THE UNIVERSITY OF MANITOBA

ADULTS' RESPONSES TO CHILDREN'S BEHAVIORAL CUES ACCORDING TO THE AMOUNT OF CHILD DEVELOPMENT KNOWLEDGE AND CHILD CARE EXPERIENCE

by

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To My Mother

ABSTRACT

It was hypothesized that adult's responses to children's behavioral cues in hypothetical situations would vary with the situation as well as with the amount of Child Development education and child care experience of the adult.

The Adult Responses to Children's Behavioral Cues (ARC-B) was administered to 60 mothers representing females with the most child care experience, 25 senior Child Development students and Early Childhood Education Certificate students representing students with the most child care experience and Child Development education, 72 first year Home Economics students representing students with less Child Development education and no child care experience, and 58 Nonsocial Science students representing students with no Child Development education and no child care experience. Male students and students who were mothers were excluded from the study. The ARC-B (Jacobson, Bigner, Gardner, and Miller, 1980) consists of 15 slides showing hypothetical situations with young children. Responses may be adult-oriented, task-oriented, or child-oriented. The results of 1500 chi square analyses generally supported the hypotheses. In almost all situations the majority of the subjects selected the child-oriented responses. The differences between the groups occurred with the task- and

adult-oriented responses. Mothers selected more task and fewer adult responses than did nonmothers. Similarily, among the students, those with more Child Development education and child care experience less frequently selected the adult-oriented responses. The pattern for task oriented responses was less consistent.

In conclusion, adults did respond differently to the hypothetical behavioral cues given by children and their previous Child Development knowledge and child care experience appeared to be associated with their responses.

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CHAPTER I

INTRODUCTION

The primary importance of the parent-child relationship to the development of personality has been recognized for many years. Since this is the earliest relationship developed in the child's life, the character and quality of this relationship has the potential to influence significantly the development of the child's later interpersonal relationships. Consequently, the importance of the parent for his or her offspring has been a focus for intensive study. Studies of the effect of maternal deprivation at both animal and human level have demonstrated the crucial part that parents play in children's development. Relatively few studies have been done to explore the influence of children on the parents.

Recently, however, there has been a general recognition that the parent-child relationship occurs in a dyadic unit and functions as a social system, and that both parent and child can be viewed as active partners in this mutual relationship. An increasing number of studies has demonstrated that children's characteristics such as state, sex, birth order and activity level can serve as stimuli for parent's reaction toward them (Moss, 1967; Harper, 1971;

Bell, 1971). Although the fundamental importance of the mutuality of parent-child interaction has been accepted by most theorists, much still needs to be done in the exploration and identification of the variables that appear to be associated with this relationship.

The present study was an attempt to examine the parent-child relationship with the view that each member of this dyad contributes to the interaction between them. More specifically, it investigated how adult's responses are affected by children's cues in different hypothetical situations and the amount and type of predisposition. It is hoped that the results of this study provide some empirical evidence upon which to build a more comprehensive picture of the complex process of adult-child interaction. Further, knowledge of this complex process can be used to help parents to be more aware of the interaction of the relationship and possibly contribute to the positiveness of the relationship.

CHAPTER II

REVIEW OF LITERATURE

Theoretical Framework

Historically, the systematic study of socialization has its roots in psychology, sociology and anthropology. Socialization therefore is an extremely broad topic. As far as the present study is concerned, socialization will be viewed as a process by which individuals acquire the knowledge, skills, and dispositions that enable them to participate effectively in social interaction (Brim, 1966). This theoretical approach is based on the observation that human behavior seldom occurs in social isolation. Thus each act is significantly influenced by the behavior of people in the immediate environment. Besides, each individual is an integral part of that environment. Just as the individual is responding to stimuli from people around him, his response also constitutes significant stimuli for those responsible for socializing him (Goslin, 1969). As pointed out by Miller (1969) ". . . both partners in a relationship have to be socialized. Not only must the three-year-old learn to control his aggression more than he did in the previous age level, his mother also must learn to act differently than she did when he was more passive . . ." (p. 497). Socialization, therefore, is never a one way process.

The traditional socialization theories assumed that socialization of the child occurred almost exclusively through the effect of parent upon the child. This assumption is probably based on the observation of the prolonged helplessness state and physical immaturity that the human infant exhibits when compared with the competence of the young of other species. Those traditional socialization theories viewed the child as a passive object constantly being modified by parents and with only potentialities to respond to the information transmitted by parental training. This traditional view of socialization can be found in Baumrind's report (1966). In her paper, Baumrind summarized the findings of twelve studies of parental discipline techniques. She concluded that the behavior and attitudes of offspring were almost totally determined by the adult control. In Brim's (1957) survey of parent-child relations, he found that a great variety of descriptive variables have been employed in the analysis of parental roles and their effect on children's behavior. Only a quarter of the studies concentrated on children. The lack of understanding that children also play an equal and important part in the parent-child relationship thus is self-evident. This approach to socialization has been labeled as the unidirectional model of socialization, since information flows from parent to the child only (Bell, 1968).

More recently, however, most theorists recognize that the unidirectional model of socialization is insufficient to explain the complexities of parent-child relationships. One way to approach this problem is through a conceptualization of socialization as a two-way process. As a social learning theorist, Sears (1957) was among the first to support the view of the importance of the reciprocal relationship in the process of parent-child socialization. In the social learning theory, in any stimulus-response (S-R) sequence, the response of one individual can serve as the stimulus for another. Recognizing the importance of human interaction, Sears pointed out the fact that socialization occurs in a dyadic relationship between the caretaker and child, rather than in a monadic unit. Adaptive behavior and reinforcement in an individual must be studied in terms of actual or anticipated response of another individual. Thus each S-R sequence can be studied with respect to the interrelated behavior of two or more individuals (Maier, 1965). Socialization is thus largely based on the interchange between an adult and a child in which a unit of behavior is at the same time a response for one individual and a stimulus for the other. Socialization, therefore is a process in which both socializer and socializee influence each other significantly.

Another theoretical approach which views

socialization as a two-way process is "role" theory. A social role has been defined as the behavior expected of an individual occupying a given social position. From this standpoint, socialization refers to the process whereby individuals learn to play various social roles necessary for effective participation in the society in accordance with the expectations of others (Goslin, 1969). Brim (1957) suggested the importance of considering the parent-child relationship as a social system in the sense that "two individuals interact with each other on the basis of common expectations about appropriate behavior both for themselves and for other people" (p. 344). Furthermore, in order to achieve the function of the social system, he emphasized that the mutual cooperation and reciprocity in both parent and child is fundamentally essential.

Both the social learning theory and role theory called for the need to study the child's contribution and effect on the parent-child relationship. This model of approach has been termed a bidirectional model of socialization. The present study will follow this theoretical framework in investigation of the children's role in modification of parent's behavior.

The Reciprocal Nature of Parent-Child Interaction

Recent infant research consistently shows that

neonates are endowed with powerful mechanisms which exercise tremendous influence on the caregiver's behavior. The human newborn is more capable of expressing and organizing responses than has been assumed previously, and is not viewed as a passive-receptive object of socialization. Instead, the neonate is viewed as an active participant in the early mother-infant interaction. In fact, newborn babies are equipped with a series of behavioral patterns, which allow normal mother-infant interaction to take place. Human infant is biologically primed to enable him to communicate with other human beings. He has the basic equipment he requires to begin to engage in face to face communication right from birth. This basic equipment (inborn social tools) most often is related to the baby's characteristics. Numerous authors have studied these congenital behavioral patterns and characteristics, and their potential influence on the caretaker's behavior. The behavior patterns and characteristics of the child which are relevant to the study of parent-child interaction are: infant's states, sex, visual behavior, maturation, birth order, early dependent behavior, activity level, safety, and atypical development.

Behavioral State

When observing any young infant one is immediately aware of the various levels of tension and arousal that occur over a short period of time. This observation and judgement are based on cues such as the amount and type of motor activity displayed by the infant (Brown, 1964). The infant's state serves as the reflection of his availability to interact and of his basic needs.

Infant's states are powerful controls over the caregiver's response and he is also able to initiate most of the interaction with his caregiver by means of various states (Korner, 1974). Moss (1967) found in his study that maternal behavior was largely determined by the states of the infant. Among various states that the infant is capable of displaying, there are some with special meanings to his caretaker in terms of the social interaction. They are: state of crying, smiling, and visual alertness.

Crying. Crying is the first social behavior that appears as soon as the infant begins to breathe and is the strongest signal that is associated with the maternal nurturant behavior, therefore, crying alone plays an important part in the early mother-infant interaction. According to Moss (1967) crying functions as a releaser of maternal behavior because it elicits maternal caretaking

behaviors. Korner (1974) also found early mother-infant interaction revolving around the infant's crying, since crying in early life is a reflection of baby's emotional and physical state at any particular momemt. Thus the principle interaction between mother and child centers around comforting and soothing behavior as a response to baby's crying. From the early days on, the infant is capable of vocalizing his needs by crying and it is an effective way attract mother's attention. Since crying is such an aversive stimulus the mother found it difficult to ignore. The fact that the infant is capable of shaping maternal behavior thus is evidenced.

Judging from studies done in the area of early individual difference, it appears that a number of individual differences exist in this early crying behavior (Korner, 1971; 1974; Moss, 1967), and thus elicit different maternal behavior. In Korner's study (1971), she recorded the frequency and duration of 32 healthy, full-term infant's cry. In terms of both frequency and duration, she found significant individual differences among the subjects in crying. Korner inferred from this finding that an irritable infant would initiate more interaction with his mother than a more placid baby. This inference was in conflict with that of Moss (1967) who found that mother tended to respond less with their babies who cried easily and more often, since an

irritable baby is hard to quiet down. This affected the mother's self-perception of how successful she was in her ability to soothe her baby. The lack of positive reinforcement for their responses toward the baby, perhaps resulted in fewer responses.

In summary, the literature indicated that maternal behaviors appeared to be under the control of the child's individual crying behaviors.

Smile. Most mothers find the appearance of smiling response a highly rewarding experience. The smile is credited with not only maintaining but also promoting maternal attachment to the child. The spontaneous smile of the infant appears within two to twelve hours after delivery and apparently carries no social meaning and drops out after the first month (Freedman, 1965). In the second month of life, the infant's smile is consistently associated with human's face-like configuration and the first social smile occurs soon after (Freedman, 1965; Ambrose, 1961). As the infant grows older, the general functions of the smile are highly social and serve as an expression of emotion. Mothers are always fascinated by babies' smile. Parents universally report that with the smile, the baby now becomes a 'person' and takes his place as an individual in the family. He acquires a personality in their eyes. The smile also makes all the caregiver's work worthwhile (Rheingold,

1969).

In one of his papers Bell (1971) pointed out that the effect of smiling not only serves as stimulation and reinforcement for the mother, but also serves the purpose of preventing maternal response decrement. He further suggested that it is possible that a decrement in maternal attachment would occur were it not for general changes in infant behavior, particularly smiles, that engender a feeling of a homeostatic reciprocal relationship. Many of Brazelton's studies have confirmed the notion that the nature of mother-infant interaction is based on a reciprocal rhythmical cycle (Brazelton, Koslowski, and Main, 1974; Brazelton, Tronick, Adamson, Als, and Wise, 1975). He found infants as young as three weeks old were able to modify their communication display in response to the feedback provided by their partners. In one of the studies, Brazelton and his co-workers (1974) observed the face to face interaction of five mothers and their normal full-term four-week-old infants. Throughout their observation sequences of interaction were found each representing a different state of the partner's mutual attentional and affective involvement. A constant cycle of attention was followed by withdrawal of attention. This more likely occurred when the mutual attention built up to a climax, then followed by a decline. Furthermore, they found that the smile of the infants was an effective way to

attract and enhance maternal attention. Thus a homeostatic interaction was achieved.

In conclusion, the studies suggested that the smile plays an important role in the development of positive social interaction. It is the first expression to indicate pleasure, comfort, and friendliness. The smile is considered one of the most important components in building up the maternal and infant behaviors that comprise the reciprocal interaction between them.

Visual alert. Infant's visual alert and pursuit usually carry very special meanings in the process of mother-child interaction. These visual activities are the beginnings of the infant's eye-to-eye contact with his caretaker. As suggested by Als (1977), the infant's visual alert brought a source of pleasure to the mother and elicited particular maternal behaviors such as talking, singing, and smiling toward the baby in order to prolong the baby's state of visual alert. Robson (1967) also pointed out that when the infant is visually fixed on the mother, she is less likely to distance herself from the baby. She may try intensively to build up and enhance this interaction. Furthermore, if a mother failed to provide reinforcement and feedback for this visual interchange with her baby, the development of attachment might be affected and the quality of mother-infant relationship might be altered. This mutual

cycling of newborn alert behavior and maternal affection behavior is, according to Als (1977) specifically human.

There are some unique peculiarities of the visual alert state. Rheingold (1961) suggested that visual contact is at the basis of human socialibility, and she added that visual fixation is the only one that by the end of the second month, is already in the form it will keep throughout life. Thus one of the earliest reciprocal interactions, i.e., looking and being looked at develops very early in life and this process of communication appears in almost every later human relationship. As stated by Robson (1967) "the nature of the eye contact between a mother and her baby seems to cut across all interactional systems and conveys the intimacy or distance characteristic of their relationships as a whole" (p. 18). Greenman (1963) also suggests the cognitive importance of this visual activity since it plays an essential role in the perception of the outside world and in differentiating the self from the non-self. This cognitive importance of visual alert has been supported by Moss (1967). He found that a high level of baby alert was associated with increased experience and contact with the mother and with greater learning opportunities, which would affect the quality of his cognitive organization.

Visual alert plays an important role in the feeding situation. In the 'en face' position, baby is very likely to follow the mother visually. This visual fixation generates positive maternal feelings and is one of the most intensive parts of the early non-verbal interaction (Robson, 1967; Als, 1977). Mothers are usually fascinated by children's visual contact. Both Greenman (1963) and Wolff (1963) noted the pleasure that new mothers took when their infants began to 'see' them. Wolff (1963) also reported that three of the mothers in one of his studies who spent little time with their infants, suddenly began to do so when the infant engaged in eye-contact with them.

In summary, the baby's visual alert is an important factor in forming his earliest human relationships, and as one of the major perceptual organizers, the visual alert state will also influence the baby's cognitive experiences.

Sex

Another congenitally determined characteristic of the infant that appears to have a critical impact on maternal treatment is the sex of the child. Sex of the child is a powerful and yet an important cue to maternal response toward the child. Judging from the literature, there is no doubt that very early in the infant's life, parents treat their children differently according to their sex. A study

done by Thoman, Leiderman, and Olson (1972) showed that primiparous mothers treated their two-day-old female infants differently than primiparous mothers treated their two-day-old male infants. Primiparous mothers with female infants tended to talk and smile more to their infants in the breast feeding situation than did primiparous mothers with male infants. In one of his studies of three-month old infants, Lewis (1972) found differential responses in mothers toward their sons and daughters. The mothers tended to talk more to the girls while they tended to hold the boys closer and longer.

Little is known about how the sex of the child influences different maternal behavior, but some literature suggested that certain behavioral differences in the infant are biologically determined (Korner, 1969, 1974; Moss, 1967). Korner (1969) studied 32, two-to-three day old healthy neonates and recorded the mean hourly rate of spontaneous states, reflex smiles, erection, and rhythmical mouthing in three types of sleep states, namely, regular sleep, irregular sleep and drowse. She found that female infants engaged more frequently in reflex smiles and bursts of rhythmical mouthing, and that the males startled more in all states than did the girls. In a study with thirty children in the first three months of their lives under a naturalistic condition, Moss (1967) found that male babies

slept less and cried more often. He also pointed out that at three month of age, mothers tended to respond less to their more irritable male babies. In order to explain the innate sex-linked differences in behavior, Moss adopted the explanation that males have less well organized physiological reactions and are more vulnerable to aversive conditions than females. On the other hand, the more efficient functioning of the female organism may contribute to their responding more favorably to maternal intervention. Another plausible explanation for this sex difference detectable so shortly after birth is offered by Hamburg and Lunde (1966). They stated that hormones are responsible for the sexual differentiation, and that the hormones influence the baby's central nervous system in such a way that certain sex-linked behaviors will develop later in life. It is not unreasonable therefore to conclude that different maternal treatment to male and female children in part is a response to different congenitally determined sex-linked behaviors.

To sum up the findings in the literature, it appeared that the sex of the child reinforced different maternal responses and mothers in turn also reinforced different behaviors on the basis of the sex of the child. Thus the newborn's sex might in part determine how much and what kind of stimulation he received.

Effect of infant's maturational development on the caregiver.

As the infant gradually matures, his development and level of different functions set the stage for maternal responses. Mothers do not respond uniformly to their children, rather they tend to behave differently according to children's neurophysiological development (Korner, 1974). Moss (1967) compared infant and maternal behaviors of three-weeks-old and three-months-old infants and demonstrated that the behaviors of both mothers and their infants had changed throughout the time interval. The mother's behaviors toward her three-month-old baby were quite different from those toward her baby of three weeks of age. Mothers of the older babies stimulated, imitated, smiled at and talked to their babies more often than did mothers of the younger babies. Thus mother's behavior changed to a large extent in the direction of the maturational change in the infants.

The rapid growth of the young infant and the emergence of new patterns of behavior make the child a more adult-like being. The novelty of these new adult-like behaviors has a great influence on mother's response. In one study done by Korner and Thoman (1972), they examined different interventional techniques and their effect on soothing a crying baby. They found that the interventions entailing vestibular-proprioceptive stimulation,

particularly the motion of being put in an upright position, had the most potent effect since the vestibular system matures early in the baby's life. The effect of these interventions in soothing a baby's cry therefore was largely dependent upon the degree of ontogenetically mature function in the baby.

Therefore, perhaps the best illustration of change in maternal behavior in response to the child's maturational change can be found in studies done on the verbal environment provided by mother to her prelinguistic child. Variability between mothers in their language inputs to their infants was dramatic. Cohen and Beckwith (1976) studied the maternal language with nine-month-old babies in a naturalistic condition. The investigators were able to find that the total frequency of maternal talking and style of talking changed as the baby matured. The investigators pointed out that as the child grew older, maternal positive talking toward the child decreased. However a sharp increase in directive statements had been found. The authors concluded that this was maternal reaction to the infant's increased mobility.

From the indications of the literature, it seems reasonable to conclude that the baby's stage of development is of a great importance in determining the course of mother-child interaction. Mother has to be sensitive to the

maturational changes that occur within certain points of time and her response should be contigent upon the child's signal within this period of time.

Effect of children's ordinal positions on parent-child relationship.

Many studies have indicated that parental reaction to children is also a function of the ordinal position of the child as parents tended to exert more pressure for achievement upon first-born children and that first-born children tended to be more dependent than later borns. The effect of birth order and dependency was investigated by Hilton (1967) who found the task performance of the first-borns were more dependent on direct help and reassurance by their mothers than those of later-borns. Mothers of first-borns were more likely to give more suggestions and initiated the work. They also tended to withdraw love when the child failed in a task. The author concluded that it was maternal behaviors to first-borns that led to the child's dependency. Furthermore, mothers of first-borns undermined the child's opportunities to develop reference points of internal evaluation. Without these internal reference points, the first-born child had to depend on mother's attitude. Therefore it is not surprising to find first-borns have greater needs for affiliation. Using a constructed situation with mothers supervising activities with their

children, Rothbart (1967) found mothers of first-borns showed more anxiety regarding the achievement of their children. They were more intrusive into the activities and offered more help to their first-born children. She also found that in a task situation, first-borns were more likely to ask and depend on the help of their mothers. However, she found no difference in the mother's overt expression of warmth and affection to the first-born and second-born child.

In summarizing the studies, significant differences in maternal treatment toward children according to their ordinal position have been found. Ordinal position in fact partly decides the nature and amount of mother-child interaction.

Effect of children's dependent behavior on parental attitude.

Children's dependent behavior starts very early in life and it plays an important part in determining the child's interaction with his environment and the people around him. It also has a strong impact upon his parents' reaction toward him. Parents tend to modify their behavior according to the dependency behaviors displayed by their children. In order to explore the relationship between children's dependent or independent behavior and its

influence upon adult's responses, Osofsky (1971) utilized a structured laboratory situation and role playing children. These children were trained to behave differently, i.e. behaved dependently, independently and stubbornly in a series of different task performance and adult teaching situations. These children were then randomly assigned to an adult. The results showed that adult responses differed across the three situations in response to differences in the children's behaviors. When the child acted stubbornly, the adult tended to reinforce dependent behavior. This might be because the child's stubborn behavior influenced adult's desire for compliance in the child in the form of dependent behaviors. When the child behaved dependently, the adult did not reinforce either dependent or independent behaviors. But adult reinforced the independent behavior when the child acted independently. In this study, the author was able to rule out the possibility of the adult's own personality influencing the development of dependent, independent or stubborn behavior in the child. Since the adult had no control over the kind of behavior manifested by the child, the author was able to demonstrate clearly that parental attitude changed according to children's behaviors.

Other studies have attempted to examine different parental responses toward children's dependent behaviors as a function of their perception of children's

characteristics, such as age, sex and other characteristics. Age has been found to be a powerful factor which determines parent's reaction toward this behavior. Parents tend to be more tolerant of young children's dependent behaviors than that of older children (Heathers, 1955). Sex of the children is also an important element in the determination of parental reaction toward children's dependent behavior. Dependent behaviors are more acceptable for females than for males (Osofsky, 1971; Graves, 1978).

Evidence has been presented demonstrating that children's behavioral change determines adult's behavior toward them, and parents do not have fixed techniques for socializing their children. Rather, parental reaction is largely determined by the particular behavior displayed by the child and the circumstances in which particular behavior takes place.

Effect of children's activity level on the caregiver.

Various studies have suggested that children's activity level has a strong effect on shaping the nature and amount of maternal behavior in an interactive system. This notion has been supported by Yarrow and Goodwin (1965). They pointed out that from early years of mother-child interaction, the child's activity level will decide both quality and quantity aspects of maternal responses. They

suggested that infants with higher level of activity and responses may be held more and talked to more and given more achievement stimulation. This was illustrated in the study done by Chavez, Martinez, and Yaschine (1975). In an attempt to study the relationship of nutritional status of children and their mothers, Chavez and others found children in a poor rural community with better nutritional status showed an increase in activity level. As noted by Chavez and his co-workers, better nourished children demonstrated more complex behavior, were more expressive and more demanding which in turn increased the interaction with their mothers. They therefore tended to receive a greater variety of stimuli than more passive children. Mothers with better nourished children tended to speak more frequently to their children, felt prouder of their children, and gave progressively more attention and rewards to their children. The increased physical activity of the better nourished children implied a higher level of demands on the mother, which require more and more differentiated responses from the mother. Furthermore, fathers of the well nourished children praised and rewarded their children more often. The authors concluded the study by suggesting that, "These physiological characteristics are reflected in a more demanding child, who motivates his mother and establishes a higher level of interaction. Not only does he make more demands and receives more replies to his urgings, but his

relationships are raised to a different dimension in a feedback system that multiplies with time" (p. 1582).

In conclusion, the empirical evidence has strongly supported the view of the reciprocal nature of parent-child interaction and the view that neither the child nor his parent is the sole determinant of their relationship. Rather, it is a result of the mutual influence of both parent's and child's characteristics and behaviors.

Effect of child's atypical development on caregiver

The literature indicated that children's atypical behavior and development can induce different mother-child interaction than the interaction that takes place between the normal child and his mother.

The characteristics of atypical children plus the uncertainty that parents often feel when confronted with the knowledge of their children's handicaps can lead to the interference of normal reciprocal parent-child interaction. Greenberg (1971) found the less responsiveness or the deviant behavior manifested by atypical infants led to a disruption of the mutually reinforcing mother-child interaction. In this study, the author compared the interaction between atypical infants and their mothers with that of normal mother-infant pairs. Mothers of atypical infants showed stereotyped or fixed expression, restrained

gross body movements and little animated behavior relating to their children. The author proposed that the inconsistent responses of the atypical infants failed to provide incentive value or motivation for adequate 'mothering behavior'.

Kogan, Wimberger, and Bobbitt (1969) demonstrated that the mutual two-way interaction between the hanicapped child and his mother was different from that of the normal child and his mother. Utilizing direct observational techniques the authors examined the interaction of the mother-child pairs of six mentally retarded children between age three and seven years and ten nonclinic mother and child pairs. They found striking differences between the interaction of normal mother-child pairs and mentally retarded mother-child pairs. Mothers of mentally retarded children displayed more hostile or unfriendly behaviors toward their children. They also tended to give more direct orders to their retarded children. Their interaction pattern was more idiosyncratic, i.e., the retardates and their mothers did nothing together more often than did the normal mother-child pairs. The retarded children displayed fewer expressive behaviors and requested more guidance and help. In another study Kogan and Tyler (1973) studied the mother-child interaction with physically handicapped children, and found that mothers of physically handicapped children

displayed more controlled and overprotective behaviors in their responses to their children than did mothers with normal children. The authors suggested that this different interactional pattern was in part a response to the more passive and less involvement behavior that physically handicapped children engaged in.

Maternal perception of their babies' characteristics appears to be an important factor in motivating mother's 'mothering' behavior toward their babies. Studies have indicated that low birth weight children have more physical, behavioral and psychological problems than normal children (Wiener, 1962; Caputo and Mandell, 1970). Examining the relationship between infant's birth weight and its effect upon maternal behavior, Powell (1974) noted that mothers of low birth weight babies did not improve their later maternal behavior despite their opportunities to establish a relatively higher contact rate very early with their newborns. On the other hand, mothers with healthier and larger babies tended to handle them more often.

It does appear, therefore, that since mother's behavior is part of the reciprocal interaction with their children, the inconsistent and deviant maternal behavior toward her child may be seen partly as the failure of children to produce sufficient reinforcement to elicit adequate maternal behavior.

Effect of concern for children's safety on caregiver's behavior

As children grow older, the change in locomotion skills and the development of other new skills lead children to act more upon the environment, but they also try to discover how the environment acts upon them (Bigner, 1979). Very often the child's increased activities can lead to dangerous situations. At this time, safety becomes an increased concern of the parents. In response to children's endless exploration, parents usually rearrange their home in order to make it 'child-proof' and allow them to explore freely. Many protective measures are taken by parents to ensure their children's safety. Parents recognize the need for children to explore and experience objects and things, so they organize their child-care behavior in response to this need and provide a safe environment for them (Bigner, 1979).

Summary

The growing body of literature has thus demonstrated that the traditional concept that parent-child interaction takes place solely through the characteristics of the parent which influence the child is perhaps too limited and does not take into account the important part children play in shaping adult's behavior. As pointed out by Bigner (1979), a

growing, developing child does not present the parent with a stable continually consistent behavioral pattern over time. The changes that occur within children force them to organize their behavior into more complex patterns and effect corresponding changes in parents' behavior. Recently, many empirical studies have started to take into consideration children's contribution to the parent-child interaction. As Yarrow and Waxler (1971) stated, a gradual recognition of the importance of identifying systematically the part children play in the development of parent-child relationship has taken place. A considerable number of studies have concentrated on exploring the phenomenon of children's innate characteristics and their effect upon caregiver's responses. However, only a few studies have been done on how other variables affect adults interpretation of children's behavioral cues in different situations, in other words how children's behavior in different situations calls out different adults' responses.

Effect of Children's Behavioral Cues in Different Circumstances on the Caregiver's Response

As far as the investigator could determine, there were only two studies that dealt directly with this variable. In their attempt to relate the changes in parental influencing techniques based on parent-child interaction, Marwell and Schmitt (1967) compared both a married parent

sample and an unmarried female collegiate sample regarding their differences in response to a hypothetical situation of a child who had a poor academic performance and needed to improve. The results of this study revealed significant differences between the two samples in terms of the influencing techniques that they would use in the hypothetical situation. Experienced mothers tended to use those techniques which involved positive support to the child such as reasoning, reward, appeal to the child's emotion (love-oriented techniques), and techniques clearly involving nonphysical punishment such as threatening and aversive stimulation. These nonphysical punishment techniques appeared more effective if they were directly administered to a specified behavior. The college women tended to use more negatively oriented techniques. These techniques suggested disappointment, undesirable or obligation situations to the child. Mothers were also likely to use active techniques, i.e., techniques involving the direct manipulation of consequences to a greater extent than the female students. In other words, the women who had experience in raising children tended to be more effective in training children and at the same time were more concerned about their children's well being.

Jacobson, Bigner, Gardner, and Miller (1980) followed the same line of thinking as did Marwell and

Schmitt. They adapted the experience hypothesis and studied the different responses of 81 mothers from four suburban areas in Colorado and 390 college female students in the same geographic area. Among the 81 mothers, 49 of them were married and 32 were either single, divorced, separated, or widowed. Among the students 24 of them were married. They wanted samples which differed in the degree of child care experience. The authors took marital status as a rough index of adult experience with children. They also assumed that college students and single mothers may have less direct contact with children, since student status usually implied little direct contact with children and single mothers may rely on child care services to a greater extent. The comparisons were made of both student versus parent and single versus married. In order to test adult's different responses to child's behavioral cues in different circumstances, two items were selected in order to simulate 2 hypothetical behavioral settings: the danger situation in which the child's well-being is threatened; and the nondanger situation in which the child's well-being is not threatened. The researchers assumed that most adults would respond quite differently if they perceived a child to be in imminent physical danger. The investigators' experience hypothesis was that mothers from intact families would be the most sensitive to children's well-being in both non-danger and danger situations. The results of this study

clearly demonstrated that children indeed modified adult's response toward them in different situations. The findings also supported the experience hypothesis. The authors found in the non-danger settings, the predominant adult response was concerning the child's welfare and development regardless of the subjects marital status or mother versus student. Among mothers, 97 percent single mothers and 94 percent married mothers were 'Child' oriented in response. Only 4 percent chose the 'Adult' oriented response, i.e. assertion of adult power or control over the child. And 2 percent chose the 'Task' response which is characterized by immediate problem solution. No single mothers responded to 'Adult' choice, while 3 percent chose the 'Task' response. Among students, all the married students were Child-oriented as was 96 percent of the single students. Three percent of the single students chose the 'Adult' response and one percent were 'Task' oriented.

It was in the adults' responses to the child in a danger setting that the authors were able to find statistically significant ($<.05$) differences between the mothers' and the students' responses. In the danger situation, adults responses became more 'Task' and 'Adult' oriented in contrast to the predominant adult response of 'Child'-oriented in the nondanger situation. In the danger setting, 57 percent of the married and 67 percent of the

single mothers gave the 'Child' response. No single mothers and 14 percent of the married mothers chose the 'Adult' response while 29 percent of the married mothers and 33 percent of the single mothers were 'Task' oriented in this situation. Among students, 71 percent of both married and single students were 'Child' oriented, 17 percent of the married students and 6 percent of the single students gave 'Adult' responses. The 'Task' response was given by 13 percent of married and by 23 of the single students. The authors concluded that when the situation contained no threatening elements to a child's welfare all adults showed more concern about the child's development and learning. However, when in a threatening situation, the adult tended to be more task oriented. In comparing the danger-setting results by combining single and married mothers, 31 percent of them were 'Task' oriented whereas only 18 percent of the students regardless of their marital status were 'Task' oriented. Therefore, it was the mothers who tended to be more concerned with the child's well-being. The authors concluded their report by stating that "the more experience the caregiver has with children, the more sensitive she or he is to potential threatening child-related events " (1980).

With regard to marital status, the findings of this study seemed in conflict with the authors assumption that

mothers from intact families should be more sensitive in response to children's behavioral cues. However, the results showed it was the single mothers who were more 'Task' oriented in a threatening situation. This may reflect the fact that the single mother has to assume both parental roles without the support of the other spouse, and therefore may actually be an increase in the direct contact she has with her children. Perhaps she becomes, therefore, more sensitive to children's well-being in both danger and nondanger settings.

The Importance of Caregiver's Experience in Reading Children's Behavioral Cues

In reading and interpreting children's behavioral cues accurately, the experience of the caretaker is likely to play a crucial role. Researchers have demonstrated that increased exposure to the young can enhance the parent's sensitivity and efficiency of response to offsprings' relevant cues (Harper, 1971).

Thoman, Turner, Leiderman, and Barnett (1970) studied the different feeding behaviors exhibited by primiparous and multiparous mothers while feeding their newborns. In the first of the series of studies, the authors were able to find a significantly different feeding behavior displayed by the primiparous and multiparous mothers. The

primiparous mothers showed more persistent, less certainty and effective behavior in their task. The inexperienced mother was more passive in her feeding behaviors, whereas the experienced mother tended to stimulate the baby's sucking behavior. In other words, the experienced mothers were more effective in their feeding and more sensitive to children's sucking behavior cues. The authors concluded that their results reflected qualitative differences in the behavior of experienced and inexperienced mothers' feeding their newborns, which in turn influence the interaction between mother and child. In the second study in the series, Thoman, Barnett, and Leiderman (1971) investigated the effects of maternal parity on bottle feeding behaviors. They found the nurses were the ones that were most able to respond to the individual cues provided by the infants. Furthermore, multiparous mothers responded to their infants more nearly like the nurses than did primiparous mothers. They also noted that infants did bring to the feeding situation measurable behavioral cues. The sensitivity of the caregiver in reading these cues would establish a different interaction pattern between the child and the caregiver. Thus it is not unreasonable to infer that social interaction between a more experienced caregiver and the child would be facilitated. It was found by Thoman, Leiderman, and Olson (1972) that mother and infant differ in their breast-feeding interaction also as a function of the mother's parity. For

example, the primiparous mothers engaged in behaviors such as greater number of changes in activity which, in fact, interfered with the feeding process. The inconsistency on the part of the inexperienced mothers failed to match the infants' behavioral cues. The findings of all these studies illustrated that in the feeding situation, the inexperienced mothers were less capable of responding effectively to their infants' cues and less able to provide the interactive mesh more apparent in the multiparous mother-infant pairs. Thus the sensitivity of the caretaker to read children's behavioral cues, and the timing to dovetail are largely dependent upon the past experience the caretaker has in child caring situations.

The effect and nature of the infant's cry provides another example of how the past experience of caregiver may affect his response to child. In the study done by Wasz-Hockert, Partanen, Vuorenkoski, Valanne, and Michelsson (1964) it was suggested that those who had more experience with children (parents, nurses, and pediatricians) were more sensitive and better able to identify the babies' hunger, pain, pleasure and birth cry than were inexperienced adults. This sensitivity of caretaker in response to infants' vocalization in the preverbal stage was found most significant in their ability to distinguish the babies' hunger cry. Bernal (1972) also compared primiparous and

multiparous mothers' response to their babies cry. She found that multiparous mothers responded more quickly to their babies crying than did the primiparous mothers.

The differences in maternal training behavior toward first and later-born children was studied by Hilton (1967). The author examined mother's training behavior in children's task performance in either a success or failure condition and children's performance in both of these situations. The mother-child pairs included twenty only children, twenty first borns, and twenty later borns. The researcher pointed out that mothers of first borns displayed more inconsistencies in reading the children's behavioral cues. They showed a high degree of interference in response to their children's performance. Furthermore, they tended to be more extreme in their demonstrations of affection. Mothers of first borns exhibited a higher incidence of demonstrative love when their children were doing well, and a significant decrement of demonstrative love when the children were failing. In contrast, mothers of later borns were more consistent in training their children and appeared to be less affected by the child's performance. In summarizing the findings, Hilton pointed out that the inexperience of the first borns' mothers could account for the greater inconsistency, higher level of interference and greater extremes in their interaction with their children. Since the

mother of a first born had less personal experience, she might also be more susceptible to outside influence.

In judging from the literature, it is not unreasonable to conclude that the more experience a caregiver has, the more likely she is to be sensitive in reading children's behavioral cues and more likely to respond contingent upon the children's particular cues in a particular context. Thus the sensitivity of the caregiver is more likely to give the child a sense of competence in mastering his environment.

The Importance of Caregiver's Knowledge in Reading Children's Behavioral Cues

Individual's knowledge in Child Development is also a relevant factor that might have significant impact upon one's perception and interpretation of children's needs. However, as far as the researcher could determine, no empirical evidence could be found in regard to formal Child Development training and its effect on students understanding about children. Nevertheless literature has emphasized the importance of parent education and its tremendous influence on the effectiveness of child rearing. The gradual increased demand of parent education by young parents can be viewed as the result of rapid social change. As remarked by Whiting (1974) the growth of parent education

was due to factors such as the more geographic and social mobility of today's young couples, and thus made the transmission of child care knowledge from older generation to younger generation almost impossible. Further, many of the young parents have had no first hand experience in caring for infants and young children, thus putting them in a double jeopardy position - with no one to teach them and with no previous experience. Also as pointed out by Dossin-Shanahan and Bradley-Johnson (1980) parenting involves many complex skills and learning is essential for the development of these skills. Many serious social problems reflect parents today need more outside help than before. In their survey study, Dossin-Shanahan and her coworker reported that 89.9 percent of the 296 mothers participated in the study expressed an interest in broadening their knowledge in child rearing. Furthermore, overwhelmingly, mothers regardless of age, number of previous children, social position, or occupation felt that formal educational training in parenting was essential for both male and female. The importance of formal knowledge in the related areas therefore is generally recognized by the public.

Literature also examined the effects of Parent Effectiveness Training (P.E.T.) on attitudes about child rearing. Mitchell and McManis (1977) studied changes in authoritarian attitude in 13 women who received standard

intensive P.E.T., 13 who only read the P.E.T. book, and 15 who had neither. They found those who received P.E.T. regardless of their parental status showed a remarkable reduction in their authoritarian attitude, while in the book reading group, significant attitude change was only shown in parents. No such effect could be detected in the control group. Overall, parents showed greater attitude change than nonparents. In conclusion, the investigators pointed out attitude change could be facilitated when concepts of P.E.T. combined with individual's relevent background experiences and lack of such experiences greatly reduced such effect. Knowledge through reading by parents could produce similar effects that approximate those for nonparents who received P.E.T. The importance of knowledge and experience thus is self-evident. P.E.T. is by no means identical to the formal training in Child Development in the Universities. However, both of them have the same purpose to broaden adult's knowledge in this area to achieve a greater understanding about children.

Summary

A review of the relevant literature indicates that many parental behaviors appear to be under the control of the stimulation and influencing conditions provided by children's behavioral patterns and characteristics. The particular context in which a behavior takes place and the

amount of child care experience and knowledge seem to be most important factors in determining how adults interpret children's cues. Judging from the literature, this represents a significant and yet under-researched area. A need for much more elaborated research concerning the specific ways in which parents are influenced by children is strongly suggested.

Statement of the Problem

The present study was an attempt to replicate the study done by Jacobson and his co-workers (1980) by investigating the role of children's behavioral cues in the hypothetical situations portrayed in slides as determinants of adults' responses. The sample in the present study was extended to cover mothers of intact families as well as university students with varying amounts of Child Development knowledge and experience. The investigator proposed the experience hypothesis, that those who had more experience with an intimate knowledge of children in caregiving situations would be more sensitive to children's behavioral cues presented in the slides.

Hypotheses

The following hypotheses were developed for the present study:

1. Mothers will respond to children's behavioral cues in the hypothetical situations differently than non-mothers.
2. Students with knowledge in Child Development will respond to children's behavioral cues in the hypothetical situations differently than students with little or no knowledge in Child Development.
3. Students with experience in child care will respond to children's behavioral cues in the hypothetical situations differently than will students with little or no experience in child care.
4. Mothers with formal knowledge in Child Development will respond to children's behavioral cues in the hypothetical situations differently than will mothers with little or no formal knowledge in Child Development.

Independent variables. The independent variables were:

1. Experience in the care of young children, as gained by mothers and by students in practicum courses, student teachers, elder siblings, baby sitters, camp or day care center or play ground workers, volunteers, music and dance teachers, and other related experience.
2. Knowledge: as measured by the number of formal courses

in Child or Human Development and related subjects.

Dependent variables. Type of response to hypothetical situations on the Adult Responses to Children's Behavior (ARC-B). The response may be child-, task-, or adult-oriented.

Definitions

Certain terms were operationally defined as follows:

1. Children's behavioral cues: children's behaviors take place in a particular circumstance which is perceived and interpreted by adults as stimuli to their own behaviors.
2. Danger situation: a situation in which the child's well-being and physical safety are threatened either by the consequence of one's own behavior, other people's behavior or by the features of a particular environment.
3. Students with knowledge in Child Development: students who have taken at least 2 courses in Child or Human Development and other related courses.
4. Students with no knowledge in Child Development: students who have not taken any courses in Child or Human Development or other related courses.
5. Students with experience in child care: students who have at least some direct contact with young children as holding part-time or summer jobs or working with young children in both laboratory and/or in the community for

at least a full term. Students who work with young children as student teachers for at least a full term are also considered as students with experience in child care.

6. Students with no experience in child care: students who report to have no such experience with young children at all.

7. Mothers with knowledge in Child Development: mothers who have taken at least 2 courses in Child or Human Development and other related areas.

8. Mothers with no knowledge in Child Development: mothers who report to have no formal university courses in Child or Human Development or other related areas.

CHAPTER III

METHOD

Samples

Mothers. The sample of mothers was obtained from the following sources: 1. University of Manitoba, Faculty of Home Economics Nursery School and Infant Laboratory. 2. University of Manitoba, Faculty of Education Nursery School. The directors of the centers were approached for permission to contact the mothers. A general description of the research was explained to the mothers. Subjects who indicated a willingness to participate were contacted individually by telephone (See Appendix A.) and an appointment was made. A total of sixty mothers were included in this study.

Mothers were the ones assumed to have no formal educational training in Child Development, but to have experience in caring for their own children.

Students. The sample of the university students was obtained from the University of Manitoba, Faculties of Home Economics, Education and Architecture. Subjects with the most formal education and experience in Child Development were the third and fourth year Human Development major students and Early Childhood Education Certificate students.

These subjects were expected to have numerous courses in Child Development, Human Development, Developmental Psychology and other related courses plus two practicum courses in working with young children or direct contact with children as student teachers. They were designated as Senior Child Development (SCD) students. Subjects who had knowledge but with no experience in child care were the first year Home Economics (FYHE) students. They were expected to have at least two courses in Human Development or Psychology, but no practical contact with children, i.e. no experience in child care in the laboratory situation. Subjects likely to have had no formal training and with no experience in child care were the students from first year Interior Design, whose first year program required no course work in the areas of Child Development, Human Development or other psychology courses. Therefore, they were expected to have no formal education training in Child Development. They also were expected to have little working experience involving child care. They were designated as Nonsocial Science students (NSS).

Data collected provided information regarding child care experience (camp, play-ground, child care center, baby sitting, volunteer work or caring for younger siblings) and education in Child Development, so that these factors were statistically partialed out when subjects with these

characteristics were included in groups not expected to have them.

A total of 154 students were approached. Male students and those who were mothers were excluded from the student samples. A total of 142 students thus were included in the final analyses. The instructors of the university students were contacted first for their agreements to carry out the study either in a class situation or by individual student. The general aspect of the research was explained verbally by the investigator, and all students were clearly informed that participation was voluntary (See Appendix B.)

Instrument

In order to detect how adults' responses were affected by children's cues, Jacobson and his colleagues (1980) developed a Scale of Adult Responses to Children's Behavior (ARC-B). The ARC-B Scale involved an audio-visual presentation to the subjects of a series of 15 audio-visual items which protrayed a young child in hypothetical behavior situations calling for cargiver's response. An adult response sheet was available for each subject (See Appendix C.) On the response sheet, the three primary responses represented three different orientations toward children, namely 'Adult' orientation, 'Task' orientation, and 'Child' orientation. The narrative accompanying each of the

hypothetical situations was presented simultaneously with the slides (See Appendix D.) After presenting each audio-visual item, a ten-second interval was introduced. The subjects were asked to make an initial choice response regarding the audio-visual stimulus. Information on parental status, experience in child care, education, ordinal position in the family, and age of children was also included on the response sheet. Besides, the subjects were required to describe their perception of being good and bad parents and child on a separate sheet. However, this was part of another study, therefore, was not included in the statistical analyses of the present study.

The ARC-B was simple in design and has been found to be reasonably reliable and valid. The instrument was developed as part of an ongoing research project on the development of social competencies in children for the purpose of testing directly how adults were affected by selected childhood situations and it was modified by using ten samples of university undergraduate students, graduate students and parents. The factor analyses of the initial sample data and the subsequent tests have validated the instrument. The mean intercorrelation coefficient between all samples was .05, indicating a generally valid instrument (Jacobson, et al 1980). Also the ARC-B was economical to administer, it required about 15 to 20 minutes to complete.

CHAPTER IV

RESULTS

The chi square, a nonparametric statistical technique was applied to test the relationship between the amount of adult's knowledge and experience and her response to children's behavioral cues in the hypothetical situations. A probability level of .05 was considered significant. Since the chi square test requires that expected frequencies in each cell should not be too small, when an analysis contained one or more cells with expected frequencies less than 1, the chi square statistic was not administered (Siegel, 1956). Yate's Corrention for the Contiunity was used when the degree of freedom was equal to 1. Fisher's Exact test was conducted when the number of subjects included in the analyses was less than 20.

The chi square statistic was the statistic administered in the Colorado study. In addition, in the Colorado study only two slides were chosen for statistical analysis from the entire ARC-B, namely, a danger and a nondanger situation (Jacobson, 1980). Prior to examining the total data of the present study, the data obtained for the danger and nondanger situations were compared to the results reported from the Colorado study.

Comparison of Colorado and Winnipeg Studies

For the purpose of comparison, the three student groups of the present study were combined as a student group in general.

Table 1 illustrates for the Colorado study a significant difference between the mothers' and the students' responses in the danger situation. Note that in both groups, the majority of the respondents selected the child-oriented responses. However, more mothers tended to select the task-oriented responses and fewer selected the adult-oriented responses than did the students. In the nondanger situation, overwhelmingly, more subjects in both groups made a child-oriented response. Only a few subjects selected the non-child-oriented responses. In the Winnipeg study, no significant difference was found between the mothers and the students in either the danger or nondanger situation. There was however, a similar direction of response to that of the Colorado study.

In order to detect if there was any difference between the Colorado and the Winnipeg studies in the proportion of subjects responding to adult, task or child orientation, a proportional analysis using the chi square statistic was made. Results indicated no significant difference in the proportion of mothers responding to adult,

Table 1

Chi Square Analysis of Mothers' and Students' Responses to Children's Behavioral Cues in the Hypothetical Danger and Nondanger Situations

Geographic Location	Situation	Mothers % (N=81) Adult	Task	Child	Students % (N=390) Adult	Task	Child	$\chi^2(2)$	p
Colorado	Danger	7.0	31.0	62.0	11.5	18.0	71.0	7.67	.05
	Nondanger	2.0	2.5	95.5	1.5	0.5	98.0	3.39	.20
		Mothers % (N=60)			Students % (N=142)				
Winnipeg	Danger	1.7	25.0	73.3	10.6	29.1	60.3	5.62	.10
	Nondanger	3.3	0.0	96.7	4.3	0.7	95.0	0.53	.80

*$p<.05$.

task or child orientation in the danger situation between the Colorado study and the Winnipeg study, $\chi^2(2)=2.88$, $p<.30$. In other words, mothers in both studies responded similarily to children's behavioral cues in the hypothetical danger situation. In addition, no statistically significant difference was observed between the two studies in the proportion of students' responses to the three orientations in the hypothetical danger situation, $\chi^2(2)=5.14$, $p<.10$. However, it was noted that although the majority of them responded with a child-oriented response, a higher percentage of the students from the Winnipeg study responded with a task orientation than in the Colorado study. In the nondanger situation, the responses were very similar. The majority of the respondents selected the child orientation in both mother and student groups, and there was no significant difference in the proportion of the respondents choosing adult, task or child orientation for the mothers $\chi^2(2)=2.35$, $p<.50$ or for the students $\chi^2(2)=2.06$, $p<.50$.

For each adult group, a comparison was made on subjects' responses to the behavioral cues given by children in the hypothetical danger and nondanger situations (Table 2). Significant differences were found in both studies. Again a greater percentage of the respondents in both studies made the child-oriented responses. The difference seemed to occur when the adult and task orientations were

Table 2

Chi Square Analysis of Adults' Reaction to Children's Behavioral Cues in the Hypothetical Danger and Nondanger Situation

Geographic Location	Group	Situation	Type of Response			
			Adult(%)	Task(%)	Child(%)	Total
Colorado	Mothers	Danger	7.0	31.0	62.0	81
		Nondanger	2.0	2.5	95.5	81
		$\chi^2(2)=26.96$	$p<.001$			
Colorado	Students	Danger	11.5	18.5	71.0	390
		Nondanger	1.5	0.5	98.0	390
		$\chi^2(2)=111.49$	$p<.001$			
Winnipeg	Mothers	Danger	1.7	25.0	73.3	60
		Nondanger	3.3	0.0	96.7	60
		$\chi^2(2)=17.26$	$p<.001$			
Winnipeg	Students	Danger	10.6	29.1	60.3	142
		Nondanger	4.3	0.7	95.0	142
		$\chi^2(2)=52.92$	$p<.001$			

considered. A shift of response from the danger to the nondanger situation could be seen in that an increased percentage of the subjects made task and adult-oriented responses in the danger situation as compared to that in the nondanger situation. The notion proposed by Jacobson et al (1980) that adult's behavior is partly shaped by children's behavioral cues is therefore supported by the findings of both studies.

The Winnipeg Study

The percentages of adult, task and child responses across all 15 slides for each of the experimental groups of the Winnipeg study are presented in Table 3. An overall chi square analysis indicated that the responses of the four groups were differently distributed among adult, task and child situations, $\chi^2(6)=90.61$, $p<.001$. Comparisons between groups indicated that mothers differed from SCD students, $\chi^2(2)=11.35$, $p<.01$, from FYHE, $\chi^2(2)=95.21$, $p<.001$, and from NSS students, $\chi^2(2)=30.94$, $p<.001$. However, SCD students also responded differently from FYHE students, $\chi^2(2)=24.95$, $p<.001$, and from NSS students, $\chi^2(2)=24.01$, $p<.001$. In addition, responses of FYHE students were different from NSS students, $\chi^2(2)=11.51$, $p<.01$.

For a more detailed examination of these data, the factors of experience, knowledge, and combinations of these

Table 3

Percentage Responses to Children's Behavioral Cues in the Hypothetical Situations by All Four Subject Groups

Comparison Group	N	Type of Response		
		Adult (%)	Task (%)	Child (%)
Mothers	60	6.2	31.8	62.0
Senior Child Development students (SCD)	23	4.6	23.2	72.2
First year Home Economics students (FYHE)	70	14.6	18.6	66.8
Nonsocial Science students (NSS)	49	14.0	25.3	60.7

Note probability level of chi square analyses for the four groups:

	SCD	FYHE	NSS
Mothers	$p < .01$	$p < .001$	$p < .001$
SCD		$p < .001$	$p < .001$
FYHE			$p < .01$

were analyzed separately in correspondence with the hypotheses. The analyses relative to each hypothesis are therefore presented in order.

Hypothesis 1. Mothers will respond to children's behavioral cues in the hypothetical situations differently than nonmothers.

For this hypothesis the responses of mothers were compared to those of the three nonmother groups (SCD, FYHE, and NSS). Overall comparison between the mothers and three nonmother groups combined indicated a significant difference, $\chi^2(2)=51.93$, $p<.001$ (Table 4). Although a greater percentage of the respondents in both groups chose the child orientation, more of the nonmothers did so than the mothers. The nonmothers also tended to select the adult-oriented responses more frequently. On the other hand, more of the mothers chose the response that focused on immediate problem resolution (task orientation) than did the nonmothers. As shown in Table 4, within the individual slides, there were significant differences on 7 of the 15 individual slides. In 6 of these, the mothers were less adult and child-oriented but more task-oriented than the nonmothers.

This same tendency for mothers to choose more task-oriented responses was found in the overall comparison of

Table 4

Chi Square Analysis of Reaction to Children's Behavioral Cues in the Hypothetical Situations by Mothers and Nonmothers

Situations[a]	Mothers (N=60)			Nonmothers (N=142)			$\chi^2(2)$	p
	Adult(%)	Task(%)	Child(%)	Adult(%)	Task(%)	Child(%)		
Overall comparison	6.2	31.8	62.0	12.8	21.7	65.6	51.93	<.001*
Slide 1	6.7	55.0	38.3	12.7	26.1	61.3	15.67	.0004*
Slide 2	8.3	33.3	58.3	9.9	23.4	66.7	2.14	.3426
Slide 3	1.7	25.0	73.3	10.6	29.1	60.3	5.62	.0601
Slide 4	5.0	16.7	78.3	13.5	2.1	84.4	16.71	.0002*
Slide 5	1.7	46.7	51.7	3.5	24.8	71.6	9.46	.0088*
Slide 6	11.7	13.3	75.0	12.1	9.3	78.6	0.73	.6934
Slide 7	3.3	0.0	96.7	4.3	0.7	95.0	0.53	.7683
Slide 8	28.3	5.0	66.7	53.9	4.3	41.8	11.26	.0036*
Slide 9	3.3	53.3	43.3	1.4	60.3	38.3	1.39	.6223
Slide 10	8.3	45.0	46.7	30.0	20.0	50.0	18.03	.0001*
Slide 11	8.6	53.4	37.9	20.0	32.1	47.9	8.93	.0115*
Slide 12	1.7	20.0	78.3	0.7	13.5	85.8	1.83	.4002
Slide 13	3.3	13.3	83.3	5.7	3.6	90.7	6.89	.0319*
Slide 14	1.7	56.7	41.7	8.6	43.2	48.2	5.12	.0774
Slide 15	0.0	40.7	59.3	4.3	33.1	62.6	3.29	.1928

[a] for the discription of the situations please refer to Appendix D.

*$p < .05$.

the mothers with each of the nonmother groups. Mothers were less adult-oriented than the FYHE and NSS students and only very slightly more adult-oriented than the SCD student group. The only group less child-oriented than the mothers was the NSS group and again the difference was very slight (Table 3). For the four comparisons, there was a total of 60 individual slides. The mothers made more task and fewer adult responses on all but 6 of the 21 significant results.

For the purpose of controlling for the educational factor as an influence on the subjects' responses to the behavioral cues given by children, and to study more closely the extent to which the experience factor was associated with the respondents' perception of these cues, an attempt was made to compare the responses of those with similar amounts of educational training in Child Development only.

In order to do this, mothers were divided into groups according to the number of university courses they had taken in Child Development, Child Psychology, Developmental Psychology and other related areas. Three groups of mother were thus established: (a) mothers with no formal university courses in Child Develpment or other related areas (NKM), (b) mothers with some formal courses (LKM), that is, who have had at least one but no more than two courses in Child Development or other related areas, and (c) mothers with a considerable number of courses in Child

Development (HKM), that is, more than 7 courses in Child Development or other related areas.

The overall comparison of NKM and NSS students showed differences, $\chi^2(2)=10.05$, $p<.01$. Further analyses of the individual slides indicated differences between these groups on 3 individual slides. LKM also differed in their responses from FYHE, $\chi^2(2)=15.47$, $p<.001$, and HKM differed from SCD students, $\chi^2(2)=9.48$, $p<.01$ (Table 5). However, for the latter two comparisons, there were no significant difference between the groups on any of the individual slides. For all the comparisons, mothers made more task and less adult-oriented responses than did nonmothers. In one analysis only were the mothers very slightly higher on child-oriented responses.

In order to study the relationship between the type of experience and the response choices, subjects for the FYHE and NSS groups who had reported a relatively higher level of child care experience than their groups were compared to the mothers. The level of experiences required for inclusion in the higher experience groups (HE-FYHE and HE-NSS) was no less than four months of child care experience. This criterion was selected because of its equivalence to the minimum amount of time the SCD students had had working with children.

Table 5

Percentage Responses to Children's Behavioral Cues in the Hypothetical Situations by Mothers with Varying Degree of Formal Child Development Knowledge

		Type of Response		
Comparison Group	N	Adult(%)	Task(%)	Child(%)
Mothers	60	6.2	31.8	62.0
Mothers with no formal university course in Child Development (NKM)	25	7.8	29.8	62.5
Mothers with 1-2 formal courses in Child Development (LKM)	12	7.8	30.0	62.5
Mothers with more than 7 courses in Child Development (HKM)	12	2.8	35.6	61.7

In Table 6, the overall comparison of the mothers with HE-FYHE students showed the mothers to have chosen significantly more task and fewer adult and child responses, $\chi^2(2)=30.11$, $p<.001$. Only two of the individual slides showed significant differences between the two groups and in only one slide were the responses in the same direction as the overall comparison. Mothers were compared with the HE-NSS students, and again chose more task and fewer child and adult responses but the results were non-significant, $\chi^2(2)=5.85$, $p<.10$ (Table 6).

Because child oriented responses were made by the greatest percentage of the subjects, comparisons made on adult and task orientations only were thus carried out. All of the same comparisons were made in this way. In every overall comparison, a definite pattern of responses was shown again. More of the mothers chose the task-oriented responses and fewer of them selected the adult-oriented responses than did the comparison group. There were significant differences in nine of the ten comparisons (See Appendix E.) Even within the individual slides, in every comparison, similar results could be seen for the majority of the slides although there were never more than five slides that showed significant differences in any of the comparisons.

Table 6

Percentage Responses to Children's Behavioral Cues in the Hypothetical Situations by Mothers, FYHE, and NSS Students with Child Care Experience

Comparison Group	N	Type of Response		
		Adult(%)	Task(%)	Child(%)
Mothers	60	6.2	31.8	62.0
FYHE students with no less than 4 months working experience with children (HE FYHE)	24	11.6	17.7	70.7
NSS students with no less than 4 months working experience with children (HE NSS)	19	9.5	26.0	64.6

Overall, chese results provided strong evidence for the hypothesis that experience in caring for children makes a difference in the response choices of the adults to children's cues in the hypothetical situations. Mothers quite consistently selected more task and fewer adult- and child-oriented responses than did nonmothers.

Hypothesis 2. Students with knowledge in Child Development will respond to children's behavioral cues in the hypothetical situations differently than will students with little or no knowledge in Child Development.

In order to test the hypothesis the three student groups were compared on the bases of the number of courses they had taken in Child Development related areas. SCD students were categorized as the high knowledge (HK) group because of the intensive training they received from the program and FYHE students were categorized as the low knowledge (LK) group since their program required a minimum number of courses in Child Development. The NSS students were considered as the no knowledge (NK) group because Child Development related courses were not required in their program. It was recognized by the investigator, however, that some of them may have had various background knowledge in this area. The percentage of their responses to

children's behavioral cues is shown in Table 7.

For the first comparison the HK and the LK were combined to form a knowledge group and then compared to the NK group (Table 8). In the overall comparison, the majority of subjects in both groups made child-oriented responses, but more of the knowledge students did so than did the subjects in the other group. It is also clear that adult- and task-oriented responses were made by fewer subjects in the knowledge group. Significant differences were found in only 2 of the 15 individual slides. Both of them showed a similar direction of responses as that found in the overall comparison.

In order to determine if even a little knowledge in Child Development made a difference, comparisons were made of the three student groups differing in number of courses in Child Development, $\chi^2(4)=35.86$, $p<.001$ and of each group with each other. The overall comparisons shown in Table 7 reflect significant differences in all four comparisons. The direction of the responses was consistent with that found in the comparison of the knowledge and NK groups, i.e. the group with the greater number of courses in Child Development was revealed as less task- and adult-oriented but more child-oriented responses. However, there were two inconsistencies. In one instance, subjects from the group represented as having more courses in Child Development

Table 7

Percentage Responses to Children's Behavioral Cues in the Hypothetical Situations by Students with Varying Degree of Formal Child Development Knowledge

Comparison Group	N	Type of Response		
		Adult(%)	Task(%)	Child(%)
High knowledge (HK)	23	4.6	23.2	72.2
Low knowledge (LK)	70	14.6	18.6	66.8
No knowledge (NK)	49	14.0	25.3	60.7
Low knowledge with no less than 4 months working experience with children (HE-LK)	24	11.6	17.6	70.8
No knowledge with no less than 4 months working experience with children (HE-NK)	19	9.5	26.0	64.6
Low knowledge with less than 4 months working experience with children (LE-LK)	31	13.8	19.1	67.1
No knowledge with less than 4 months working experience with children (LE-NK)	17	17.9	27.8	54.4
Low knowledge with no experience (NE-LK)	15	20.9	19.1	67.1
No knowledge with no experience (NE-NK)	13	15.8	21.1	63.2
High knowledge with no fewer than three siblings (HK-MS)	12	6.1	18.3	75.6
Low knowledge with no fewer than three siblings (LK-MS)	35	16.0	18.5	65.5
No knowledge with no fewer than three siblings (NK-MS)	19	17.6	25.4	57.0
High knowledge with fewer than three siblings (HK-FS)	11	3.0	28.5	68.5
Low knowledge with fewer than three siblings (LK-FS)	35	13.1	18.8	68.1
No knowledge with fewer than three siblings (NK-FS)	30	11.7	25.3	63.0

Table 8

Chi Square Analysis of Reaction to Children's Behavioral Cues in the Hypothetical Situations by the Knowledge and No Knowledge Groups

Situations[a]	Knowledge (N=93)			No Knowledge (N=49)				
	Adult(%)	Task(%)	Child(%)	Adult(%)	Task(%)	Child(%)	$\chi^2(2)$	p
Overall Comparison	12.1	19.8	68.1	14.0	25.3	60.7	12.21	<.01
Slide 1	9.7	25.8	64.5	18.4	26.5	55.1	2.38	.3038
Slide 2	8.7	16.3	75.0	12.2	36.7	51.0	8.87	.0119*
Slide 3	10.9	23.9	65.2	1o.2	38.8	51.0	3.51	.1728
Slide 4	10.9	1.1	88.0	18.4	4.1	77.6	3.10	.2124
Slide 5	4.3	19.6	76.1	2.0	34.7	63.3	4.16	.1248
Slide 6	10.9	4.3	84.8	14.6	18.8	66.7	8.72	.0128*
Slide 7	4.3	1.1	94.6	4.1	0.0	95.9	.54	.7618
Slide 8	55.4	5.4	39.1	51.0	2.0	46.9	1.45	.4851
Slide 9	0.0	51.1	48.9	4.1	77.6	18.4	___	[a] ___
Slide 10	27.2	20.7	52.2	35.4	18.8	45.8	1.03	.5990
Slide 11	25.0	31.5	43.5	10.4	33.3	56.3	4.46	.1074
Slide 12	0.0	16.3	83.7	2.0	8.2	89.8	3.59	.1662
Slide 13	3.3	4.3	92.4	10.4	2.1	87.5	3.36	.1861
Slide 14	7.6	38.0	54.3	10.6	53.2	36.3	4.12	.1277
Slide 15	3.3	37.0	59.8	6.4	25.5	68.1	2.27	.3211

Note Knowledge = courses in Child Development or other related areas.

[a] indicates for description of the situations please refer to Appendix D.

[b] indicates chi square could not be conducted because one or more cells with expected frequencies <1.

*p<.05.

responded in a more task-oriented way. Strangely, it was the group with a medium number of Child Development courses (FYHE) that chose the fewest task-oriented responses. When the individual slides were considered, a total of 60 of them were examined. Statistically significant differences could be seen in 16 slides. Similar pattern of responses to that found in the overall comparisons were observed in all slides except in five of them. The choice of task-oriented responses was the least consistent.

As it was important to exclude as much as possible the experience factor as an influence on adults' reaction to children's behavioral cues in the hypothetical situations and to determine further the extent to which education in Child Development was associated with the subjects' responses, a number of comparison groups were formed. The subjects were designated as High Experience (HE), Low Experience (LE) and No Experience (NE). The criterion for group assignment was: HE students had $\geq$ 4 months working experience with young children, LE students had < 4 months but some experience with children and NE students indicated they had no experience with young children. The knowledge groups were as previously described. The HK students were compared to the HE-LK students, $\chi^2(2)=12.98$, $p<.01$, the HK compared to the HE-NK students, $\chi^2(2)=7.06$, $p<.05$, the HE-LK to the HE-NK, $\chi^2(2)=6.6$, $p<.05$, the LE-LK to the LE-NK,

$\chi^2(2)=11.5$, $p<.01$ and the NE-LK to the NE-NK, $\chi^2(2)=1.81$, $p<.50$. In four of the five overall comparisons, the group with the higher level of knowledge in Child Development made fewer task responses. In three of the five comparisons the group with the higher level of knowledge made fewer adult-oriented responses and in all five comparisons the group with the higher level of knowledge made more child responses. On examination of the individual slides, significant differences between the comparison groups appeared in only 12 of 75 slides. The direction of the responses was consistent with that found in the overall comparison although the responses to task orientation were not so consistent.

Another important source of child care experience probably is that gained from taking care of siblings. An attempt was made to limit the possible influence of various sibling background. The students were assigned to sibling groups as follows: the more sibling group (MS) consisted of those students with no fewer than three siblings and the fewer sibling group (FS) consisted of those students with fewer than three siblings. Comparisons were then made between the HK-MS and LK-MS, $\chi^2(2)=11.73$, $p<.01$, between HK-MS and NK-MS, $\chi^2(2)=19.4$, $p<.001$, between LK-MS and NK-MS, $\chi^2(2)=6.58$, $p<.05$, between HK-FS and LK-FS, $\chi^2(2)=17.44$, $p<.001$, between HK-FS and NK-FS, $\chi^2(2)=10.76$, $p<.01$ and

between LK-FS and NK-FS, $\chi^2(2)=13.96$, $p<.001$. All of the overall comparisons showed significant differences with four of the six comparisons revealing again that those groups with the most knowledge of the two comparison groups made more child but fewer task and adult responses. Only the two inconsistencies were found. In one of them, the subjects with the more education in Child Development tended to be more task-oriented and in the other they responded in a more adult-oriented way than the comparison group. Only 9 of the 90 individual slides showed significant differences. In all but two of the nine, the direction of responses was similar with the overall comparisons.

Since the majority of the respondents in most of the analyses selected the child-oriented responses, the investigator once more excluded the child orientation responses. Cross tabulations were done on the adult and task responses only in order to further determine the direction of the responses and their association with the students' number of Child Development courses. All of the same comparisons were carried out in this way (See Appendix E.) Across all slides, in the majority cases, those with a greater amount of Child Development education showed more task and fewer adult-oriented responses.

The hypothesis that formal knowledge in Child Development would result in significantly different

responses to children's cues in the hypothetical situations was supported.

Hypothesis 3. Students with some experience in child care will respond to children's behavioral cues in the hypothetical situations differently than will students with little or no experience in child care.

In an attempt to determine the relationship between the amount of child care experience of the students and their responses, the students were divided into groups according to their amount of child care experience only. The following categories were established: experience (EXP) refers to every student with any amount of child care experience, no experience (NE) refers to those with no such experience at all, high experience (HE) included all of the SCD group as well as those with four months or more of child care experience, low experience (LE) refers to those with less than four months of child care experience. The percentage responses of the students with different amounts of child care experience is shown in Table 9.

A significant difference occurred in the overall comparison when the responses of the students from the EXP group were compared with that of the students from the NE group, thus providing support for the hypothesis (Table 10). A greater percentage of the subjects in both groups

Table 9

Percentage Responses to Children's Behavioral Cues in the Hypothetical Situations by Students with Varying Degree of Child Care Experience

Comparison Group	N	Type of Response		
		Adult(%)	Task(%)	Child(%)
Students with no experience (NE)	28	18.6	20.0	61.4
Students with less than 4 months working experience with children (LE)	48	15.2	22.2	62.6
Students with no less than 4 months working experience with children (HE)	66	8.5	22.0	69.5
FYHE with no experience (FYHE-NE)	15	20.9	19.1	60.0
FYHE with less than 4 months working experience with children (FYHE-LE)	31	13.8	19.1	67.1
FYHE with no less than 4 months working experience with children (FYHE-HE)	24	11.6	17.7	70.7
NSS with no experience (NSS-NE)	13	15.8	21.1	63.2
NSS with less than 4 months working experience with children (NSS-LE)	17	17.9	27.8	54.4
NSS with no less than 4 months working experience with children (NSS-HE)	19	9.5	26.0	64.6
SCD with no fewer than three siblings (MS-SCD)	12	6.1	18.3	75.6
SCD with fewer than three siblings (FS-SCD)	11	3.0	28.5	68.5
FYHE with no fewer than three siblings (MS-FYHE)	35	16.0	18.5	65.5
FYHE with fewer than three siblings (FS-FYHE)	35	13.1	18.8	68.1
NSS with no fewer than three siblings (MS-NSS)	19	17.6	25.4	57.0
NSS with fewer than three siblings (FS-NSS)	30	11.7	25.3	63.0
Mothers with no fewer than three siblings (MS-Mothers)	33	5.1	28.7	66.2
Mothers with fewer than three siblings (FS-Mothers)	27	7.7	35.5	56.8

Table 10

Chi Square Analysis of Reaction to Children's Behavioral Cues in the Hypothetical Situations by the Experience and No Experience Student Groups

Situations[a]	Experience (N=114)			No Experience (N=28)				
	Adult(%)	Task(%)	Child(%)	Adult(%)	Task(%)	Child(%)	$\chi^2(2)$	p
Overall comparison	11.4	22.3	66.3	18.6	20.0	61.4	15.12	<.001*
Slide 1	9.6	29.8	60.5	25.0	10.7	64.3	7.38	.0250*
Slide 2	8.8	22.1	69.0	14.3	28.6	57.1	1.54	.4626
Slide 3	9.7	27.4	62.8	14.3	35.7	50.0	1.58	.4541
Slide 4	8.0	1.8	90.3	35.7	3.6	60.7	___	___[b]
Slide 5	2.7	27.4	69.6	7.1	14.3	78.6	3.07	.2152
Slide 6	11.5	8.0	80.5	14.8	14.8	70.4	1.58	.4529
Slide 7	3.5	0.9	95.6	7.1	0.0	92.9	0.95	.6219
Slide 8	53.1	4.4	42.5	57.1	3.6	39.3	0.16	.9226
Slide 9	1.8	60.2	38.1	0.0	60.7	39.3	0.51	.7766
Slide 10	29.2	19.5	51.3	33.3	22.2	44.4	0.41	.8134
Slide 11	17.9	33.9	48.2	28.6	25.0	46.4	1.86	.3953
Slide 12	0.9	15.0	84.1	0.0	7.1	92.9	1.49	.4749
Slide 13	3.5	4.4	92.0	14.8	0.0	85.2	6.16	.0461*
Slide 14	7.1	40.2	52.7	14.8	55.6	29.6	5.07	.0792
Slide 15	2.7	36.6	60.7	11.1	18.5	70.4	6.06	.0483*

Note Experience=child care experience.

[a] for description of the situations please refer to Appendix D.

[b] indicates chi square analysis could not be conducted because one or more cells with expected frequencies< 1.

*$p<.05$.

responded with a child-oriented response but more of the EXP students did so than did the students from the NE group. The EXP group also tended to be more task-oriented and less adult-oriented than were the NE students. Although significant differences were found in only 3 of the 15 individual slides, in all of them the students from the EXP group were shown as less adult-oriented but more task-oriented than were the NE students. The choice of child-oriented responses, however, was not so consistent.

In an attempt to determine to what extent the experience factor was associated with adults' reaction to children's cues in the hypothetical situations, more detailed analyses were made by comparing the responses of the three groups differing in the amount of child care experience, $\chi^2(2)=33.07$, $p<.001$, of the NE group and the LE group, $\chi^2(2)=2.44$, $p<.20$, of the NE group and the HE group, $\chi^2(2)=28.91$, $p<.001$, and of the HE group and the LE group, $\chi^2(2)=19.27$, $p<.001$. Significant differences showed in 3 of the 4 overall comparisons. In two cases, the group representing the most experience among the comparison groups chose more child and task responses and fewer adult responses than did the group which had less experience. Inconsistencies, however, occurred in two occasions in which the group representing more experience among the groups selected fewer task responses. An examination of the

individual slides showed only 6 of the 60 slides where there were significant differences among the comparison groups and in only three of the six slides was the direction of the responses similar to those in the overall comparison.

The fact that many of the FYHE and NSS students had one kind or another child care experience despite the fact that their program required only little or no formal Child Development training was recognized by the investigator. It was realized that most of this experience was based on short term involvement with children of various ages. An attempt, however, was made to determine whether or not different amounts of child care experience gained from part-time or summer jobs would make a difference in their responses. Each of the FYHE and NSS groups, therefore was divided into three groups according to their amount of child car experience (The criteria for this selection was presented in hypotheses 1 and 2.). Comparisons were made of the FYHE-HE group, the FYHE-LE group, and the FYHE-NE group, $\chi^2(4)=11.08$, $p<.05$, of the FYHE-NE group and the FYHE-LE group, $\chi^2(2)=5.97$, $p<.10$, of the FYHE-NE and the FYHE-HE groups, $\chi^2(2)=10.3$, $p<.01$, of the FYHE-LE and the FYHE-HE groups, $\chi^2(2)=1.3$, $p<.70$, of the NSS-HE, the NSS-LE, and the NSS-NE groups, $\chi^2(4)=11.85$, $p<.02$, of the NSS-NE and the NSS-LE groups, $\chi^2(2)=3.69$, $p<.10$, of the NSS-NE and the NSS-HE groups, $\chi^2(2)=4.97$, $p<.10$, and of the NSS-LE and NSS-HE groups, $\chi^2(2)=9.51$,

$p<.01$. In the overall comparisons, although only three of the eight comparisons showed significant differences, in all but two of the eight analyses, subjects from the group representing the most experience among the comparison groups chose more child and fewer adult and task responses. In both of the inconsistencies, the more experienced group responded in a more task-oriented way. Within the individual slides, only one slide showed a significant difference in all of the comparisons although the direction of the responses was consistent to that found in most of the overall comparisons.

In order to determine whether the number of siblings significantly influenced the adults' reaction to the behavioral cues given by children, students who had more siblings (MS) were compared to students who had fewer siblings (FS). The comparisons were made of the MS-SCD students and the FS-SCD students, $\chi^2(2)=6.19$, $p<.05$, of the MS-FYHE students and the FS-FYHE students, $\chi^2(2)=1.75$, $p<.50$, and of the MS-NSS and FS-NSS students, $\chi^2(2)=5.22$, $p<.10$. In all of the overall comparisons, there was only one significant difference, but the MS groups consistently chose more adult responses. In two comparisons, they also tended to be less child-oriented. Only the MS-SCD group was more child-oriented than were the NSS and the FYHE groups. Two of the individual slides showed statistically significant differences and they were not in the same direction. The

group with more siblings, then, tended to be more adult-oriented but less task- and child-oriented than the group with fewer siblings.

An attempt was also made to determine if sibling background was associated with the mothers' attitude toward children's hypothetical needs. MS-Mothers were compared with FS-Mothers, $\chi^2(2)=8.96$, $p<.02$ and a significant difference was observed. In contrast to the responses given by the students, the mothers with more siblings tended to select child-oriented responses more frequently but less frequently to select adult- and task-oriented responses than did the mothers with fewer siblings. Upon examining the individual slides, no statistically significant difference was observed.

Once again the child-oriented responses were eliminated and adult and task responses only were examined for all of the same comparisons (See Appendix E.) The results indicated that in the overall comparisons, the greater amount of child care experience apparently was more often associated with task-oriented responses and less often with adult-oriented responses. Significant differences were shown in 6 of the 17 comparisons and the responses showed similar trends to those of the overall comparisons. Only five of the individual slides showed significant differences. All of them except one revealed the more

experienced group as being more task-oriented and less adult-oriented.

Overall, these results provide even further support for the hypothesis that the amount of child care experience is a factor in influencing adults' responses to the behavioral cues given by children in the hypothetical situatuions. Generally speaking, where results were statistically significant, greater child care experience was negatively related to the selection of adult- and task-oriented responses, and positively related to the making of child-concern responses. The direction of the responses, however, seemed to be less consistent when the sibling factor was taken into consideration.

> Hypothesis 4. Mothers with knowledge in Child Development will respond differently to children's behavioral cues in the hypothetical situations than will mothers with little or no formal knowledge in Child Development.

An attempt was made to determine if the degree of maternal knowledge in Child Development also plays a substantial role in determining adult perception and responses to children's behavioral cues. For this purpose mothers were divided into four groups according to the amount of formal education they had received in Child

Development: high knowledge mothers (HKM) refers to mothers who had taken more than 7 courses in Child Development, Child Psychology, Developmental Psychology, and other related areas, medium knowledge mothers (MKM) refers to mothers who have taken approximately 3-6 courses in this area, low knowledge mothers (LKM) refers to mothers who have taken about 1-2 revelant courses, and no knowledge mothers (NKM) refers to those mothers who have no formal university courses in Child Development. Table 11 illustrates the percentage responses of mothers with different amounts of knowledge in Child Development.

Mothers who had any Child Development formal courses were combined together to form the knowledge mother group (KM) and compared to the NKM. This was to decide if formal Child Development courses in general would make a difference in mothers' responses. As indicated in Table 12, in the overall comparison there was no significant difference between the two groups, although the majority of the respondents in both groups selected the child-oriented responses, the NKM also chose the adult-oriented responses more often than did the comparison group, whereas the KM more frequently chose the task-oriented responses than did the NKM. Within the individual slides, there were no statistically significant differences between the two groups.

Table 11

Percentage Responses to Children's Behavioral Cues in the Hypothetical Situations by Mothers with Varying Degree of Formal Child Development Knowledge

Comparison Group	N	Type of Response		
		Adult(%)	Task(%)	Child(%)
Mothers with no formal university course in Child Development (NKM)	35	7.8	29.8	62.5
Mothers with 1-2 formal courses in Child Development (LKM)	12	7.8	30.0	62.2
Mothers with 3-6 formal courses in Child Development (MKM)	11	4.9	34.1	61.0
Mothers with more than 7 courses in Child Development (HKM)	12	2.8	35.6	61.7

Table 12

Chi Square Analysis of Reaction to Children's Behavioral Cues in the Hypothetical Situations by Knowledge and No Knowledge Mothers

Situations[a]	Knowledge Mothers (N=25)			No Knowledge Mothers (N=35)				
	Adult(%)	Task(%)	Child(%)	Adult(%)	Task(%)	Child(%)	χ^2 (2)	p
Overall Comparison	5.2	33.2	61.6	7.8	29.8	62.5	3.22	<.20
Slide 1	5.7	60.0	34.3	8.0	48.0	44.0	0.86	.6521
Slide 2	8.6	28.6	62.9	8.0	40.0	52.0	0.87	.6467
Slide 3	2.9	20.0	77.1	0.0	32.0	68.0	1.72	.4231
Slide 4	2.9	17.1	80.0	8.0	16.0	76.0	0.81	.6661
Slide 5	2.9	57.1	40.0	0.0	32.0	68.0	4.90	.0862
Slide 6	11.4	14.3	74.3	12.0	12.0	76.0	0.07	.9671
Slide 7	0.0	0.0	100.0	8.0	0.0	92.0	0.95	.3308[b]
Slide 8	28.6	8.6	62.9	28.0	0.0	72.0	2.33	.3123
Slide 9	0.0	60.0	40.0	8.0	44.0	48.0	3.72	.1560
Slide 10	5.7	40.0	54.3	12.0	52.0	36.0	2.20	.3324
Slide 11	8.8	58.8	32.4	8.3	45.8	45.8	1.12	.5706
Slide 12	0.0	22.9	77.1	4.0	16.0	80.0	1.76	.4152
Slide 13	0.0	8.6	91.4	8.0	20.0	72.0	4.89	.0868
Slide 14	0.0	60.0	40.0	4.0	52.0	44.0	1.62	.4447
Slide 15	0.0	42.9	57.1	0.0	37.5	62.5	0.02	.8873[b]

Note Knowledge = courses in Child Development or other related areas.

[a] for description of the situations please refer to Appendix D.

[b] indicates Yate's Correction for Continuity was applied because df = 1.

More detailed analyses were carried out to compare the responses of all four groups of mothers differing in the amount of formal Child Development courses, $\chi^2(6)=7.76$, $p<.30$, of the NKM and the LKM, $\chi^2(2)=0.06$, $p<.50$, of the NKM and the MKM, $\chi^2(2)=2.13$, $p<.50$, of the NKM and the HKM, $\chi^2(2)=6.24$, $p<.05$, of the LKM and MKM, $\chi^2(2)=1.61$, $p<.50$, of the LKM and HKM, $\chi^2(2)=5.10$, $p<.10$, and of the MKM and HKM, $\chi^2(2)=1.32$, $p<.70$. Of the seven overall comparisons, only one showed a statistically significant effect of the number of formal courses in Child Development mothers had taken and that was between the extremes of the knowledge, namely, the NKM and the HKM groups. In most analyses however, although the differences were not statistically significant, the mothers who had taken a greater number of formal courses in Child Development of the comparison groups were more likely to choose task-oriented responses and less likely to select the adult- and child-oriented responses. Less consistency was found on child and adult orientations. Between the groups no statistically significant differences were observed on the individual slides.

When only adult and task orientations were considered for all of the same comparisons, once again there were very few significant differences among the comparison groups across all slides. (See Appendix E.) There was no significant difference shown within the individual slides

either. There was, however, a non-significant trend in that all of the comparisons indicated that mothers with more educational experience in Child Development chose more task-oriented but fewer adult-oriented responses than did the mothers with a lesser number of Child Development formal courses.

In summary, there was a consistent, through not always statistically significant tendency for mothers with education in Child Development to be less likely to choose adult- and child-oriented responses but more likely to choose task-oriented responses.

Content of Individual Slides

In order to examine the pattern of responses to the individual slides there were 100 comparisons made. Although it is obvious that there would be by chance a number of slides which indicated significant differences between the comparison groups, there were a few slides which did so more frequently than the others. These were silde 1 (significant in 8 comparisons), 5 (significant in 8 comparisons), 8 (significant in 9 comparisons), 10 (significant in 13 comparisons), and 11 (significant in 12 comparisons). Only slides 1 and 10 showed the significant differences in the same direction most of the time. The other slides: 5, 8, and 11 were just as likely to favour one response group as

another. Also, a close examination of the content of the slides (i.e. danger and aggression, authority conflict, learning and playing, etc.) revealed no definite pattern of results.

CHAPTER V

DISCUSSION

The major purpose of the present study was to examine the role of children's behaviors and adult predispositions in adult-child interaction. It was believed that children's behaviors provided crucial information in cueing adults' reaction toward those behaviors. It was also expected that adults' perceptions and reactions to those cues would be influenced further by the type and amount of knowledge of Child Development and past experience in child caring situations.

Comparison with the Colorado Study

One of the major findings of the present study was that both the mothers and students reacted to the two situations according to the cues given by children. Significant changes in the adult reaction took place, changing from overwhelming concern with children's development in the nondanger situation (slide 7) to a generally increased concern with immediate problem resolution in the danger situation (slide 3). These results are consistent with the findings in the previous study of Jacobson et al (1980) in Colorado and also help to support the view-point that children are capable of producing changes in adult behaviors by sending different behavioral

cues (Bell, 1968,71; Bigner, 1979). Although the changes of children's behavioral cues were portrayed by hypothetical situations in slides, they were effective enough to promote reactional differences in adults. Children's role as interactional partners thus was clearly demonstrated. In many respects the findings from this analyses provided further evidence for the notion of a bidirectional model of interaction as proposed by Bell (1968) and the view expressed by a number of researchers (Brazelton et al, 1975; Osofsky, 1971) that social exchange is mutually supported by the partners involved.

In the comparison of the results of the present study with the Colorado study, only the two hypothetical situations were examined, namely, a danger and a nondanger situation. Although the differences between mothers and students were statistically significant only for the Colorado study in the danger situation, it is interesting to note the sharp increase in task orientation in both studies and for both groups. In both studies the students responded more frequently with an adult orientation in the danger situation than did the mothers. When confronted with child-threatening elements in a situation, fewer mothers than nonmothers tended to focus on the control of children by use of authority. Perhaps mothers are more sensitive and effective in responding to children's behavioral cues, more

concerned with children's well-being , and feel a greater sense of responsibility for the child's safety.

The lack of statistically significant differences in the danger situation between the mothers and the students of the Winnipeg study might be a reflection of cultural differences, or it might be a reflection of sample differences. The Winnipeg student sample included a considerable number of students with a substantial amount of experience and knowledge in child care and development (23 out of 142). This may in part account for the likelihood that the students would respond more like the mothers did in a danger situation.

In both studies there was little difference in the percentage of child-oriented responses, suggesting that all the adults were very concerned with children's learning and development in a non-child-threatening situation. When the situation contained elements threatening to the children's safety, the adults adjusted their reaction according to the situation.

Degree of Child Development Knowledge and Experience

It was expected that mothers, because of their extended contact with children, would respond differently to children's behavioral cues than the nonmother students. Generally, motherhood experience appeared to result in fewer

adult-oriented choices and more task-oriented choices. Mothers' Child Development knowledge resulted in only one statistically significant difference, i.e. between mothers with no formal Child Development knowledge and mothers with the greatest amount of formal Child Development knowledge. The trend of responses was to even more task-oriented and fewer adult-oriented responses. Student knowledge in Child Development also was associated with fewer adult-oriented responses. The task-oriented results were less clear and consistent, although, when only task- and adult-oriented responses were considered a greater proportion of the students with Child Development knowledge made task-oriented responses. Students' child care experience seemed to bring a further decrease in adult-oriented choices but no appreciable difference in the task-oriented responses.

A considerable amount of the literature has demonstrated that an intimate contact with children increases adult sensitivity and effectiveness in reading children's behavioral cues. Most of the studies suggested that with increased exposure to the children, adults were able to read children's cues more accurately and sensitively (e.g. Hilton, 1967; Wasz-Hockert, et al, 1964). Those reports were confirmed by the findings of the present study in that mothers were more able to detect the safety threatening elements that were contained in the hypothetical

situations, and only rarely selected the negatively-oriented responses. Similarly, Marwell and Schmitt (1969) reported that with child rearing experience, mothers were significantly less likely to use negative techniques to discipline children than were the less experienced college women. Their findings that experience with children seemed related to significant differences in adult attitude toward disciplinary techniques was further supported by the findings in the present study where students with a greater amount of child care experience consistently showed less preference for punishment-oriented responses.

A child's age might be another significant factor that contributed to the differences found among the experienced and the inexperienced caregivers. Marwell and Schmitt (1969) found that negative techniques were less likely to be used by mothers with young children, but techniques such as liking and positive esteem were most likely to be used by them than the inexperienced college women. The present study also found greater child care experience associated with fewer punishment-oriented responses. All of the mothers included in the present study had children under five years of age and all of the students in the Child Development program had a considerable amount of contact with young children. This may help explain the substantially fewer adult-oriented responses of the

experienced caregivers. These findings were in conflict with the results reported by Grusec and Kuczynski (1980). In their study, mothers of young children and slightly older children were asked the kind of discipline they would most likely use in 12 hypothetical situations. The researchers found that mothers frequently said they would use multiple techniques in dealing with children. The majority of the mothers chose to use a power assertion technique and followed it by the use of reasoning regardless of the age of the child. In the present study, the respondents were asked to give the most appropriate response to each of the hypothetical situations, therefore, it was impossible for the investigators to determine adults' use of multiple discipline techniques. However, in this study mothers generally found child- and task-oriented tactics a more appropriate spontaneous technique than power assertion in responding to the hypothetical cues given by children even in situations in which multiple methods were possible.

Other studies also suggested the importance of children's age in leading to changes in adult-child interaction. Green, Gustafson, and West (1980) reported that as infants became more proficient at locomoting, they more often became involved in unpermitted activities in which mothers usually chose to intervene in order to ensure children's well-being. This finding is in agreement with the

present study where mothers were more ready to improve the potentially threatening situations than were the nonmother students regardless of the students' amount of knowledge and direct experience with children. Most of our mothers had children similar in age to the children in the study done by Green and his colleagues (1980). Furthrmore, all the slides portrayed in the present study were of young children similar in age to the mothers' children, which perhaps had an influence on the mothers' responses. The mothers' sensitivity in detecting any situational content that would have a negative effect on children's welfare may simply reflect their own caution developing as their children's emerging capability and behavior increased. Also, in the contemporary family structure the primary responsibility of child care is generally assumed by mothers.

Even a considerable amount of child care experience of the students is not likely to be equal to that of motherhood. This point can be best illustrated in the responses of the Senior Child Development students. Basically, they were the ones that most closely resembled the mothers in terms of their extented knowledge and contact with young children. They were highly conscious of children's welfare and development generally. However, when threatening situations occurred, these students were not as concerned with the immediate control of the situations as

were the mothers. This might be explained by the fact that nonmother students perhaps did not have the kind of continuous responsibility for children's safety that the mothers did. Therefore, students probably were not as sensitive as mothers in detecting some of the more subtle cues given by the children in the hypothetical situations. Interestingly, the Nonsocial Science students responded quite frequently with a task orientation, or authoritarian type of response and they were the ones that showed the least concern for children's development and learning. It is difficult to explain why they responded in this way. Perhaps it simply reflected a far from complete understanding of children. It was also possible that because of their general interest in child development, the Nonsocial Science students read widely in this area. If this was the case, reading alone did not seem to have a profound effect on their concern about children's learning but it did perhaps sensitize their responses to a certain degree. Another possible explanation for their frequent selection of adult-oriented responses could be the fact that Nonsocial Science students had the highest percentage of first borns (38.8%) among all the student groups. It has been suggested in the literature that first borns had greater need for affiliation (Hilton, 1967). It was, therefore, reasonable to speculate that first borns, when they were children identified with their parents and thus learned to interfere

more frequently and give directions more often. As adults, then, they could be expected to exercise more control over their children. An attempt was made to determine if birth order of the adults was associated with different responses toward the hypothetical situations. Subjects who were first borns were compared to subjects who were later borns. The results showed such birth order effects were not present in this study.

A substantial amount of the literature suggested that parental attitude varied as a function of the sex of children (e.g. Lewis, 1972; Moss, 1967; Tamber, 1979). The study by Hoffman and Saltzstein (1967) indicated that parents of boys engaged in more physical punishment. The majority of the slides in the present study portrayed male children, and this did not appear to increase the selection of negatively oriented responses by those who were more understanding of children. These results were more consistent with the findings of Bell and Carver (1980) that the gender label apparently did not have significant impact upon mothers' behavior. However, they did find that adult perceptions and reactions were determined to a large extent by children's behavior. In the present study, those who had the lesser amount of understanding and contact with children may have been influenced more by the children's sex as reflected by their high tendency to use more authoritarian

discipline.

It was also reported by numerous researchers that the state of the infant affected the quality and quantity of maternal response (Moss, 1967; Korner, 1974). In his research, Moss (1967) observed that male babies were more irritated and less responsive to maternal intervention than were female babies. Furthermore, Moss speculated that maternal responses to infant's signals were under the control of the infant's state and his/her behavior provided reinforcement value which in turn increased mother's efficacy in responding to infant's behavioral cues. The mothers' frequent selection of task-oriented responses observed in the present study thus could be viewed as a tactic learned from their own experiences with male infants. As Moss observed, male infants tend to sleep less and cry more, and, therefore, provide a different reinforcement value for the mothers. Through their experience in dealing with male children, mothers might spontaneously tend to settle the situation first rather than make the situation a learning one.

In the present study, first year Home Economics and the Nonsocial Science students were the ones who frequently selected the adult-oriented responses. In their personality assessment study, Stern, Stein, and Bloom (1956) suggested that individuals exhibiting authoritarian tendencies would

demonstrate a preference for college majors in the non-abstract, practical areas such as engineering, business, and law, and that non-authoritarian individuals would prefer abstract majors such as the humanities and social sciences. This point of view was further supported by Martoccia (1964). However, one has to note that the research had taken place after more than one year of subjects enrollment in the University. Therefore, it was not unreasonable to argue that a certain amount of continuous exposure to courses that concerned human needs might markedly reduce the authoritarian attitude held by students whose majors were in the humanities and social sciences. No attempt was made by these investigators to explore in detail the amount and type of knowledge and its possible effect on students' authoritarian attitude. In the present study, the high instance of choosing authoritarian discipline displayed by the first year Home Economics students and the Nonsocial Science students could be explained simply by their lack of insight about human development. Unlike those whose majors were in the humanities and social sciences, highly concentrated and continuous exposure to different stages of human development had not been required as yet by the first year Home Economics and Nonsocial Science programs. It seemed that the minimum amount of textbook knowledge in psychology and Human Development of the first year Home Economics students was not enough to prevent the higher

frequency of adult-oriented responses. Perhaps it even had an opposite effect on these students in terms of their understanding about children. This strongly suggested that the traditional classroom type of instruction alone is not sufficient for providing general information regarding Child Development nor is it adequate for training day care workers. A combination of extended book knowledge and practical experience with young children thus is highly recommended. The fact that the Nonsocial Science students were not more authoritarian than were the first year Home Economics students might be due to the fact that in their design projects, many facets of human needs had to be taken into consideration. This might contribute to their awareness of the fulfillment of these needs to some extent. If this is true, this study leaves unanswered the question of how representative these Nonsocial Sciences students were. This remains to be examined in future studies.

Despite the fact that the frequency of choosing adult-oriented responses was negatively related to the amount of knowledge and child caring experience in general, interestingly, those students who had more experience with siblings did not seem to respond in this way. Although only one comparison showed a statistically significant difference, a tendency was observed for the students with more siblings to be authoritarian regardless of their

knowledge and background experience. However, more of these students had younger siblings. Being older children themselves might have increased their 'bossy' attitude toward young children. This was found to be true in the study done by Abramovitch, Carter, and Lando (1979). They found older siblings displayed more agonistic behaviors than did younger siblings despite the sex of the older siblings and the spacing intervals between siblings. Furthermore, younger siblings were more likely to react to these behaviors by submission than by counterattack while the opposite was true for older siblings. However the possibility of generalization from the study was limited by the fact that it was done with young children who came from predominately two-child families. A crucial pattern of interaction among siblings nevertheless was clearly demonstrated. Perhaps the more authoritarian attitude held by those students with more siblings as found in the present study simply reflected their accumulated experience with younger siblings. However, the finding that more sibling experience was associated with a high instance of selecting adult-oriented responses was not observed in the mothers. In contrast, mothers with more siblings were even more child-oriented and less adult- and task-oriented which seemed to suggest that motherhood combined with more sibling experiences probably sensitized mothers' responses further to be more concerned with children's learning and welfare.

However, the actual effect of sibling experience and adults' attitude toward children is not clearly understood. Further study is needed to examine in detail the interactional contribution of children's behavioral cues and the amount of sibling experience and its effect on shaping adults' behaviors.

CHAPTER VI

SUMMARY

The present study was based on the belief that adults' reaction is strongly influenced by children's behavioral cues and that the variation of adults' responses is, in part, shaped by their previous amount of formal Child Development knowledge and child care experience. As a consequence four hypotheses were developed for the study: 1) mothers will respond to children's behavioral cues in the hypothetical situations differently than will nonmothers, 2) students with knowledge in Child Development will respond to children's behavioral cues in the hypothetical situations differently than will those who have little or no knowledge in Child Development, 3) students with experience in child care will respond to children's behavioral cues in the hypothetical situations differently than will students with little or no experience in child care, and 4) mothers with formal knowledge in Child Development will respond to children's behavioral cues in the hypothetical situations differently than will mothers with little or no formal knowledge in Child Development.

Four subject groups with varying amounts of child care experience and formal Child Development knowledge were included in the study: 60 mothers who represented the most

experienced group in child care; 25 students from third and fourth year Human Development and Early Childhood Education Certificate students who represented the group of students who had the most extensive Child Development knowledge as well as the most direct contact with young children; 72 first year Home Economics students who were assumed to have a very little Child Development knowledge but with no child care experience; 58 first year Nonsocial Science students who represented the group with no Child Development knowledge and with no child care experience. Male students and student mothers were excluded from the study. A total of 202 subjects were involved.

In order to examine how adults are affected by children's behaviors, the instrument of Adult Responses to Children's Behavior (ARC-B) was administered to each of the subjects. The ARC-B included an audio visual presentation of 15 hypothetical situations. Each hypothetical situation contained a child home situation calling for a caregiver's response. A response sheet was also available for each subject. On the response sheet, the three possible responses represented three different orientations toward children, namely, adult orientation which was characterized by adult power assertion over children, task orientation which was characterized by immediate problem resolution, and child orientation which was characterized by concern for

children's learning and development. After presenting each of the hypothetical behavioral situations, subjects were asked to give an initial response to the stimulus on the response sheet. Information regarding the subject's parental and marital status, education in Child Development and other related areas, working experience in child care, ordinal position in the family, age and number of children was also obtained.

The chi square statistic was used to test the hypotheses. The findings showed that mothers responded differently than did the nonmothers ($p<.001$). Mothers also responded differently from any one of the student groups ($p<.01$ to $p<.001$). Furthermore, when the level of the mothers' Child Development knowledge was considered and compared to students with similar amount of Child Development knowledge, differences between mothers and students were observed in all of the analyses ($p<.01$ to $p<.001$). In addition, mothers were compared to the first year Home Economics and nonsocial science students who had ≥ 4 months working experience with children. Significant difference between mothers and first year Home Economics students only was observed ($p<.001$). The repeated pattern of responses observed from the comparisons was that mothers consistently selected more task but fewer adult and child responses.

When a varying degree of students' formal knowledge was considered, students with formal knowledge in Child Development and other related areas responded differently than did students with no such knowledge ($p<.01$). Students also differed among themselves with a different amount of knowledge in Child Development ($p<.01$ to $p<.001$). In an attempt to exclude child care experience as a factor in influencing adults' reaction to children's behavioral cues. Comparisons were made between those having similar amount of child care experience but with different amount of Child Development knowledge. Once again there were significant differences in most of the comparisons but not all of them ($p<.50$ to $p<.01$). As the sibling experience was equalized, significant differences ($p<.05$ to $p<.001$) were observed in all of the comparisons. It was found that the amount of formal Child Development knowledge was associated with the more frequent selection of child response and less frequent selection of adult responses. The selection of task responses was not so consistent.

The different amount of students' child care experience was also examined. Students with child care experience responded quite differently from students with no such experience ($p<.001$). Similarily, when the amount of child care experience was broken down and compared with each other, significant differences were observed in most of the

comparisons but not all of them ($p<.20$ to $p<.001$). The varying amount of child care experience within the first year Home Economics students and within the Nonsocial Science students was also taken into consideration. Again, significant differences were found in the majority of the analyses but not all of them ($p<.70$ to $p<.01$). In addition, those students who had more siblings were compared to students with fewer siblings within each individual student group. Significant difference was observed only in the Senior Child Development group ($p<.05$). A similar comparison was made in the mother group, significant ($p<.02$) differences was found between mothers with more siblings and mothers with fewer siblings. Overall, the greater amount of child care experience was frequently associated with the selection of child responses but less frequently associated with the selection of adult and task responses.

An attempt was also made to study if mothers' amount of formal Child Development knowledge was associated with their responses. It was observed that the mothers with Child Development knowledge did not respond significantly differently from the mothers with no such background ($p<.20$). Furthermore, when the varying degree of mothers' formal Child Development knowledge was compared, only one significant ($p<.05$) difference was observed, and that occurred between mothers with the greatest number of Child

Development related courses and mothers with no such background at all. A nonsignificant ($p<.70$ to $p<.10$) tendency of response however was observed, i.e. mothers with more educational experience in Child Development tended to choose more task but fewer adult and child responses.

In conclusion, the major findings of this investigation were that the knowledge acquired through courses in Child Development was associated with fewer adult-oriented responses. Experience with children both through motherhood and educational training programs resulted in fewer adult-oriented and more task-oriented responses. The only exception was students' experience with siblings. The latter seemed to bring forth more adult-oriented responses. The results of this study give support to the theory that adults' responses to children's behavioral cues vary with their child care experience and the number of Child Development related courses they have taken.

Limitations and Recommendations

The results obtained from this study cannot be generalized to other populations because they were based upon the responses of a small number of relatively non-representative respondents. All the subjects were drawn from a university community. The level of education of the

student group varied from one to four years of university and the mothers were most likely to have university education (51.7%) or professional training beyond high school (31%). Highly educated subjects from a university setting are usually very research-conscious which might affect the results of the study.

A considerable amount of literature indicated that different child rearing patterns were associated with social class differences. Research has shown that middle-class parents tend to use reasoning more and are less likely to use physical punishment than lower-class parents (Walters and Stinnett, 1971; Rosen, 1964). The relatively more frequent selection of child-oriented responses and the less frequent selection of adult-oriented responses observed in the present study could be explained by the subjects' social class background. Information regarding the subjects' social economic status was not available in this study, but the subjects' educational background was obtained. Parental supportiveness has been shown to be positively related to children's academic achievement (Norris, 1968). It has been found that middle class parents were more supportive and showed a greater degree of parental acceptance of their children (Rosen,1964). Therefore, it was not unreasonable to postulate that a large proportion of the students from the present study were from a middle class background and

thus held middle class values in regard to their responses to children's needs. It was recognized by the investigator, however, that a few students may not come from middle class background and may have been supported by scholarships. The mothers were also unique in that they were more likely to be from middle or upper middle class backgrounds. In fact, many of them were faculty members or associated with the university through their spouses. Whether their avoidance in choosing the authoritarian techniques in responding to children's hypothetical situational cues is associated with their social economic status may be questioned. Therefore, the results of the present study should be viewed as tentative since they reflect mostly middle class attitudes toward child rearing. A study based on the responses of adults from different social backgrounds and from a more representative and research naive sample is needed in order to provide a more complete picture of adult-child interaction.

The instrument used appeared to be quite adequate in terms of providing hypothetical cues. However, a detailed content analysis of the slides is needed in order to determine the elements that are contained in the situations and which of them have the most potential for cueing adults. It is also felt that an equal number of girls and boys should be portrayed in the slides since sex of the child

itself might be a cue sufficiently strong for adults to react differently.

The questionnaire on background information could be further refined, especially the question on child care experience. It might be more helpful for the investigator to know the precise nature and duration of the kind of experience reported by the subject. It would be interesting also to include other family members such as the father in the study since relatively little systematic research in this field has included fathers. Recently, a number of researchers have attempted to assess paternal responsiveness to infant signals (e.g. Parke and O'Leary, 1975; Lamb, 1980). They found fathers were just as sensitive and nurturant as mothers in responding to children's needs. A study based upon the responses of both mother and father would be valuable to better understand the paternal contribution to the psychological development of young children.

Implications for Further Research

The purpose of this study was to investigate the influence of knowledge of children and experience in working with children on the type of response to hypothetical situations involving a child.

Of the three groups of students those with most extensive supervised experience in child care and the greatest number of formal courses in Child Development responded most similarly to the mothers. If the responses made by the mothers were really the most desirable and sensitive to the children's behavioral cues, then training in child care and development is effective in increasing sensitivity to children's behavioral cues. On the other hand, if this sensitivity occurs naturally with motherhood, then training is not at all necessary. It is true, however that the Senior Child Development students' responses were less adult-oriented (authoritarian) than were the mothers and those mothers with the greater number of formal Child Development courses were even less adult-oriented. If these findings are supported by further studies, and if the mothers obtained the formal child development courses prior to motherhood, and if, as the research suggests, authoritarian child-rearing techniques are less desirable in that they contribute to children's overt aggression and dependency (Miller and Swanson, 1960; Moore, 1965; Delany, 1965), then courses in Child Development and care are important for preparation for motherhood. If the mothers obtained the formal courses in Child Development after their children were born, then courses in child care and development are important for those who are already mothers. The increasing number of adolescent mothers and the higher

frequency of adult-oriented responses of the students with little or no formal Child Development education (first year Home Economics and Nonsocial Science students) also suggested that this kind of education would be effective if provided at least as early as high school.

Evidence from the present study suggests that university students who were elder siblings themselves tended to be more authoritarian in their responses to children's needs. The actual effect of sibling order and its influence on people's perception and reaction to children's signals is still not very clear. Further information in this area is needed. If further research confirms the findings of the present study and if, again, authoritarian child-rearing techniques are not desirable (Moore, 1965), then parents and educators should be aware of this sibling effect and provide opportunities for the elder siblings to utilize alternative ways of interaction.

The principal findings of this study supported the bidirectional model of parent-child interaction as proposed by Bell (1968, 1970) in that the responses chosen by the adults were associated to a substantial extent with the nature of children's behavior as portrayed in the slides. The results indicated that adults varied their responses according to the situations and no single technique was used under all conditions. It would certainly seem from this

study that adult-child interaction is a two-way street.

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APPENDICES

APPENDIX A

TELEPHONE CONVERSATION

TELEPHONE CONVERSATION

Hello. Is this _____? My name is Sherry Fang and I'm a graduate student at the University of Manitoba. Thank you for indicating that you will participate in my study, which is about adult's response to children's behavior. As you know, I'll show you some slides and you'll be asked to record your response. Any information you provide will be used for statistical purposes only and will remain confidential. I'll be showing the slides to some other mothers on date, time, and place. If that date is inconvenient for you, I can pay a visit to your place at a time convenient to you. Thank you for taking your time.

APPENDIX B

VERBAL INSTRUCTION TO STUDENTS

VERBAL INSTRUCTION TO STUDENTS

I'd like to have your participation with a research project about adult's reaction to children's behavior. The study will include the presentation of a series of audio-visual items, and you will be asked to indicate your response to each of the audio-visual item on a response sheet. Any information you provide will be used for statistical purposes only, and will remain strictly confidential. It is not necessary to put your name on the questionnaire. It will take about 15 to 20 minutes to complete the survey. I hope you understand your participation is totally voluntary.

Your cooperation with this research will be greatly appreciated, and will contribute to a greater understanding of parent-child relationships. Thank you for taking your time.

APPENDIX C

ARC-B

Source: Jacobson, R. B., Bigner, J. J., Gardner, D. B., and Miller, J. A. Home Economics Research Journal, 1980, 9(1), 72-76.

PLEASE ANSWER BY FILLING IN CIRCLES.

ADULT RESPONSES TO CHILDREN

THE FOLLOWING SERIES OF SLIDES IS DESIGNED TO OBTAIN INFORMATION ABOUT THE WAYS IN WHICH ADULTS RESPOND TO CHILDREN. ASSUME THAT YOU ARE THE PARENT OR RESPONSIBLE ADULT FOR EACH CHILD SHOWN. FOR EACH SLIDE, THERE WILL BE AN ACCOMPANYING NARRATIVE DESCRIBING A SITUATION. YOU ARE TO EXAMINE THE THREE RESPONSES SHOWN FOR THAT ITEM, AND FILL IN THE ≠0≠ FOR THE RESPONSE WHICH IS CLOSEST, OR MOST SIMILAR, TO THE WAY YOU BELIEVE YOU WOULD RESPOND TO THE CHILD'S BEHAVIOR. YOU WILL HAVE ONLY A FEW SECONDS TO MAKE YOUR DECISION. DO NOT WORRY ABOUT WHICH ONE MIGHT BE THE 'RIGHT' OR 'BEST' RESPONSE, WHAT IS NEEDED IS YOUR INITIAL REACTION WITHOUT GIVING THE MATTER A GREAT DEAL OF THOUGHT. AND DO NOT BE CONCERNED ABOUT THE FACT THAT NONE OF THE RESPONSES IS EXACTLY WHAT YOU WOULD PROBABLY DO. WE KNOW THAT MAY BE THE CASE, AND WILL TAKE THAT INTO ACCOUNT.

NUMBER ONE

O A. HELP HIM GET THE THINGS CLEARED UP.

O B. EXPLAIN THAT IF HE CLEANS IT UP NOW HE WILL BE ABLE TO PLAY WITH THEM LATER.

O C. MAKE HIM CLEAN IT UP RIGHT NOW.

NUMBER TWO

O A. BREAK IT UP. 'STOP THAT, RIGHT NOW.'

O B. TALK TO THEM ABOUT HOW HITTING CAN HURT, AND SUGGEST SOMETHING ELSE FOR THEM TO DO.

O C. TAKE THE STICKS AWAY FROM THEM.

NUMBER THREE

O A. SHOW HIM HOW THE CHEST COULD FALL AND HURT HIM.

O B. TAKE HIM DOWN; SEND HIM OUTSIDE TO PLAY.

O C. TELL HIM TO GET DOWN IMMEDIATELY OR HE WILL GET A SPANKING.

NUMBER FOUR

O A. GIVE THE SISTER ANOTHER TOY TO PLAY WITH.

O B. TELL HIM THAT SHE HAD THEM FIRST, AND HE CAN HAVE A TURN WHEN SHE IS THROUGH.

O C. TAKE THE TOYS AWAY FROM THE CHILDREN, AND TELL THEM THEY CANNOT HAVE THE TOYS IF THEY CANNOT PLAY NICELY.

NUMBER FIVE

O A. LET HIM FIX THE BOAT WHILE HIS INTEREST AND ATTENTION ARE ON IT.

O B. HELP HIM FINISH HIS BATH AND TELL HIM HE CAN FIX THE BOAT LATER.

O C. TELL HIM HE HAS EXACTLY ONE MINUTE TO OBEY OR HE WILL BE SPANKED.

NUMBER SIX

O A. SEND THE CHILDREN OUTSIDE WHILE YOU STRAIGHTEN UP THE ROOM QUICKLY.

O B. MAKE THEM REPLACE THE CUSHIONS AND THEN SIT QUIETLY IN THEIR ROOM.

O C. HAVE THEM REPLACE THE CUSHIONS, AND THEN HELP THEM FIND SOMETHING ELSE TO BUILD THEIR FORT.

NUMBER SEVEN

O A. 'ALL RIGHT, GO AHEAD AND WATCH T.V.'

O B. PUT HER TO BED.

O C. TELL HER IF SHE HURRIES SHE WILL NOT MISS THE SHOW, THEN HELP HER TO HURRY.

NUMBER EIGHT

O A. SPANK HER LIGHTLY AND THEN FIRMLY LET HER KNOW SHE IS NOT TO BE IN THE LAUNDRY BASKET.

O B. SEND HER TO HER ROOM.

O C. PUT THE LAUNDRY BASKET OUT OF REACH OF THE CHILD.

NUMBER NINE

O A. LET HIM STAY, BRIEFLY; TALK WITH HIM AND GET HIM TO VERBALIZE HIS CONCERNS, THEN SEND HIM BACK TO HIS OWN BED.

O B. PUT HIM BACK IN HIS OWN BED.

O C. TAKE HIM TO HIS ROOM, SIT WITH HIM BRIEFLY, AND READ HIM A STORY UNTIL HE IS RELAXED AND SLEEPY.

NUMBER TEN

O A. HELP HIM PUT THE GOOD UTENSILS AWAY, AND GET HIM TO VERBALIZE WHICH THINGS HE CAN PLAY WITH AND WHICH THINGS HE CAN NOT.

O B. TAKE THEM AWAY FROM HIM AND MAKE IT CLEAR HE IS NOT TO TAKE YOUR GOOD THINGS.

O C. DO NOT MAKE AN ISSUE OF IT; JUST PUT YOUR UTENSILS AWAY AND GET OUT SOME OF HIS THINGS FOR HIM TO PLAY WITH.

NUMBER ELEVEN

O A. TALK TO HIM SOFTLY AND PLEASANTLY ABOUT HOW HIS BODY NEEDS REST, AND REMIND HIM OF WHAT HE NEEDS TO DO FIRST.

O B. PICK UP HIS TOYS QUICKLY; DO NOT MAKE AN ISSUE OF IT, BUT GET HIM TO BED RIGHT AWAY.

O C. MAKE HIM PUT THE TOYS AWAY; REPRIMAND HIM AND PHYSICALLY PUT HIM TO BED.

NUMBER TWELVE

O A. SEND HIM BACK OUT AND TELL HIM NOT TO BE A BABY.

O B. TALK TO HIM ABOUT PLAYING WITH OTHERS, AND SHARING AND TAKING TURNS.

O C. JUST LET HIM STAY IN; IGNORE IT; LEAVE HIM ALONE.

NUMBER THIRTEEN

O A. JUST SEPARATE THE CHILDREN AND KEEP THEM APART FOR A WHILE.

O B. IN WORDS HE CAN UNDERSTAND, EXPLAIN THAT SOMEONE COULD BE HURT.

O C. SCOLD HIM AND TELL HIM YOU WON'T LET HIM DO THAT.

NUMBER FOURTEEN

O A. SPANK HIM; DO NOT ALLOW HIM TO PLAY OUTSIDE ANYMORE.

O B. SEPARATE THE TWO BOYS AND GIVE THEM SOMETHING ELSE TO DO.

O C. TELL HIM OF THE DANGERS; SHOW HIM A SAFER WAY OF WRESTLING.

NUMBER FIFTEEN

O A. CHANGE THE ACTIVITY TO THROWING SNOW AT A TARGET ON THE FENCE.

O B. HELP HIM UNDERSTAND WHY WE DO NOT THROW THINGS AT OTHER PEOPLE.

O C. SEND HIM INSIDE IMMEDIATELY AS PUNISHMENT.

--- THANK YOU FOR HELPING WITH THIS RESEARCH PROJECT ---

On this sheet we are asking you to write words which describe, for you, a certain kind of person. For example, if we asked you to put down three words which describe a good soldier, someone might write:

1. brave
2. obedient
3. alert

because those words describe that person's idea of what a good soldier is like. However, other people might use different words, because each person may have a different idea of what a good soldier is like.

For each of the following, please write the first three words you can think of which come closest to describing <u>your</u> idea of that kind of person.

A. A GOOD MOTHER

1. _____
2. _____
3. _____

B. A GOOD FATHER

1. _____
2. _____
3. _____

C. A BAD MOTHER

1. _____
2. _____
3. _____

D. A BAD FATHER

1. _____
2. _____
3. _____

E. A GOOD CHILD

1. _____
2. _____
3. _____

F. A BAD CHILD

1. _____
2. _____
3. _____

A D U L T R E S P O N S E S T O C H I L D B E H A V I O U R

BACKGROUND INFORMATION

Kindly answer the following. DO NOT WRITE YOUR NAME ON THIS QUESTIONNAIRE.

1. Your age _____ years. 2. Sex: Male _____ Female _____

3. Your marital status: Single _____ Married _____ Separated _____ Divorced _____

4. How many children do you have? _____

5. Check the age categories which represent the ages of your children.

_____ under one year

_____ between one and two years

_____ between two and three years

_____ over three years of age

6. How many brothers and sisters do you have? _____

7. What is your ordinal position in your family relative to your brothers and sisters? Check below.

_____ eldest

_____ second eldest

_____ third eldest

_____ fourth eldest

_____ fifth eldest

_____ other

8. What was the last grade which you completed in school? _____

9. Did you take any courses or special training beyond high school?

Yes _____ No _____ If yes, what type of training? _____

10. How many courses have you taken in child development, child psychology, or child training?

_____

List by name no more than four of the courses included in your number above.

_____ _____

_____ _____

11. What child caring experiences have you had? Check below and indicate for how long.

Child care centre _____ For how long? _____ months.

Play ground _____ For how long? _____ months.

Camp _____ For how long? _____ months.

Other _____ For how long? _____ months.

Specify _____.

APPENDIX D

1. Your child keeps playing after you've warned him that it's time to clean up.

2. This make-believe sword fight has gone on a bit too far.

3. You find your child climbing on the chest drawer.

4. Johnny takes the blocks away from his little sister and won't let her play with them.

5. Your child howls and insists he needs to fix the boat even though the water is getting cold and it is past time for him to get out.

6. After hurrying to clean the living room in time to get ready for company, you find the children have removed all the cushions and built a fort in their room.

7. Shortly after preparing Mary's bath and telling her to get in, you find her in the living room waiting for her favorite TV program to come on.

8. Sue has been told twice today not to play in the laundry basket yet she persists.

9. You find your little boy in your bed after he has been settled in his own bed.

10. Entering the kitchen you find your son has decided to use some of your best utensils for his play.

11. From the time you told him to get ready for bed until now, Jimmy has gotten out most of his toys and forgotten what he is supposed to be doing.

12. when he didn't get his way with the other children, he retreated to his crib and security blanket.

13. A shout from Peter send the other child sprawling on the ground.

14. Now Peter is trying to pull the other child off the climbing equipment.

15. Throwing snowball at a target can be fun but this target is another child.

APPENDIX E

CHI SQUARE VALUE AND PROBABILITY LEVEL ON ADULT AND TASK ORIENTATIONS

Hypothesis 1

Comparison Group	χ^2	df	p
Mothers and nonmothers	46.73[a]	1	.001*
Mothers, SCD students, FYHE students, and NSS students	73.73[a]	3	.001*
Mothers and SCD students	11.35[a]	1	.01*
Mothers and FYHE students	61.32[a]	1	.001*
Mothers and NSS students	30.53[a]	1	.001*
High knowledge mothers (HKM) and SCD students	9.97[a]	1	.01*
Low knowledge mothers (LKM) and FYHE students	12.97[a]	1	.001*
No knowledge mothers (NKM) and NSS students	3.37[a]	1	.10
Mothers and high experience FYHE students (HE FYHE)	24.22[a]	1	.001*
Mothers and high experience NSS students (HE NSS)	5.22[a]	1	.05*

[a] indicates Yate's Correction for Continuity was applied because df = 1.

*$p < .05$.

Hypothesis 2

Comparison Group	χ^2	df	p
Knowledge and no knowledge	0.41[a]	1	.80
High knowledge (HK), low knowledge (LK), and no knowledge (NK)	24.26	2	.001*
High knowledge (HK) and low knowledge (LK)	23.81[a]	1	.001*
High knowledge (HK) and no knowledge (NK)	12.33[a]	1	.001*
Low knowledge (LK) and no knowledge (NK)	4.41[a]	1	.05*
High knowledge (HK) and high experience low knowledge (HE LK)	12.76[a]	1	.001*
High knowledge (HK) and high experience no knowledge (HE NK)	2.95[a]	1	.10
High experience low knowledge (HE LK) and high experience no knowledge (HE NK)	3.79[a]	1	.10
Low experience low knowledge (LE LK) and low experience no knowledge (LE NK)	11.50[a]	1	.01*
No experience low knowledge (NE LK) and no experience no knowledge (NE NK)	1.41[a]	1	.30
High knowledge with more siblings (HK MS) and low knowledge with more siblings (LK MS)	6.76[a]	1	.01*

Note Knowledge = courses in Child Development and other related areas.

[a] indicates Yate's Correction for Continuity was applied because df = 1.

*$p < .05$.

Hypothesis 2-Continued

Comparison Group	χ^2	df	p
High knowledge with more siblinhs (HK MS)			
and no knowledge with more siblings (NK MS)	3.65[a]	1	.10
Low knowledge with more siblings (LK MS)			
and no knowledge with more siblings (NK MS)	0.89[a]	1	.50
High knowledge with fewer siblings (HK FS)			
and low knowledge with fewer siblings			
(LK FS)	17.84[a]	1	.001*
High knowledge with fewer siblings (HK FS)			
and no knowledge with fewer siblings			
(NK FS)	10.26[a]	1	.01*
Low knowledge with fewer siblings (LK FS)			
and no knowledge with fewer siblings			
(NK FS)	3.13[a]	1	.10

Note Knowledge = courses in Child Development and other related areas.

[a] indicates Yate's Correction for Continuity was applied because df = 1.

*$p < .05$.

Hypothesis 3

Comparison Group	χ^2	df	p
Experience (EXP) and no experience (NE)	10.71[a]	1	.01*
No experience (NE), low experience (LE), and high experience (HE)	20.75	2	.001*
No experience (NE) and low experience (LE)	2.26[a]	1	.10
No experience (NE) and high experience (HE)	18.74[a]	1	.001*
Low experience (LE) and high experience (HE)	10.34[a]	1	.01*
No experience FYHE (NE FYHE), low experience FYHE (LE FYHE), and high experience (HE)	3.43	2	.20
No experience FYHE (NE FYHE) and low experience FYHE (LE FYHE)	2.50[a]	1	.20
No experience FYHE (NE FYHE) and high experience FYHE (HE FYHE)	3.08[a]	1	.10
Low experience FYHE (LE FYHE) and high experience FYHE (HE FYHE)	0.14[a]	1	.80
No experience NSS (NE NSS), low experience NSS (LE NSS), and high experience NSS (HE NSS)	5.69	2	.10

Note Experience = child care experience.

[a]indicates Yate's Correction for Continuity was conducted because df = 1.

*$p < .05$.

Hypothesis 3- Continued

Comparison Group	χ^2	df	p
No experience NSS (NE NSS) and low experience NSS (LE NSS)	0.27[a]	1	.70
No experience NSS (NE NSS) and high experience NSS (HE NSS)	4.83[a]	1	.05*
Low experience NSS (LE NSS) and high experience NSS (HE NSS)	3.76[a]	1	.10
SCD with more siblings (MS SCD) and SCD with fewer siblings (FS SCD)	4.11[a]	1	.05*
FYHE with more siblings (MS FYHE) and FYHE with fewer siblings (FS FYHE)	1.00[a]	1	.50
NSS with more siblings (MS NSS) and NSS with fewer siblings (FS NSS)	2.62[a]	1	.20

Note experience = child care experience.

[a]indicates Yate's Correction for Continuity was conducted because df = 1.

*p<.05.

Hypothesis 4

Comparison Group	χ^2	df	p
Mothers with knowledge in Child Development (KM) and mothers with no knowledge in Child Development (NKM)	3.14[a]	1	.10
High knowledge mothers (HKM), medium knowledge mothers (MKM), low knowledge mothers (LKM), and no knowledge mothers (NKM)	7.63	6	.10
No knowledge mothers (NKM) and low knowledge mothers (LKM)	1.05[a]	1	.30
No knowledge mothers (NKM) and medium knowledge mothers (MKM)	5.20[a]	1	.05*
No knowledge mothers (NKM) and high knowledge mothers (HKM)	6.35[a]	1	.02*
Low knowledge mothers (LKM) and medium knowledge mothers (MKM)	1.66[a]	1	.20
Low knowledge mothers (LKM) and high knowledge mothers (HKM)	2.16[a]	1	.20
Medium knowledge mothers (MKM) and high knowledge mothers (HKM)	0.03[a]	1	.30

Note Knowledge = courses in Child Development or other related areas.

[a] indicates Yate's Correction for Continuity was conducted because df = 1.

*$p < .05$.