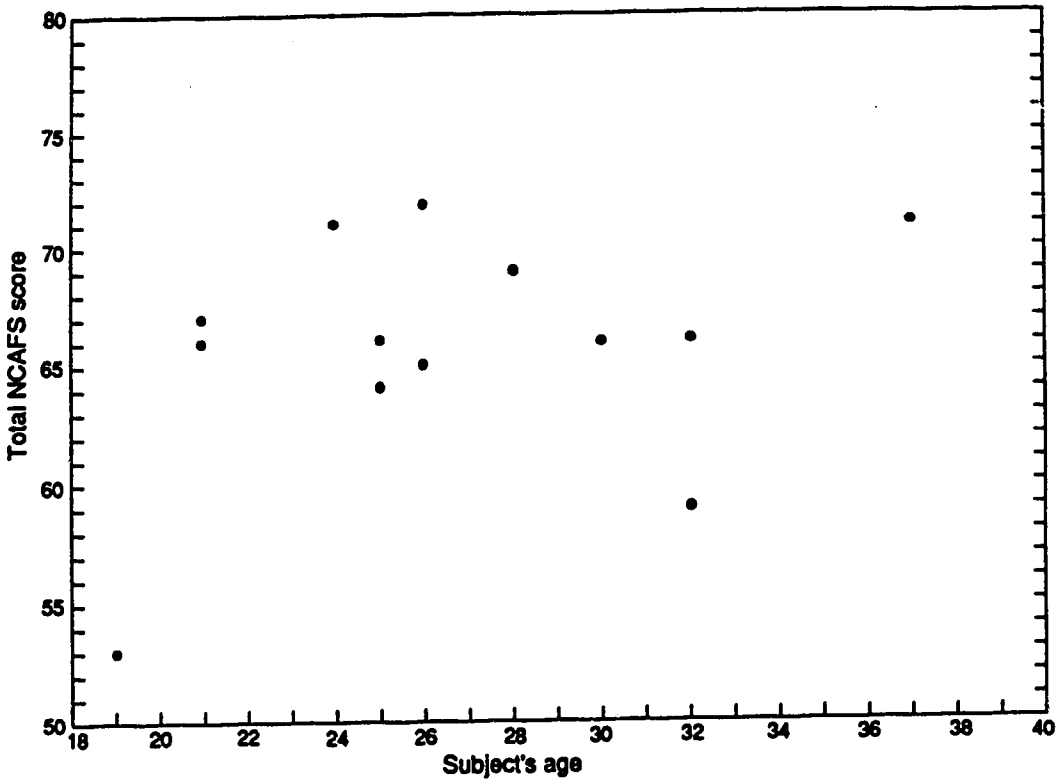
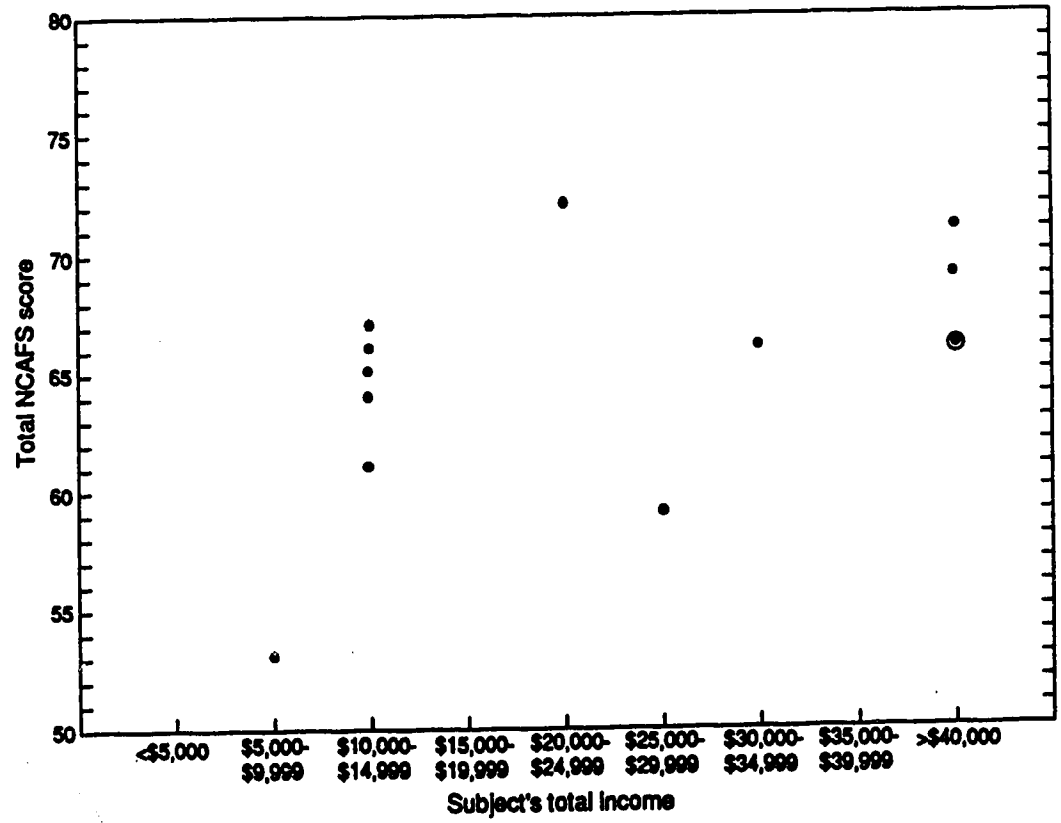



**Figure 6.** Subject's total income and total NCAFS score.



# Chapter V

## Discussion

### Discussion of the NCAFS as a Tool and Observation of Maternal-Infant Interaction as a Measure of Data Collection

Mother-infant interaction has been described as a "behavioural dialogue" which includes the vocalizations as well as "the many 'communicative acts' that mother and infant engage in" (Bakeman & Brown, 1977, p. 195). Examination of the characteristics of this parent-child relationship, as with the NCAFS, has been found to be an effective means to organize and comprehend the variety of factors and patterns associated with child abuse (Bakeman & Brown; Barnard, 1978b, 1978c; Schmidt & Eldridge, 1986). Assessment of maternal-infant interaction can then be used also as a basis for giving direction and support to the mother in her nurturing and ministering activities, in order to prevent adverse effects on children related to maladaptive mothering behaviours, with child abuse being at the extreme end of these behaviours (Barnard, 1978c). Further, "problems severe enough to result in child maltreatment often originate in the earliest period of the developing and consolidating relationship between parent and child" (Schmidt & Eldridge, p. 264). Since the NCAFS is applied within the child's first year of life, it can be used to provide valuable information in identifying patterns of interaction in the early part of the mother-child relationship. This information can be useful in predicting or suggesting the early identification of healthy or maladaptive mother-child interactional processes and allow for prompt intervention where necessary (Barnard, 1978b). Within the current study,

observations occurred in the very early stages of the developing dyadic relationship--when the infant was between 6-to-8-weeks-old. Following the completion of the feeding observation, the researcher reviewed the results with the mother, using this time as an opportunity for teaching ways to enhance the mother-infant relationship. All of the women involved displayed interest in this portion of the home visit, indicating a desire to improve their parenting styles.

Some of the criticisms directed at use of observation as a method of data collection include problems in scoring related to human perceptual error and distorted subject behaviours due to awareness of being observed and thus resulting in subjects "being on their best behaviour". The NCAFS was selected for use in the current study because it is rated objectively rather than subjectively. Also, examiners must be trained in its use and achieve a minimum level of inter-rater reliability in order to use the tool. The scoring sheet also has provisions for examiner comments regarding the observation as well as subject comments related to being observed, the feeding episode, and concerns regarding infant feeding. Five of the 6 identified concerns were related to queries about whether the child was getting enough to eat. One of the woman stated she was concerned because "he cries all the time".

All of the women observed were the infants' mothers and major caregiver. Ninety-two percent of the feeding episodes occurred at the usual feeding time, with 69% being considered a typical feeding. Several women (62%) reported feeling uncomfortable with being observed. However, the related comments indicated that the discomfort led to inhibitions in maternal behaviours which adversely, rather than

positively, influenced the interaction. Comments from the women included: "I usually sing to her but felt uncomfortable with you watching." "I usually talk more." "I talk to him more when it's just us." "I normally talk to him about his day, sing to him, or practice being mamma." Consequently, one would expect that the maternal-interaction scores with this sample might be somewhat higher rather than lower without an observer present. In conclusion, it has been assumed that the observed feeding episode during the current study was a valid representation of a typical dyadic relationship.

Research Question #1--Cycle of Abuse Hypothesis

Of all questionnaire and NCAFS demographic comparisons made the sample differed from the norms on level of education alone, possessing fewer years of education. In developing the NCAFS norms, it was found that the more years of education a mother had, the higher was her average score. Consequently, when comparing the present sample with the population norms, one might expect the sample to have a lower average score on maternal-child interaction. That factor, combined with the fact that the sample consisted of women with a history of childhood physical abuse, who may be expected to continue their parents' style of parenting, might lead one to a stronger expectation that the sample would score lower on the NCAFS in comparison to the norms. However, the findings from this study do not support the cycle of abuse hypothesis. The subjects' interactions with their infants were not significantly different from the population norms for mean total NCAFS score or mean total parent score. However, the sample scored significantly higher on the child related scores. Also, when examining the comparisons between

the sample and norms in relation to the population quartiles, the sample showed no differences except in relation to having higher child scores. A negative correlation between infant crying and maternal-infant interaction was also identified in the study, which one might assume may serve to lower interaction scores in comparison to the norms. However, infant crying and its relationship to NCAFS scores was not measured or discussed in relation to development of the normative data. Consequently, it is impossible to measure its effect within the norms.

Except for higher mean child score, the findings are consistent with many research studies in which it was found that a history of abuse on its own is not a sufficient risk factor to lead to future abusive behaviour (Altemeier et al., 1986; Hall et al., 1979; Kent et al., 1983; Quinton & Rutter, 1985; Rutter et al., 1983). These same researchers felt that other risk factors must co-exist in order to increase the likelihood of poor parenting. Factors found to be good predictors of later abusive behaviours were: a history of childhood abuse or neglect; increased levels of stress as perceived by parents (Altemeier et al., 1979, 1984; Murphy et al., 1985; Sherrod et al., 1984; Vietze et al., 1980); decreased social support from family and friends, and social isolation (Altemeier et al., 1979, 1984; Murphy et al., 1985; Hunter & Kilstrom, 1979; Hunter et al., 1978); and rigid or unrealistic expectations of the child (Murphy et al., 1985; Monaghan & Gilmore, 1986). Other variables included perception of the child as being difficult (Vietze et al., 1980); frequent change of address, emotional problems and lower intellectual ability (Monaghan & Gilmore, 1986); financial problems, marital conflicts, and inadequate child spacing (Hunter & Kilstrom, 1979; Hunter et al., 1978).

An alternative explanation to the lack of significant differences between the sample and norms on maternal-infant interaction is that the sample was self-selected as well as sample size being small. With self-selection a bias may exist in that only women who were more aware or concerned about the possibility of abusing their own children, or who have come to terms with their childhood experiences would have volunteered to participate in the study. This could lead to inflated positive findings. With small samples, differences must be large to be detected. Therefore, there may have been significant differences between the sample and norms, but they were not large enough to be identified.

Comparison of Child-Related Scores: An interesting and unexpected finding is that the sample scored significantly higher on total child score for the NCAFS. This may be due to an artifact since the study was conducted at a time different from when the normative data were developed, the study being undertaken in a different geographic area from where the population norms were derived as well as due to the changeability of infants this age. In a study to assess mother-infant interaction Bakeman and Brown (1977) found that in early infancy, due possibly to the fact that observable infant behaviours at this age are relatively unstable and dependent on their psychological state, that mothers "drive" the dyadic interaction rather than infants. Their findings lend support to the changeability and instability factors of young infants.

A related finding is that although some of the subjects scored in the first quartile for the NCAFS normative data on total score and parent-related score, none of the infants scored below the first

quartile on total child score. However, it has been shown that infants are part of an open social system and must learn how to fully participate within that system. According to Kaye (1982), "the second half of the first year ... is a period when most of the interaction infants engage in is dependent upon higher order structures offered to them by the social system" (p. 194). Prior to this time many infants' behaviours occurring within interactions with others, eg. mothers, may not necessarily be fully dependent on the behaviours of these same others. As a result, younger infants (such as the 6-to-8-week-olds in the sample) may actively participate within interactions which may not be positively stimulating because they have not yet learned to respond accordingly or selectively. The attachment process is still considered to be in the formative stages of its development in the early part of the first year of life and is still felt to possess the potential for improvement with appropriate intervention (Schmidt & Eldridge, 1986).

Research Question #2--Interaction and Infant Crying

Infant crying was found to be negatively and strongly correlated with total NCAFS score, parent score, and child score. These results are supported by research findings which have shown infant characteristics to influence parenting style. In particular, researchers have found that among the factors thought to be related to the phenomenon of child abuse, are child characteristics, particularly infant crying (Call, 1984; Frodi & Lamb, 1980; Kitzinger, 1989; Schmidt & Eldridge, 1986). Call (1984) stated that "a crying infant may be seen as an attacking infant, or as defiant and someone depriving the parent of basic needs, and .... may elicit aggressive assault from the parent"

(p. 188). Babies who are perceived as excessive criers and who are not easily consoled are often regarded as difficult. The issue of infant inconsolability is also one which has been found to have an adverse effect on parental self-esteem (Brazelton, Koslowski, & Main, 1974). Harris (1979) identified a relationship between infant crying and a mother's feelings of powerlessness, frustration, apprehension, nervousness, sadness, and self guilt about her feelings. Brazelton (1962) found that parents often perceive infant crying as an indication of their inabilities to parent adequately, leading to decreased parental self-esteem. Consequently, it can be seen how a crying infant serves as an added stressor for the mother and family and may adversely influence the dyadic relationship.

In this study, two of the women with the lowest total NCAFS scores, indicating poorer quality mother-infant interactions, also described their infants as excessive criers. One might expect that women who had achieved lower scores on the NCAFS and whose babies were also classified as excessive criers would achieve lower scores in relation to the distressed infant during the feeding episode, with distress being defined by Barnard (1978b), in comparison to women whose infants were classified as normal criers. This would be demonstrated by a significant negative relationship between crying and "Response to Distress" score. However, on further examining scores for individual subscales, it was identified that there did not exist a significant correlation between these two variables. This may indicate "that the threshold for the range of child misbehaviors that will elicit punitive upper limit controls is variable rather than fixed. This putative threshold may be controlled by many factors but primarily by emotional

or somatic difficulties (depression, intoxication, illness, etc.)" (Lahey et al., 1984, p. 1069). These other factors were not measured in the current study so their possible influence on subject responses cannot be identified. In this study the subscales which did correlate significantly and negatively with infant crying were subscale 3, Social-emotional growth fostering, subscale 4, Cognitive growth fostering, and subscale 6, Responsiveness to parent. Abusive parents have been found to be lower in socio-emotional growth fostering behaviour (Bee, Disbrow, Johnson-Crowley, & Barnard, cited in Azar et al., 1988). This may indicate that the mothers of crying infants attempt to soothe their infants in order to alleviate their own and the infant's distress. However, due to the stress of infant crying, the interaction may be affected and demonstrated through disinterest, apathy, rough handling, or a negative quality interaction directed toward the infant. Within the NCAFS' subscale, Responsiveness to parent, the infant behaviours examined are related to the parent's behaviours exhibited in subscales 3 and 4. Consequently, it is not surprising that these are the three subscales which were significantly and negatively correlated with infant crying in the current study.

Differences in Education Between the Sample and Norms

The fact that the study sample is significantly different from the NCAFS population on level of education, possessing less education, may be explained by the fact that the subjects were all physically abused in their childhoods. Researchers have found that abused children have a greater tendency toward school and academic difficulties (Lamphear, 1985), have lower intelligence levels and potential delays in language

(Browne & Saqi, 1987), as well as functioning less well than nonabused children (Egeland, Sroufe, & Erikson, 1983; Herrenkohl & Herrenkohl, 1981). Poverty has also been linked to child abuse (Burgess and Draper, 1989; Egeland et al., 1988) and to lower educational achievement. Consequently, it may be due to subjects' abusive childhood experiences that the greater proportion of them (38%) had attained less than high school education than the NCAFS population.

Relationship Between Selected Demographic Variables and Maternal-Infant Interaction

Interaction, Education, and Income. Both of the variables, education and income, are a function of socioeconomic status (SES). When examining the scattergram (see Figure 4 on p. 62), results from this study seem to indicate a curvilinear relationship between total NCAFS score and level of education, and a moderate positive relationship between score and income. Subjects with higher levels of education tended to score higher on the NCAFS, up to 13 to 15 years of education. Subjects with higher incomes tended to achieve higher scores on the NCAFS. The vast majority of researchers exploring the phenomenon of child abuse by comparing abusers and nonabusers match their samples on several variables, including level of education and SES. However, "education is a very powerful variable in terms of influence on parenting, particularly the disciplining aspect of parenting" (Disbrow & Doerr, 1982, p. 56). It is believed that women who have achieved higher levels of education have a greater tendency toward using less restrictive parenting practices, allowing more aggression, and implementing alternative styles of discipline to corporal punishment

such as use of isolation (Illingworth, 1987). Illingworth also cites the Newcastle survey reported in 1974 in which the author identified that within his sample, parental kindness and effectiveness were positively related to SES. In a study to validate previously identified self report measures for the discrimination between abusive and matched control parents, Disbrow and Doerr included the variable "parental education". Their findings indicated a correlation between parent education and child abuse risk status, and harsh handling of children. Subjects with less than high school education resulted in 65% being classified as high risk in comparison to 47% of those who had completed high school, 42% of the group with some college education, and 31% of college graduates. Several researchers have also identified a significant correlation between income and abusive behaviour (Burgess and Draper, 1989; Caplan et al., 1984; Egeland, 1988; Egeland et al., 1988; Herrenkohl et al., 1984; Hunter & Kilstrom, 1979; Hunter et al., 1978; Webster-Stratton, 1985). Consequently, the findings from the current study are consistent with those of other studies which have explored education, income, and/or SES.

The identified inverse relationship between total NCAFS score and 16 to 20 years of education is a confounding finding within the current study. It could be explained as a function of sample size being small. Alternatively, generalized unsupported statements have been made regarding highly educated and intelligent parents' inability to provide quality parenting because of their lack of sympathy, understanding, and love for their children (Illingworth, 1987; Horowitz, Hughes, & Perdue, 1982). Zigler and Lang (1985) report what they have identified as the phenomenon called "superbaby". This phenomenon relates to many parents

who are currently aware of the ability to influence children's development, and, as a result have become involved in attempting to accelerate their children's cognitive development from a very early age by engaging in such programs as reading programs when their children are still infants. Many parents who value education become involved with their children from birth, attempting to instill this same value system into their children. Parents have become much more aware of the developmental value of certain toys and ensure that their children are stimulated rather than just amused. This is a fairly recent phenomenon and has not been widely studied as to its effect on families, children and their cognitive and socio-emotional development. One can hypothesize that this type of parental involvement demonstrates to these children that their parents are interested in them as individuals and believe that they have potential. This may then serve to influence development of positive self-esteem in these children. However, one must also question whether some of these parents have unrealistic expectations of their children which, when not achieved, influence the parents to become disappointed, angry, or blame their children for these failures. Several studies examining parental expectations of children and the effect on parenting style have identified that abusing parents have unrealistic expectations of their children (Azar, Robinson, Hekimian, & Twentyman, 1984; Bousha & Twentyman, 1984; Burgess & Conger, 1978). Since there have not been many published studies examining the effect of higher education or the development of "superbaby", no conclusions can be made, except that this is an area requiring further study.

Interaction and Age. Within this study a moderate positive

relationship was found between interaction score and subject's age. Some professionals theorize that parents' ability to respond appropriately to the demands of childrearing requires their own developmental maturity and success at mastering the developmental tasks of childhood, adolescence and adulthood (Horowitz et al., 1982). With increasing numbers of women choosing to delay parenthood in order to pursue educational, career or personal pursuits, it is assumed that these older mothers have developed their own senses of competence. Consequently, they bring many strengths to the mothering experience (F[illegible]se, 1982). In their study of delayed parenting, Frankel a[illegible]ound "older mothers with established careers to be generally more [illegible]cepting and less conflicted in the parenting role than were younger professional women" (p. 220). It was identified that the older women possessed strengths related to their level of maturity which appeared to be advantageous to their children's development. This study's findings has implications not only for the effect of parents' age on child development, but also on the influence that working has on womens' abilities to mother. In the current study age was not specifically examined as a dependent variable for its influence on maternal-child interaction, nor was it a controlled variable. Consequently, the reasons for delayed parenthood were not explored. Other factors may be interacting to influence the identified outcome. However, this demonstrates the need for further study into the effects of age on parenting ability.

## Characteristics of the Sample

Abusive experiences. There does not appear to be a relationship

between the reported types of abuse experienced and the quality of maternal-infant interaction. Respondents reported various combinations of abusive experiences. Twelve of the respondents reported experiencing both physical and verbal abuse, an unsurprising combination since aggressive behaviour includes both verbal and physical behaviours. However, the researcher was unable do determine if this affected maternal-infant interaction scores in this sample. Severity of childhood abuse was not measured, therefore, its effects on future parenting behaviours could not be determined.

Informal Observations

Based on informal observations and discussions with subjects by the researcher, there appears to be a tendency for the mother-infant dyads who obtained lower scores on the NCAFS to also exhibit several other identified risk factors. None of these women commented on their affective experiences related to being abused and unloved. Nor did they comment on how they hoped to parent their own children. Fraiberg et al. (1975), in a retrospective clinical case study of abusing mothers, found that repression of the associated affective experience of abuse, abandonment, and rejection, lead to an increased susceptibility of the affected individual to repeat abusive types of behaviours with their own children. Other risk factors identified through informal observations and discussions with women, and occurring in varying combinations, included: unstable spousal relationships, lack of positive support systems, low self-esteem, and financial problems. Two of the women with lower NCAFS scores also described their infants as excessive criers. Many of these factors may contribute to increased levels of stress.

According to the ecological model of abuse (Belsky, 1980), all of the above factors place the individual at a higher risk for child abuse. As Gottlieb (1980) stated, "families that are overburdened by the demands of everyday life simply do not have the time or energy to cultivate relationships that support the parental role and/or the family unit" (p. 56). Also, in a study to explore the relationships between social networks, spousal support and women's adjustment to pregnancy and/or postpartum, Tietjen and Bradley (1985) identified that satisfactory spousal support had a strong influence on women's psychosocial adjustment, more so than support from other network members. Egeland, Breitenbucher, and Rosenberg (1981) found that abusing mothers with high levels of life stress achieved lower scores on succorance and higher scores on aggression, anxiety, and "defendence" than a similar group of nonabusing mothers. The abusing mothers were also found to have poorer types of maternal-child interaction, and possessed decreased understanding and awareness of the normal stressors involved with parenting. It is important to note that positive social support has been found to mediate the adverse effects of stress on both mothers' life satisfaction and on infant interactive behaviour (Crnic, Greenberg, Ragozin, Robinson, & Basham, 1983).

Although none of the women were found to be abusive, some of the maternal-infant interactions were of a poorer quality. When applying the ecological model of abuse, that factor combined with the added identified risk factors in their lives at the time of this study appear to indicate that there exists a strong potential for some of these women to become abusive or neglecting parents.

Six subjects specifically commented to the researcher that they

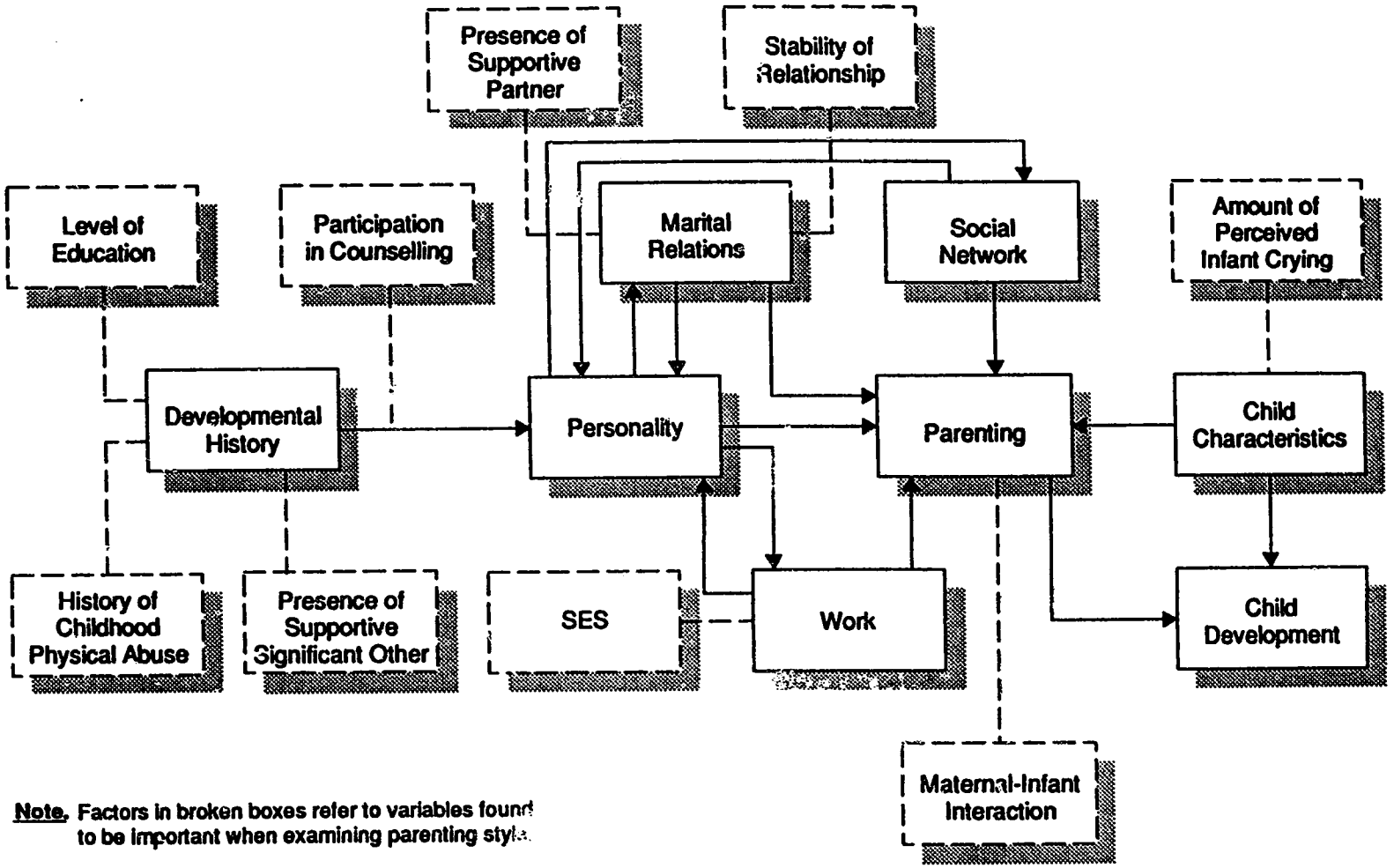
remembered the affective experience associated with having been abused and did not want their children to share these same types of feelings. All of these subjects had also received psychological counselling to assist them to deal with their childhood experiences. The total score on the NCAFS for each of these subjects ranged from 64/76 to 72/76, indicating positive maternal-infant interactions. All of the infants involved in these dyads were perceived by their mothers as "good" babies who never cried. Each of these women also perceived their partners to be positive sources of support to them. When applying the ecological model of abuse to the current data obtained from these subjects, there is support to indicate more positive styles of parenting, without any strong indications for the potential to abuse their children. A very obvious and unfortunate observation of many of these subjects was their distinct concern for the inevitability that they would become abusive solely because they each possessed a history of childhood abuse. This may adversely affect their relationships with their children due to the phenomenon of the self-fulfilling prophecy.

In conclusion, these findings lend support to the need to view the phenomenon of child abuse within a broader conceptual model. The model found to be most applicable by the researcher is Belsky's (1980, 1984) ecological model of abuse. This model has been adapted to include those factors identified in the study as important in assessment of parenting style and the potential for child maltreatment (see Figure 7).

Recruitment of Sample

One of the most salient findings related to the current study is in relation to subject recruitment. It was initially believed that 30

**Figure 7.** An adaptation of the process model of the determinants of parenting (Belsky, 1984, p.84), based on study findings and informal observations.




**Note.** Factors in broken boxes refer to variables found to be important when examining parenting style.

subjects was a realistic number. This was based on other studies in which sample numbers of this size and greater were recruited. However, due to such factors as: the stigma related to societal intolerance of child abuse; the fact that many abused individuals have not yet come to terms with their childhood experiences; the fact that child abuse is related to lower SES, lower education, and increased aggressive behaviours, which affects participation in studies; as well as further restriction of the sample to pregnant woman or mothers with infants less than 6 weeks old; delivery of a healthy term infant; and perhaps to the size of the population of the geographic area, it became apparent that a sample size of 30 was unrealistic within the time frame allotted to the study. Sample recruitment extended over a period of 13 months, and data collection required 18 months to complete. Another factor which emerged as adversely influencing recruitment was the use of a telephone answering machine during the times when the principal researcher was unavailable. Individuals appeared to be reluctant to leave messages, therefore, potential subjects may have been lost. It became apparent that interested individuals required personal contact, particularly with the researcher herself, in order to recruit their participation in the study.

The majority of subjects became aware of the study through advertisements in the newspaper. There was no pattern to responses related to placement of ads within specific sections of newspapers, nor to the newspapers themselves. One factor that occurred just prior to an increased response was media coverage on the problem of child abuse. This may have served to increase public awareness to the phenomenon and to advertisements related to child abuse, leading to increased responses

to the study.

It is interesting to note that a large number of people responding to advertisements had experienced childhood physical abuse but were either male, did not have children, or their children were older than the age required for the study. Some of these individuals had a strong desire to express their feelings and experiences related to having been abused. It became evident that there exists a need for abused individuals to share their experiences, perhaps as a means of dealing with those memories and their effects.

In summary, it can be stated that examining victims of child abuse poses many problems related to recruitment which must be considered before commencing any study. Some of these problems include choice of geographic site, sample size, and reduced accessibility of the target population.

## Conclusion

The majority of mothers in this study demonstrated the ability to break the pattern of maladaptive parenting from one generation to the next, refuting the cycle of abuse hypothesis. Reasons for breaks in transmission can only be postulated and require further investigation. The results of this study demonstrate the tentativeness of findings from retrospective studies focusing on abusing parents. Had this study been focused only on mother-infant dyads with poor interactions and examined the mothers' developmental histories, findings would have been consistent with the cycle of abuse hypothesis. Factors in the study which were associated with maladaptive mother-infant interaction behaviours included excessive infant crying, lower age of mother, lower

levels of income, and less education, all of which lend support to the need to view child abuse within a broader conceptual framework, such as the ecological model. Only the variable, infant crying, was specifically examined in the study. The other findings were identified over and above the research questions. Consequently, they must be interpreted with caution.

Infant crying was identified as a stressor in two of the mother-infant dyads, affecting maternal-infant interaction scores. Consequently, infant crying was found to be strongly and negatively related to maternal-infant interaction. Mothers of excessively crying infants also demonstrated a tendency toward less social-emotional growth fostering and cognitive growth fostering behaviours. Infants from these dyads demonstrated a tendency toward less responsiveness toward their mothers. Consequently, infant crying appears to be an important factor related to parenting style.

Further research should focus on "exception" parents, those who have broken the cycle, and factors which serve to mediate the effects of having been abused. For it is the answer to these questions that may provide us with the key to reducing the incidence of child abuse.

## Limitations

1. Restriction of criteria for history of child abuse to physical abuse as delineated in the Alberta Child Welfare Act (GPA, 1985).

2. Selection bias due to inability to randomly assign subjects to treatment groups and due to volunteers as subjects both for the sample and the NCAFS norms.

3. Reliance on subjective self-reported accounts of childhood

abuse.

4. Restriction of generalization of study findings to the sample since it was completed within a particular geographical area.

5. The sample size was small ($N$ = 13).

6. NCAFS norms used as a comparison were a small subset of the overall norms ($N$ = 147).

7. NCAFS norms were compiled using data collected in a particular region of the United States (19 western states).

## Implications for Nursing

The main outcome of this study is the fact that the cycle of abuse hypothesis is a tentative one which must be considered with caution. Yet, this hypothesis is a prevalent one in society among both professionals and lay people. This leads to labelling affected individuals, which was shown to cause increased levels of anxiety for the women in the current study. This may serve as an added stressor to the already difficult role of parent. Consequently, nurses working with families must consider all of the dynamics involved when examining parental functioning. Using a broad conceptual model such as the ecological model of abuse may assist nurses to assess parenting style. This is particularly important in families in which a parent or both parents have experienced childhood abuse, in order to avoid falsely labelling individuals as abuse prone. For those families in which a parent(s) has experienced childhood abuse and is concerned about the inevitability of repeating the cycle, nurses have a role in reassuring the individual and assisting her/him in examining the parent-child relationship and enhancing it where possible.

Results from the study demonstrated that observations of maternal-child interaction are a valid method of assessing parenting style. There are numerous tools developed for this purpose. Therefore, nurses should review tools available to them and carefully select the one which will provide the best validity, reliability, and cost-effectiveness for their use. The NCAFS was found to meet all of the above requirements for the researcher as well as having population norms available for comparison.

Assessment of maternal-infant interaction during the infant's first 6-to-8-weeks of life was found to provide a valid indicator of parenting style. However, it would be considered advantageous to follow dyads over at least the first year of life in order to determine stability of parenting style over time as well as factors which may influence parenting style.

Infant crying was found to serve as a stressor and cause for concern for affected mothers. Consequently, nurses working with new parents should inquire about infant crying and provide affected families with support and suggestions for dealing with the problem. It is also important that nurses recognize that persistent crying may adversely affect parent-child interaction. Therefore, affected families must be followed over time to determine their coping abilities and parental functioning, with nurses intervening as necessary.

It is important that nurses increase their knowledge base about the phenomenon of child abuse in order that problems can be identified early and affected families assisted to enhance their functioning. Child abuse is a multifactorial problem. Therefore, nurses must coordinate their care with that of other professional agencies so that families

receive optimum care. Consequently, relationships with other professionals must be further developed and enhanced so that health care teams become more of a working reality.

## Implications for Future Research

The most salient issue identified in relation to future research regarding child abuse is the difficulty with recruitment of subjects. Researchers have limited accessibility to this group due to several factors. These include the possible lack of a child abuse registry which has been established long enough to provide a list of potential subjects who are now older. However, despite the existence of an established child abuse registry, ethical issues may become involved to prohibit access to individuals listed. Many affected individuals are not willing to come forth and participate in research studies due possibly to the stigma related to child abuse or to their own personal feelings related to their childhood experiences. Consequently, researchers must carefully consider the geographic site selected, particularly for population size and accessibility of potential subjects. It is also important to recognize that in the current study, personal communication with the researcher was an important variable in recruitment. Consequently, it would be advisable that researchers hire a project director who is available during extended time periods to respond to inquiries about the study.

Variables identified in the current study as requiring further examination relating to child abuse and parenting style include: education; income; age; specific factors related to abusive experiences, such as differential effects of different types of childhood abuse and

severity of abuse on future parenting style; parental self-esteem; parental expectations of the child; effects of counselling on parenting style; effects of the presence of a significant supportive person in childhood; and effects of a stable, supportive partner on parenting style. Further research should focus on "exception" parents, those who have broken the cycle, and factors which serve to mediate the effects of having been abused. For it is the answer to these questions that may provide us with the key to reducing the incidence of child abuse.

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# APPENDIX A

University of Alberta
Faculty of Nursing

Thesis Title: The Relationship Between Maternal Childhood Abuse and Maternal-Infant Interaction

## Background History Interview

*Interviewer to obtain the following information and complete the interview form. This sheet is to be detached from remainder of the form for purposes of confidentiality.*

*Advise participants that they are free to decline answering any of the questions if they so wish.*

Subject's Name: _____

Address: _____

_____

Telephone Number: _____

Participant's Code Number: _____

Participant Code # _____

## Background History Interview

In past research, items such as age, income, education, etc. have been found to be related to styles of parenting. In order to take these items into account, would you please give me the following information. Thank you.

Age: _____years; Date of birth: _____;
Partner's age: _____years;
Marital Status: _____ single (never married/common law)
_____ married
_____ separated
_____ divorced
_____ common law
_____ other: specify _____
Your highest level of education (years):
_____ less than grade 12 (specify grade _____)
_____ grade 12
_____ College or university (specify # of years ___)
_____ other training (specify _____; number of years _____)
Your partner's level of education (years):
_____ less than grade 12 (specify grade _____)
_____ grade 12
_____ College or university (specify # of years ___)
_____ other training (specify _____; number of years _____)

Family income from all sources, before taxes:
_____ under $5,000
_____ $5,000 - $9,999
_____ $10,000 - $14,999
_____ $15,000 - $19,999
_____ $20,000 - $24,999
_____ $25,000 - $29,999
_____ $30,000 - $34,999
_____ $35,000 - $39,999
_____ over $40,000

### Information for Screening Purposes

*If target infant has recently been born:*
When was your baby born? Date: _____
What was your baby's condition after birth?

| | | |
|---|---|---|
| a) Healthy | ____Yes | ____NO |
| b) Minor illness or problem | ____Yes | ____No |
| c) Premature | ____Yes | ____No |
| d) Chronic problem | ____Yes | ____No |
| e) Developmental disability | ____Yes | ____No |
| f) Genetic problem | ____Yes | ____No |

Comments: _____

Did your baby go home from the hospital at the same time you were discharged? ____Yes ____No
If no, explain why: _____

*If subject is currently pregnant:*
When is your expected date of delivery? Date: _____

Childhood Experiences:

1. How were you punished and/or disciplined as a child?
_____
_____
_____

2. What happened in your family when either parent got angry?
_____
_____

3. Were your brothers or sisters disciplined in the same manner you were? _____
_____

4. Did you feel loved? _____
5. Even though your parents disciplined you, did you feel that this was done in an atmosphere of love? _____
6. What did your mother (caregiver) do when she was upset with you? You may choose one, several or none of the following:
   a) Spanked with hand
   b) Told you she didn't love you
   c) Scolded, nagged, yelled
   d) Shamed or ridiculed
   e) Shook or shoved
   f) Withheld a privilege
   g) Explained why you shouldn't act that particular way, reasoned with you
   h) Isolated you
   i) Hit you with something
7. What did your father (father figure) do when he was upset with you?
   a) Spanked with hand
   b) Told you he didn't love you
   c) Scolded, nagged, yelled
   d) Shamed or ridiculed
   e) Withheld a privelege
   f) Shook or shoved
   g) Explained why you shouldn't act that particular way, reasoned with you
   h) Isolated you
   i) Hit you with something
8. In your childhood, did you feel you were:
   a) Emotionally abused ____Yes ____No
   b) Verbally abused ____Yes ____No
   c) Neglected ____Yes ____No
   d) Physically abused ____Yes ____No
   e) Sexually abused ____Yes ____No
9. Does the abuse fit any of the following descriptions?
   a) Serious physical injury which was noticeable on any part of your body? ____Yes ____No

b) The injury that you received was not an accident and was caused by the person(s) placing too much force, or using an object on your body in order to purposely hurt you? ____Yes ____No

c) Did you ever need a doctor's attention because of the injury? ____Yes ____No

10. Was the injury that was left on your body any of the following? You can select one, several, or none of these:

a) a cut
b) a bruise
c) a scrape
d) a broken bone
e) a dislocated bone
f) a sprain
g) bleeding that required medical attention to stop
h) a burn
i) frostbite
j) loss of consciousness
h) loss of the ability of any part of your body to function
i) loss of hair
j) loss of teeth

If yes, please explain in more detail: _____

_____

# APPENDIX B

## Questions For Determination of Infant Crying

*Participants are to respond verbally at the time of the NCAFS assessment.*

1. What is the total amount of time your baby spends crying each day?
   _____ 1 hour or less?
   _____ more than 1 hour, but not more than 3 hours?
   _____ more than 3 hours, but not more than 5 hours?
   _____ more than 5 hours?

2. How many days a week does your infant cry for a total of 3 hours or more?

   _____

(Elliott, 1987, p. 83)

# APPENDIX C

University of Alberta
Faculty of Nursing
Participant's Information Document

Dear Participant:

I am asking new mothers of less than three weeks post partum, or expectant mothers, to be in a study of mothers and their infants, conducted in cooperation with the University of Alberta, Faculty of Nursing. The purpose of this study is to find out how mothers' childhood experiences may affect how they parent their infants or, in other words, to look at ways of parenting from one generation to the next. It is hoped that this study will be valuable in teaching us more about how we learn to parent.

The study has two parts to it. The first part will be a home visit where mothers will be interviewed, which will take about one hour of your time. If you have a partner, information about his age and amount of education will be asked. In the interview you will be asked to talk about your experiences as a child and your parents' ways of parenting. You may refuse to answer any specific question(s). All of your answers will be kept private. Only the researchers will be able to see your answers.

The second part of the study is a home visit when your baby is between six to eight weeks of age, in order to observe you feeding your baby. This will last about two hours. Before this second visit, you will be phoned so that we can set up a time during the day which is best for you for the visit to take place.

If you are willing to be in the study, I can answer any of your questions about the study, have you fill out a consent form, and hold the first interview. Thank you.

Elizabeth White-MacDonald, RN, BScn
Master of Nursing Student
University of Alberta
Faculty of Nursing
435-0879

# APPENDIX D

University of Alberta
Faculty of Nursing
Thesis Title: The Relationship Between Maternal Childhood Abuse and Maternal-Infant Interaction

## Consent Form

Having been asked by Elizabeth White-MacDonald, RN, BScN, of the Faculty of Nursing of the University of Alberta to be in a research project, I have been explained the steps described in the paper called "Participant's Information Document" and given a copy.

I understand what it means to be in this study and that it has two stages.

I understand that my being in this study is completely my choice and that I may refuse to answer any question(s) and/or quit the study at any time, with no problems.

I understand that my answers to the materials used in this study will be kept strictly private except in those cases where there is information about clear danger which is about to happen to a person. Under the Child Welfare Act of Alberta any person who becomes aware of circumstances in which the life or well being of a child is in clear or suspected danger, must let the child protection authorities know about it. I understand that if Elizabeth White-MacDonald must do this, she will talk to me about the situation and what she thinks before any action is undertaken.

I also understand that, except for the interview record which must have my name and address on it so that the observation can be done, on all other records I will be known only by a number and no one except Elizabeth White-MacDonald will have access to the master list matching names and code numbers. All the information from this study will be locked in a drawer for five years after the study is finished. After that time it will be destroyed.

Should I find that discussion of my past is upsetting, Elizabeth White-MacDonald can suggest where I may get help to talk about it further.

I understand that I may make any complaint I might have about the study with the supervisor of the project, Dr. M. Ruth Elliott of the Faculty of Nursing, University of Alberta, 432-6241, or with Dr. M. Wood, Dean of the Faculty of Nursing at 432-6761.

I understand that a summary of the results of this study, after it is finished, will be freely available to me on request to Elizabeth White-MacDonald. I also understand that in order to maintain privacy, my name will not be used in any report.

I agree to be in the study and to be interviewed and allow a researcher to observe me feeding my baby, as described in the Participant's Information Document.

Date_____ Name_____
Signature_____
Witness_____

If you are interested in receiving a copy of the final report of this study, please complete the section below. Thank you.

Address: _____

_____

_____ Postal Code: _____

# APPENDIX E

## Sample Media Advertisement

Are you the mother of a 1 to 3 week old baby, or are you now pregnant? Have you personally experienced physical abuse as a child? Here is your opportunity to participate in a U of A Graduate Nursing study on parenting! For further information about the study please contact 435-0879.

# APPENDIX F

**Appendix G.** Raw Data.

| Subject # | Mother's age | Partner's age | Marital status[a] | Mother's education | Partner's education | Income[b] | Sex of child | NCAFS total scores | Parent's score | Child's score | Subscale 1 Sensitivity to cues | Subscale 2 Response to distress | Subscale 3 Socio-emotional growth fostering | Subscale 4 Cognitive growth fostering | Subscale 5 Infant's clarity of cues | Subscale 6 Responsiveness to parent | Amount of crying[c] | Crying (days per week) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 25 | 27 | 2 | 12 | 09 | 3 | M | 64 | 42 | 22 | 14 | 09 | 11 | 08 | 13 | 09 | 1 | 0 |
| 02 | 26 | 26 | 2 | 12 | 12 | 3 | M | 65 | 42 | 23 | 14 | 10 | 12 | 06 | 14 | 09 | 1 | 0 |
| 03 | 21 | 33 | 2 | 16 | 16 | 9 | F | 66 | 45 | 21 | 15 | 10 | 12 | 08 | 12 | 09 | 1 | 0 |
| 04 | 32 | 32 | 2 | 12 | 16 | 9 | F | 66 | 45 | 21 | 15 | 10 | 11 | 09 | 13 | 08 | 1 | 0 |
| 05 | 32 | 29 | 2 | 11 | 09 | 6 | M | 59 | 40 | 19 | 15 | 10 | 08 | 07 | 13 | 06 | 4 | 7 |
| 06 | 30 | 30 | 2 | 17 | 13 | 7 | M | 66 | 44 | 22 | 14 | 10 | 12 | 08 | 14 | 08 | 1 | 0 |
| 07 | 19 | 18 | 5 | 10 | 08 | 2 | F | 53 | 35 | 18 | 11 | 10 | 10 | 04 | 12 | 06 | 4 | 7 |
| 08 | 28 | 27 | 2 | 12 | 15 | 9 | M | 69 | 45 | 24 | 15 | 10 | 12 | 08 | 15 | 09 | 1 | 0 |
| 09 | 21 | 24 | 5 | 09 | 11 | 3 | F | 67 | 44 | 23 | 14 | 09 | 12 | 09 | 15 | 08 | 1 | 0 |
| 10 | 26 | 29 | 2 | 13 | 13 | 5 | M | 72 | 47 | 25 | 16 | 10 | 14 | 07 | 15 | 10 | 1 | 0 |
| 11 | 24 | 27 | 2 | 11 | 14 | 3 | M | 61 | 39 | 22 | 12 | 09 | 11 | 07 | 13 | 09 | 1 | 0 |
| 12 | 37 | 37 | 3 | 14 | 15 | 9 | F | 71 | 47 | 24 | 16 | 11 | 13 | 07 | 14 | 10 | 1 | 0 |
| 13 | 25 | — | 3 | 10 | — | 3 | M | 66 | 46 | 20 | 14 | 11 | 12 | 09 | 14 | 06 | 1 | 0 |

a – 1: single, 2: married, 3: separated, 4: divorced, 5: common-law.
b – 1: <$5,000; 2: $5,000-$9,999; 3: $10,000-$14,999; 4: $15,000-$19,999; 5: $20,000-$24,999; 6: $25,000-$29,999; 7: $30,000-$34,999; 8: $35,000-$39,999; 9: >$40,000.
c – 1: <1 hr; 2: >1hr <3 hrs; 3: >3 hrs <5 hrs; 4: >5 hrs.