A COMPARISON OF THE ORIENTATION BEHAVIORS OF MOTHERS AND THEIR PRESCHOOL CHILDREN IN AN UNFAMILIAR SITUATION

Dissertation for the Degree of Ph. D.
MICHIGAN STATE UNIVERSITY
MARILYN A. OLSON
1975

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and affective orientation behavior of the mothers.

A completely crossed two between and one within ANOVA design
was employed, the independent variables being sex of the child (male
and female), race (black and white) and socioeconomic status (middle
class and lower class). The unit of analysis was the mother-child
dyad, and the dependent variables were the verbal, nonverbal, and
affective orientation behaviors of the mothers and the affective
orientation behaviors of the child. Ordinal position of the child,
age of the mother and age of the child were covariates. Regression

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ABSTRACT

A COMPARISON
OF THE ORIENTATION BEHAVIORS OF MOTHERS
AND THEIR PRESCHOOL CHILDREN
IN AN UNFAMILIAR SITUATION

By

Marilyn A. Olson

The purpose of this study was to compare the orientation behaviors of mothers and their preschool children in an unfamiliar situation. The specific objectives were to compare mothers' verbal, nonverbal, and affective orientation behaviors and the affective orientation behavior of their preschool children in an unfamiliar situation with respect to socioeconomic status, race, and/or sex of the child and to determine if there was a relationship between age of the mother or ordinal position of the child and the verbal, nonverbal, and affective orientation behavior of the mother.

A completely crossed and balanced 2 x 2 x 2 orthogonal design was employed, the independent variables being sex of the child (male and female), race (black and white) and socioeconomic status (middle class and lower class). The unit of analysis was the mother-child dyad, and the dependent variables were the verbal, nonverbal, and affective orientation behaviors of the mothers and the affective orientation behaviors of the child. Ordinal position of the child, age of the mother and age of the child were covariates. Regression

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analyses were also performed on the dependent variables, the independent variables being ordinal position of the child and age of the mother.

A sample of forty-eight preschool children and their respective mothers was randomly chosen through a stratified sampling procedure from the sample for a larger study. Only subjects having complete data were selected and where siblings existed in the subject pool, only the first one randomly selected and his mother became part of the sample; the second child from the same family was eliminated from the pool. Both subjects in each parent-child unit were either both Afro-American (black) or Anglo-American (white); any subject units not meeting this criterion were eliminated.

Data were collected through a videotaped situation where the mother was instructed to familiarize her child to the new environment and then left alone with her child in the situation for five minutes. The resultant behaviors of interest were rated using an observational rating procedure.

The specific dependent variables of interest were:

1) Verbal orientation behavior--verbalization, verbal focus, verbal fantasy, time orientation, voice affective tone, verbal initiation-response mode, verbal support, and verbal independence promotion;

2) Nonverbal orientation behavior--affective physical behavior, neutral physical behavior, nonverbal initiation-response mode, nonverbal support, and nonverbal independence promotion;

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3) Affective orientation behavior of the mother--hostility, warmth, and anxiety;

4) Affective orientation behavior of the child--anxiety and child dependency.

Based on the results of the preliminary analyses a regrouping of maternal dependent variables based upon the total maternal affective orientation behavior was determined. These variables were: verbal focus, voice affective tone, verbal initiation-response mode, verbal support, verbal independence promotion, affective physical behavior, nonverbal initiation-response mode, nonverbal support, nonverbal independence promotion, hostility, warmth, and anxiety.

A multivariate analysis of variance was used to test the hypotheses pertaining to sex, race, and/or socioeconomic status after a covariance procedure indicated that ordinal position of the child, age of the mother, and age of the child were nonsignificant. Regression analyses were used for the other two related independent variables of interest--ordinal position of the child and age of the mother. The hypotheses pertaining to change in child behaviors over time had a repeated measures dimension.

Preliminary results indicated that the only differences in maternal orientation behaviors rested in social class. Middle-class mothers were more verbal, used more affective physical behaviors, and were less hostile to their children than were lower-class mothers. Middle-class mothers engaged in more fantasy verbalizations, talked more about every aspect of the trailer environment, were more supportive, and did more verbal independence promotion than the

lower-class mothers did. Lower-class mothers, on the other hand, talked more about other school environments and used more neutral physical behavior than middle-class mothers.

No differences were found in maternal orientation behaviors with respect to race, sex of the child and the interactions of race, sex of the child, and/or socioeconomic group. In addition, age of the mother and ordinal position of the child were not found to be related to any maternal orientation behaviors.

The results based on the regrouping of variables related to total maternal affective orientation behavior indicated that the only differences in these behaviors were with respect to social class. Middle-class mothers were less hostile and did more verbal independence promotion than did lower-class mothers. Middle-class mothers were more supportive, verbally and nonverbally, than were lower-class mothers. Middle-class mothers used more affective physical behavior, more pro-active physical behavior, and more nonverbal behavior which was independence-promoting than did lower-class mothers.

No differences were found in total maternal affective orientation with respect to race, sex of the child, and the interactions of race, sex, and/or socioeconomic group.

Results indicated that the only differences in child affective behavior rested in sex of the child differences. Over time, boys increased in emotional dependency, while girls decreased; also over time, girls increased in total quantity of dependency shown, while boys decreased or stayed the same. In a separate analysis, significance was

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found to exist for girls for increased quantity of dependency, but not for boys for increased emotional dependency.

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OF THE ORIENTATION BEHAVIORS OF MOTHERS
AND THEIR PRESCHOOL CHILDREN
IN AN UNFAMILIAR SITUATION

By

Marilyn A. Olson

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Family Ecology

1975

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MARILYN A. OLSON

1975

To loving husband,

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DEDICATION

To my loving husband, Kenneth, who truly deserves equal credit for the completion of this work, for without his constant support, persistence, encouragement, technical assistance and tolerance I would not have been able to maintain the drive to finish my education while being wife and mother as well;

To my daughter, Nicole, who endured many "motherless" hours so that I might complete my education;

And to my wonderful parents, George and Sally Jenks, whose encouragement from my very early years instilled in me the desire to make the most of all my educational opportunities.

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ACKNOWLEDGMENTS

Completion of any graduate program culminating in a dissertation such as this is not the result of a single individual's efforts, but rather due to the continual advice, assistance, suggestions and encouragement from many people along the way. To all who have helped in various capacities toward the progression and completion of this thesis and my entire education, thank you. I wish to mention those who played integral parts in helping me with this dissertation.

Above all, I wish to thank Dr. Robert P. Boger, my major academic advisor, guidance committee chairman and codirector of my dissertation research. During the past four years he has not only provided advice and suggestions concerning the many various intellectual and academic opportunities available, but has done much to assist in the refinement, conduction and completion of this particular research problem. For all of his help, advice, and friendship, I am truly grateful.

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continuously shown tolerance and understanding toward me and has given me encouragement all along the way. Words cannot express adequately the full measure of appreciation I have for her efforts.

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Caroline Vose Smith spent countless hours viewing videotapes to assist in the development of the instrument and in the rating of the tapes. Without her diligence and desire to do the best job possible, plus her warm friendship, I would have been lost.

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Gayle Swanbeck keypunched and verified at all hours of the day while Sally Trapp coded and quality-checked countless cards so that my deadline might be reached. I appreciate their special efforts.

Jim Respress and Connie Lisiecki saw to it that the videotape, videotape recorders and television sets were in working order throughout the taping sessions and the many long hours of rating. Without their technical assistance the research might never have been done.

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--Marilyn Olson

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CHAPTER I

INTRODUCTION

Statement of the Problem

One of the primary functions of today's family is the socialization of the child. Socialization is here defined as the process whereby an individual learns the ways of a given society or group and then acquires the skills necessary to make him a functioning, adequate member of society. This process can be viewed as being comprised of many different and related goals.

One of the goals of the socialization process is to teach the child to cope with new and unfamiliar situations. While some of the learning may come about through channels other than the child's immediate family (e.g., neighbors, peers, individual self-discovery), in our culture it is assumed that a child's parents have primary responsibility in this area. How a parent orients his child to a new and unfamiliar environment and how the child responds to this situation are the primary foci in this study.

Frequently one parent, more than the other, has a greater hand in helping the child learn certain behaviors. Even today, in 1973, the "husband-father" is still the primary wage-earner, and the "wife-mother" still has primary caretaking responsibilities. It is

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assumed that the mother, then, has more opportunities in the course of a day to help a child cope with new happenings and new experiences. Dager (1964) supported this notion. This is not to underestimate the importance of a father's role in also teaching the child coping strategies. It is only to recognize the probability that, in most daily new experience situations, it is the mother who will be available to deal with them.

In our society it is assumed that by whatever means mothers accomplish this task, these means will differ across different demographic groups. The purpose of this study is to determine how, in dealing with an unfamiliar situation, each of the following--maternal verbal, nonverbal, and affective orientation behavior, and the child's affective behavior--varies with respect to the demographic characteristics of socioeconomic status, race, age of the mother, sex of the child, and ordinal position of the child. Acquisition of information in this area could lead to increased understanding about the child socialization process and particularly about mother-child interactions in unfamiliar surroundings.

Parents are concerned about how to go about orienting their children to new environments. A child entering nursery school for the first time is apprehensive, and the parent is usually aware of this; the parent wants the child to have a good "first impression" of school, and so, along with the teacher, will try to put him at ease in the new situation (Hildebrand, 1971). A child about to enter a hospital or undergo surgery is understandably anxious; the child's parents

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will want to know how to prepare him for this stressful situation (Levy, 1959). How parents prepare their children for new experiences is a researchable question.

This study was designed within an interactional framework and it focused on a specific interactional dyad--the mother and her child. In this sense this study (unlike the framework) is limited in its understanding of total family dynamics since a relationship represents more than the sum of the personalities that make it up (Ackerman, 1954). While the focus of this study does limit its familial relevance, it is assumed that the parts do contribute to the whole. Understanding of the pieces may increase understanding of the whole. Thus, increased understanding of the interactions of the mother-child dyad (empirically shown to be a closely interacting unit in the first few years of a child's life) may contribute to the understanding of total family socialization patterns as well as to the understanding of how parents and children interact.

The concept of role is particularly relevant to this study. Role refers to a set of expectations (Styker, 1959). The parent expects the child to behave in certain ways because he is a child, and the child learns to expect the parent to behave in certain ways. While there is evidence to assume that the mother follows some sort of consistent pattern with her child in dealing with a situation (Lafore, 1945)--that is she plays her role as she and her child have defined it--it is recognized that these patterns may vary with the situation with which they are confronted (Maccoby, 1961). While many of the

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behaviors exhibited by mothers and children may be completely situation specific, there may be some global behaviors exhibited which could occur in completely different situations. Thus, consistency of behavior may be assumed for some types of behavior, while consistency cannot be assumed for some other types of behavior.

Statement of Objectives

The overall objective of this study was to determine if maternal verbal, nonverbal, and affective orientation behavior and the child's affective behavior in a Familiarization Task Session very with respect to socioeconomic status, race, and/or sex of the child with the relationship of age of the mother and ordinal position of the child to the verbal, nonverbal, and affective orientation behavior of the mother also being ascertained. The general and specific objectives of this study were as follows:

1. Verbal Orientation Behavior of the Mothers

General Objective:

To determine if there is a difference in the verbal orientation behavior of mothers with their preschool children in a Familiarization Task Session with respect to race, socioeconomic status (SES), and/or sex of the child, with the relationship of age of the mother and the ordinal position of the child to the verbal orientation behavior of the mothers also being ascertained.

Specific Objectives:

1.1) To determine if there is a difference between the verbal orientation behavior of middle-class mothers and lower-class mothers with their children in a Familiarization Task Session.

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1.2) To determine if there is a difference between the verbal orientation behavior of black mothers and white mothers with their preschool children in a Familiarization Task Session.

1.3) To determine if there is a difference between the verbal orientation behavior of mothers of boys and mothers of girls with these children in a Familiarization Task Session.

1.4) To determine if there is a difference in verbal orientation behavior of mothers with their preschool children in a Familiarization Task Session with respect to the interaction of race, SES, and/or sex of the child.

1.5) To determine if there is a relationship between the age of the mothers and the verbal orientation behavior of these mothers with their preschool children in a Familiarization Task Session.

1.6) To determine if there is a relationship between ordinal positions of the children and the verbal orientation behavior of the mothers with their preschool children in a Familiarization Task Session.

2. Nonverbal Orientation Behavior of the Mothers

General Objective:

To determine if there is a difference in the nonverbal orientation behavior of mothers with their preschool children in a Familiarization Task Session with respect to race, SES, and/or sex of the child with the relationship of age of the mother and the ordinal position of the child to the nonverbal orientation behavior of the mothers also being ascertained.

Specific Objectives:

2.1) To determine if there is a difference between the nonverbal orientation behavior of middle-class mothers and lower-class mothers with their children in a Familiarization Task Session.

2.2) To determine if there is a difference between the nonverbal orientation behavior of black mothers and white mothers with their preschool children in a Familiarization Task Session.

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2.3) To determine if there is a difference between the nonverbal orientation behavior of mothers of boys and mothers of girls with these children in a Familiarization Task Session.

2.4) To determine if there is a difference in nonverbal orientation behavior of mothers with their preschool children in a Familiarization Task Session with respect to the interaction of race, SES, and/or sex of the child.

2.5) To determine if there is a relationship between the age of mothers and the nonverbal orientation behavior of these mothers with their preschool children in a Familiarization Task Session.

2.6) To determine if there is a relationship between ordinal positions of the children and the nonverbal orientation behavior of the mothers with their preschool children in a Familiarization Task Session.

3. Affective Orientation Behavior of the Mothers

General Objective:

To determine if there is a difference in the affective orientation behavior of mothers with their preschool children in a Familiarization Task Session with respect to race, SES, and/or sex of the child, with the relationship of age of the mother and the ordinal position of the child to the affective behavior of the mother also being ascertained.

Specific Objectives:

3.1) To determine if there is a difference between the affective behavior of middle-class mothers and lower-class mothers with their preschool children in a Familiarization Task Session.

3.2) To determine if there is a difference between the affective behavior of black mothers and white mothers with their preschool children in a Familiarization Task Session.

3.3) To determine if there is a difference between the affective behavior of mothers of boys and mothers of girls with these preschool children in a Familiarization Task Session.

3.4) To determine if there is a difference in the affective behavior of mothers with their preschool children in a Familiarization Task Session with respect to the interaction of race, SES, and/or sex of the child.

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3.5) To determine if there is a relationship between the age of mothers and the affective behavior of these mothers with their preschool children in a Familiarization Task Session.

3.6) To determine if there is a relationship between the ordinal positions of the children and the affective behavior of the mothers with their preschool children in a Familiarization Task Session.

4. Affective Orientation Behavior of the Children

General Objective:

To determine if there is a difference in the affective behavior of preschool children in a Familiarization Task Session in relation to race, SES, sex of the child, and/or the elapsed time spent in the session.

Specific Objectives:

4.1) To determine if there is a difference between the affective behavior of middle-class preschool children and lower-class preschool children in a Familiarization Task Session.

4.2) To determine if there is a difference between the affective behavior of white preschool children and black preschool children in a Familiarization Task Session.

4.3) To determine if there is a difference between the affective behavior of male preschool children and female preschool children in a Familiarization Task Session.

4.4) To determine if there is a difference in the affective behavior of preschool children in a Familiarization Task Session with respect to the interaction of race, SES, and/or sex of the child.

4.5) To determine if the affective behavior of preschool children differs with respect to the elapsed time spent in the Familiarization Task Session.

Conceptual Definitions

Orientation behavior involves the dual processes of orienting and receiving orientation. For the purposes of this research study,

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the orienting behavior of mothers in an unfamiliar situation was considered to be indicated by verbal behavior, nonverbal behavior, and affective behavior. Child orientation to the situation was considered to be indicated by affective behavior. The breakdown within each set of behaviors is as follows:

a) Verbal orientation behavior: verbalization, verbal focus, verbal fantasy, time orientation, voice affective tone, verbal initiation-response mode, verbal support, and verbal independence promotion.

b) Nonverbal orientation behavior: affective physical behavior, neutral physical behavior, nonverbal initiation-response mode, nonverbal support, and nonverbal independence promotion.

c) Affective orientation behavior of the mother: hostility, warmth, and anxiety level.

d) Affective orientation behavior of the child: anxiety level and level of dependency.

Conceptual definitions of each of these variables are as follows:

1) Verbalization is both the quality and quantity of the verbal communication which occurs during an unfamiliar situation. The quality of parental verbalization behavior in such a situation might take one of several directions. Either the parent could talk about the immediately present situation

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(e.g., the testing environment), extensions of the present situation (e.g., the nursery school per se), or factors completely removed from either of these. The specific aspects of each of these directions are important also. For example, if the focus of the verbalization has to do with the testing situation (the environment of the trailer in which the session occurs), the parent might refer to the furniture, the blocks in general, the blocks in specific, the experimenter, the other physical attributes of the trailer, or the emotional atmosphere. If the focus of the verbalization has to do with the nursery school, the parent might refer to the program, the teacher, the building or materials, other children in the nursery school, or the child himself in the nursery school. If the focus of the verbalization has to do with factors completely removed from the trailer or nursery school, the parent might refer to the home environment, other school places, or miscellaneous items.

2) Verbal focus is defined as the person or persons to whom the verbalization is directed or oriented. Child-centered versus other-centered or mother-centered approaches are important considerations in looking at maternal orientation techniques.

3) Verbal fantasy is the degree to which dramatization, imagination, and/or statements which supersede the reality of the situation are used. Utilization of fantasy as a familiarization technique may be an indicator of a particular way a parent relates to his child.

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4) Time orientation is defined as the degree to which verbal reference is made to events in the past, present, or future. The tense of the verb may be an indicator of time orientation; but a more definitive statement of past is "before the situation occurs," a more definitive statement of future is "after the situation is over," and a more definitive statement of present is "anything referred to within the ongoing situation."

5) Voice affective tone is defined as the extent to which positive, neutral, or negative emotion is conveyed in the voice during a verbalization.

6) Verbal initiation-response mode is defined as the degree to which verbal communication by the parent is either proactive, reactive, or retroactive in nature. Brophy (1970) introduced proactive and reactive as terms indicative of differing maternal teaching styles. Proactive is verbally initiating new material and reactive is verbally responding to the preceding behavior of the child. Retroactive is a delayed reaction to the child's behavior.

7) Verbal support is defined as the extent to which verbal communication by the parent shows psychological acceptance of, encouragement of, empathy for, and/or understanding of the child as a person or the child's behavior.

8) Verbal independence promotion is the extent to which verbal communication by the parent encourages self-reliant behaviors

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as opposed to the verbal communication by the parent which encourages clinging behaviors or expects the child to rely on the parent for help, direction, or overprotection. Osofsky (1970) views independence or dependence promotion as useful indicators of the extent to which maternal and child behaviors have an effect on one another.

9) Affective physical behavior is both the quality and quantity of affective physical behavior which occurs. The quality of affective physical behavior of the parent might take one of several directions and is best described by a matrix approach across two dimensions: (1) positive or negative quality, and (2) physical contact or no contact--yielding the four categories of negative physical (negative-contact), social physical (positive-contact), approach (positive-no contact), and defense (negative-no contact).

10) Neutral physical behavior is both the quality and quantity of neutral physical behavior which occurs. The quality of neutral physical behavior of the parent might take one of several directions and is here described as the presence or absence of two mutually exclusive behavior categories related to communication about task materials (blocks) or aspects of the testing environment (trailer). The parent might physically handle the blocks placed on the table or might point at the blocks or other objects within the trailer.

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11) Nonverbal initiation-response mode is defined as the degree to which nonverbal communication by the parent is either proactive, reactive, or retroactive in nature. Brophy (1970) first introduced proactive and reactive as terms describing maternal teaching style. Proactive is initiating new material in a nonverbal physical manner; reactive is responding physically to the immediately preceding behavior of the child; and retroactive is a delayed physical reaction to the child's behavior. Nonverbal initiation-response mode is the same basic concept as the verbal initiation-response mode.

12) Nonverbal support is defined as the extent to which nonverbal physical behavior by the parent shows psychological acceptance of, encouragement of, empathy for, and/or understanding of the child as a person or the child's behavior.

13) Nonverbal independence promotion is the extent to which nonverbal physical communication by the parent encourages self-reliant behaviors as opposed to the parent's physically encouraging clinging behavior or expecting the child to rely on him for help and direction or overprotection.

14) Hostility is the extent to which the parent reveals (verbally and/or physically) rejecting or cold feelings toward the child during a particular time period.

15) Warmth is the extent to which the parent reveals (verbally and/or physically) nurturant, affectionate, or loving feelings toward the child during a particular time period.

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16) Anxiety-maternal expresses the extent to which the parent is apprehensive or uneasy about the situation.

17) Anxiety-child expresses the extent to which the child is apprehensive or uneasy about the situation.

18) Child dependency level is defined by the presence or absence of instrumental or help-seeking dependency in the child and the presence or absence of emotional or psychological dependency (e.g., clinging, lap sitting, crying) in the child.

Assumptions

The assumptions upon which this study was based were as follows:

1) Children need to learn to cope with new and unfamiliar situations throughout their development. If a child is prepared for a new experience he will adjust better in it.

2) Parents are the child's most important socializing agents and as such have primary responsibility for teaching a child to deal with a new environment.

3) The mother has more opportunities in the course of a day than any other individual to help a child learn to cope with new happenings and new experiences.

4) The behaviors of a parent and a child are interactive. The mother's behavior has an effect on the child's behavior and, conversely, the child's behavior has an effect on the mother's behavior.

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CHAPTER II

REVIEW OF THE LITERATURE

Interaction Theory

When studying some aspect of the family or family life, any of a number of theoretical frameworks, including structural-functional, developmental, interactional, or situational (Nye and Berado, 1966), can prove useful bases for research. The choice of a specific framework depends on the particular aspect of the family in which the investigator is interested. If the focus of the study involves the relationship and particular communication patterns of two or more family members and their interaction with the environment, the interactional framework provides the most meaningful theoretical base from which to operate.

Interaction can be viewed as one of two types: 1) organism to organism, and 2) organism to environment and environment to organism (Anderson, 1964; Kohlberg, 1968). Of primary importance in this study was the $O \rightleftarrows O$ relationship, specifically, parent and child. A more accurate picture of the process, however, could be diagrammed as follows:

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where: O_1 = mother
O_2 = child
E = unfamiliar situation
⇄ = primary relationship
⇄ = environmental influence on primary relationships
⟶ = environmental influence on interaction

One of the major assumptions of the interactional framework is that the human being is "actor" as well as "reactor" (Stryker, 1959). Each of the individuals involved in an interaction contributes to that interaction, as well as reacting to the behavior of the other participants in the interaction. An effect on one partner in a relationship will always influence the behavior of the other (Ackerman, 1954), or stated another way, the behavior of one individual is cause and effect in relation to the behavior of other individuals in the situation (Schvaneveldt, 1966).

Schvaneveldt (1966) has suggested that "perhaps the greatest impact of the interactionist approach on theory has been that of shifting the focus of family study from a broad institutional approach to that of a direct focus on the internal workings of families as individual family members interact [p. 112]." Several concepts from the interactional approach are particularly relevant here. They include the dyadic relationship, the definition of the situation, communication, and role and role-taking.

Dyadic Relationship

A dyadic relationship is an interaction which occurs between two partners in a social stimulus situation (Schvaneveldt, 1966). It was Burgess (1926) who first suggested that the family is a "unity of interacting personalities." In the dyadic relationship, the "unity of interacting personalities" is restricted to a pair such as the husband and wife, parent and child, or sibling and sibling. Taking a family as a conglomerate of dyads, it is possible to figure out how many different interrelationships can take place. Bossard (1945, 1953) determined a formula to calculate the total number of relationships there can be in any given family. This formula, called the law of personal interrelationships, is as follows:

$$X = \frac{y^2 - y}{2}$$

where: X = number of personal interrelationships

y = number of persons in a family

The formula, stated verbally says that "with the addition of each person to a family or primary group, the number of persons increases in the simplest arithmetical progression in whole numbers, while the number of personal interrelationships within the group increases in the order of triangular numbers [Bossard, 1953, pp. 116-118]."

Kephart (1950) extended Bossard's law under the assumption that relationships do not necessarily have to be only dyadic. There may be a relationship between one and all the other group members singly or in all possible combinations, or between any combination of

members with any other combination of members. Kephart's law of potential intragroup relationships is as follows:

$$P.R. = \frac{3^n - 2^{n+1} + 1}{2}$$

where: P.R. = potential intragroup relationships

n = number of persons

Thus, to illustrate the preceding two formulas:

	Number of persons	2	3	4	5	6	7
Bossard:	Number of personal relationships	1	3	6	10	15	21
Kephart:	Number of potential relationships	1	6	25	90	301	966

As the size of a family increases, the number of potential relationships increases to such a large number that the analyses of all family interactions becomes an extremely difficult task requiring a very large sample. Thus the study of dyads has a utilitarian function; the analyses are not cumbersome, yet they may contribute to the understanding of the whole. It is recognized, however, that the whole is more than the sum of its parts (Ackerman, 1954).

Definition of the Situation

Foote (1951) feels that any particular behavior is formed in light of the situation in which it takes place. Interaction must be viewed in the context of how the participants define one another in the social-stimulus situation (Hess and Handle, 1959). Stryker (1959) contends that upon entering a social situation, one responds to that situation by defining it through the assignment of position to others

and the setting up of expectations concerning their behavior. This particular concept provides an alliance between the interactional framework and the situational approach (Bossard and Bott, 1943; Stryker, 1964; Rallings, 1966). The definition of the situation, therefore, is the important context within which one looks at any interaction that takes place.

Communication

Communication represents the exchange of meaningful symbols --words and gestures (Schvaneveldt, 1966). Interaction between two individuals cannot take place without some mode through which the communication process can happen. Communication, then, provides the very basis for the study of interaction.

Man lives in a symbolic as well as a physical environment and is stimulated to act in social situations by symbols as well as by physical stimuli (Rose, 1962). Communication symbols can be both verbal and nonverbal modes of interaction. Language permits man to conceptualize and categorize his universe as well as relate to others. The development of self is dependent upon language (Dager, 1964). Verbal language is not the "end all", however; the majority of social meaning is carried nonverbally (Harrison, 1970). More will be said specifically about these two modes in the sections on verbalization and physical behavior.

Role and Role-taking

Role has been defined as a pattern of consistent behavior of a single individual (Turner, 1962). Role-taking is the anticipation of the responses of others involved with one in a social act and the subsequent modification of one's behavior in the light of such anticipations (Mead, 1934). Schvaneveldt (1966) has viewed role-taking as the central process in the interactional approach:

> Every role is a way of relating to other roles in the situation; a role cannot exist without some counter roles toward which it is oriented; interaction is always a dynamic process, that is, a process of continuously testing the concept one has of the role of the other; one acquires expectations of how others in the family will behave [p. 119].

The roles that a person plays may change for a variety of reasons. For example, the role a person plays changes over the life cycle (Brim, 1966); the most typical roles a person passes through are child, student, spouse, parent, worker (occupation-related) and grandparent. Bott (1971) stressed differences in role relationships in describing urban families, particularly those of husband and wife. Kohn (1963) cited social class differences in role definition; he reported that in working-class families the mother and father roles are more sharply differentiated than in middle-class families. Over a generation ago, Parsons (1951) emphasized the instrumental role of men and the nurturant role of women within the family structure; obviously these role definitions are undergoing rapid change in the seventies. Brim (1957) has suggested that "changes in role prescriptions will occur either when the theory of human nature which

underlies the prescription changes or when there is a change in the functions ascribed for the system [p. 346]."

The roles in a family have reciprocal prescriptions. Any conflict or instability in the system may result in disagreement between members as to appropriate role behavior (Brim, 1957). To settle the conflict, some role definitions may have to be changed so as to create harmony among family members.

The parental role has been subject to change as well as controversy for quite some time. Brim (1957) believes the parenting figure is "charged with the responsibility of behaving toward the child in a way which 'it is believed' will result in the child's becoming a competent functioning member of society when adult [p. 346]." The parent, in effect, teaches the child to take on various social roles as a process of learning to become a functioning member of society. Brim (1966) has called this learning process socialization.

Socialization and Interaction Theory

Socialization can be viewed as one kind of interaction system, and interaction can be viewed as a part of the socialization process. Stryker (1959, 1964) viewed interactionism as representing a set of propositions seeking to explain the social-psychological processes of socialization and personality development where socialization referred to "how the human organism acquires the ways of behaving, and the values, norms, and attitudes of the social units of which he is a part [p. 111]" and where personality was defined as the organization of persistent behavior patterns.

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Clausen (1968) viewed socialization as a process taking a lifetime. Dager (1964) has talked about socialization in terms of the increasing spheres of influence on the individual beginning with "self" in infancy, through the influences of mother, father, and siblings in early childhood, through the influences of gangs and cliques in middle childhood, through the influences of informal and then formal organizations in preadolescence and adolescence, and on through to institutional influence in adulthood. The family is generally judged, however, to be the single most important agency of socialization (Dager, 1964). It is to parent-child relationships and most particularly mother-child relationships (since the mother usually spends more time with the child initially and exercises more frequent control over the child's activities) that attention must now be turned.

Parent-Child Relationships

While the family as a whole is the single most important agency of socialization, it is the child's parents who exert the most potential influence. There was a time in the study of parent-child relationships when the parent was considered to be the active member of the parent-child dyad, while the child was considered to be the passive member (Bell, 1970). Thus, while the parent could claim responsibility for all the good things the child did, he also had to accept responsibility for all the bad things the child did; if a child was found guilty of wrongdoing, it was thought to be because the parents had failed to socialize the child properly.

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Current approaches have stressed the active participation on the part of both parent and child. The child is no longer considered passive and merely acted on, but is considered an active and interactive organism (Osofsky, 1970); he can contribute much to his own development and he has a hand in the continuing socialization of his parents. This is quite a different picture from the helpless baby image most often visualized. It is necessary to look at a parent-child interaction as a two-way process, each member acting on and exerting some influence over the other. While it is recognized that parental interactions with the child play the most active role in a child's socialization, certain other things affect the child's socialization as well--socioeconomic class, sex, and race to name but a few.

Demographic Influence

Socioeconomic Class

The effects of social class on child-rearing practices have been widely studied during the last ten to fifteen years. Sears *et al.* (1957) investigated child-rearing practices including weaning, toilet training, and aggression training within the context of socioeconomic status. Several differences were noted, mostly under the generalization that middle-class parents tended to be more democratic and more permissive, and lower-class parents tended to be more rigid and more authoritarian. Whiting and Child (1953), in looking at cross-cultural

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differences in child-rearing practices, found that there were many; the length of their book exists as evidence.

Waters and Crandall (1964) looked at social class from 1940 to 1960 and found some very interesting trends in general child-rearing practices. Before 1940, mothers on the whole were more restrictive. During the 1950's, there was a period of permissiveness. From the 1960's on, a more middle-ground approach has evolved whereby the limits of the child's behavior are outlined, but there is no adherence to severe restrictions. Waters and Crandall found maternal nurturance or affection unrelated to family social class, but the amount of coercion displayed by mothers was related to socioeconomic status. Families of higher socioeconomic status tended to use less severe penalties for misbehavior and less coercive pressures than lower socioeconomic status families.

Kohn (1963) and Zigler (1970) reported differences over the past twenty to thirty years in the manner in which parents from differing social classes handled their children. During wartime, middle-class parents were more restrictive than working-class parents; today, middle-class parents are more permissive than working-class parents. Middle-class parents have seemed to follow consistently the drift of "expert" opinion--listening to the leading child development authorities of the time.

Kohn (1963) cited reasons for the differences in child-rearing practices between the social classes as they exist now. Kohn (1963) found that working-class parents wanted the child to conform to

externally imposed standards, while middle-class parents were more attentive to internal dynamics. Working-class parents punished more for the act itself or the consequences of the act, while middle-class parents punished for what they believed to be the intent of the act. Middle-class parents, according to Kohn (1963) emphasized internalized standards of conduct, such as honesty, self-control, curiosity for boys, and considerateness for girls, while lower-class parents stressed qualities that assured respectability--obedience, neatness, and cleanliness. According to Duvall (1946), working-class mothers conceived of their role as primarily eliciting specific behavioral conformities from their children, while with middle-class mothers, expectations were more often in terms of growth and development, affection, and satisfaction for themselves and their children.

Hoffman (1967) looked at the power assertion techniques of both parents, mother and father, and found more unqualified power assertion (direct coercive pressure, threats, deprivations, and physical force without reasons attached for their use) from working-class fathers than from middle-class fathers. There was a difference between working-class mothers and middle-class mothers only in initial (as opposed to reactive) unqualified power assertion.

Smilansky (1968) noted real socioeconomic status differences in parental attitudes toward their children's education. So-called "advantaged" parents were reported to feel the child as having a lot to learn and it being their duty as parents to help them learn as much and as quickly as possible, while so-called "disadvantaged"

parents were not thought to connect the role of the parent with that of "teacher" and consequently to view teaching solely as the function of the school.

Sex of the Child and Sex of the Parent

Sex of the child has been shown to have an effect on the parents' behavior toward the child. Both Baumrind and Black (1967) and Levine *et al.* (1967) found that the parent-child relationship varied with the sex of the child. Rothbart and Maccoby (1966) found sex of the parent and sex of the child to be related to amount of permissiveness parents used for dependence and aggression. Fathers showed greater permissiveness toward girls than boys for both dependence and aggression, and mothers showed greater permissiveness toward boys than toward girls. These findings were analogous to those of Emmerich (1962), who found parents to exert more power toward their same-sex than toward their opposite-sex children. In the same study, Emmerich found mothers to be more nurturant and less restrictive than fathers. Parental nurturance-restriction varied in a cyclical fashion as a function of the child's age, especially with sons.

Race

The influence of race on the parent-child interaction process has often been confounded with social class. Middle-class blacks have been reported to interact with their children in ways quite similar to middle-class whites, and lower-class blacks to interact with their

children in ways quite similar to lower-class whites. However, in their extensive study of Negro-white differences in the rural South, Baughman and Dahlstrom (1968) identified some areas where differences exist. Since both the races studied lived under quite similar conditions, one can only assume the differences found were associated with race, including respective cultural backgrounds. In looking at child-training practices, Baughman and Dahlstrom reported that:

> Negro mothers were more often judged as being permissive and as placing greater emphasis upon the child's physical well-being, but at the same time as being more irresponsible about child-rearing. No significant racial differences were recorded with respect to how well the mother seemed to know her child, the objectivity of her attitude toward him, or the degree of warmth that seemed to exist in the mother-child relationship [p. 360].

Parental use of punishment and reinforcement was also investigated (Baughman and Dahlstrom, 1968). Only with respect to aggression was a significant racial difference found. Black mothers mentioned aggressive behavior as a reason for physical punishment more often than white mothers. When, in the Baughman and Dahlstrom study, "mothers were asked what they did when the child had been good, 62% of the white mothers, but only 38% of the black mothers said that they praised the child." Eighty-six percent of the white mothers contrasted with 70% of the black mothers felt children should be praised when the children exhibited desirable behavior. Furthermore, "when the mothers were asked if they sometimes gave the child something for being good, more black (94%) than white (82%) mothers said they did." The data suggested that "black mothers may make more of a distinction between verbal and material rewards than white mothers

do, and that, comparatively speaking, black mothers are more reluctant than white mothers to tell the child that he has been good [pp. 367-368]."

The "non-white" experience in white America plays a unique role in the socialization of non-white children. The cultural influences exist, but are often compounded by the economic conditions in which the culture is defined. Care must be taken in sifting out any cause and effect relationship.

Influence Techniques and Discipline

Modes of parental discipline and influence techniques vary. Lafore (1945) defined four classifications of parental approach:

1. dictatorial--preponderantly authoritarian; the parent's relationship with the child is based on a principle of obedience to authority as opposed to individual liberty;

2. cooperative--behavior with the child is predominantly friendly; mutual respect;

3. appeasing--the relationship with the child is preponderantly conciliatory; the parent is afraid of the child who has control of the situation; and

4. temporizing--the relationship with the child is preponderantly 'situational'--if the situation is pleasant, the parent is pleasant, but if the situation gets out of hand, the parent becomes confused [pp. 39-43].

The parent, more often than not, is in a position of power or control in the parent-child relationship. The parent determines the type(s) of influence techniques he needs to employ to modify the ongoing behavior of the child (Sigel, 1957). Sigel (1960) outlined five major influence technique categories: 1) power assertive,

unqualified; 2) power assertive, with reason; 3) power assertive, with cushion; 4) persuasion; and 5) suggestions. Hoffman (1967) used the former three categories in his study of power assertion and its impact on the child's behavior; he found the use of unqualified power assertion tended to develop hostility, power needs, and heightened autonomy strivings which the child displaced toward his peers and to a lesser extent toward permissive authority figures.

Farber *et al.* (1963) studied the accuracy with which parents communicated to their children dissatisfaction with the children's behavior. Four modes of socialization were outlined to account for the effective communication of this dissatisfaction and the resultant response of the child: 1) functionally conservative socialization--parent is satisfied with the child's performance and the child perceives the parent as satisfied, so the child continues to perform as he has done in the past; 2) dysfunctionally conservative socialization --parent is dissatisfied yet the child perceives the parent as satisfied (dissatisfaction is not effectively communicated), so the child tries to perform as he has done in the past; 3) dysfunctionally searching socialization--parent is satisfied, but the child perceives the parent as dissatisfied (parental praise has not been effectively communicated), so the child seeks an alternative pattern of behavior; and 4) functional searching socialization--the parent is dissatisfied and the child perceives the parent as dissatisfied (criticism has been effectively communicated), so the child seeks an alternative pattern of behavior. An analytic breakdown such as this

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might prove useful in looking at specific types of communication patterns in parent-child interactions and whether or not a particular communication pattern is effective.

Cunningham and Boger (1970) developed a rating scheme to assess interactions between a parent (mother and/or father) and a child. Both measures of verbal and nonverbal communications patterns, as well as measures of communication processes and teaching procedures, were included. Since the development of this instrument in 1970, its utility has been documented both as the measurement used to compare maternal and paternal teaching styles and behaviors (Cunningham, 1972) and as the measurement used to compare the teaching styles of mothers of retarded children and mothers of nonretarded children (Gorovitz, 1973).

Mother-Child Interactions

Studies of parent-child relationships have quite often been studies of mother-child interactions (many of the studies cited in the preceding text were mother-child studies), for two primary reasons: 1) there has been a special close relationship between a mother and a child during infancy and early childhood years, and 2) the mother-child relationship has been, pragmatically speaking, the easiest to research; fathers have tended to be at work all day and generally have not been as willing as mothers to participate. Mother-child role relationships are of very great significance in patterning those experiences which eventually become part of the child's personality (Dager, 1964), and as such, deserve discussion in their own right.

Just as the parent-child relationship as a whole varies with social class background, the mother-child relationship does as well. Walters *et al.* (1964) found middle-class mothers to have more directing, more helping, more structuring, and more teaching behavior, and more contacting behavior than lower-class mothers. Middle-class mothers were also found to engage in interactive play with their children more than lower-class mothers. Psathas (1957) found that in middle-class homes there was greater verbal contact between mother and child. Bing (1963) found a direct relationship between high verbal ability in children and the amount of maternal verbal stimulation given to children during infancy and early childhood.

Hess *et al.* (1968) looked at mother-child interactions and noted differences in maternal teaching styles and the effect of these styles upon their children's behavior. Middle-class mothers tended to use more proactive instructions of a specific nature coupled with more praise and encouragement than did lower-class mothers, and this resulted in greater success in terms of the child's performance. According to Hess *et al.* (1968),

> the superior teaching of the middle-class mothers tended to promote success and thereby aided in making the task a positive experience for the children while the lack of specificity in some of the working-class mothers' teaching tended to retard learning and increase failure experiences, further undermining the children's task motivation [p. 116].

Middle-class children were less inhibited and more confident than their lower-class counterparts.

Maternal behavior does have an effect on the child's behavior, but the reverse is also true. Osofsky (1970) trained role-playing

children to behave differently (dependent, independent, or stubborn) in each of three situations in an effort to determine the possible effects upon the mothers' behaviors. While warmth behaviors occurred consistently in all three situations, differences in maternal reinforcing behavior and teaching style were noted in response to the children's changing behaviors. Although mothers could have reinforced independent behavior or dependent behavior in any of the situations, they reinforced independent behavior when the child acted independent, dependent behavior when the child acted stubborn, and neither independent nor dependent behavior when the child acted dependent. When the child acted dependent or independent, mothers used a moderate teaching method; when the child acted stubborn, mothers responded with a reflective teaching method. The results of this study certainly support the notion that children's behavior has an effect upon parental behavior.

Many, many more studies of mother-child interaction and parent-child interaction exist. Parental influence has a tremendous effect on a child's socialization and personality development. The manner in which a child responds to his parents' behavior affects both his development and the subsequent relationship he forms with his parent. The behavioral effects on one another are reciprocal and interactive.

Research Methodology

Perhaps the most important decision one has to make when undertaking any social behavior research is the choice of methodology.

Studies of parent-child interaction have traditionally employed one or a combination of several approaches.

Types of Approaches and Considerations

Lytton (1971) identified five research approaches: 1) questionnaires, 2) interviews of parents, 3) observation of structured interaction in the laboratory, 4) observations of unstructured interaction in the laboratory, and 5) naturalistic observations in the home (p. 652). Many studies have employed interview techniques or the questionnaire (e.g., Sigel, 1960, and Caldwell *et al.*, 1968), but new emphasis has been placed on obtaining observational data. Blood (1963), Kogan and Wimberger (1966), and Hartup (1963), among others, have argued in favor of observation of behaviors.

The chief objection cited to the interview technique has been reporter bias. As Yarrow (1963) pointed out, "Mother's interview responses represent self-description by extremely ego-involved reporters [p. 217]." The interviewing of children has even greater hazards involved in it. Interviews involving children must be scaled to meet the maturational and developmental level at which the child is functioning (Yarrow, 1960). Yarrow *et al.* (1968) have found a lack of consistency in the findings of different interview studies as well as lack of agreement between studies based on interviews and studies based on observational ratings of the same behavioral characteristics. In an attempt to alleviate some of the problems inherent in the interview, Hoffman (1957) attempted to spell out guidelines to follow in

designing and conducting an interview study. Included in his guidelines are tips on how to go about deciding on which day to interview (via random selection) and how to go about probing for details in systematic fashion.

While the questionnaire and interview techniques have been shown to have serious problems inherent in the methodology, drawbacks can be found in observational techniques as well, be they structured, unstructured, or naturalistic. Some of these problems were discussed by Wright (1960) and Lytton (1971).

Observer influence (Wright, 1960) is an important methodological consideration, particularly in a naturalistic observational setting such as the home, where the observer quite often affects the relationship between the parent and the child. The laboratory situation has the problem of observer influence as well, but since the laboratory is by its very nature not a natural setting, the presence of an observer may be considered part of the situation itself. Efforts, however, need to be made to make the observer as unobtrusive as possible.

The method of recording the data places certain constraints on the observation of behavior. Lytton (1971) discussed five means of recording data: 1) rating after observation; 2) narrative style summaries; 3) precoded behavior categories; 4) selective narrative record; and 5) specimen record. The former two methods and the last method do not lend themselves readily to analysis while the precoded behavior categories and selective narrative record do.

Moustakas *et al.* (1956) used a precoded behavior categories system with success, as did Merrill Bishop (1951) and Peck (1968). Moustakas *et al.* (1956) supported the use of precoded behavior categories. They pointed out that overt behavior categories could be constructed which, in addition to having wide applicability for many kinds of adult-child interactions, are also useful for researchers from varying theoretical perspectives. Blood (1963) stressed the need for observational categories, as did Kogan and Wimberger (1966), who maintained that the communication patterns between a mother and a child can be quantified by measures which are relatively stable from one occasion to another similar one.

Another problem of observational data has to do with the validity and reliability of the data (Anderson, 1954). Validity is the degree to which the data are representative of normal parent-child interaction, and reliability is the stability of the behavior sampled over different occasions and/or the stability of coded ratings by two different coders (Lytton, 1971).

Behavioral Consistency

Behavioral consistency is indeed a problem, particularly when comparing across various methodological techniques. Schalock (1956) found that the interactive behavior of mothers and children in a laboratory setting was in many respects not comparable to their interactive behavior at home. O'Rourke (1963) concurred with Schalock when he found that both the quantity and quality of a family's interaction

behavior changed as they moved from home to the laboratory. The chief differences were found in the father's and mother's role behaviors. The mother's role had priority in the home situation, while the father's role had priority in the laboratory situation.

Hatfield, Ferguson, and Alpert (1967) found mothers to be more responsive to situation differences and less consistent than their children in different situations. The children's behaviors were found to be more consistent across situations than the mothers'. Halverson (1970) found inconsistency of maternal behavior with different children. Mothers used significantly more positive encouragement statements with other than their own children and significantly more negative sanctions with their own children than with other children. In addition, mothers of girls talked more than mothers of boys.

Lafore (1945) visited homes on two occasions to interview and observed child-rearing practices. The investigator found that each parent's approach to his child had a certain consistency. The parental behavior indicated a particular kind of approach habitually used with the child. Merrill (1946) also found consistency of behaviors from the first observation of a mother-child interaction to the second.

Care must be taken when attempting to look at behavior in any one situation as compared to another situation. Consistency may not always be expected. How a parent behaves with a child in a laboratory setting may be wholly dissimilar to the behavior the parent exhibits with the child in the home. The case may be built for the use of

observation as a necessary supplement to interviews or questionnaires (Blood, 1963). In addition, structured observation can be of considerable value if used in combination with naturalistic observational methods (Lytton, 1971).

Child psychology, which at first accepted uncritically almost any observations or results obtained from the study of children, now critically examines its methods and results (Anderson, 1954). If the focus of the study in question is to draw comparisons between situations, behavioral consistency is a legitimate problem; if, however, the focus of the study is to determine how a mother-child dyad interacts in a particular situation per se, behavioral consistency will not necessarily be a problem. What method or combination of methods are used would seem to depend largely on the variables being considered, and the physical restraints of the research.

Stressful and/or Unfamiliar Situations

According to Rich (1968), "everybody is most at ease in a situation that is familiar and expected, and since children's experiences are more limited than those of adults, there are fewer situations or surroundings that they would find familiar [p. 59]." The child is dependent upon his mother to provide meaning to a situation (Brophy, 1970). According to Schachter (1958), the first-born child seems particularly vulnerable to feeling fearful and anxious when faced by a stressful situation and is more inclined to seek the company of others.

When young children played in a strange situation, their behavior was affected by the presence or absence of their mothers (Cox and Campbell, 1968). Young children (13-15 months old) taken to a strange situation and spoken to by strange adults were likely to show behaviors indicating feelings of anxiety and insecurity, feelings which disappear in time, especially if the mother is present. Thus, in dealing with new environments the mother's role appears to be primarily one of supplying protection against overwhelming stimulation (Ferguson, 1970).

For most children of preschool age, nursery school can be classified as a new and unfamiliar situation or experience. Mothers are often asked to escort the child on his first day of school; "since the first days are crucial for the child's attitude toward school it seems worthwhile to ask the parents to stay with the child if necessary [Hildebrand, 1971, p. 44]." Christianson suggested that "the first visit gives the child an opportunity to explore the new environment in his own way," but with the mother close by until both teacher and mother feel the child is confident enough to remain for a period of time without the mother's support (p. 4).

The unfamiliar nursery school situation can be likened to the stress and uncertainty resultant from hospitalization. Prugh *et al.* (1953) were interested in abating some of the emotional traumas generated by hospitalization of young children. They developed an experimental program of ward management in the hospital which was shown to have produced a significant lowering of the incidence and

severity of reaction at all age levels, especially among children over four years old. According to Prugh *et al.* (1953), "the lack of adequate psychological preparation of children for hospitalization shown in this study would support the need for more widespread educational measures designed to prepare the child [p. 104]." Levy (1959) carried the Prugh *et al.* study one step further and looked at home preparation for hospitalization. Levy found that the child's adjustment to a hospital experience (tonsillectomy) was not a function of the parents having trained the child generally to meet many different kinds of stress situations; rather, the child's response to hospitalization was predicted only by the amount of preparation given by the parent toward meeting this particular stress situation. Situationally specific preparation and training seemed to make the children more comfortable in the situation.

The Levy study (1959) interviewed mothers as to whether they prepared their children or not for the situation, and if so, how they went about doing it. However, observing first-hand how parents actually prepare children for unfamiliar situations rather than relying on verbal reports would seem to be a useful and important study to do. In order to achieve this effectively, a controlled unfamiliar or strange situation would have to be created. Ainsworth and Bell (1973) viewed the controlled situation as a powerful technique in evoking behavior changes. Lytton (1971) also pointed out the utilitarian nature of the structured situation for observational studies of parent-child interaction.

Orientation Behavior

Verbal Orientation Behavior

Verbalization

Speech or verbal communication reaches back to the beginnings of human society. Wherever there are social communities, there is some sort of communication pattern present; no contemporary community of man is without language (Hill, 1970). Language is defined by Hill (1970) as "the primary and most highly elaborated form of human symbolic activity; its symbols are made up of sounds produced by the vocal apparatus, and they are arranged in classes and patterns which make up a complex and symmetrical structure [p. 252]." Verbal communication is probably the most highly sophisticated, potentially abstract mode of interaction man possesses.

Studies of verbal interaction have been of two types: either looking at total amount of verbal interaction (e.g., Bernstein, 1960), or looking at the content of verbal interaction (e.g., Bales, 1951). Maccoby (1961) supported the first approach by alluding to the fact that the amount of interaction is quite often more important than the type of the interaction that does occur. The second approach reflects the much used phrase "quality, not quantity." In effect this is what Bronfenbrenner (1971) referred to when he talked about its not being how much time is spent with a child, but how the time is spent.

Determining the amount and the content of the verbalization which occurs during an interaction appears to be useful in understanding

the interaction process. Raskin (1964) has developed scales to study family interaction which seem to incorporate elements of both types of analyses. Included are scales on: 1) clarity of speech, 2) topic, 3) commitment, 4) agreement, 5) intensity of affect, and 6) relationship.

There appear to be social class differences in the amount and type of verbalizations which occur in family interaction. Psathas (1957) found middle-class homes were representative of greater verbal contact between parent and child than lower-class homes. John and Goldstein (1967) contended that the crucial difference between middle-class and lower-class individuals was not in the quality of language, but in its use; the middle-class individual was found to use language more than the lower-class individual in everyday life. The middle-class child learns by feedback, by being heard, corrected and modified, and by using the words he hears. The lower-class child has to rely upon the frequency of co-occurrence of label and referent to a greater extent than the middle-class child; the likelihood of this happening often is decreased by the lesser use of language by the lower-class parents.

Verbal Focus

The focus of the verbalization also appears to be an important dimension. Stern's (1969) research suggests a causal sequence of relationships between the personality characteristics of the mother, the modes of maternal behavior she adopts, and the response and

development of her child. The nine factors looked at in Stern's study were distributed along a continuum ranging from child-centered to mother-centered maternal functioning. The resultant data suggested thet the incidence of disturbances in both the mother and the child increased as the degree of maternal self-reference increased. That is, maternal behavior showing an increased incidence of mother-focused behavior as opposed to child-focused behavior resulted in greater numbers of disturbance in the mother and the child.

Fantasy Verbalization

Children's play has a great deal of fantasy or make-believe in it (Read, 1971). Dramatic play is an integral part of any good nursery school (Read, 1971) and, as such, serves to stimulate all areas of a child's growth (mental, physical, creative, social, and emotional) (Hildebrand, 1971).

Fantasy and dramatic play have been used by psychologists for therapeutic purposes in dealing with disturbed children (Anderson, 1954). One of the most noteworthy is Virginia Axline (1947, 1964), who has used play therapy almost exclusively for discovering the source of a child's emotional disturbance. For normal and emotionally disturbed children alike, dramatic play offers the child a chance to express pent-up feelings and work through anxieties. According to Read (1971), "play may help children reconcile the two worlds of fantasy and reality [p. 358]."

Fantasy play relies heavily on verbalizations. Smilansky (1968) cites four ways this happens: 1) verbal declarations,

2) identity of objects, 3) speech substituted for actions, and 4) language used to describe situations. Through verbalization, fantasy may be used by parents or other educators as a method of teaching concepts or ideas more effectively (Spodek, 1972). Utilization of fantasy as a particular communication technique may be an indicator of a special way a parent relates to his child.

Time Orientation

Individuals from differing cultures and social backgrounds have been shown to function under differing temporal orientations (Bonner, 1965). Kluckhohn and Strodtbeck (1961) discussed their theory of values by referring to five value orientations and the postulated range of variations for each. One such value orientation is a temporal focus and the range, naturally, is past, present, and future. The past, built on tradition, is memory and experience, while the present emphasizes the immediacy of the moment and ongoing events. The future represents anything that, as of yet, isn't, but may be.

Bonner (1965) viewed time as a process or a continuum; much of our present behavior is elicited by the future. Even the past can be redefined in light of the future. For instance, successful psychotherapy is the result of the future modifying the effects of the past (Bonner, 1965). Future is the process toward completion, but is never finished. Completeness can hold only for past events and perhaps for immediate present ones (Bonner, 1965).

Bustrillos (1963) in her study of decision making found some patterning of decision-making styles, recognized as the behavioral

profile resulting from the combination of the dimensions of three elements: mode, time reference, and decision rule. Time reference in her study was defined as the ability to see events and phenomena in a time relationship--here again, past, present, and future references. The results of her research suggested that the nature of the decision-making problem might affect the use of the three elements and eventually the resulting decision-making style.

Some studies have looked at the influence of social class on temporal orientations. LeShan (1952) found that the upper-lower, middle, and lower-upper classes were future-oriented and planned ahead. The upper-upper class, established, well-to-do families of third and fourth or more generations, were highly bound in tradition and were more past oriented. They were more concerned with behaving and deciding in ways they felt past generations would find respectable. LeShan (1952) also found the lower-lower class was present oriented. For this group the future seemed to be much too indefinite to plan too far in advance.

LeShan (1952) felt that in order to control delinquency it would be necessary to change the time orientation of the delinquents. Mischel (1961), in studying delinquents and nondelinquent subjects, found the former to show greater preference for immediate smaller reinforcement as opposed to delayed larger reinforcement. He also found a tendency for subjects who preferred immediate smaller reinforcement to show lower social responsibility scores. Lower-class individuals, by definition burdened by economic hardship, did not

generally deny themselves present pleasures for future gain when the future was a very uncertain, vague region of time (Bonner, 1965).

Clausen (1963) felt that with respect to child rearing, however, all parents, regardless of social status, are future-oriented in the qualities they stress and value for their children. Parents and other socialization agents try to prepare the child for participation in the kind of society they envision rather than simply passing on the traditions under which they themselves were raised. The specific training the child receives, however, is influenced by the position his parents occupy in the social hierarchy. Thus, in spite of grand visions for their children, many deprived families perpetuate the process simply because the necessary resources to interrupt the process are not always available.

Voice Affective Tone

Eisenberg and Smith (1971) suggested that "the different ways words are spoken not only clarify but add an emotional connotation to verbal messages [p. 35]." Variance in voice tone can influence the meaning of words used in speech. Differences in intensity (volume), pitch, resonance, rate, and/or rhythm can exact varying interpretations as to message content. These specific differences can often be detected and interpreted with a high degree of reliability. For example, Davitz and Davitz (1959) asked subjects to listen to recitations of the alphabet using a list of words denoting various emotional feelings (fear, jealousy, happiness, anger, and love) and to label the feeling being

expressed. Agreement between sender and receiver was much higher than mere chance. The investigators also found that individuals varied in their ability to discriminate cues. Some people seemed to be much more sensitive to the feelings and behaviors of others and could recognize these feelings with a much higher degree of accuracy than other people (Mullin, 1962). Thus, when any attempt is made to make judgments about voice affective tone, observers must be trained to a high level of reliability in order to make the distinctions.

One measure of voice affective tone is described in a parent-child interaction instrument rating description (Cunningham and Boger, 1970). For every verbal communication act a rating is made on the basis of the affect conveyed by the voice--positive, neutral, or negative. Cunningham (1972) found that middle-class parents use more positive affective voice tone than lower-class parents.

Initiation-Response Mode

Any interaction between two or more people cannot be looked at without reference to the communication process--initiations and responses or feedback. This process is comprised of both verbal and nonverbal modes of communication. Longabaugh (1963) identified five primary modalities of social exchange--seeking, offering, depriving (taking away and withholding), accepting, and not accepting (ignoral or rejection)--as well as three resources--information, support, and control. Thus fifteen categories were developed for coding interpersonal behavior. Longabaugh reported that theoretically the fifteen

categories are mutually exclusive, but empirically they are not. The accepting and not accepting modalities are primarily reactive in nature. The other three modalities (seeking, offering, and depriving) may be either reactive or initiating.

Smith (1968) looked at the verbal communication patterns of mothers in a mother-child interaction employing a revised version of Longabaugh's (1963) model. The revised modalities were seeking, offering, accepting, and not accepting; the revised resources were fact, preference, direction or command, and motivation or encouragement. Smith found, in looking at the breakdown of all verbal communication messages, the breakdown for the modalities was 69 percent for offering, 20 percent for seeking, 8 percent for accepting, and 3 percent for not accepting. The breakdown for the resources was 52 percent for fact, 6 percent for preference, 38 percent for direction or command, and 3 percent for motivation or encouragement. The significant differences between the means of the message units, according to Smith (1968), "gave support to the coding system's successful separation of the mothers' communication to their children into independent components [p. 53]." One obvious limitation to Smith's study of maternal communication was the omission of the nonverbal communication patterns.

Brophy (1970) studied the methods mothers used and the relative success with which mothers of varying socioeconomic backgrounds attached meaning to their own and their children's behavior in a structured mother-child interaction task. Brophy identified three main parts in

the task interaction. They included: 1) orientation--everything which occurred before the first instruction to the child to place a block; 2) pre-response instructions--directions given to the child before each response; and 3) post-response feedback--confirmation or correction following the child's placement response. Correctness or appropriateness of the feedback from the mother has been shown to be highly important in task learning by the child (Hess *et al.*, 1968). Post-response feedback is reactive in nature; the mother waits for the child to initiate or act and then merely responds to his behavior. Proactive behaviors occur in the orientation and pre-response instruction parts of the task-learning situation. According to Brophy (1969):

> Mothers, by instilling a general set or expectation for the task as a whole, by telling the children what to look for, and where to look for it, by providing distinctive labels, . . . by calling attention to the contrast between distinctive examples, were enhancing the salience of the relevant properties of the stimuli in the perceptual field of the children [p. 18].

Brophy's results revealed socioeconomic class differences to be maximal in situations which required the mother to be proactive--teaching opportunities in which parents gave information or instructions to the children which were intended to prepare the child to respond appropriately in the future--and minimal in situations which allowed the mother to be reactive--teaching opportunities in which parents gave feedback to the child's overt responses. The mothers whose teaching was confined primarily to post-response or reactive activities tended to be the least effective teachers generally. The major difference found between middle-class and lower-class mothers was that middle-class mothers used a greater repertoire of techniques

supplementing response-shaping behavior with pre-response activities, especially types of verbal instruction (Brophy, 1970).

Thus, two basic modes of interaction, initiation (or proaction) and response (or reaction) have been identified. Responses can be viewed as either immediate or delayed. The immediate response is more of a true reaction, while the delayed response is retroactive in nature. Studies (Brophy, 1970; Hess *et al.*, 1968; Osofsky, 1970) have emphasized the importance of looking at what mode of interaction occurs at different points during an interaction sequence.

Other attempts have been made to look at the interaction process. The Bales Interaction Process Analysis (1951) was developed to look at various communication dimensions, including orientation, control, evaluation, decision-making, integration, and tension management. Within these dimensions are affective (positive and negative) categories and task categories. The Fuller Analysis of Interacting Responses (FAIR), developed by Fuller (Peck *et al.*, 1968) in 1965, was developed in an attempt to describe important aspects of teacher-pupil interpersonal behavior by categorizing behavior along the dimensions of responsiveness (initiation, response), approval (agreement, lack of noncommitment, and disagreement), inclusion (invitation, exclusion), control (permission, restriction), and self-other. According to the Manual (Peck *et al.*, 1968), "the FAIR system permits description of classroom interaction in terms of the general structure of interpersonal behavior and specifies classroom behaviors believed to define that structure [p. 7]." The categories of behavior dimensions could be applied to parent-child interaction situations.

Osofsky (1970) investigated some child effects upon mothers and developed a rating scheme which included aspects of the communication process. The teaching methods incorporated proactive and reactive modes. The reflective teaching method, where the mother sought out and utilized information from the child in teaching, was primarily reactive, while the directive teaching method, which measured the degree to which the mother told and showed the child what to do, was primarily proactive. The reflective-directive teaching method, which was a combination of some reflective teaching behavior and some directive teaching behavior from the mother, was both proactive and reactive in nature.

McKinney (1971), in a way, applied the proactive-reactive mode to the development of values and morality. Incidence of "after the fact" behaviors (reactive), where an individual gets punished for doing wrong and rewarded for avoiding wrong, fit into McKinney's proscriptive mode of directions (one individual tells another what he cannot do or the wrong he has already done). Incidence of "before the fact" behaviors (proactive), where attention is focused on right-doing, fit into McKinney's prescriptive mode of directions (one individual prescribes exactly what another can do).

When studying parent-child interactions, knowledge about the specific mode of interaction in the communication process can be very useful. Just as individuals differ in their individual behavior, so do parent-child dyads differ from one another. Recognition of just how the interaction process does differ is important to the understanding of the total relationship.

Support Behavior

Longabaugh (1963) defined support as a "stimulus presented by one person to another which is judged to make salient the sustaining of one another [p. 331]." Support takes many forms, verbal and/or nonverbal, including love, comfort, and value judgments, and may involve acts of either positive or negative affect (Longabaugh, 1963). The person in the position of supporter may either offer support or deprive or withhold support. The receiver can seek support, and, if it is forthcoming, can accept it, reject it, or ignore it.

One of the perceived characteristics of the parenting role is that of supporter (Klemer, 1970) in psychological as well as physical maintenance terms. Nursery schools also stress the importance of parental support for the child in his new environment and a reciprocal support relationship between parents and teachers in meeting the needs of the child (Hildebrand, 1971; Christianson, 1961).

Lack of maternal support as evidenced by a highly rejecting mother (overt nonsupport) has resulted in children who show less information seeking and interactive play and more attention, approval, and praise-seeking (Brody, 1969). On the whole, however, mothers were shown to be more nurturant and supportive than fathers (Emmerich, 1962). Kohn (1963) looked at social class differences and found that the middle-class parents felt obliged to be more supportive than did working-class parents, while working-class parents felt more obliged to impost constraints and restrictions on their children than did middle-class parents.

The presence of support or lack of it (e.g., nonsupport behaviors) appears to be a useful indicator of the kind of parent-child relationship that exists. Also, specific support behaviors related to social class background and sex of the parent depend on perceived parenting roles. A parent who perceives his role in a supportive light would act supportive, while a parent who perceives his role as one who sets limits and rules, no matter what, would frequently show incidents of nonsupport in favor of eliciting compliance (Kohn, 1963).

Nonverbal Orientation Behavior

Nonverbal Communication

When thinking about communication, there is a tendency to think only about verbal behavior or language. But, according to Campbell and Hepler (1970), "we need to concern ourselves with every aspect of communication [p. 256]." The cliche, "actions speak louder than words" may hold an important, but often neglected, message: nonverbal communication is at least as important a part of interaction as verbal communication. Harrison (1970, p. 258) reported that it has been estimated that in face-to-face communication no more than 35 percent of the social meaning is carried in the verbal messages. This means that up to 65 percent of social meaning is carried nonverbally. Harrison (1970) made three points relevant to nonverbal communication:

1) Nonverbal communication goes on all around us.
2) Nonverbal communication is important; we make decisions based on it.

3) Frequently, nonverbal communication is at a low awareness level; we may not realize that we are sending or receiving [p. 257].

Birdwhistell (1955) has done a great deal of work in kinesics, which is defined by him as "the study of visually sensible aspects of nonverbal interpersonal communication . . . [p. 12]" (i.e., how human beings communicate through body movement and gestures). Birdwhistell cited the importance of recognizing the interdependent relationship between visible and audible communication. Smith and Trager (1951) advanced the idea of meta-incongruence to mean a situation which occurs when the meaning carried by the words in an utterance are contradicted by the voice intonation or inflexions used in it. Birdwhistell (1955) extended the concept of meta-incongruence to include a communication where the verbal "utterance has one contextual meaning while the accompanying body motion conveys a different meaning [p. 17]." This might be analogous to the "double bind" situation where a person gets two conflicting orders at the same time and he cannot obey one without disobeying the other.

Studies of Nonverbal Physical Behavior

Some studies have attempted to deal with nonverbal behavior. Walters, Pearce, and Dahms (1957) looked at affectional and aggressive verbal and physical behavior of young children. A rating scheme was developed which included behaviors classified into four broad categories: 1) physical affection, 2) verbal affection, 3) physical aggression, and 4) verbal aggression. Some important findings were:

1) at three, four, and five year levels, the children were more verbally than physically affectionate; 2) there was little difference in the frequency between physical and verbal aggression; 3) at all age levels, children were more affectionate than aggressive in their response to others and more frequently employed affection than aggression in initiating contacts; and 4) aggression tended to increase with age from two through four years of age, with boys more aggressive than girls, and then to decrease thereafter.

Schmidt and Hone (1970) dealt with the nonverbal behavior (touching, leaning toward, and mutual glances) of low and high social status mothers and children. Higher socioeconomic status mothers (but not children) had more actual initiations to physical contact. There were no differences between groups in body closeness, and there were more glances in the high social status group.

Boger and Cunningham (1970) have done an extensive study to look at the social behavior of children--verbal and nonverbal. To look at nonverbal aspects of social behavior, they used a rating scheme involving a multiple classification approach across two dimensions: "(a) presence or absence of physical contact; and (b) positive or negative quality. The resulting categories were labeled social physical, negative physical, approach gesture, and defensive posture [p. 78]." Sex differences were found to exist in amount of physical behavior shown, males showing far more than females, particularly with negative physical, with both sexes showing decreases during the year. More social physical and approach gestures were shown by

females than by males. No great differences in physical behavior were shown between black and white subjects; both groups increased in amount of positive nonverbal behavior and decreased in negative nonverbal behavior. No major differences in physical behavior were shown to exist between social class groups, although lower-class children revealed more physical contact behavior than middle-class subjects at the end of the year. Both groups increased in amount of positive nonverbal behavior and decreased in negative nonverbal behavior during the year.

The multiple classification system used by Boger and Cunningham (1970) to look at physical behavior of children was also useful in looking at interactions between parent and child. Cunningham (1972) looked at the nonverbal behavior which occurs in a parent-child interaction session and found no significant differences between parents (mothers versus fathers) in relation to either race or sex of the child, but there were indications that overall differences in nonverbal communication did exist in relation to the interaction of socioeconomic status group and the sex of the parent (p. 127).

Affective Orientation Behavior

Warmth and Hostility

Warmth and hostility have been viewed as the opposite ends of the same continuum. Schaefer and Bayley's (1963) model is a matrix of two dimensions--a love-hate dimension (warmth and hostility) and a control-autonomy dimension. Applied to parental behavior, the Schaefer and Bayley model, according to Ferguson (1970), suggested a "typology

of parental influence: democratic indulgent child-rearing practices would fall in the quadrant characterized by high warmth and high granting of autonomy to the child; the overprotective parent would be characterized by the combination of high warmth and high control; the authoritarian parent would seem best described by a combination of high control and hostile rejecting attitudes; the parent who combines rejection with autonomy might be described as 'laissez-faire' or neglecting [p. 26]." In their longitudinal study comparing consistency of maternal behavior during infancy and later at preadolescence, Schaefer and Bayley (1963) found high consistency in the love-hate dimension, and low consistency on the dimension of autonomy-control. These findings might be expected when viewed in light of current American child-rearing practices.

Milton (1958) conducted a factor analysis of child rearing behavior and found the warmth factor to be highly consistent over time. Warm mothers were characterized as more demonstrative in their relationship to their children; they spent more time with the children just for pleasure and tended to use praise and reasoning rather than punishment as a means of control.

Measures of warmth of the parent-child relationship have been enormously useful in social behavior studies. Warmth is important because of its role in producing identification. According to the principles of learning theory, "before a parent can socialize a child, he must have established a relationship with the child such that the child will play in the vicinity of the parent and orient

In the

himself toward the parent [Maccoby, 1961, p. 364]." Warmth in the parent-child relationship was associated with socially positive outgoing behavior and adaptive behavior in the child (Ferguson, 1970), whereas parental rejection tended to be associated with hostile or fearful and generally maladaptive behavior.

In the Fels scales (Baldwin *et al.*, 1949), five variables were found to be related to warmth: 1) acceptance--the degree to which parents' emotional life includes or excludes the child (extreme exaggerated love to overt rejection); 2) direction of criticism (approval versus disapproval, or praise versus criticism); 3) affectionateness (love versus antagonism); 4) rapport--a reciprocal relationship between the parent and child, and 5) child centeredness--a concept of self-sacrifice on the part of the parent (the degree to which the home revolves around the child. The amount of warmth varied with the age of the child (Maccoby, 1961). With the infant and the young child, there was a great deal of contact warmth, but with the older child, warmth was exhibited by showing interest in the child and what he was doing.

Hostility has been viewed in terms of lack of warmth or rejection, coldness, and over-restrictiveness (Dager, 1964). Baldwin *et al.* (1949) found low ratings on warmth, democracy, and indulgence to be indicative of a cold, rejecting, ignoring home. Studies have been done which look at the effects of such homes on the children. Dager (1964) has said that rejection and punishment by parents is associated with aggressive children. Where there is fear, hostility

is likely to follow for feared things (people or other) are actual or potential sources of frustration (Coleman, 1956). Faulty family relationships, evidenced by rejection, indifference, inconsistency, lack of warmth, and punitiveness, "prevent the degree of identification that permits children to internalize those norms and values necessary for the development of normal self-control [Dager, 1964, p. 768]." Parental behavior which was overboard in either extreme, warmth (permissiveness or overprotection) or hostility (restrictiveness or rejection) seemed to have deleterious effects on the development of the personality of the child (Dager, 1964).

While Lafore (1945) reported all parents in his study to show underlying affection for their children, at many times they seemed also to show hostility; few parents can be found to be virtually "all warm" or "all hostile" in every situation. Maccoby (1961) believed trait behavior to be situation specific. Different situations or precipitating events might mean differences in reaction and resultant behavior including, for instance, a mother's hostility and warmth levels. Even a most loving, warm, affectionate mother might have her moments of hostility toward the child. Thus at two consecutive points in time, both opposing poles of the hostility-warmth continuum might be shown due to differences in the situation. Hostility and warmth, because they are two ends of the same continuum, cannot occur simultaneously, but both behaviors can be shown in a short span of time due to changes in the environmental or organismic stimuli.

Anxiety

Nearly all theories of socio-emotional and/or personality development incorporate at least some discussion of anxiety. The concept of anxiety is important for understanding the emotional life of both the child and the adult.

Freud (1936) recognized three types of anxiety: reality, neurotic, and moral. Reality anxiety, the basic type of anxiety, is the fear of real dangers in the external world. Neurotic anxiety is the fear that the person will do something wrong and be punished due to loss of instinctual control. Moral anxiety is fear of the conscience. From this psychoanalytic point of view, Hall and Lindsey (1957) viewed anxiety as "a state of tension produced originally by external causes. When the ego cannot cope with the anxiety by rational methods, it has to fall back upon unrealistic ones (defense mechanisms) [p. 45-46]."

Basic anxiety, Horney's (1945) primary concept in her theory of personality, was defined as "the feeling a child has of being isolated and helpless in a potentially hostile world. A wide range of adverse factors in the environment can produce this insecurity in a child . . . [p. 41]."

Sullivan (1950) believed anxiety to be transmitted to the young child or infant by the mothering figure as the first educative influence. Tension, an integral part of Sullivan's theory of anxiety, has two sources--tensions that arise from the needs of the organism, and tensions that result from anxiety. His definitions are somewhat

cyclical because he goes on to define anxiety as the experience of tension that results from real or imaginary threats to one's security.

Anxiety has a motivating component (Brown, 1953) in that somehow anxiety must be dealt with. Two opposing points of view were upheld by Inglis (1961) and by Kessen (1961). Kessen has discussed the elimination of anxiety producing responses in terms of the more or less passive inhibition of such processes. He believed that anxiety is not only a trauma which must be avoided, but that anxiety is also a condition of distress which can be met by the action of specific inhibitors. Inglis (1961), however, emphasized the influence of active avoidance behavior:

> It is to be suggested that the paradigm for the elimination of anxiety producing mediating responses is to be found in experiments involving escape activity rather than in experiments dealing with the simple exclusion of unrewarded responses [p. 263].

The amount of avoidance activity itself can have beneficial or deleterious effects:

> By initiating too much avoidance the individual may deprive himself of certain problem solving tools and so may reduce the efficiency of his adjustment; on the other hand, insufficient avoidance may be equally maladaptive since the consequent increase in the emotive properties of a situation may also be descriptive of efficient behavior [p. 264].

In addition, Eysenck (1961) believed the anxiety response to be unadaptive when it is evoked in circumstances in which there is no threat.

Attempted differentiation has been made between the concepts of fear and anxiety (Jersild, 1954; Coleman, 1956). Anxiety and fear are closely related since many stress situations give rise to both

fear and anxiety. With fear there is usually a "clear perception of the threatening circumstance" while with anxiety the individual may be "unable to clearly define to himself what it is that makes him anxious [Jersild, 1954, p. 869]." Anxiety may vary in intensity from mild feelings of uneasiness to the most acute dread and apprehension (Coleman, 1956). Anxiety, then, is an encompassing emotional state, while fear usually refers to a specific external stimulus.

Numerous studies have dealt with the effects of anxiety on a number of variables. Adams and Sarason (1963) studied the relationship between anxiety in children and in their parents and found that there was a relationship. The hypothesis that a child's anxiety behavior would be more positively correlated with his mother's anxiety behavior than with his father's anxiety behavior, possibly due to greater contact between mothers and children during the formative years, was strongly supported for both boys and girls.

Cunningham (1972) looked at the anxiety levels of parents (fathers and mothers) teaching their child a prearranged task and found significant differences between parents in relation to socioeconomic group. "Greater anxiety was shown by lower socioeconomic group mothers than by fathers, while the reverse was true for middle socioeconomic group parents [p. 168]."

Gilmore (1966), in looking at the relationship between hospitalization and toy choice, found that all groups of children studied showed preference for novel toys. However, children who experienced the anxiety that goes with hospitalization preferred to

play with toys relevant to hospitalization more than did another similar unhospitalized population of children. Perhaps the hospitalized children were able to deal better with the anxieties of the experience with the aid of the hospital-related toys.

Smith *et al.* (1956) found anxious individuals of a permeable or fluid personality structure made optimum gains in reading efficiency when exposed to a maximum of structure and direction and would make minimum gains when little structure and direction was utilized; subjects who were rigid and anxious were uninfluenced by teaching method. It appears that anxiety as well as personality structure has an effect on performance.

Levitt (1967) reported that the effects of anxiety on learning depended largely on the specific nature of the situation, the personalities of the individuals involved, the nature of the task (i.e., complexity), intelligence and tension. In some cases anxiety could facilitate learning and in some cases, inhibit it. Walters' (1960) study gave strong support to the hypothesis that anxiety, not isolation by itself, is the major factor affecting rate of conditioning. Anxious subjects conditioned more readily than nonanxious subjects. Lipsitt and Spears (1965) studied the effect of anxiety and stress on children's paired association learning and found that while neither anxiety nor stress had a reliable effect on low competition (high association) pairs, learning on high competition pairs was reliably poorer for high anxious and high stress subjects.

Thus there seems to be rationale for looking at parental anxiety levels as well as child anxiety levels. An individual's

anxiety level in an unfamiliar potentially stress-producing situation could significantly affect performance and other socioemotional behavior as well.

Dependency and Dependence Promotion

Dependency is expected and reinforced throughout all stages of development (Bandura and Walters, 1963). Dependency behavior appears to have its roots in infantile attachment. The development of attachment is considered to be essential to normal personality development in the young child (Ferguson, 1970). Goldfarb (1955), Bowlby (1952), and Spitz (1945) attribute the abnormal personalities of institution-reared children to the absence of a primary attachment relationship with a mother-figure. These findings imply that dependency fails to develop unless the child experiences relatively consistent gratification from the same person (Hartup, 1963). The infant never learns to have trust in an unpredictable environment. Erickson's (1950) theory of stages of personality development emphasizes the need for the development of trust in the first stage of life.

According to Maccoby and Feldman (1972), the quality of the mother-child relationship rather than the quantity is of greater importance in the maintenance of attachment. As the child matures, attachment becomed what has been coined "dependency"; Ferguson (1968) cited the interchangeable usage for the two terms in the literature to indicate the same behavioral process at two different stages of development. Attachment has to have occurred before dependency can

develop. It is completely normal behavior for a two, three, or even four year old to show dependence, in some form, on his mother, father, or any significant other.

Dependency, according to Ferguson (1968), refers to a general trait (not just specific behavioral responses). She cited nine specific behaviors which reveal dependency:

> seeking attention (including both positive and negative forms of attention-seeking), seeking recognition or approval, seeking comfort and reassurance, seeking physical proximity to another person, seeking or maintaining physical contact (touch and holding, clinging), seeking help, protest at separation or separation-anxiety, anxiety over loss of nurturance, passive reaction to frustration [p. 4].

Heathers (1955a) suggested that dependency is really two different types of behaviors, emotional and instrumental dependency. Hartup (1963) defined emotional dependency as behavior which shows that other individuals are satisfying and rewarding themselves. Heathers (1955a) classified emotional dependency as approaches to others, wanting to be physically near or in contact with others; seeking attention, comfort or approval from others, and being distressed by separation. Only this type of dependency is likened to attachment (Ferguson, 1970). Instrumental dependency, on the other hand, refers to active information seeking of another individual in order to accomplish some goal (help seeking). Instrumental dependency can be related to low competence and shows lack of self-sufficiency (Heathers, 1955a). The above breakdown of dependency into emotional and instrumental seems to be a useful way to look at such behaviors.

The reported antecedents of dependency are quite diversified. Gewirtz (1956) has a theory of emotional dependence which is based on

learning theory and the existence of drive states. Gewirtz (1954) suggested that children show more attention-seeking behavior when in the presence of a nonresponsive adult than in the presence of an adult who focuses attention on the child. Furthermore, when rejection involves withholding positive reinforcement rather than the presentation of negative reinforcement, its effect may be to intensify dependency toward the frustrating agent (Hartup, 1958). Hartup (1958) also found that children who had experienced delay of reward for dependency displayed more dependent behavior than children whose dependency had been consistently rewarded.

Osofsky (1970) looked at dependence promotion and independence promotion. Dependence promotion was defined as the degree to which the mother encouraged the child to follow the mother's lead and discouraged the child's individual efforts. Independence promotion was defined as the degree to which the mother encouraged the child to do tasks individually and supported the child's individual initiative. The results of this study, which have already been reported in the section on mother-child interactions, showed that mothers reinforced independent behavior when the child acted independent, dependent behavior when the child acted stubborn, and neither independent nor dependent behavior when the child acted dependent.

Clinical case material revealed that an extreme degree of mothering may create very strong dependency habits (Levy, 1943). Dager (1964) has said that a restrictive or overprotective parent-child interaction is associated with children who are withdrawn,

submissive, and dependent. On the other hand, Waldrop and Bell (1964) found that a lack of social availability of a mother because of a high family density should result in an enhancement of dependence behavior. Bandura and Walters (1963) suggested that adult nurturance is a critical factor in establishing dependence in children. Few child development specialists would disavow the importance of nurturance, especially maternal nurturance. An optimal level or amount of nurturance is desirable, but optimal in no way either dictates extreme amounts (as in overprotection) or too little (as in neglect). Socially and developmentally, it would appear that a moderate level of dependency is valuable.

But what does dependency mean relative to child socialization? In the socialization process dependency acquires motivational properties (Hartup, 1963). Walters (1960) has taken the view that anxiety is the motivational state relevant to much dependent behavior. He suggested that dependency habits can be learned in connection with many drives--first in response to hunger, thirst, and pain, and later in response to the anxiety aroused when the child's relationship with adults is threatened.

Sears, Rau, and Alpert (1965) have viewed dependency as having a role in the reinforcement of the imitative behavior that leads to adult role adoption. Sears, Maccoby, and Levin (1957) were quoted as saying:

> In the normal young child the dependency motive appears to be a powerful one. It cannot be eliminated and it cannot be ignored. In fact, the more the child's efforts to satisfy it are frustrated, the more insistent and all absorbing are his supplications . . . if she [the mother] begins to be less responsive to

> his customary ways of seeking her affection and attention, his first reaction will be to redouble his efforts. That is, he will behave more dependently [p. 141].

Ferguson (1968) and Cairns (1962) both have evidence to suggest that children in whom dependency habits are strongly developed are more responsive to social reinforcers. This would suggest that dependent children are also more likely to be rule-followers or law-abiders for fear of adult disapproval.

Heathers (1955b) states that dependency is manifested in different ways by two-year-olds and four-year-olds, the older children showing less clinging and affection seeking. Beller (1955), however, believes that sooner or later, the young child, especially in American culture, is expected to make a turn about and become more independent and self-reliant.

There is evidence which suggests that emotional dependency interferes in some way with children's initial adjustment to nursery school. Marshall and McCandless (1957) found a consistently negative correlation between preschool children's measure of popularity and their measure of dependence. The less dependent children were more popular. Waldrop and Bell (1964) concurred with Marshall and McCandless; high dependent behavior results in less popularity with peers. But, does diminished dependence always imply increased independence? It is to independence and independence promotion that attention must now be turned.

Independence and Independence Promotion

Being a "success" in American culture necessitates independent behavior (i.e., self-reliance and ambition). Thus, many parents begin early to establish independence in their children in the hope of preparing them for successful competition in the future. Learning to take care of one's self is an important goal of childhood. Preschool education emphasizes getting the child to act responsibly and independently as a part of child growth and development (Christianson, 1961; Hildebrand, 1971).

From early infancy the child struggles for identity and autonomy. Erickson (1950) described the first two years of life of the child as struggling to establish some sort of a "trust" bond via attachment and dependence and followed by the attempt to establish autonomy and independence apart from other individuals. In the observation of a small child and his mother, one can often see the transition taking place. The child sitting on his mother's lap for a moment of security gets down to explore something in the environment, only to rush back to his mother again for reassurance (Ainsworth, 1973).

So begins the emergence of independence behavior. As the child gets older the moments of independence increase in quantity of time, and the clinging behavior begins to diminish in quantity of time. The characteristic preschool crisis is based on the child's transition to greater independence during this period (Emmerich, 1969).

According to Bandura and Walters (1963), much of the research on dependency-independency is based on the assumption that independence

emerges from dependence (i.e., dependency on another person must have been established first before the attainment of independence has meaning). Independence has been defined by Heathers (1955a) as self-sufficiency or the absence of dependency. But Hartup (1963), however, contends that independence is more than just the lack of dependence. It should refer to behavior which is self-reliant and self-assertive. Beller (1955) identified some behaviors which typify independence, including taking the initiative, overcoming obstacles, persistence, satisfaction from work, and wanting to do things alone.

Dager (1964) found that the permissive (not extreme) and democratic parent-child interaction appears to be associated with children who demonstrate independence as well as self-confidence, initiative, creativity, and cooperation. Watson (1967), in general, agrees with Dager's analysis of child-rearing practices and independence: "there is a tendency for greater freedom in the home to show itself in greater independence in the child's behavior outside the home [p. 148]." Both Winterbottom (1953) and Ferguson (1970) discussed some child-rearing antecedents and results of independence promotion: Early parental expectation of and reward for independence seems to be one of the most reliable predictors of achievement (i.e., mothers of high achievement-oriented children make earlier achievement demands, more frequently reward achievement responses, and are less restrictive of independence activity than mothers of low achievement-oriented children. Independence promotion results in more independent children, just as dependency promotion results in more dependent children.

Overall Summary

Many studies about parent-child interactions already exist in the literature. They represent the gamut in terms of research methodology. Every type of methodology, however, has certain varying limitations. The choice of which research methodology is most appropriate for a particular study is going to depend on the theoretical conceptualization of the problem, the independent variables of interest, the dependent variables of interest and what studies and research in related fields have contributed to the area of central interest. The theoretical framework for this study was the interactional framework, the various demographic variables were the independent variables of interest, and orientation behaviors were the dependent variables of interest for this study. This literature review represents an attempt to bring all of these factors into focus.

CHAPTER III

RESEARCH METHODS AND DESIGN

The Design

This study contained three main independent variables of interest: 1) sex of the child (male and female); 2) socioeconomic status (middle class and lower class); and 3) race (black and white). In addition, three other variables of interest were covaried: 1) ordinal position of the child; 2) age of the mother; and 3) age of the child. The completely crossed and balanced 2 x 2 x 2 design matrix is shown in Table 3-1.

This same basic design was used for the analyses of those dependent variables related to the mother as well as analyses of those dependent variables related to the child. In addition, a repeated measures analysis was used with the child variables. The regression analysis design for two additional variables of interest, age of the mother and ordinal position of the child, involved a single cell regression analysis collapsed across the dimensions.

Forty-eight preschoolers and their mothers were the subjects in this study. Each dyad of a mother and her child was treated as a unit.

Table 3-1

Design Matrix

Social Class	Race	Sex of the Preschool Child	
		Male	Female
		$O_1, O_2, O_3 \ldots O_n$	$O_1, O_2, O_3 \ldots O_n$
Lower SES	Black	6	6
	White	6	6
Middle SES	Black	6	6
	White	6	6

where: $O_1 \ldots O_n$ refers to each observation taken for the repeated measures dimension

The Subjects

From approximately one hundred subjects used in a larger research study (Boger and Cunningham, 1970), a sample of forty-eight preschool children and their mothers was chosen through a stratified random sampling procedure. The subjects in the larger study were selected by availability sampling within a representative framework. "Selection of children for each demographic group was made on the basis of several factors, with an attempt to obtain a varied and representative distribution on each [Boger and Cunningham, 1970, p. 24]."

Ethnic determination for the larger study was based on the ethnic origin of the parents. For this study, both parents had to be black for the child to be considered black, and both natural parents had to be white for the child to be considered white.

The determination of socioeconomic status group was made on the basis of four factors: income, occupation of the primary wage-earner, education of both parents, and housing. A given family was "classified within a given socioeconomic group if it met at least three criteria and did not deviate from the fourth by more than one category [Boger and Cunningham, 1970, p. 24]." The specific breakdown is given in Table 3-2.

In the selection of the sample from the larger subject pool, subjects were first placed in their respective cells. Children not later officially enrolled in the preschool program were not used as subjects in this study. Also eliminated was one child who had both parents present in the Familiarization Task Session. The number of

Table 3-2

Socioeconomic Group Determination

Factor	Lower SES	Middle SES
Income	Within eligility guidelines for public assistance	Not within eligibility guidelines for public assistance
Occupation of wage earner	Unemployed, unskilled, or semi-skilled	Skilled, semi-professional, or professional
Education of parents	Both parents no higher than twelfth grade	Both parents with education beyond twelfth grade
Housing	Public housing project or single family or multi-family dwelling in poor condition (characterized by high density, run-down condition, gross mismanagement, and low social desirability of neighborhood)	Single family or multi-family dwelling in good condition (characterized by low density, well-kept condition, cleanliness, good upkeep, and social desirability of neighborhood)

remaining subjects per cell ranged from nine to twelve children. Names were then randomly drawn within each cell to obtain a random rank-ordering of all subjects available within a cell. Where siblings existed in the subject pool, the first one chosen became part of the sample and the second child was then eliminated. If the data on a particular subject was not usable (due to poor condition of the videotape--visual or audio), the next subject in line was used.

Further Description of the Sample

The subjects in this study were thought to be relatively representative of the populations of interest. The specific relevant characteristics of the sampled subjects are as follows:

1) All subjects, mothers and children, were native-born United States citizens and were either Anglo-American or Afro-American.
2) The occupational level of the sampled mothers ranged from unemployed through professional status, the most frequent category being unemployed-housewife. The breakdown of occupational level for the mothers in each of the demographic cells is shown in Table 3-3.
3) The educational level for the sampled mothers ranged from no higher than seventh grade through graduate degrees. The breakdown of educational level for the mothers in each demographic cell is given in Table 3-4.
4) The average age of the mothers was a little over twenty-nine years (29.4 years). The range of the mothers' ages was 20 to

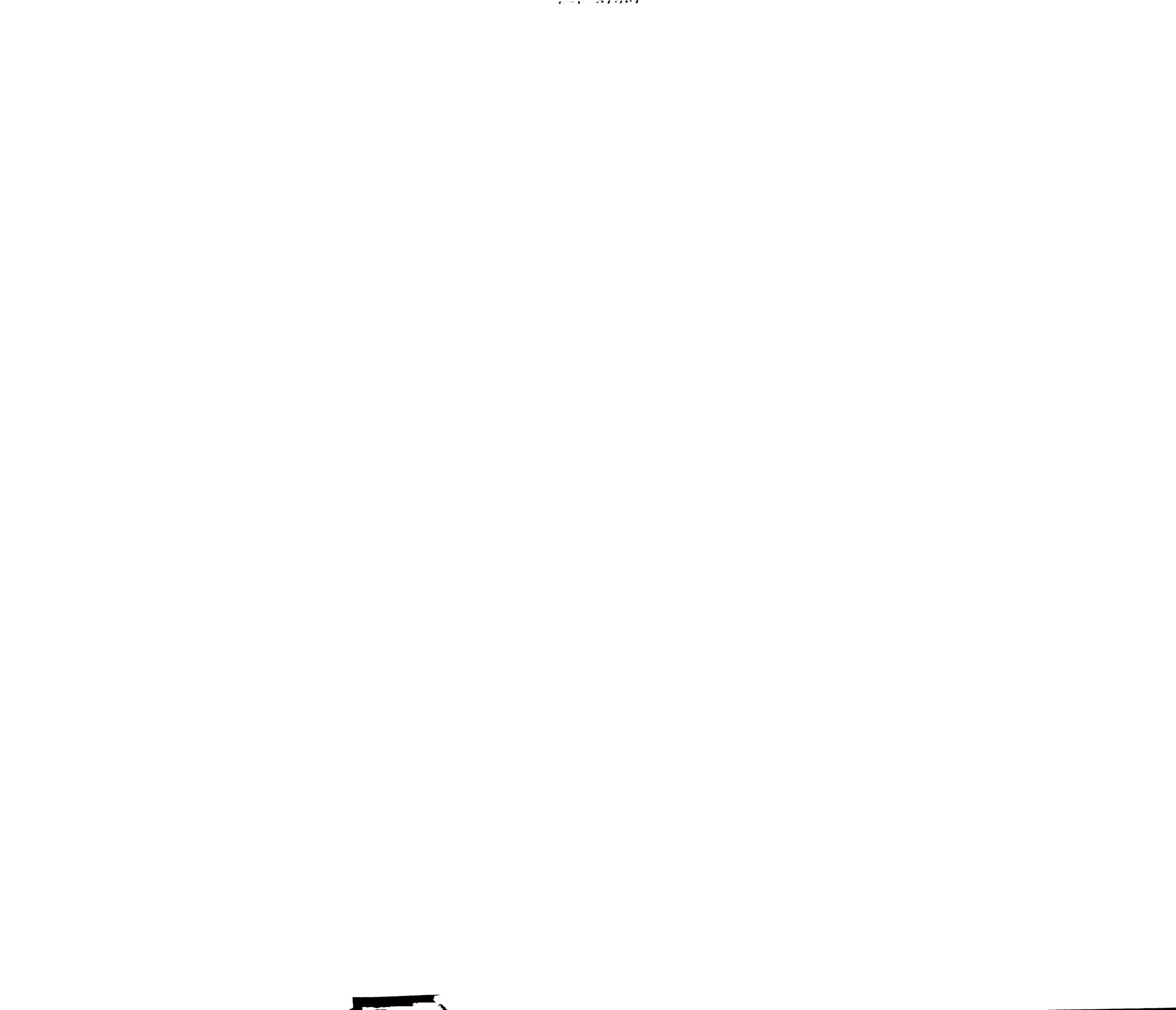


Table 3-3

Mothers' Occupation

Sampled Child's Demographic Group	Occupation of Mother (N = 48)					
	Unemployed	Unskilled Worker[a]	Semi-Skilled Worker[b]	Skilled Worker[c]	Semi-Professional or Managerial[d]	Professional[e]
Lower-SES black males	5	1	--	--	--	--
Lower-SES black females	5	--	1	--	--	--
Lower-SES white males	4	1	1	--	--	--
Lower-SES white females	5	1	--	--	--	--
Middle-SES black males	5	--	--	--	--	1
Middle-SES black females	2	--	3	1	--	--
Middle-SES white males	5	--	--	--	--	1
Middle-SES white females	4	--	--	--	--	2
TOTAL SAMPLE	35	3	5	1	0	4

[a] e.g., construction worker, janitor, laundry worker

[b] e.g., truck driver, nurse's aide

[c] e.g., painter, hair stylist, lab technician

[d] e.g., shop owner, computer programmer, retailer

[e] e.g., doctor, teacher, nurse, graduate assistant

Table 3-4

Mothers' Educational Level
(N = 48)

Sampled Child's Demographic Group	Highest Level Attained					
	Eighth Grade or Less	Some High School	High School Graduate	Some College	College Graduate	Graduate Work
Lower-SES black males	--	4	2	--	--	--
Lower-SES black females	1	4	1	--	--	--
Lower-SES white males	--	4	2	--	--	--
Lower-SES white females	--	4	2	--	--	--
Middle-SES black males	--	--	1	--	2	3
Middle-SES black females	--	--	--	5	1	--
Middle-SES white males	--	--	1	2	2	1
Middle-SES white females	--	--	1	1	3	1
TOTAL SAMPLE	1	17	9	8	8	5

45 years. The mean age of the mothers within each of the demographic cells is shown in Table 3-5.

5) The average age of the sampled child was three years and five months (41.6 months). The range of ages was two years and nine months to four years and ten months. The mean age of the children within each of the demographic cells is summarized in Table 3-5.

6) The average number of siblings of each child was slightly less than two (1.85). The breakdown for each demographic cell is summarized in Table 3-6.

7) The average ordinal position in the family of the sampled children was a little over two (2.23). The breakdown for each demographic cell is summarized in Table 3-7.

8) All of the middle socioeconomic group children had both parents present in the home. One-third of the lower socioeconomic group children had a mother present but no father, while two-thirds of the lower socioeconomic group children had both parents present in the home. The breakdown for each of the demographic cells is summarized in Table 3-8.

The Familiarization Task Session

In order to assess the behaviors of mothers and their children in an unfamiliar situation, an unstructured, potentially unnatural situation was set up. The instrument was developed by Cunningham and Boger (1969) at the Head Start Research Center, Michigan State

Table 3-5

Age of Subjects

Sampled Child's Demographic Group	Mothers[a]			Children[b]		
	N	Mean	Standard Deviation	N	Mean	Standard Deviation
Lower-SES black males	6	25.00	4.94	6	43.00	10.16
Lower-SES black females	6	30.17	9.00	6	41.83	1.47
Lower-SES white males	6	26.33	6.56	6	44.00	7.18
Lower-SES white females	6	26.33	3.93	6	39.83	3.66
Middle-SES black males	6	31.00	5.37	6	42.50	6.60
Middle-SES black females	6	30.00	4.43	6	42.17	7.11
Middle-SES white males	6	31.17	4.12	6	39.83	4.79
Middle-SES white females	6	35.50	2.59	6	40.33	6.80

[a]Age in years at time of assessment

[b]Age in months at time of assessment

Table 3-6

Number of Siblings of Sampled Children

Sampled Child's Demographic Group	N	Mean	Standard Deviation
Lower-SES black males	6	2.00	2.28
Lower-SES black females	6	3.83	2.99
Lower-SES white males	6	1.83	1.60
Lower-SES white females	6	1.83	1.84
Middle-SES black males	6	1.83	1.47
Middle-SES black females	6	1.17	0.75
Middle-SES white males	6	1.00	0.63
Middle-SES white females	6	1.33	0.82

Table 3-7

Ordinal Position of Sampled Child

Sampled Child's Demographic Group	N	Mean	Standard Deviation
Lower-SES black males	6	2.33	1.86
Lower-SES black females	6	4.17	2.64
Lower-SES white males	6	2.17	1.94
Lower-SES white females	6	2.33	1.37
Middle-SES black males	6	2.00	1.10
Middle-SES black females	6	1.67	0.82
Middle-SES white males	6	1.33	0.82
Middle-SES white females	6	1.83	0.98

Table 3-8

Presence of Fathers in Homes of Sampled Children

Sampled Child's Demographic Group	Father Present	Father Absent	Total
Lower-SES black males	2	4	6
Lower-SES black females	6	0	6
Lower-SES white males	4	2	6
Lower-SES white females	4	2	6
Middle-SES black males	6	0	6
Middle-SES black females	6	0	6
Middle-SES white males	6	0	6
Middle-SES white females	6	0	6

University. For the complete instrument description, see Appendix I-A.

For each session, the mother and child were escorted to the mobile trailer unit where the session was conducted, and the experimenter told the mother to familiarize the child with the new environment. The mother and child were then left alone in the testing room where the mother was free to interact with the child in any way she wished. Each interaction period, which lasted approximately five minutes, was videotaped for subsequent rating according to the dependent variables of interest. For the instrument description, see Appendix I-B. At the end of this time period the examiner returned to the testing room and spent an additional two to three minutes getting acquainted with the child and setting up the next appointment time. This time period was also videotaped, but the behavior exhibited during this time was not of interest in this study. The experimenter, mother, and child then left the room.

The Familiarization Task Rating Procedure

The Familiarization Task Rating Procedure was developed by Olson, Cunningham, and Boger (1973) at the Institute for Family and Child Study at Michigan State University for the specific purpose of assessing parent and child orientation behaviors in an unfamiliar situation. For the complete instrument description, see Appendix I-B.

The Familiarization Task Rating Procedure (FTRP) consists of four component parts, each reflecting a particular type of orientation

behavior: verbal behavior of the mother; nonverbal, physical behavior of the mother; affective behavior of the mother; and affective behavior of the child. The subcategories of each part are as follows:

a) Verbal behavior of the mother: verbalization, verbal focus, verbal fantasy, verbal time orientation, voice affective tone, verbal initiation-response mode, verbal support, and verbal independence promotion.
b) Nonverbal behavior of the mother: affective physical behavior, neutral physical behavior, nonverbal initiation-response mode, nonverbal support, and nonverbal independence promotion.
c) Affective behavior of the mother: hostility, warmth, and anxiety.
d) Affective behavior of the child: anxiety and dependency.

The FTRP uses a time-sampling procedure with twenty-second intervals. Each interval is rated sequentially and each variable is rated every interval. Up to three behaviors may be recorded for verbal and/or nonverbal orientation behaviors. An over-all interval rating is used for each of the affective behaviors.

Training of the rater took one to two weeks and involved discussion about the meaning of the categories as well as many hours of practice using the rating schedule. When a relatively high level of competence with the instrument was acquired, reliability was determined using a videotape not previously seen by the observer. Two methods

of reliability were used, one based on total recorded positions and one based on total blanks. The minimum acceptable levels of reliability using these two procedures were .75 and .85 respectively. Appendix I-B provides a complete description of the procedures used for computing reliability. Both intra- and inter-rater reliability were computed. The reliability of the individual rating the videotapes used in this study ranged from .85 to .95 (total recorded positions and total blanks respectively).

The Null Hypotheses

The overall null hypothesis of this study was as follows: there is no difference in the maternal verbal, nonverbal, and affective orientation behavior, and the child's affective behavior in a Familiarization Task Session with respect to socioeconomic status, race, and/or sex of the child, with the age of the mother and ordinal position of the child showing no relationship to the verbal, nonverbal, and affective behavior of the mother. The general and specific null hypotheses of this study were as follows:

1. Verbal Orientation Behavior of the Mothers

General Null Hypothesis:

There is no difference in the verbal orientation behavior of mothers with their preschool children in a Familiarization Task Session with respect to race, SES, and/or sex of the child, with the age of the mother and the ordinal position of the child showing no relationship to the verbal orienting behavior of the mothers.

Specific Null Hypotheses:

1.1) There is no difference between the verbal orientation behaviors of middle-class mothers and lower-class mothers with their children in a Familiarization Task Session.

1.2) There is no difference between the verbal orientation behaviors of black mothers and white mothers with their preschool children in a Familiarization Task Session.

1.3) There is no difference between the verbal orientation behaviors of mothers of boys and mothers of girls with these children in a Familiarization Task Session.

1.4) There is no difference in the verbal orientation behaviors of mothers with their preschool children in a Familiarization Task Session with respect to the interaction of race, SES, and/or sex of the child.

1.5) There is no relationship between the age of the mothers and the verbal orienting behavior of these mothers with their preschool children in a Familiarization Task Session.

1.6) There is no relationship between ordinal position of the children and the verbal orienting behavior of the mothers with their preschool children in a Familiarization Task Session.

2. Nonverbal Orientation Behavior of the Mothers

General Null Hypothesis:

There is no difference in the nonverbal orienting behavior of mothers with their preschool children in a Familiarization Task Session with respect to race, SES, and/or sex of the child, with the age of the mother and the ordinal position of the child showing no relationship to the nonverbal orienting behavior of the mothers.

Specific Null Hypotheses:

2.1) There is no difference between the nonverbal orientation behaviors of middle-class mothers and lower-class mothers with their children in a Familiarization Task Session.

2.2) There is no difference between the nonverbal orientation behaviors of black mothers and white mothers with their preschool children in a Familiarization Task Session.

2.3) There is no difference between the nonverbal orientation behaviors of mothers of boys and mothers of girls with these children in a Familiarization Task Session.

2.4) There is no difference in nonverbal orientation behaviors of mothers with their preschool children in a Familiarization Task Session with respect to the interaction of race, SES, and/or sex of the child.

2.5) There is no relationship between the age of mothers and the nonverbal orienting behavior of these mothers with their preschool children in a Familiarization Task Session.

2.6) There is no relationship between ordinal position of the children and the nonverbal orienting behavior of the mothers with their preschool children in a Familiarization Task Session.

3. Affective Orientation Behavior of Mothers

General Null Hypothesis:

There is no difference in the affective orientation behavior of mothers with their preschool children in a Familiarization Task Session with respect to race, SES, and/or sex of the child, with the age of the mother and the ordinal position of the child showing no relationship to the affective orienting behavior of the mothers.

Specific Null Hypotheses:

3.1) There is no difference between the affective orientation behavior of middle-class mothers and lower-class mothers with their preschool children in a Familiarization Task Session.

3.2) There is no difference between the affective orientation behavior of black mothers and white mothers with their preschool children in a Familiarization Task Session.

3.3) There is no difference between the affective orientation behavior of mothers of boys and mothers of girls with these preschool children in a Familiarization Task Session.

3.4) There is no difference in the affective orientation behavior of mothers with their preschool children in a Familiarization Task Session with respect to the interaction of race, SES, and/or sex of the child.

3.5) There is no relationship between the age of mothers and the affective orienting behavior of these mothers with their preschool children in a Familiarization Task Session.

3.6) There is no relationship between the ordinal position of the children and the affective orienting behavior of the mothers with their preschool children in a Familiarization Task Session.

4. Affective Orientation Behavior of Children

General Null Hypothesis:

There is no difference in the affective orientation behavior of preschool children in a Familiarization Task Session in relation to race, SES, sex of the child, and/or the elapsed time spent in the session.

Specific Null Hypotheses:

4.1) There is no difference between the affective orientation behavior of middle-class preschool children and lower-class preschool children in a Familiarization Task Session.

4.2) There is no difference between the affective orientation behavior of white preschool children and black preschool children in a Familiarization Task Session.

4.3) There is no difference between the affective orientation behavior of male preschool children and female preschool children in a Familiarization Task Session.

4.4) There is no difference in the affective orientation behavior of preschool children in a Familiarization Task Session with respect to the interaction of race, SES, and/or sex of the child.

4.5) The affective orientation behavior of preschool children does not differ with respect to the elapsed time spent in the session in a Familiarization Task Session.

Operational Definitions

The following operational definitions were used in this study:

1) Verbalization is the relative amount of each specific type of verbalization which occurs during the Familiarization Task Session as measured by the FTRP. Verbalization also includes the total amount of verbalization which occurs in the Familiarization Task Session as measured by the FTRP. The specific types of verbalizations are: 1) nursery school related verbalizations--program, teacher, building or materials, other children, child himself; 2) trailer related verbalizations--furniture, blocks-general, blocks-specific, experimenter, physical attributes of the trailer, and atmosphere; and 3) statements about things other than nursery school or trailer --home environment, school places, and miscellaneous.

2) Verbal focus is the relative amounts of emphasis on who the verbalization is primarily concerned with (i.e., mother, child, other, no obvious focus) in the Familiarization Task Session as measured by the FTRP.

3) Verbal fantasy is the relative amount of fantasy verbalization i.e., ratio of fantasy to nonfantasy verbalization) which is used in the Familiarization Task Session as measured by the FTRP.

4) Verbal time orientation is the average level of time orientation (i.e., past, present, future) used verbally during the Familiarization Task Session as measured by the FTRP.

5) Voice affective tone is the average level of affect (i.e., negative, neutral, positive) conveyed by the voice during the Familiarization Task Session as measured by the FTRP.

6) Verbal initiation-response mode is the average level of verbal initiation-response mode (i.e., proactive, reactive, retroactive) used in the Familiarization Task Session as measured by the FTRP.

7) Verbal support is the average level of supportive verbalization (in contrast to nonsupportive or neutral) which is used in the Familiarization Task Session as measured by the FTRP.

8) Verbal independence promotion is the average level of independence promoting verbalization (in contrast to dependence promoting or neutral) used in the Familiarization Task Session as measured by the FTRP.

9) Affective physical behavior is the relative amount of each specific type of affective physical behavior which occurs during the Familiarization Task Session as measured by the FTRP. Affective physical behavior also includes the total amount of affective physical behavior which occurs in the Familiarization Task Session as measured by the FTRP. The specific types of affective physical behavior are negative physical, social physical, approach and defense.

10) Neutral physical behavior is the relative amount of specific types of neutral nonverbal physical behavior which occur during the Familiarization Task Session as measured by the FTRP. Neutral physical behavior also includes the total amount of neutral nonverbal physical behavior which occurs in the Familiarization Task Session as measured by the FTRP. The specific types of neutral physical behavior are pointing and block handling.

11) Nonverbal initiation-response mode is the average level of nonverbal initiation-response mode (i.e., proactive, reactive, retroactive) used in the Familiarization Task Session as measured by the FTRP.

12) Nonverbal support is the average level of supportive nonverbal behavior (in contrast to nonsupportive or neutral) which is used in the Familiarization Task Session as measured by the FTRP.

13) Nonverbal independence promotion is the average level of indepencence promoting nonverbal behavior (in contrast to dependence promoting or neutral) used in the Familiarization Task Session as measured by the FTRP.

14) Hostility is the average level of hostility (high, moderate, none) shown by the mother in the Familiarization Task Session as measured by the FTRP.

15) Warmth is the average level of warmth (high, moderate, none) shown by the mother in the Familiarization Task Session as measured by the FTRP.

16) Anxiety-Maternal is the average level of anxiety (high, moderate, low) shown by the mother in the Familiarization Task Session as measured by the FTRP.

17) Anxiety-Child is the average level of anxiety (high, moderate, low) shown by the child in the Familiarization Task Session as measured by the FTRP.

18) Child dependency is the relative amount of each specific type of dependency which occurs during the Familiarization Task Session as measured by the FTRP. Child dependency also includes the total amount of dependency which occurs in the Familiarization Task Session as measured by the FTRP. The specific types of dependency measured are instrumental and emotional.

Data Reduction and Analysis

All data were coded on computer coding forms by a trained coder. The data were then quality checked by a research assistant trained both in coding and in rating the FTRP, and keypunched on computer cards and mechanically verified.

The same basic data reduction procedure and analyses used by Cunningham (1972) were employed in this study:

> A transformed data deck was generated with a computer program . . . which reduced the individual observations to category and variable frequencies for each subject for each raw variable [p. 72].

Within this same program any category frequency which was "0" was changed to a new value computed by the formula 1/2n, where n is the number of observations or intervals.

> This transformation was done because the frequencies were ultimately used for calculating log transformations, which would have been mathematically impossible to compute with the zero frequencies [p. 72].

It was assumed that the differences from zero in the value of the scores obtained by this transformation would be small and therefore within the range of the errors of measurement.

Using this frequency deck with the nonzero frequencies, a second program was run which transformed the frequency scores into the variables of interest. Logit transformations were computed in the subsequent analysis program for all proportion scores for the qualitative variables of interest.

> Use of the logits as input variables was chosen as a means of controlling the instability of variances which results from the use of standard proportions. Specification of the logits in the dichotomous case followed the form
>
> $$\text{logit} = \log \frac{p}{q} ,$$
>
> where p was the frequency of occurrence of an event and q was the frequency of nonoccurrence of that same event. For the polychotomous case, a series of logits was specified in the form
>
> $$\text{logit } 1 = \log \frac{a}{n} ;$$
>
> $$\text{logit } 2 = \log \frac{b}{n} ;$$
>
> $$\vdots$$
>
> $$\text{logit } x = \log \frac{m}{n} ;$$
>
> where a, b, . . . n are the frequencies of occurrence of categories a, b, . . . n, and n is the category with the greatest expected rate of occurrence [Cunningham, 1972, p. 73].

Applying the use of the preceding procedures, thirty-eight variables were identified within three categories of orientation as defined in this study. In Table 3-9 the nature of these variables is delineated.

Table 3-9

Quantification of FTRP Variables Used in Analysis

Variable	Quantification (Transformed Variables)	Definition of Symbols
	Verbal Orientation Behaviors	
Verbalization	(a_1) $\log \frac{f_{NS}}{f_{TR}}$	f_{NS} = frequency of recorded verbalizations which refer to the nursery school
	(a_2) $\log \frac{f_O}{f_{TR}}$	f_{TR} = frequency of recorded verbalizations which refer to the trailer
	(a_3) $\log \frac{f_T}{f_P}$	f_O = frequency of recorded verbalizations which refer to things other than the nursery school or the trailer
	(a_4) $\log \frac{f_B}{f_P}$	f_T = frequency of recorded verbalizations in which the subject makes a verbalization about the nursery school teacher
	(a_5) $\log \frac{f_K}{f_P}$	f_P = frequency of recorded verbalizations in which the subject makes a verbalization about the nursery school program
	(a_6) $\log \frac{f_C}{f_P}$	

Table 3-9 (Continued)

Variable	Quantification (Transformed Variables)	Definition of Symbols
Verbalization (continued)	(a_7) $\log \frac{f_F}{f_{BG}}$	f_B = frequency of recorded verbalizations in which the subject makes a verbalization about the nursery school building or materials
	(a_8) $\log \frac{f_{BS}}{f_{BG}}$	f_K = frequency of recorded verbalizations in which the subject makes a verbalization about other children in the nursery school
	(a_9) $\log \frac{f_E}{f_{BG}}$	f_C = frequency of recorded verbalizations in which the subject makes a verbalization about another child in the nursery school
	(a_{10}) $\log \frac{f_B}{f_{BG}}$	
	(a_{11}) $\log \frac{f_A}{f_{BG}}$	f_F = frequency of recorded verbalizations in which the subject makes a verbalization about the furniture in the trailer
	(a_{12}) $\log \frac{f_H}{f_M}$	f_{BG} = frequency of recorded verbalizations in which the subject makes a verbalization about the blocks in general
	(a_{13}) $\log \frac{f_S}{f_M}$	

Table 3-9 (Continued)

Variable	Quantification (Transformed Variables)	Definition of Symbols
Verbalization (continued)	(b) $\log \frac{f_X}{f_{NS} + f_{TR} + f_O}$	f_{BS} = frequency of recorded verbalizations in which the subject makes a verbalization about specific attributes of the blocks f_E = frequency of recorded verbalizations in which the subject makes a verbalization about the experimenter f_R = frequency of recorded verbalizations in which the subject makes a verbalization about other specific physical attributes of the trailer environment (not blocks or furniture) f_A = frequency of recorded verbalizations in which the subject makes a verbalization about the general atmosphere of the trailer environment f_H = frequency of recorded verbalizations in which the subject makes a verbalization about home, neighbors, other friends, or places

Table 3-9 (Continued)

Variable	Quantification (Transformed Variables)	Definition of Symbols

Table 3-9 (Continued)

Variable	Quantification (Transformed Variables)	Definition of Symbols
Verbalization (continued)		f_S = frequency of recorded verbalizations in which the subject makes a verbalization about another school environment f_M = frequency of recorded verbalizations in which the subject makes a verbalization about miscellaneous topics such as the weather, vacations, etc. f_X = frequency of sampled time units in which the subject does not give any verbalization
Verbal focus	(a) $\log \frac{f_N}{f_C}$ (b) $\log \frac{f_M}{f_C}$ (c) $\log \frac{f_O}{f_C}$	f_N = frequency of recorded verbalizations in which the subject makes a verbalization with no obvious focus f_C = frequency of recorded verbalizations in which the subject makes a verbalization which focuses on the child f_M = frequency of recorded verbalizations in which the subject makes a verbalization which focuses on herself (the mother)

Table 3-9 (Continued)

Quantification	Definition of Symbols

Table 3-9 (Continued)

Variable	Quantification (Transformed Variables)	Definition of Symbols
Verbal focus		f_O = frequency of recorded verbalizations in which the subject makes a verbalization which focuses on other individuals (e.g., father, siblings, neighbors, friends)
Verbal fantasy	$\log \frac{f_F}{f_{NF}}$	f_F = frequency of recorded verbalizations which reflect use of fantasy f_{NF} = frequency of recorded verbalizations which does not reflect use of fantasy
Verbal time orientation	$\frac{1(f_{PA}) + 2(f_{PR}) + 3(f_{FU})}{f_{PA} + f_{PR} + f_{FU}}$	f_{PA} = frequency of recorded verbalizations which refer to the past f_{PR} = frequency of recorded verbalizations which refer to the present f_{FU} = frequency of recorded verbalizations which refer to the future
Voice affective tone	$\frac{1(f_-) + 2(f_o) + 3(f_+)}{f_- + f_o + f_+}$	f_- = frequency of recorded verbalizations for which a negative affect is conveyed by voice tone

Table 3-9 (Continued)

Variable	Quantification (Transformed Variables)	Definition of Symbols
Voice		f_o = frequency of recorded verbalizations for which a neutral voice

Table 3-9 (Continued)

Variable	Quantification (Transformed Variables)	Definition of Symbols
Voice affective tone (continued)		f_o = frequency of recorded verbalizations for which a neutral voice tone, conveying no affect, is used f_+ = frequency of recorded verbalizations for which a positive affect is conveyed by voice tone
Verbal initiation-response mode	$\frac{1(f_{PR}) + 2(f_{RE}) + 3(f_{RT})}{f_{PR} + f_{RE} + f_{RT}}$	f_{PR} = frequency of recorded verbalizations which are proactive in nature f_{RE} = frequency of recorded verbalizations which are reactive in nature f_{RT} = frequency of recorded verbalizations which are retroactive in nature
Verbal support	$\frac{1(f_S) + 2(f_N) + 3(f_{NS})}{f_S + f_N + f_{NS}}$	f_S = frequency of recorded verbalizations which are supportive in nature f_N = frequency of recorded verbalizations which are neutral in nature

Table 3-9 (Continued)

Variable	Quantification (Transformed Variables)	Definition of Symbols

Table 3-9 (Continued)

Variable	Quantification (Transformed Variables)	Definition of Symbols
Verbal support (continued)		f_{NS} = frequency of recorded verbalizations which are nonsupportive in nature
Verbal independence promotion	$\frac{1(f_D) + 2(f_N) + 3(f_I)}{f_D + f_N + f_I}$	f_D = frequency of recorded verbalizations which promote dependence f_N = frequency of recorded verbalizations which do not promote either dependence or independence f_I = frequency of recorded verbalizations which promote independence
Nonverbal Orientation Behaviors		
Affective physical behavior	(a_1) $\log \frac{f_{SP}}{f_{AP}}$ (a_2) $\log \frac{f_{DF}}{f_{AP}}$ (a_3) $\log \frac{f_{NP}}{f_{AP}}$	f_{SP} = frequency of recorded nonverbal affective physical behaviors in which positive physical behavior involving contact is recorded f_{AP} = frequency of recorded nonverbal affective physical behaviors in which positive physical behavior not involving contact is recorded

Table 3-9 (Continued)

Variable	Quantification (Measured Variables)	Definition of Symbols

Table 3-9 (Continued)

Variable	Quantification (Transformed Variables)	Definition of Symbols
Affective physical behavior (continued)	(b) $\log \frac{f_X}{f_{SP} + f_{AP} + f_{DF} + f_{NP}}$	f_{DF} = frequency of recorded nonverbal affective physical behaviors in which negative physical behavior not involving contact is recorded f_{NP} = frequency of recorded nonverbal affective physical behaviors in which negative physical behavior involving contact is recorded f_X = frequency of sampled time units in which the subject has no nonverbal affective physical behavior recorded
Neutral physical behavior	(a) $\log \frac{f_B}{f_P}$ (b) $\log \frac{f_X}{f_P + f_B}$	f_P = frequency of recorded nonverbal neutral physical behaviors in which the subject physically points to the blocks or other objects in the environment f_B = frequency of recorded nonverbal neutral physical behaviors in which the subject physically handles the blocks

Table 3-9 (Continued)

Table 3-9 (Continued)

Variable	Quantification (Transformed Variables)	Definition of Symbols
Neutral physical behavior (continued)		f_X = frequency of sampled time units in which the subject has no nonverbal neutral physical behaviors recorded
Nonverbal initiation-response mode	$\frac{1(f_{PR}) + 2(f_{RE}) + 3(f_{RT})}{f_{PR} + f_{RE} + f_{RT}}$	f_{PR} = frequency of recorded nonverbal physical behaviors which are proactive in nature f_{RE} = frequency of recorded nonverbal physical behaviors which are reactive in nature f_{RT} = frequency of recorded nonverbal physical behaviors which are retroactive in nature
Nonverbal support	$\frac{1(f_S) + 2(f_N) + 3(f_{NS})}{f_S + f_N + f_{NS}}$	f_S = frequency of recorded nonverbal physical behaviors which are supportive in nature f_N = frequency of recorded nonverbal physical behaviors which reflect neither support nor lack of support

Table 3-9 (Continued)

Variable	Quantification (Transformed Variables)	Definition of Symbols
Ozone	$\ln(O_3)$	O_3 = ozone concentration (ppm)
Nitrogen dioxide	$\ln(NO_2)$	NO_2 = nitrogen dioxide concentration (ppm)
Sulfur dioxide	$\ln(SO_2)$	SO_2 = sulfur dioxide concentration (ppm)
Carbon monoxide	$\ln(CO)$	CO = carbon monoxide concentration (ppm)
Total suspended particulates	$\ln(TSP)$	TSP = total suspended particulates concentration ($\mu g/m^3$)
Coefficient of haze	$\ln(COH)$	COH = coefficient of haze ($10^{-2}/1000$ ft)
Temperature	T	T = temperature (°F)
Relative humidity	RH	RH = relative humidity (%)
Wind speed	$\ln(WS)$	WS = wind speed (mph)
Wind direction	$\sin(WD)$, $\cos(WD)$	WD = wind direction (degrees)
Precipitation	$\ln(PRECIP)$	$PRECIP$ = precipitation (in.)
Solar radiation	$\ln(SOLAR)$	$SOLAR$ = solar radiation (langleys)
Time	$\sin(TIME)$, $\cos(TIME)$	$TIME$ = time of day (hours)
Day of week	$\sin(DAY)$, $\cos(DAY)$	DAY = day of week (1 = Sunday, 2 = Monday, ..., 7 = Saturday)
Day of year	$\sin(DOY)$, $\cos(DOY)$	DOY = day of year (1 = January 1, ..., 365 = December 31)

Table 3-9 (Continued)

Variable	Quantification (Transformed Variables)	Definition of Symbols
Nonverbal support (continued)		f_{NS} = frequency of recorded nonverbal physical behaviors which are nonsupportive in nature
Nonverbal independence promotion	$\frac{1(f_D) + 2(f_N) + 3(f_I)}{f_D + f_N + f_I}$	f_D = frequency of recorded nonverbal physical behaviors which promote dependence f_N = frequency of recorded nonverbal physical behaviors which do not promote either dependence or independence f_I = frequency of recorded nonverbal physical behaviors which promote independence
Affective Orientation Behaviors		
Hostility	$\frac{1(f_{H_1}) + 2(f_{H_2}) + 3(f_{H_3})}{f_{H_1} + f_{H_2} + f_{H_3}}$	f_{H_1} = frequency of sampled time intervals with no overt hostility shown f_{H_2} = frequency of sampled time intervals with a moderate level of hostility shown f_{H_3} = frequency of sampled time intervals with a high level of hostility shown

Table 3-9 (Continued)

Variable	Quantification (Transformed Variables)	Definition of Symbols
Warmth	$1(f_{W_1}) + 2(f_{W_2}) + 3(f_{W_3})$	f_{W_1} = frequency of sampled time intervals with no overt warmth shown

Table 3-9 (Continued)

Variable	Quantification (Transformed Variables)	Definition of Symbols
Warmth	$\frac{1(f_{W_1}) + 2(f_{W_2}) + 3(f_{W_3})}{f_{W_1} + f_{W_2} + f_{W_3}}$	f_{W_1} = frequency of sampled time intervals with no overt warmth shown f_{W_2} = frequency of sampled time intervals with a moderate level of warmth shown f_{W_3} = frequency of sampled time intervals with a high level of warmth shown
Anxiety-Maternal	$\frac{1(f_{M-L}) + 2(f_{M-M}) + 3(f_{M-H})}{f_{M-L} + f_{M-M} + f_{M-H}}$	f_{M-L} = frequency of sampled time intervals during which the mother has a low anxiety level f_{M-M} = frequency of sampled time intervals during which the mother has a moderate anxiety level f_{M-H} = frequency of sampled time intervals during which the mother has a high anxiety level
Anxiety-Child	$\frac{1(f_{C-L}) + 2(f_{C-M}) + 3(f_{C-H})}{f_{C-L} + f_{C-M} + f_{C-H}}$	f_{C-L} = frequency of sampled time intervals during which the child has a low anxiety level

Table 3-9 (Continued)

Variable	Quantification (Transformed Variables)	Definition of Symbols
Anxiety-Child (continued)		f_{C-M} = frequency of sampled time intervals during which the child has a

Table 3-9 (Continued)

Variable	Quantification (Transformed Variables)	Definition of Symbols
Anxiety-Child (continued)		f_{C-M} = frequency of sampled time intervals during which the child has a moderate anxiety level f_{C-H} = frequency of sampled time intervals during which the child has a high anxiety level
Child dependency level	(a) $\log \frac{f_E}{f_I}$ (b) $\log \frac{f_X}{f_E + f_I}$	f_E = frequency of sampled time intervals during which the child shows emotional dependency f_I = frequency of sampled time intervals during which the child shows instrumental dependency f_X = frequency of sampled time intervals during which the child shows no dependency

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Statistical Analysis

Two main types of analyses were used to test out the hypotheses of interest: 1) a multivariate analysis of covariance (MANCOVA) Fixed Effects Model and a multivariate analysis of variance (MANOVA) Fixed Effects Model, including a repeated measures multivariate analysis of variance, and 2) a multiple regression analysis. All analyses were carried out using the Michigan State University 3600 and 6500 Control Data Corporation computers at the Michigan State University Computer Laboratory. Finn's (1967, 1971) multivariance programs were used in the analyses.

The three major independent variables of interest in this study contained two levels each. They included socioeconomic status group, race, and sex of the child. Two additional independent variables of interest were age of the mother and ordinal position of the child. Three variables--ordinal position of the child, age of the mother, and age of the child--were used as covariates for the MANCOVA analyses. The dependent variables of interest were verbal orientation behavior of the mother, nonverbal orientation behavior of the mother, affective orientation behavior of the mother, and affective orientation behavior of the child. The unit of analysis was the sampled child and his mother.

Multiple regression analysis was used to test the significance of the covariates in the analyses of maternal behavior, and multivariate analysis of variance was employed to test the hypotheses if no significance was determined for the covariates. To test the hypotheses

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pertaining to the relationships between the two additional independent variables, age of the mother and ordinal position of the child, and the maternal dependent variables, a single cell regression analysis was employed. Based on the results of these analyses, additional analyses were performed in which the dependent variables were regrouped on the basis of total maternal affective behavior.

A repeated measures analysis of variance was used to test hypotheses pertaining to change in child behaviors over time in addition to the design over subjects dimensions of socioeconomic status group, race, and sex of the child used in the other analyses. Based on the results of the repeated measures analysis, separate analyses for males and females were used to test the significance of the repeated measures dimension on sex of the child.

An alpha level (the probability of chance occurrence of the event in question) of 0.05 was selected for testing each multivariate hypothesis. Individual univariate variables were disregarded in the case where the overall multivariate variable was not significant. If the multivariate alpha level was less than 0.05, however, individual univariate variables were considered significant at alpha $\leq$ .01; individual univariate variables of alpha level less than 0.10 were also regarded as making potentially meaningful contributions to the interpretation of the data. Any significant interactions were graphed. All nonsignificant individual univariates of significant multivariate analyses with low probability of chance occurrence ($\alpha \leq 0.10$) were then examined for possible regrouping on the basis of clustering of like variables.

CHAPTER IV

RESULTS

Verbal Orientation Behavior

Multivariate analyses of variance and covariance were calculated for verbal orientation behavior using the three independent variables of race, socioeconomic status grouping, and sex of the child. The covariates were age of mother, ordinal position of the child, and age of the child. Regression analyses were computed for each of two additional independent variables--age of the mother and ordinal position of the child--to determine the relationships between these variables and verbal orientation behavior. The variables used to make up verbal orientation behavior were: quantity of verbalization, type of verbalization, verbal focus, verbal fantasy, time orientation, voice affective tone, verbal initiation-response mode, verbal support and verbal independence promotion. The twenty-three scores used as measures of these variables included eight logit transformations and five mean scores (Table 3-9).

Significance of Covariates

A regression analysis was computed for the three covariates of interest, and results showed no significance in the multivariate test for all three (alpha level equal to 0.6942) (Table 4-1). Individual alpha levels for the three covariates were: age of mother, 0.3744;

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Table 4-1

Tests for Significance of Covariates in Multivariate Tests of Verbal Orientation Behaviors of Mothers

Covariates	Test Statistics		
	Chi Square	Degrees of Freedom	Alpha Level
Multivariate test	62.5736	69	< 0.6942
Univariate tests			
Age of the child	18.9842	23	< 0.7022
Ordinal position of the child	18.7757	23	< 0.7142
Age of the mother	24.5416	23	< 0.3744

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age of child, 0.7022; and ordinal position of the child, 0.7142. Since the covariates were found to be nonsignificant in the analyses, analysis of verbal orientation behavior was made using multivariate analysis of variance.

Three-Way Interaction

The three-way interaction tested was for race by sex of the child by socioeconomic status. The null hypothesis for this interaction could not be rejected since an alpha level of 0.9828 was obtained (Table 4-2). Thus, a three-way interaction was not indicated and univariates were not considered (Table 4-3).

Two-Way Interaction

Since significance of three-way interaction effects did not exist, two-way interactions were looked at. No significant differences were found on the overall multivariate tests and the null hypotheses related to these interactions were not rejected (Table 4-2). Socioeconomic group of race interaction had an alpha level of 0.4310 (Table 4-4); race by sex of the child interaction had an alpha level of 0.8653 (Table 4-5); and socioeconomic group by sex of the child interaction had an alpha level of 0.1316 (Table 4-6).

Table 4-2

Summary of Multivariate Tests on Verbal Orientation Behavior

Hypothesis	Multivariate Test Statistics		
	Test Statistic	Degrees of Freedom	Alpha Level
	Analysis of Variance		
Socioeconomic group (SES)	2.2081	23 and 18	< 0.0454
Race	0.7714	23 and 18	< 0.7247
Sex of the child	1.0904	23 and 18	< 0.4312
Socioeconomic group (SES) x race	1.0906	23 and 18	< 0.4310
Race x sex of the child	0.6146	23 and 18	< 0.8653
Socioeconomic group (SES) x sex of the child	1.6827	23 and 18	< 0.1316
Race x sex of the child x socioeconomic group (SES)	0.3892	23 and 18	< 0.9828
	Regression Analysis		
Age of the mother	20.7572	23	< 0.5960
Ordinal position of the child	21.3365	23	< 0.5606

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Table 4-3

Analyses of Variance for Race x Sex x SES Interaction: Verbal Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (23 and 18 degrees of freedom)			
Verbal orientation		0.3892	< 0.9828
Univariate Analysis (1 and 40 degrees of freedom)			
Verbalization			
Quantity	0.2794	0.4443	< 0.5089
Types			
Nursery school/trailer	0.4484	0.1698	< 0.6826
Other/trailer	0.6468	0.4771	< 0.4938
Nursery school			
Teacher/program	1.0587	0.6984	< 0.4083
Building/program	2.7447	0.4531	< 0.5048
Children/program	1.5450	0.2897	< 0.5934
Child/program	0.1975	0.0859	< 0.7711
Trailer			
Furniture/blocks-general	0.0243	0.0101	< 0.9206
Blocks-specific/blocks-general	0.0025	0.0009	< 0.9769
Experimenter/blocks-general	1.6095	1.0295	< 0.3164
Other attributes/blocks-general	0.1693	0.0766	< 0.7834
Atmosphere/blocks-general	1.1322	0.5753	< 0.4526
Other			
Home/miscellaneous	0.0117	0.0034	< 0.9537
School/miscellaneous	0.0159	1.2583	< 0.2687
Verbal focus			
No obvious focus/child	0.2855	0.3039	< 0.5846
Mother/child	2.0882	3.1341	< 0.0843
Other/child	0.0015	0.0023	< 0.9619
Verbal fantasy	1.0773	0.8523	< 0.3615
Verbal time orientation	0.0040	0.4930	< 0.4867
Voice affective tone	0.0032	0.1341	< 0.7162
Verbal initiation-response mode	0.0007	0.1076	< 0.7446
Verbal support	0.0002	0.0030	< 0.9568
Verbal independence promotion	0.0229	0.4688	< 0.4975

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Table 4-4

Analyses of Variance for SES x Race Interaction: Verbal Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (23 and 18 degrees of freedom)			
Verbal orientation		1.0906	< 0.4310
Univariate Analysis (1 and 40 degrees of freedom)			
Verbalization			
Quantity	0.2827	0.4496	< 0.5064
Types			
Nursery school/trailer	0.3804	0.1440	< 0.7064
Other/trailer	0.2492	0.1838	< 0.6705
Nursery school			
Teacher/program	1.0480	0.6913	< 0.4107
Building/program	6.6513	1.0980	< 0.3010
Children/program	0.1929	0.0362	< 0.8502
Child/program	6.5369	2.8421	< 0.0997
Trailer			
Furniture/blocks-general	1.0382	0.4306	< 0.5155
Blocks-specific/blocks-general	3.0078	1.0341	< 0.3154
Experimenter/blocks-general	0.5094	0.3258	< 0.5714
Other attributes/blocks-general	1.6495	0.7466	< 0.3927
Atmosphere/blocks-general	0.2371	0.1205	< 0.7304
Other			
Home/miscellaneous	8.0673	2.3571	< 0.1326
School/miscellaneous	0.0146	1.1567	< 0.2887
Verbal focus			
No obvious focus/child	1.5335	1.6325	< 0.2088
Mother/child	2.1502	3.2272	< 0.0800
Other/child	0.7054	1.0652	< 0.3083
Verbal fantasy	0.1167	0.0923	< 0.7629
Verbal time orientation	0.0009	0.1096	< 0.7424
Voice affective tone	0.0190	0.8083	< 0.3740
Verbal initiation-response mode	0.0149	2.2450	< 0.1419
Verbal support	0.0611	1.0537	< 0.3109
Verbal independence promotion	0.0161	0.3290	< 0.5695

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Table 4-5

Analyses of Variance for Race x Sex Interaction: Verbal Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (23 and 18 degrees of freedom)			
Verbal orientation		0.6146	< 0.8653
Univariate Analysis (1 and 40 degrees of freedom)			
Verbalization			
Quantity	0.0234	0.0372	< 0.8481
Types			
Nursery school/trailer	0.0571	0.0216	< 0.8839
Other/trailer	0.0315	0.0233	< 0.8796
Nursery school			
Teacher/program	0.2504	0.1652	< 0.6866
Building/program	0.0312	0.0052	< 0.9432
Children/program	9.2777	1.7397	< 0.1947
Child/program	0.0021	0.0009	< 0.9759
Trailer			
Furniture/blocks-general	2.2905	0.9501	< 0.3356
Blocks-specific/blocks-general	0.3189	0.1097	< 0.7423
Experimenter/blocks-general	1.7520	1.1207	< 0.2962
Other attributes/blocks-general	0.0108	0.0049	< 0.9447
Atmosphere/blocks-general	0.4053	0.2060	< 0.6524
Other			
Home/miscellaneous	0.4659	0.1361	< 0.7141
School/miscellaneous	0.0245	1.9386	< 0.1716
Verbal focus			
No obvious focus/child	0.5519	0.5875	< 0.4479
Mother/child	0.3148	0.4724	< 0.4959
Other/child	0.2782	0.4201	< 0.5206
Verbal fantasy	5.3248	4.2126	< 0.0468
Verbal time orientation	0.0043	0.5250	< 0.4730
Voice affective tone	0.0326	1.3871	< 0.2459
Verbal initiation-response mode	0.0007	0.1053	< 0.7473
Verbal support	0.0616	1.0611	< 0.3092
Verbal independence promotion	0.0778	1.5932	< 0.2182

Table 4-6

Analyses of Variance for SES x Sex Interaction: Verbal Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (23 and 18 degrees of freedom)			
Verbal orientation		1.6827	< 0.1316
Univariate Analysis (1 and 40 degrees of freedom)			
Verbalization			
Quantity	0.0149	0.0236	< 0.8787
Types			
Nursery school/trailer	0.4040	0.1529	< 0.6979
Other/trailer	1.5684	1.1568	< 0.2886
Nursery school			
Teacher/program	0.6469	0.4267	< 0.5174
Building/program	4.5408	0.7496	< 0.3918
Children/program	1.9884	0.3729	< 0.5450
Child/program	0.7811	0.3396	< 0.5634
Trailer			
Furniture/blocks-general	0.0482	0.0200	< 0.8883
Blocks-specific/blocks-general	0.4265	0.1466	< 0.7039
Experimenter/blocks-general	0.9925	0.6349	< 0.4303
Other attributes/blocks-general	3.6847	1.6678	< 0.2040
Atmosphere/blocks-general	2.7169	1.3806	< 0.2470
Other			
Home/miscellaneous	7.3051	2.1344	< 0.1519
School/miscellaneous	0.0008	0.0664	< 0.7980
Verbal focus			
No obvious focus/child	1.8937	2.0159	< 0.1635
Mother/child	0.1018	0.1528	< 0.6980
Other/child	0.1244	0.1878	< 0.6671
Verbal fantasy	1.8279	1.4461	< 0.2363
Verbal time orientation	0.0083	1.0251	< 0.3175
Voice affective tone	0.1155	4.9155	< 0.0324
Verbal initiation-response mode	0.0288	4.3409	< 0.0437
Verbal support	0.1942	3.3471	< 0.0748
Verbal independence promotion	0.0592	1.2133	< 0.2773

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Test of the Main Effects

None of the interactions were significant at the 0.05 alpha level, so main effects were then considered. No significant differences were found for the race main effect (alpha level less than 0.7247) or for the sex of the child main effect (alpha level less than 0.4312), but a significant difference was found to exist for the socioeconomic group main effect (alpha level less than 0.0454) (Table 4-2).

For the socioeconomic group main effect five univariate variables were found to be significant at alpha 0.01 or less (Table 4-7): (1) the relative number of verbalizations which were other-related had a univariate alpha level of 0.0008. Differences in cell means (Appendix IIA--Table II-1) indicated that middle-class mothers made more other-related statements than did lower-class mothers; (2) the relative number of verbalizations about the experimenter had a univariate alpha level of 0.0017. Differences in cell means (Appendix IIA--Table II-1) indicated that middle-class mothers made more verbalizations about the experimenter than did lower-class mothers; (3) the relative number of verbalizations about other attributes in the trailer had a univariate alpha level of 0.0038. Differences in cell means (Appendix IIA--Table II-1) indicated that middle-class mothers made more verbalizations about other attributes in the trailer than did lower-class mothers, (4) the relative number of furniture-related verbalizations had a univariate alpha level of 0.0102. Differences in cell means (Appendix IIA--Table II-1) indicated that middle-class mothers made more verbalizations about the furniture in the trailer than did lower-class mothers; and (5) the

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Table 4-7

Analyses of Variance for SES Main Effect: Verbal Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (23 and 18 degrees of freedom)			
Verbal orientation		2.2081	< 0.0454
Univariate Analysis (1 and 40 degrees of freedom)			
Verbalization			
Quantity	4.2413	6.7455	< 0.0131
Types			
Nursery school/trailer	0.4522	0.1712	< 0.6813
Other/trailer	18.2862	13.4871	< 0.0008
Nursery school			
Teacher/program	1.0503	0.6928	< 0.4102
Building/program	0.5307	0.0876	< 0.7688
Children/program	0.8302	0.1557	< 0.6953
Child/program	0.4244	0.1845	< 0.6699
Trailer			
Furniture/blocks-general	17.5360	7.2736	< 0.0102
Blocks-specific/blocks-general	9.2020	3.1638	< 0.0829
Experimenter/blocks-general	17.7825	11.3750	< 0.0017
Other attributes/blocks-general	20.9455	9.4805	< 0.0038
Atmosphere/blocks-general	6.2900	3.1963	< 0.0814
Other			
Home/miscellaneous	3.1412	0.9178	< 0.3439
School/miscellaneous	0.0367	2.9039	< 0.0962
Verbal focus			
No obvious focus/child	2.1027	2.2384	< 0.1425
Nother/child	0.1048	0.1573	< 0.6939
Other/child	0.1966	0.2968	< 0.5890
Verbal fantasy	5.2188	4.1287	< 0.0489
Verbal time orientation	0.0000	0.0004	< 0.9836
Voice affective tone	0.0238	1.0128	< 0.3203
Verbal initiation-response mode	0.0042	0.6339	< 0.4307
Verbal support	0.1934	3.3339	< 0.0754
Verbal independence promotion	0.3400	6.9666	< 0.0118

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variable of verbal independence promotion had a univariate alpha level of 0.0118. Differences in cell means (Appendix IIA--Table II-1) indicated that middle-class mothers tended to have more verbalizations which were independence promoting than did lower-class mothers.

In addition, six additional univariate variables were indicated under socioeconomic group main effect for making potentially meaningful contributions to the variance between groups (alpha less than 0.10); (1) the relative number of blocks-specific verbalizations had a univariate alpha level of 0.0829. Differences in cell means (Appendix IIA--Table II-1) indicated that middle-class mothers tended to use more blocks-specific verbalizations than did lower-class mothers; (2) the relative number of verbalizations about the atmosphere of the trailer had a univariate alpha level of 0.0814. Differences in cell means (Appendix IIA--Table II-1) indicated that middle-class mothers tended to use more verbalizations about the atmosphere of the trailer than did lower-class mothers; (3) the relative number of verbalizations about other schools had a univariate alpha level of 0.0962. Differences in cell means (Appendix IIA--Table II-1) indicated that lower-class mothers tended to have more verbalizations about other schools than did middle-class mothers; (4) the quantity of verbalizations had a univariate alpha level of 0.0131. Differences in cell means (Appendix IIA--Table II-1) indicated that middle-class mothers tended to have more total verbalizations than did lower-class mothers; (5) the relative amount of fantasy verbalization had a univariate alpha level of 0.0489. Differences in cell means (Appendix IIA--Table II-3) indicated that middle-class

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mothers tended to use more fantasy in their verbalizations than did lower-class mothers; and (6) the variable of verbal support behavior had a univariate alpha level of 0.0754. Differences in cell means (Appendix IIA--Table II-7) indicated that middle-class mothers tended to have more supportive verbalizations than did lower-class mothers.

Since the race main effect was not found to be significant univariate variables were not looked at (Table 4-8). Since the sex of the child main effect was not found to be significant univariate variables were not looked at (Table 4-9).

Regression Analyses

To test the hypotheses pertaining to the relationships between age of the mothers or ordinal position of the child and maternal verbal orientation behavior, a single cell regression analysis was employed. No significance was found for either of these independent variables (Table 4-2). Age of the mother had an alpha level of 0.5960, while ordinal position of the child had an alpha level of 0.5606.

Since the multivariate test for age of the mother was not found to be significant, univariate variables were not considered (Table 4-10). Since the multivariate test for ordinal position of the child was not found to be significant, univariate variables were not considered (Table 4-11).

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Table 4-8

Analyses of Variance for Race Main Effect: Verbal Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (23 and 18 degrees of freedom)			
Verbal orientation		0.7714	< 0.7247
Univariate Analysis (1 and 40 degrees of freedom)			
Verbalization			
Quantity	0.0946	0.1505	< 0.7001
Types			
Nursery school/trailer	0.4027	0.1525	< 0.6983
Other/trailer	1.4906	1.0994	< 0.3007
Nursery school			
Teacher/program	0.3863	0.2548	< 0.6165
Building/program	0.7818	0.1291	< 0.7213
Children/program	7.3667	1.3814	< 0.2469
Child/program	0.3845	0.1672	< 0.6849
Trailer			
Furniture/blocks-general	0.2180	0.0904	< 0.7652
Blocks-specific/blocks-general	1.8084	0.6217	< 0.4351
Experimenter/blocks-general	3.1109	1.9900	< 0.1661
Other attributes/blocks-general	4.4416	2.0104	< 0.1640
Atmosphere/blocks-general	0.0098	0.0050	< 0.9442
Other			
Home/miscellaneous	3.3382	0.9753	< 0.3293
School/miscellaneous	0.0013	0.0995	< 0.7542
Verbal focus			
No obvious focus/child	1.1165	1.1886	< 0.2822
Mother/child	5.6649	8.5024	< 0.0058
Other/child	0.1987	0.3000	< 0.5870
Verbal fantasy	0.6384	0.5051	< 0.4815
Verbal time orientation	0.0003	0.0387	< 0.8451
Voice affective tone	0.0362	1.5420	< 0.2216
Verbal initiation-response mode	0.0179	2.7019	< 0.1081
Verbal support	0.1429	2.4631	< 0.1245
Verbal independence promotion	0.0139	0.2856	< 0.5961

Table 4-9

Analyses of Variance for Sex Main Effect: Verbal Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (23 and 18 degrees of freedom)			
Verbal orientation		1.0904	< 0.4312
Univariate Analysis (1 and 40 degrees of freedom)			
Verbalization			
Quantity	1.4937	2.3757	< 0.1312
Types			
Nursery school/trailer	1.5157	0.5738	< 0.4532
Other/trailer	2.5231	1.8609	< 0.1802
Nursery school			
Teacher/program	5.4955	3.6253	< 0.0642
Building/program	3.7408	0.6176	< 0.4366
Children/program	9.4124	1.7650	< 0.1916
Child/program	0.2462	0.1071	< 0.7453
Trailer			
Furniture/blocks-general	1.5148	0.6283	< 0.4327
Blocks-specific/blocks-general	1.6552	0.5691	< 0.4551
Experimenter/blocks-general	11.8458	7.5775	< 0.0089
Other attributes/blocks-general	8.0974	3.6651	< 0.0628
Atmosphere/blocks-general	1.7335	0.8809	< 0.3536
Other			
Home/miscellaneous	9.9253	2.8999	< 0.0964
School/miscellaneous	0.0024	0.1884	< 0.6667
Verbal focus			
No obvious focus/child	0.0844	0.8563	< 0.3604
Mother/child	0.1215	0.1823	< 0.6717
Other/child	0.5922	0.8943	< 0.3500
Verbal fantasy	1.5508	1.2269	< 0.2747
Verbal time orientation	0.0359	4.4103	< 0.0421
Voice affective tone	0.0040	0.1708	< 0.6817
Verbal initiation-response mode	0.0007	0.1030	< 0.7500
Verbal support	0.0144	0.2480	< 0.6213
Verbal independence promotion	0.1158	2.3733	< 0.1314

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Table 4-10

Regression Analysis for Age of the Mother: Verbal Orientation Behavior

Variable	Raw Regression Coefficients	Test Statistic	Alpha Level
Multivariate Analysis (23 degrees of freedom)			
Verbal orientation		20.7572	< 0.5960
Univariate Analysis (1 and 46 degrees of freedom)			
Verbalization			
Quantity	-0.0333	3.1781	< 0.0813
Types			
Nursery school/trailer	-0.0763	4.9932	< 0.0304
Other/trailer	0.0377	1.5757	< 0.2158
Nursery school			
Teacher/program	-0.0546	3.8820	< 0.0549
Building/program	-0.0389	0.4958	< 0.4849
Children/program	-0.0468	0.7716	< 0.3843
Child/program	-0.0382	1.2637	< 0.2668
Trailer			
Furniture/blocks-general	0.0316	0.7196	< 0.4007
Blocks-specific/blocks-general	0.0027	0.0047	< 0.9454
Experimenter/blocks-general	0.0466	1.9143	< 0.1732
Other attributes/blocks-general	0.0737	3.9186	< 0.0538
Atmosphere/blocks-general	0.0455	2.0074	< 0.1633
Other			
Home/miscellaneous	0.0779	3.2514	< 0.0780
School/miscellaneous	0.0007	0.0788	< 0.7802
Verbal focus			
No obvious focus/child	0.0109	0.2222	< 0.6396
Mother/child	-0.0020	0.0087	< 0.9260
Other/child	-0.0059	0.1043	< 0.7482
Verbal fantasy	0.0394	2.0668	< 0.1574
Verbal time orientation	-0.0032	2.3915	< 0.1289
Voice affective tone	0.0085	5.8082	< 0.0201
Verbal initiation-response mode	0.0000	0.0004	< 0.9838
Verbal support	-0.0145	6.8052	< 0.0123
Verbal independence promotion	0.0043	0.6096	< 0.4390

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Regression Analysis for Ordinal Position of the Child: Verbal Orientation Behavior

Variable	Raw Regression Coefficients	Test Statistic	Alpha Level
Multivariate Analysis (23 degrees of freedom)			
Verbal orientation		21.3365	< 0.5606
Univariate Analysis (1 and 46 degrees of freedom)			
Verbalization			
Quantity	-0.0019	0.0007	< 0.9790
Types			
Nursery school/trailer	-0.0336	0.0611	< 0.8059
Other/trailer	-0.1339	1.3806	< 0.2461
Nursery school			
Teacher/program	-0.1437	1.7968	< 0.1867
Building/program	-0.0817	0.1513	< 0.6992
Children/program	0.2917	2.1580	< 0.1487
Child/program	-0.1172	0.8216	< 0.3695
Trailer			
Furniture/blocks-general	-0.0147	0.0107	< 0.9181
Blocks-specific/blocks-general	-0.2497	2.9548	< 0.0924
Experimenter/blocks-general	-0.1962	2.3889	< 0.1291
Other attributes/blocks-general	-0.1664	1.3218	< 0.2563
Atmosphere/blocks-general	0.1165	0.8964	< 0.3488
Other			
Home/miscellaneous	-0.0529	0.0979	< 0.7558
School/miscellaneous	0.0149	2.2955	< 0.1366
Verbal focus			
No obvious focus/child	0.0718	0.6743	< 0.4158
Mother/child	0.0002	0.0000	< 0.9983
Other/child	-0.0465	0.4523	< 0.5047
Verbal fantasy	-0.0423	0.1600	< 0.6911
Verbal time orientation	-0.0086	1.1848	< 0.2821
Voice affective tone	0.0068	0.2312	< 0.6329
Verbal initiation-response mode	-0.0100	1.8492	< 0.1806
Verbal support	-0.0301	1.8645	< 0.1788
Verbal independence promotion	-0.0100	0.2263	< 0.6366

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Nonverbal Orientation Behavior

The multivariate analysis of covariance and the multivariate analysis of variance were calculated for nonverbal orientation behavior using the three independent variables of race, socioeconomic status grouping, and sex of the child. The covariates were age of the mother, ordinal position of the child, and age of the child. Regression analyses were computed for age of the mother and ordinal position of the child to determine the relationship between these independent variables and nonverbal orientation behavior. The variables used to make up nonverbal orientation behavior were: quantity of affective physical behavior, type of neutral physical behavior, nonverbal initiation-response mode, nonverbal support and nonverbal independence promotion. The nine scores used as measures of these variables included six logit transformations and three mean scores (see Table 3-9).

Significance of the Covariates

A regression analysis was computed for the three covariates of interest and results revealed no significance in the multivariate test for all three (alpha level less than 0.1306) (Table 4-12). Individual alpha levels for the three covariates were: age of the mother, 0.4215, age of the child, 0.2340; and ordinal position, 0.1034. Since the covariates were found to be nonsignificant in the analysis of nonverbal orientation behavior, analysis was made using multivariate analysis of variance.

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Table 4-12

Tests for Significance of Covariates in Multivariate Tests of Nonverbal Orientation Behaviors of Mothers

Covariates	Test Statistics		
	Chi Square	Degrees of Freedom	Alpha Level
Multivariate test	35.3370	27	< 0.1306
Univariate tests			
Age of the child	11.6477	9	< 0.2340
Ordinal position of the child	14.5716	9	< 0.1034
Age of the mother	9.1730	9	< 0.4215

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Three-Way Interaction

The three-way interaction tested was for race by sex of the child by socioeconomic status grouping. The null hypothesis could not be rejected for this interaction since an alpha level of 0.1868 was computed (Table 4-13). None of the univariate variables were looked at since the multivariate test was not significant (Table 4-14).

Two-Way Interaction

Since significance of three-way interaction effects did not exist at the 0.05 alpha level, two-way interactions were examined. No significant differences were found on the multivariate tests, and the null hypotheses related to these interactions were not rejected (Table 4-13). Socioeconomic group by race interaction had an alpha level of 0.1111; the race by sex of the child interaction had an alpha level of 0.1239; and the socioeconomic group by sex of the child interaction had an alpha level of 0.0985.

None of the univariate alpha levels were examined since none of the multivariates were found to be significant. See Table 4-15 for the socioeconomic group by race interaction univariate variables. See Table 4-16 for the race by sex of child interaction univariate variables. See Table 4-17 for the socioeconomic group by sex of the child interaction univariate variables.

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Table 4-13

Summary of Multivariate Tests on Nonverbal Orientation Behavior

Hypothesis	Multivariate Test Statistics		
	Test Statistic	Degrees of Freedom	Alpha Level
	Analysis of Variance		
Socioeconomic group (SES)	2.2923	9 and 32	< 0.0409
Race	1.8685	9 and 32	< 0.0937
Sex of the child	0.8009	9 and 32	< 0.6183
Socioeconomic group (SES) x race	1.7811	9 and 32	< 0.1111
Race x sex of the child	1.7246	9 and 32	< 0.1239
Socioeconomic group (SES) x sex of the child	1.8427	9 and 32	< 0.0985
Race x sex of the child x socioeconomic group (SES)	1.5100	9 and 32	< 0.1868
	Regression Analysis		
Age of the mother	13.7919	9	< 0.1300
Ordinal position of the child	7.6724	9	< 0.5675

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Table 4-14

Analyses of Variance for Race x Sex x SES Interaction: Nonverbal Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (9 and 32 degrees of freedom)			
Nonverbal orientation		1.5100	< 0.1868
Univariate Analysis (1 and 40 degrees of freedom)			
Affective physical behavior			
Quantity	2.3519	2.1753	< 0.1481
Types			
Social physical/approach	5.9136	1.5637	< 0.2184
Defensive/approach	0.0421	0.0359	< 0.8506
Negative physical/approach	0.0200	0.0662	< 0.7983
Neutral physical behavior			
Quantity	1.2569	0.6999	< 0.4078
Blocks/pointing	0.1099	0.0094	< 0.9235
Nonverbal initiation-response	0.0002	0.0211	< 0.8852
Nonverbal support	0.0662	1.3542	< 0.2515
Nonverbal independence promotion	0.2288	1.4773	< 0.2314

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Analyses of Variance for SES x Race Interaction: Nonverbal Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (9 and 32 degrees of freedom)			
Nonverbal orientation		1.7811	< 0.1111
Univariate Analysis (1 and 40 degrees of freedom)			
Affective physical behavior			
Quantity	0.1038	0.0960	< 0.7583
Types			
Social physical/approach	7.5995	2.0096	< 0.1641
Defensive/approach	1.8802	1.6054	< 0.2125
Negative physical/approach	0.0111	0.0367	< 0.8491
Neutral physical behavior			
Quantity	4.8926	2.7243	< 0.1067
Blocks/pointing	5.7627	0.4908	< 0.4877
Nonverbal initiation-response	0.0044	0.3782	< 0.5421
Nonverbal support	0.0005	0.0097	< 0.9220
Nonverbal independence promotion	0.1334	0.8610	< 0.3591

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Table 4-16

Analyses of Variance for Race x Sex Interaction: Nonverbal Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (9 and 32 degrees of freedom)			
Nonverbal orientation		1.7246	< 0.1239
Univariate Analysis (1 and 40 degrees of freedom)			
Affective physical behavior			
Quantity	0.3312	0.3063	< 0.5831
Types			
Social physical/approach	8.2053	2.1698	< 0.1486
Defensive/approach	0.1090	0.0931	< 0.7619
Negative physical/approach	0.3459	1.1421	< 0.2917
Neutral physical behavior			
Quantity	0.0103	0.0057	< 0.9401
Blocks/pointing	0.6965	0.0593	< 0.8089
Nonverbal initiation-response	0.0357	3.0491	< 0.0885
Nonverbal support	0.0387	0.7913	< 0.3791
Nonverbal independence promotion	1.3094	8.4543	< 0.0060

Table 4-17

Analyses of Variance for SES x Sex Interaction: Nonverbal Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (9 and 32 degrees of freedom)			
Nonverbal orientation		1.8427	< 0.0985
Univariate Analysis (1 and 40 degrees of freedom)			
Affective physical behavior			
Quantity	0.0820	0.0759	< 0.7845
Types			
Social physical/approach	1.6008	0.4233	< 0.5191
Defensive/approach	1.0190	0.8701	< 0.3566
Negative physical/approach	0.0002	0.0006	< 0.9806
Neutral physical behavior			
Quantity	0.0043	0.0024	< 0.9615
Blocks/pointing	1.2353	0.1052	< 0.7474
Nonverbal initiation-response	0.1225	10.4645	< 0.0025
Nonverbal support	0.0006	0.0130	< 0.9097
Nonverbal independence promotion	1.0092	6.5158	< 0.0147

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Test of Main Effects

Since none of the interactions were judged to be significant at the multivariate alpha level (0.05), main effects were next considered. No significant differences were found for the race main effect (alpha level less than 0.0937) or for the sex of the child main effect (alpha level less than 0.6183), but a significant difference was found to exist for the socioeconomic group main effect (alpha level less than 0.0409) (Table 4-13).

For the socioeconomic group main effect no univariate variables were found to be significant at alpha level 0.01, but five variables were indicated as making a potentially meaningful contribution to the variance between groups (alpha level less than 0.10) (Table 4-18): (1) the quantity of affective physical behavior had a univariate alpha level of 0.0500. Differences in cell means (Appendix IIB--Table II-9) indicated that middle-class mothers tended to use more affective physical behaviors than did lower-class mothers; (2) the quantity of neutral physical behavior had a univariate alpha level of 0.0947. Differences in cell means (Appendix IIB--Table II-10) indicated that lower-class mothers tended to use more neutral physical behaviors than did middle-class mothers; (3) the variable nonverbal initiation-response mode had a univariate alpha level of 0.0498. Differences in cell means (Appendix IIB--Table II-11) indicated that middle-class mothers tended to use more proactive physical behavior than did lower-class mothers; (4) the variable nonverbal support had a univariate alpha level of 0.0902.

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Table 4-18

Analyses of Variance for SES Main Effect: Nonverbal Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (9 and 32 degrees of freedom)			
Nonverbal orientation		2.2923	< 0.0409
Univariate Analysis (1 and 40 degrees of freedom)			
Affective physical behavior			
Quantity	4.4194	4.0876	< 0.0500
Types			
Social physical/approach	4.0483	1.0705	< 0.3071
Defensive/approach	0.2328	0.1988	< 0.6581
Negative physical/approach	0.0310	0.1024	< 0.7507
Neutral physical behavior			
Quantity	5.2643	2.9313	< 0.0947
Blocks/pointing	31.4894	2.6822	< 0.1094
Nonverbal initiation-response	0.0479	4.0951	< 0.0498
Nonverbal support	0.1475	3.0162	< 0.0902
Nonverbal independence promotion	0.7331	4.7332	< 0.0356

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Differences in cell means (Appendix IIB--Table II-12) indicated that middle-class mothers tended to use more nonverbal support behaviors than did lower-class mothers; and (5) the variable nonverbal independence promotion had a univariate alpha level of 0.0356. Differences in cell means (Appendix IIB--Table II-13) indicated that middle-class mothers tended to use more nonverbal behavior which was independence promoting than did lower-class mothers.

Since for the race main effect no significance was found for the multivariate variable, univariate variables were not considered (Table 4-19). Since for the sex of the child main effect no significance was found for the multivariate variable, univariate variables were not looked at (Table 4-20).

Regression Analyses

To test the hypotheses about the relationships between age of the mother or ordinal position of the child and maternal nonverbal orientation behavior, a single cell regression analysis was employed. No significance was found for either of the independent variables (Table 4-13). Age of the mother had an alpha level of 0.1300, and ordinal position of the child had an alpha level of 0.5675.

Univariate variables for the independent variable age of the mother were not considered because the multivariate variable was not found to be significant (Table 4-21). Also, since the multivariate variable for ordinal position was not found to be significant, univariate variables were not considered (Table 4-22).

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Analyses of Variance for Race Main Effect: Nonverbal Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (9 and 32 degrees of freedom)			
Nonverbal orientation		1.8685	< 0.0937
Univariate Analysis (1 and 40 degrees of freedom)			
Affective physical behavior			
Quantity	0.3595	0.3325	< 0.5675
Types			
Social physical/approach	0.6276	0.1660	< 0.6860
Defensive/approach	1.4190	1.2116	< 0.2776
Negative physical/approach	0.6085	2.0094	< 0.1641
Neutral physical behavior			
Quantity	9.3480	5.2052	< 0.0280
Blocks/pointing	3.2524	0.2770	< 0.6016
Nonverbal initiation-response	0.0115	0.9824	< 0.3276
Nonverbal support	0.0027	0.0549	< 0.8160
Nonverbal independence promotion	0.2871	1.8534	< 0.1811

Variable
Nonverbal c
Affective p
Quantity
Types
Social
Defens
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Neutral phy
Quantity
Blocks/po
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Table 4-20

Analyses of Variance for Sex Main Effect: Nonverbal Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (9 and 32 degrees of freedom)			
Nonverbal orientation		0.8009	< 0.6183
Univariate Analysis (1 and 40 degrees of freedom)			
Affective physical behavior			
Quantity	0.1344	0.1243	< 0.7263
Types			
Social physical/approach	3.3229	0.8787	< 0.3542
Defensive/approach	0.6964	0.5946	< 0.4452
Negative physical/approach	0.6295	2.0787	< 0.1572
Neutral physical behavior			
Quantity	5.4383	3.0282	< 0.0896
Blocks/pointing	15.4053	1.3122	< 0.2589
Nonverbal initiation-response	0.0011	0.0933	< 0.7616
Nonverbal support	0.0539	1.1028	< 0.3000
Nonverbal independence promotion	0.0052	0.0334	< 0.8561

Table 4-21

Regression Analysis for Age of the Mother: Nonverbal Orientation Behavior

Variable	Raw Regression Coefficients	Test Statistic	Alpha Level
Multivariate Analysis (9 degrees of freedom)			
Nonverbal orientation		13.7919	< 0.1300
Univariate Analysis (1 and 46 degrees of freedom)			
Affective physical behavior			
Quantity	-0.0302	1.5670	< 0.2170
Types			
Social physical/approach	0.0594	1.6969	< 0.1992
Defensive/approach	-0.0188	0.5775	< 0.4512
Negative physical/approach	-0.0018	0.0198	< 0.8888
Neutral physical behavior			
Quantity	0.0851	7.2326	< 0.0100
Blocks/pointing	-0.1705	5.1881	< 0.0275
Nonverbal initiation-response	0.0006	0.0470	< 0.8294
Nonverbal support	-0.0104	4.4227	< 0.0410
Nonverbal independence promotion	0.0137	1.6680	< 0.2030

Table 4-22

Regression Analysis for Ordinal Position of the Child: Nonverbal Orientation Behavior

Variable	Raw Regression Coefficients	Test Statistic	Alpha Level
Multivariate Analysis (9 degrees of freedom)			
Nonverbal orientation		7.6724	< 0.5675
Univariate Analysis (1 and 46 degrees of freedom)			
Affective physical behavior			
Quantity	-0.1205	1.7475	< 0.1928
Types			
Social physical/approach	0.2773	2.6314	< 0.1117
Defensive/approach	0.1303	2.0036	< 0.1637
Negative physical/approach	-0.0148	0.0940	< 0.7606
Neutral physical behavior			
Quantity	0.0450	0.1222	< 0.7533
Blocks/pointing	-0.4480	2.3645	< 0.1310
Nonverbal initiation-response	0.0033	0.0908	< 0.7646
Nonverbal support	-0.0212	1.1974	< 0.2796
Nonverbal independence promotion	-0.0358	0.7788	< 0.3822

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Maternal Affection Orientation Behavior

The multivariate analysis of covariance and the multivariate analysis of variance were calculated for affective orientation behavior of the mother using the three independent variables of race, sex of the child, and socioeconomic status group. The covariates were age of the mother, ordinal position of the child, and age of the child. Regression analyses were computed for age of the mother and ordinal position of the child to determine the relationship between these independent variables and affective behavior of the mother. The variables used to make up affective orientation behavior of the mother were hostility, warmth, and maternal anxiety. The three scores used as measures for these variables were three mean scores (see Table 3-9).

Significance of Covariates

A regression analysis was computed for the three covariates of interest, and results showed no significance in the multivariate test for all three variables (alpha level less than 0.8464) (Table 4-23). Individual alpha levels for the three covariates were: age of the mother, 0.7932; age of the child, 0.5025; and ordinal position, 0.6808. Since the covariates were found to be nonsignificant in the analysis of maternal affective behavior, analysis was made using multivariate analysis of variance.

Table 4-23

Tests for Significance of Covariates in Multivariate Tests of Maternal Affective Orientation Behavior

Covariates	Test Statistics		
	Chi Square	Degrees of Freedom	Alpha Level
Multivariate test	4.8598	9	< 0.8464
Univariate tests			
Age of the child	2.3531	3	< 0.5025
Ordinal position of the child	1.5068	3	< 0.6808
Age of the mother	1.0336	3	< 0.7932

Three-Way Interaction

The three-way interaction tested was for race by sex of the child by socioeconomic status grouping. The null hypothesis could not be rejected for this interaction since an alpha level of 0.6871 was computed (Table 4-24). Univariate variables were therefore not considered (Table 4-25).

Two-Way Interaction

Since three-way interaction effects were not significant at the 0.05 alpha level, two-way interactions were considered. No significant differences were found on the multivariate tests and, therefore, the null hypotheses related to these interactions were not rejected (Table 4-24). Socioeconomic group by race interaction had an alpha level of 0.6922; the race by sex of the child interaction had an alpha level of 0.1611; and the socioeconomic group by sex of the child interaction had an alpha level of 0.1180.

The multivariate variables for the interactions were not found to be significant. Therefore, none of the univariate alpha levels for any of the interactions--socioeconomic group by race (Table 4-26), race by sex of the child (Table 4-27), or socioeconomic group by sex of the child (Table 4-28)--were considered.

Table 4-24

Summary of Multivariate Tests on Maternal Affective Orientation Behavior

Hypothesis	Multivariate Test Statistics		
	Test Statistic	Degrees of Freedom	Alpha Level
	Analysis of Variance		
Socioeconomic group (SES)	2.5653	3 and 38	< 0.0689
Race	1.5957	3 and 38	< 0.2064
Sex of the child	2.6894	3 and 38	< 0.0600
Socioeconomic group (SES) x race	0.4888	3 and 38	< 0.6922
Race x sex of the child	1.8137	3 and 38	< 0.1611
Socioeconomic group (SES) x sex of the child	2.0880	3 and 38	< 0.1180
Race x sex of the child x socioeconomic group (SES)	0.4962	3 and 38	< 0.6871
	Regression Analysis		
Age of the mother	5.0276	3	< 0.1698
Ordinal position of the child	0.7345	3	< 0.8651

Analyses

Variable
Maternal af-
Hostility
Warmth
Anxiety

Table 4-25

Analyses of Variance for Race x Sex x SES Interaction: Maternal Affective Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (3 and 38 degrees of freedom)			
Maternal affective orientation		0.4962	< 0.6871
Univariate Analysis (1 and 40 degrees of freedom)			
Hostility	0.0090	0.8397	< 0.3650
Warmth	0.0044	0.1125	< 0.7391
Anxiety	0.0021	0.1398	< 0.7105

Table 4-26

Analyses of Variance for SES x Race Interaction: Maternal Affective Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (3 and 38 degrees of freedom)			
Maternal affective orientation		0.4888	< 0.6922
Univariate Analysis (1 and 40 degrees of freedom)			
Hostility	0.0013	0.1199	< 0.7310
Warmth	0.0290	0.7471	< 0.3926
Anxiety	0.0061	0.3990	< 0.5312

Analyses

Variable
Maternal affect
Hostility
Warmth
Anxiety

Table 4-27

Analyses of Variance for Race x Sex Interaction: Maternal Affective Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (3 and 38 degrees of freedom)			
Maternal affective orientation		1.8137	< 0.1611
Univariate Analysis (1 and 40 degrees of freedom)			
Hostility	0.0134	1.2468	< 0.2709
Warmth	0.0815	2.0992	< 0.1552
Anxiety	0.0225	1.4826	< 0.2305

Test of Main Effect

Since none of the two-way or three-way interactions were judged to be significant at alpha level 0.05, main effects were considered. No significant differences were found for the race main effect (alpha level less than 0.2064), for socioeconomic group main effect (alpha level less than 0.0689), or for sex of the child main effect (alpha level less than 0.0600) (Table 4-24).

The multivariate variable for socioeconomic group main effect was not found to be significant. Therefore, univariate variables were not considered (Table 4-29). The multivariate variable for race main effect was not found to be significant. Therefore, univariate variables for race main effect were not considered (Table 4-30). The multivariate variable for sex of the child main effect was not found to be significant. Therefore, univariate variables for sex of the child main effect were not considered (Table 4-31).

Regression Analyses

To test the hypotheses about the relationships between age of the mother or ordinal position of the child and maternal affective orientation behavior, single cell regression analyses were employed. No significance was found for either of these independent variables (Table 4-24): age of the mother had an alpha level of 0.1698, and ordinal position of the child had an alpha level of 0.8651. Univariate variables were therefore not considered for either of the variables--age of the mother (Table 4-32) or ordinal position of the child (Table 4-33).

Table 4-28

Analyses of Variance for SES x Sex Interaction: Maternal Affective Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (3 and 38 degrees of freedom			
Maternal affective orientation		2.0880	< 0.1180
Univariate Analysis (1 and 40 degrees of freedom)			
Hostility	0.0279	2.5884	< 0.1156
Warmth	0.0961	2.4755	< 0.1236
Anxiety	0.0113	0.7460	< 0.3929

Table 4-29

Analyses of Variance for SES Main Effect: Maternal Affective Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (3 and 38 degrees of freedom)			
Maternal affective orientation		2.5653	< 0.0689
Univariate Analysis (1 and 40 degrees of freedom)			
Hostility	0.0753	6.9877	< 0.0117
Warmth	0.0945	2.4342	< 0.1266
Anxiety	0.0293	1.9286	< 0.1726

Table 4-30

Analyses of Variance for Race Main Effects: Maternal Affective Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (3 and 38 degrees of freedom)			
Maternal affective orientation		1.5957	< 0.2064
Univariate Analysis (1 and 40 degrees of freedom)			
Hostility	0.0288	2.6696	< 0.1102
Warmth	0.0166	0.4269	< 0.5173
Anxiety	0.0063	0.4170	< 0.5222

Table 4-31

Analyses of Variance for Sex Main Effect: Maternal Affective Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (3 and 38 degrees of freedom)			
Maternal affective orientation		2.6894	< 0.0600
Univariate Analysis (1 and 40 degrees of freedom)			
Hostility	0.0369	3.4255	< 0.0716
Warmth	0.0040	0.1020	< 0.7512
Anxiety	0.0344	2.2678	< 0.1400

Table 4-32

Regression Analyses for Age of the Mother: Maternal Affective Orientation Behavior

Variable	Raw Regression Coefficients	Test Statistic	Alpha Level
Multivariate Analysis (3 degrees of freedom)			
Maternal affective orientation		5.0276	< 0.1698
Univariate Analysis (1 and 46 degrees of freedom)			
Hostility	-0.0047	3.1834	< 0.0810
Warmth	0.0084	3.3825	< 0.0724
Anxiety	-0.0012	0.1590	< 0.6920

Table 4-33

Regression Analysis for Ordinal Position of the Child: Maternal Affective Orientation Behavior

Variable	Raw Regression Coefficients	Test Statistic	Alpha Level
Multivariate Analysis (3 degrees of freedom)			
Maternal affective orientation		0.7345	< 0.8651
Univariate Analysis (1 and 46 degrees of freedom)			
Hostility	-0.0006	0.0031	< 0.9556
Warmth	0.0110	0.3857	< 0.5377
Anxiety	0.0056	0.2616	< 0.6115

Child Affective Orientation Behavior

A multivariate analysis of variance was calculated for child affective orientation behavior using the three design variables, race, sex of the child, and socioeconomic group, with a repeated measures dimension. The variables used to make up child affective orientation behavior were child anxiety, type of dependency, and amount of dependency shown. The nine scores used as measures of these variables over elapsed time included two logit transformations and one mean difference score (Table 3-9). Specification of the contrasts for each of these three variables across the four time periods resulted in the nine variables used in the repeated measures analysis.

Three-Way Interaction with Repeated Measures

An alpha level of 0.4075 (Table 4-34) revealed that there was no significant interaction among sex of the child, race, and socioeconomic status, and amount of elapsed time in the session. The null hypothesis for this interaction could not be rejected, and, therefore, none of the univariates were looked at (Table 4-35).

Two-Way Interaction with Repeated Measures

Since the three-way interaction with repeated measures was not found to be significant, two-way interactions were looked at next. Multivariate tests of the two-way interactions did not reveal any significant differences (Table 4-34). The alpha level for socioeconomic status group by race interaction was 0.4045; the alpha level for race by

Table 4-34

Summary of Multivariate Tests on Child Affective Orientation Behavior

Hypothesis	Multivariate Test Statistic		
	Test Statistic	Degrees of Freedom	Alpha Level
Socioeconomic group (SES)	0.6028	9 and 32	< 0.7851
Race	0.8995	9 and 32	< 0.5371
Sex of the child	2.4564	9 and 32	< 0.0297
Socioeconomic group (SES) x race	1.0789	9 and 32	< 0.4045
Race x sex of the child	0.4758	9 and 32	< 0.8800
Socioeconomic group (SES) x sex of the child	1.4077	9 and 32	< 0.2261
Socioeconomic group (SES) x race x sex of the child	1.0745	9 and 32	< 0.4075

Table 4-35

Analyses of Variance for Race x Sex x SES Interaction: Child Affective Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (9 and 32 degrees of freedom)			
Child affective orientation		1.0745	< 0.4075
Univariate Analysis (1 and 40 degrees of freedom)			
Anxiety			
1st-4th intervals	0.2361	1.2580	< 0.2688
2nd-4th intervals	0.0061	0.0519	< 0.8211
3rd-4th intervals	0.0046	0.1043	< 0.7485
Dependency			
Quantity			
1st-4th intervals	0.0892	0.0097	< 0.9222
2nd-4th intervals	10.2211	1.6057	< 0.2125
3rd-4th intervals	41.6508	5.4420	< 0.0248
Type: emotional/instrumental			
1st-4th intervals	1.7027	0.1814	< 0.6725
2nd-4th intervals	3.3164	0.4359	< 0.5129
3rd-4th intervals	0.3785	0.0571	< 0.8124

sex of the child interaction was 0.8800; and the alpha level for socioeconomic status group by sex of the child interaction was 0.2261. Univariate variables were not considered for race by sex of the child interaction (Table 4-36), for socioeconomic group by race interaction (Table 4-37), or for socioeconomic group by sex of the child interaction (Table 4-38) since the multivariate variables were not found to be significant.

Test of Main Effects with Repeated Measures

Since none of the two-way interactions with repeated measures was found to be significant at alpha level less than 0.05, possible differences based on the interaction of main effects with repeated measures were looked at next. Multivariate tests of the race main effect (alpha level less than 0.5371) with repeated measures and the socioeconomic group main effect (alpha level less than 0.7851) with repeated measures did not yield significant differences (Table 4-34). However, a sex of the child main effect was found to be significant at multivariate alpha level less than 0.0297, indicating an interaction between sex of the child with repeated measures. Because the multivariate variables for both socioeconomic group main effect and for race main effect were not found to be significant, univariate variables for socioeconomic group main effect (see Table 4-39), and for race main effect (see Table 4-40) were disregarded.

Table 4-36

Analyses of Variance for Race x Sex of the Child Interaction: Child Affective Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (9 and 32 degrees of freedom)			
Child affective orientation		0.4758	< 0.8800
Univariate Analysis (1 and 40 degrees of freedom)			
Anxiety			
1st-4th intervals	0.0156	0.0831	< 0.7747
2nd-4th intervals	0.0000	0.0000	< 0.9998
3rd-4th intervals	0.0416	0.9367	< 0.3390
Dependency			
Quantity			
1st-4th intervals	2.7870	0.3024	< 0.5855
2nd-4th intervals	9.1492	1.4373	< 0.2377
3rd-4th intervals	10.0418	1.3120	< 0.2589
Type: emotional/instrumental			
1st-4th intervals	0.0272	0.0029	< 0.9574
2nd-4th intervals	2.1686	0.2851	< 0.5964
3rd-4th intervals	2.1053	0.3176	< 0.5763

Table 4-37

Analyses of Variance for SES x Race Interaction: Child Affective Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (9 and 32 degrees of freedom)			
Child affective orientation		1.0789	< 0.4045
Univariate Analysis (1 and 40 degrees of freedom)			
Anxiety			
1st-4th intervals	0.1205	0.6422	< 0.4277
2nd-4th intervals	0.1868	1.5767	< 0.2166
3rd-4th intervals	0.0000	0.0000	< 0.9997
Dependency			
Quantity			
1st-4th intervals	1.5122	0.1641	< 0.6877
2nd-4th intervals	0.0453	0.0071	< 0.9332
3rd-4th intervals	8.6708	1.1329	< 0.2936
Type: emotional/instrumental			
1st-4th intervals	15.1166	1.6108	< 0.2118
2nd-4th intervals	34.4880	4.5333	< 0.0395
3rd-4th intervals	2.7019	0.4076	< 0.5269

Table 4-38

Analyses of Variance for SES x Sex of the Child Interaction: Child Affective Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (9 and 32 degrees of freedom)			
Child affective orientation		1.4077	< 0.2261
Univariate Analysis (1 and 40 degrees of freedom)			
Anxiety			
1st-4th intervals	0.0558	0.2974	< 0.5886
2nd-4th intervals	0.0756	0.6376	< 0.4293
3rd-4th intervals	0.0185	0.4165	< 0.5224
Dependency			
Quantity			
1st-4th intervals	17.9162	1.9437	< 0.1710
2nd-4th intervals	9.0355	1.4195	< 0.2406
3rd-4th intervals	1.0849	0.1417	< 0.7086
Type: emotional/instrumental			
1st-4th intervals	21.4366	2.2842	< 0.1386
2nd-4th intervals	31.0428	4.0804	< 0.0502
3rd-4th intervals	2.6474	0.3993	< 0.5311

Table 4-39

Analyses of Variance for SES Main Effect: Child Affective Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (9 and 32 degrees of freedom)			
Child affective orientation		0.6028	< 0.7851
Univariate Analysis (1 and 40 degrees of freedom)			
Anxiety			
1st-4th intervals	0.0017	0.0092	< 0.9240
2nd-4th intervals	0.0556	0.4690	< 0.4974
3rd-4th intervals	0.1157	2.6041	< 0.1145
Dependency			
Quantity			
1st-4th intervals	2.9217	0.3170	< 0.5766
2nd-4th intervals	0.0854	0.0134	< 0.9084
3rd-4th intervals	17.6018	2.2998	< 0.1373
Type: emotional/instrumental			
1st-4th intervals	0.1306	0.0139	< 0.9067
2nd-4th intervals	4.6733	0.6143	< 0.4378
3rd-4th intervals	18.7685	2.8311	< 0.1003

Table 4-40

Analyses of Variance for Race Main Effect: Child Affective Orientation Behavior

Variable	Between Mean Square	F Ratio	Alpha Level
Multivariate Analysis (9 and 32 degrees of freedom)			
Child affective orientation		0.8995	< 0.5371
Univariate Analysis (1 and 40 degrees of freedom)			
Anxiety			
1st-4th intervals	0.1206	0.6426	< 0.4275
2nd-4th intervals	0.0016	0.0131	< 0.9094
3rd-4th intervals	0.0185	0.4165	< 0.5224
Dependency			
Quantity			
1st-4th intervals	0.0818	0.0089	< 0.9255
2nd-4th intervals	1.4924	0.2345	< 0.6309
3rd-4th intervals	12.4339	1.6246	< 0.2099
Type: emotional/instrumental			
1st-4th intervals	0.0970	0.0103	< 0.9196
2nd-4th intervals	3.8069	0.5004	< 0.4835
3rd-4th intervals	9.8844	1.4910	< 0.2293

For sex of the child main effect, however, two univariate variables were found to be indicative of potentially meaningful contributions to the variance between groups (Table 4-41). The variable difference in quantity of dependency between the first and the fourth intervals had a univariate alpha of 0.0376. Differences in cell means (Appendix IID--Table II-18) indicated that there was a potentially meaningful interaction between sex of the child and repeated measures on this dimension; females tended to increase in quantity of dependency over elapsed time while males tended to decrease in quantity of dependency over elapsed time (Figure 4-1). The variable for difference in relative amount of emotional dependency between the third and fourth intervals had a univariate alpha level of 0.0373. Differences in cell means (Appendix IID--Table II-19) indicated that there was a potentially meaningful interaction between sex of the child and repeated measures on this dimension, males tended to increase in amount of emotional dependency over the elapsed time, while females tended to decrease in amount of emotional dependency over elapsed time (Figure 4-2).

Since the interaction between sex of the child and repeated measures was found to be significant at 0.05, the grand mean (test of repeated measures) could not be looked at. Therefore, subjects were separated by sex and each group was independently analyzed with multivariate analysis of variance in order to test the significance of the repeated measures dimension.

Table 4-41

Analyses of Variance for Sex Main Effect: Child Affective Orientation Behavior

Variable	Between Main Square	F Ratio	Alpha Level
Multivariate Analysis (9 and 32 degrees of freedom)			
Child affective orientation		2.4564	< 0.0297
Univariate Analysis (1 and 40 degrees of freedom)			
Anxiety			
1st-4th intervals	0.0048	0.0258	< 0.8733
2nd-4th intervals	0.1867	1.5754	< 0.2168
3rd-4th intervals	0.0186	0.4190	< 0.5212
Dependency			
Quantity			
1st-4th intervals	42.6477	4.6267	< 0.0376
2nd-4th intervals	0.5421	0.0852	< 0.7720
3rd-4th intervals	0.1675	0.0219	< 0.8832
Type: emotional/instrumental			
1st-4th intervals	6.1962	0.6602	< 0.4213
2nd-4th intervals	15.4785	2.0346	< 0.1616
3rd-4th intervals	30.7683	4.6413	< 0.0373

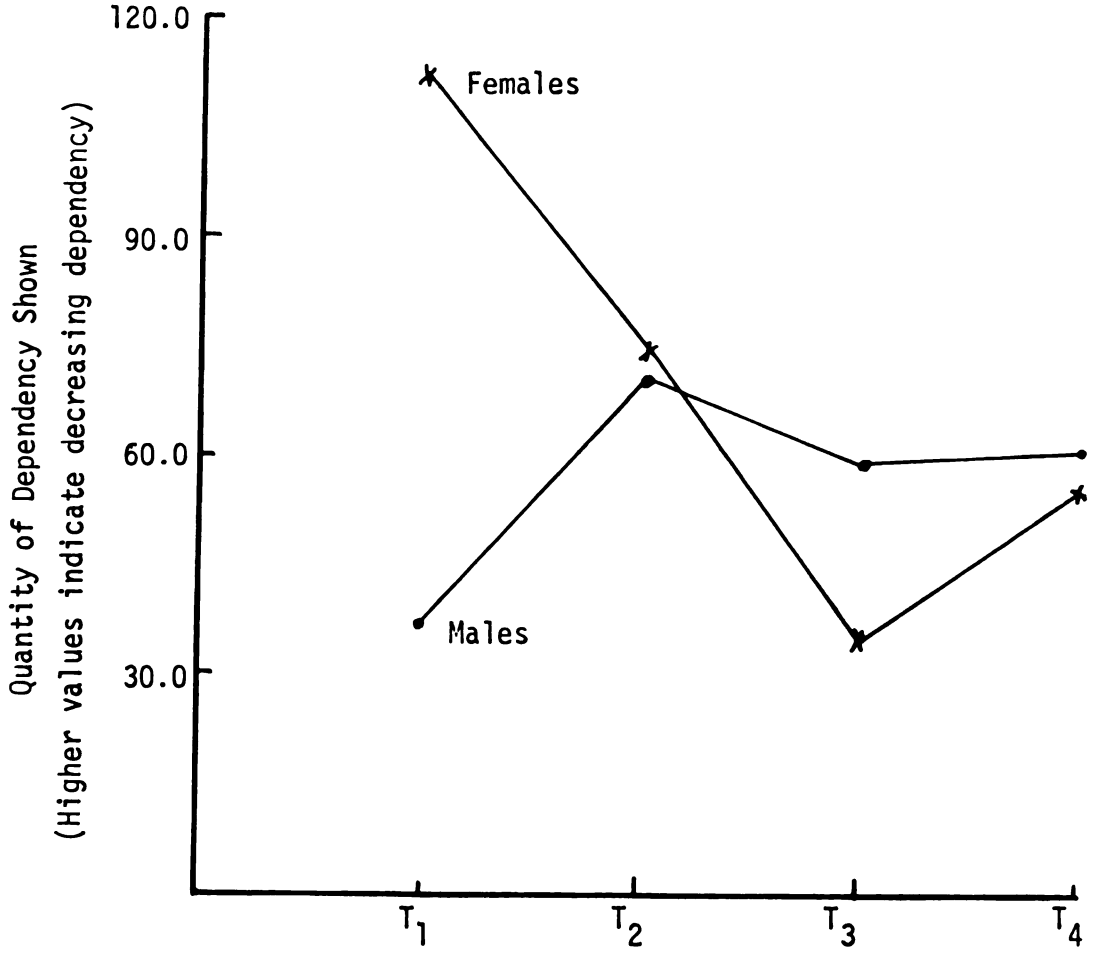


Figure 4-1. Interaction effect between sex of the child and the repeated measures dimension for quantity of dependency.

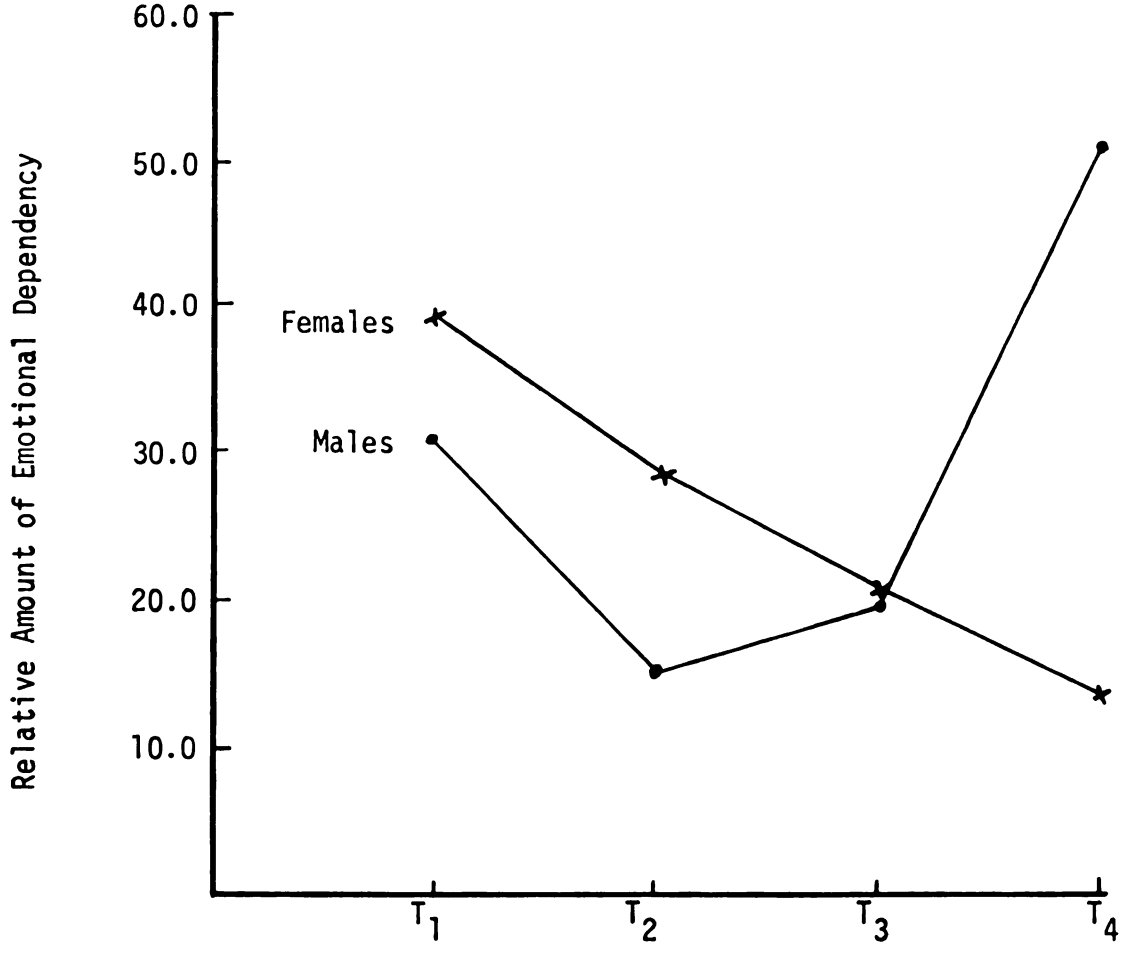


Figure 4-2. Interaction effect between sex of the child and the repeated measures dimension for relative amount of emotional dependency.

Separate Analyses for Males and Females

Two-way interaction for males with repeated measures dimension. The socioeconomic group by race interaction tested had a multivariate alpha level of 0.2743. Thus, this two-way interaction for boys was not found to be significant at the 0.05 alpha level (Table 4-42).

Tests of main effects for males with repeated measures dimension. Neither of the two main effects tested was found to be significant at alpha level less than 0.05. The race main effect had a multivariate alpha level of 0.7546; the socioeconomic main effect had a multivariate alpha level of 0.3690 (Table 4-42).

Test of grand mean for males with repeated measures dimension. Since the tests for two-way interactions and for main effects were not found to be significant, the grand mean, indicative of the differences on repeated measures, was next considered. The multivariate test of the grand mean for boys was found to be nonsignificant--alpha level less than 0.4576 (Table 4-42). Repeated measures was not a significant dimension for the males observed. Therefore, univariate alpha levels for the grand mean were not considered (Table 4-43).

Two-way interaction for females with repeated measures dimension. The socioeconomic group by race interaction tested had a multivariate alpha level of 0.1941. Thus, this two-way interaction for girls was not found to be significant at the 0.05 alpha level (Table 4-44).

Table 4-42

Summary of Multivariate Tests for Affective Orientation Behavior of Boys

Hypothesis	F Ratio	Degrees of Freedom	Alpha Level
Grand mean	1.0501	9 and 12	< 0.4576
Socioeconomic group (SES)	1.2139	9 and 12	< 0.3690
Race	0.6274	9 and 12	< 0.7546
Socioeconomic group (SES) x race	1.4361	9 and 12	< 0.2743

Table 4-43

Analysis of Variance for Grand Mean: Affective Orientation Behavior of Boys

Variable	Hypothesis Mean Square	F Ratio	Alpha Level
Multivariate Analysis (9 and 12 degrees of freedom)			
Boys' affective orientation		1.0501	< 0.4576
Univariate Analysis (1 and 20 degrees of freedom)			
Anxiety			
1st-4th intervals	0.3238	1.4983	< 0.2352
2nd-4th intervals	0.1301	1.0270	< 0.3230
3rd-4th intervals	0.0024	0.0484	< 0.8282
Dependency			
Quantity			
1st-4th intervals	1.2013	0.1531	< 0.6998
2nd-4th intervals	0.6845	0.1389	< 0.7133
3rd-4th intervals	3.7161	0.4215	< 0.5236
Type: emotional/instrumental			
1st-4th intervals	0.7119	0.0822	< 0.7774
2nd-4th intervals	19.1558	2.2175	< 0.1521
3rd-4th intervals	21.2897	2.7259	< 0.1144

Table 4-44

Summary of Multivariate Tests for Affective Orientation Behavior of Girls

Hypothesis	F Ratio	Degrees of Freedom	Alpha Level
Grand mean	2.9625	9 and 12	< 0.0415
Socioeconomic group (SES)	1.1803	9 and 12	< 0.3858
Race	0.8331	9 and 12	< 0.6004
Socioeconomic group (SES) x race	1.6965	9 and 12	< 0.1941

Tests of main effects for females. Since the two-way interaction tested was not found to be significant, tests for main effects were next considered. Neither of the two main effects tested were found to be significant at alpha level less than 0.05. The race main effect had a multivariate alpha level of 0.6004; the socioeconomic main effect had a multivariate alpha level of 0.3858 (Table 4-44).

Test of the grand mean for females. Since the tests for two-way interaction and for main effects were not found to be significant, the grand mean (test of repeated measures) was next considered. The multivariate test for the grand mean for girls was found to be significant--alpha level less than 0.0415 (Table 4-44).

For the test of the grand mean for females one variable was indicated as making a potentially meaningful contribution to the interpretation of the data. The difference in quantity of dependency shown between the first and the fourth intervals had an alpha level of 0.0212. Differences in cell means (Appendix IID--Table II-18) indicated that girls tended to increase in dependency from the first to the fourth interval (Table 4-45).

Subsequent Analyses for Total Maternal Affective Orientation Behavior

Based on the results of the multivariate analysis of variance and the multiple regression analyses of the mother-related dependent variables, additional multivariate analyses of variance were performed in which the dependent variables were regrouped on the basis of total

Table 4-45

Analysis of Variance for Grand Mean: Affective Orientation Behavior of Girls

Variable	Hypothesis Mean Square	F Ratio	Alpha Level
Multivariate Analysis (9 and 12 degrees of freedom)			
Girls' affective orientation		2.9625	< 0.0415
Univariate Analysis (1 and 20 degrees of freedom			
Anxiety			
1st-4th intervals	0.2216	1.3921	< 0.2520
2nd-4th intervals	0.0627	0.5680	< 0.4599
3rd-4th intervals	0.0209	0.5184	< 0.4799
Dependency			
Quantity			
1st-4th intervals	66.2520	6.2578	< 0.0212
2nd-4th intervals	0.0458	0.0059	< 0.9398
3rd-4th intervals	1.8193	0.2803	< 0.6024
Type: emotional/instrumental			
1st-4th intervals	7.1639	0.7088	< 0.4099
2nd-4th intervals	1.4094	0.2143	< 0.6485
3rd-4th intervals	10.4359	1.9154	< 0.1817

maternal affective behavior. Multivariate analyses of variance and covariance were calculated for total maternal affective orientation behavior using the three independent variables of race, socioeconomic status grouping, and sex of the child. The covariates were age of the mother, ordinal position of the child, and age of the child. The variables used to make up total maternal affective orientation behavior were: verbal focus, voice affective tone, verbal initiation-response mode, verbal support, verbal independence promotion, quantity of affective physical behavior, type of affective physical behavior, nonverbal initiation-response mode, nonverbal support, nonverbal independence promotion, hostility, warmth, and anxiety. The seventeen scores used as measures of these variables included seven logit transformations and nine mean scores (see Table 3-9).

Significance of Covariates

A regression analysis was computed for the three covariates of interest and results showed no significance in the multivariate test for all three (alpha level equal to 0.5579) (Table 4-46). Individual alpha levels for the three covariates were: age of the mother, 0.5342; age of the child, 0.3369; and ordinal position of the child, 0.6442. Since the covariates were found to be nonsignificant in the analyses, analysis of total maternal affective orientation behavior was made using multivariate analysis of variance.

Table 4-46

Tests for Significance of Covariates in Multivariate Tests of Total Maternal Affective Orientation Behavior

Covariates	Test Statistics		
	F Ratio	Degrees of Freedom	Alpha Level
Multivariate test	0.9594	51	< 0.5579
Univariate tests			
Age of the child	1.1993	17	< 0.3369
Ordinal position of the child	0.8345	17	< 0.6442
Age of the mother	0.9534	17	< 0.5342

Three-Way Interaction

The three-way interaction tested was for race by sex of the child by socioeconomic status. The null hypotheses for this interaction could not be rejected since an alpha level of 0.4826 was obtained (Table 4-47).

Two-Way Interaction

Since significance of three-way interaction effects did not exist, two-way interactions were looked at. No significant differences were found on the overall multivariate tests and the null hypotheses related to these interactions were not rejected (Table 4-47). Socioeconomic group by race interaction had an alpha level of 0.4309; race by sex of the child interaction had an alpha level of 0.4480; and socioeconomic group by sex of the child interaction had an alpha level of 0.1316.

Test of the Main Effects

None of the interactions were significant at the 0.05 alpha level, so main effects were then considered. No significant differences were found for the race main effect (alpha level less than 0.2232) or for the sex of the child main effect (alpha level less than 0.5441), but a significant difference was found to exist for the socioeconomic group main effect (alpha level less than 0.0545) (Table 4-47).

Table 4-47

Summary of Multivariate Tests on Total Maternal Affective Orientation Behavior

Hypothesis	Multivariate Test Statistics		
	Test Statistic	Degrees of Freedom	Alpha Level
Socioeconomic group (SES)	2.0317	17 and 24	< 0.0545
Race	1.3932	17 and 24	< 0.2232
Sex of the child	0.9399	17 and 24	< 0.5441
Socioeconomic group (SES) x race	1.0696	17 and 24	< 0.4309
Race x sex of the child	1.0488	17 and 24	< 0.4480
Socioeconomic group (SES) x sex of the child	1.4299	17 and 24	< 0.2063
Race x sex of the child x socioeconomic group (SES)	1.0083	17 and 24	< 0.4826

For the socioeconomic group main effect, two univariate variables were found to be significant at alpha levels equal to or less than 0.01 (Table 4-48). The variable of verbal independence promotion had a univariate alpha level of 0.0118. Differences in cell means (Appendix IIA--Table II-1) indicated that middle-class mothers tended to have more verbalizations which were independence promoting than did lower-class mothers. The variable of hostility had a univariate alpha level of 0.0117. Differences in cell means (Appendix IIC--Table II-14) indicated that lower-class mothers tended to show more hostility toward their children than did middle-class mothers.

In addition, five additional univariate variables were indicated under socioeconomic group main effect for making potentially meaningful contributions to the variance between groups (alpha level less than 0.10). The variable of verbal support had a univariate alpha level of 0.0754. Differences in cell means (Appendix IIA--Table II-7) indicated that middle-class mothers tended to have more supportive verbalizations than did lower-class mothers. The quantity of nonverbal affective physical behavior had a univariate alpha level of 0.0500. Differences in cell means (Appendix IIB--Table II-9) indicated that middle-class mothers tended to use more affective physical behavior than did lower-class mothers. The variable nonverbal initiation-response mode had a univariate alpha level of 0.0498. Differences in cell means (Appendix IIB--Table II-11) indicated that middle-class mothers tended to use more proactive physical behavior than did

Table 4-48

Analyses of Variance for SES Main Effects: Total Maternal Affective Orientation Behavior

Variable	Between Mean Squares	F Ratio	Alpha Level
Multivariate Analysis (17 and 24 degrees of freedom)			
Total maternal affective orientation		2.0317	< 0.0545
Univariate Analysis (1 and 40 degrees of freedom)			
Verbal focus			
No obvious focus/child	2.1027	2.2384	< 0.1425
Mother/child	0.1048	0.1573	< 0.6939
Other/child	0.1966	0.2968	< 0.5890
Voice affective tone	0.0238	1.0128	< 0.3203
Verbal initiation-response mode	0.0042	0.6339	< 0.4307
Verbal support	0.1934	3.3339	< 0.0754
Verbal independence promotion	0.3400	6.9666	< 0.0118
Affective physical behavior			
Quantity	4.4194	4.0876	< 0.0500
Types			
Social physical/approach	4.0483	1.0705	< 0.3071
Defensive/approach	0.2328	0.1988	< 0.6581
Negative physical/approach	0.0310	0.1024	< 0.7507
Nonverbal initiation-response	0.0479	4.0951	< 0.0498
Nonverbal support	0.1475	3.0162	< 0.0902
Nonverbal independence promotion	0.7331	4.7332	< 0.0356
Hostility	0.0753	6.9877	< 0.0117
Warmth	0.0945	2.4342	< 0.1266
Anxiety	0.0293	1.9286	< 0.1726

lower-class mothers. The variable nonverbal support had a univariate alpha level of 0.0902. Differences in cell means (Appendix IIB--Table II-12) indicated that middle-class mothers tended to use more nonverbal support behaviors than did lower-class mothers. The variable nonverbal independence promotion had a univariate alpha level of 0.0356. Differences in cell means (Appendix IIB--Table II-13) indicated that middle-class mothers tended to use more nonverbal behavior which was independence promoting than did lower-class mothers.

Summary of Results

Multivariate Comparisons

Multivariate tests of the general hypotheses led to the following conclusions:

1) There was a significant difference between the maternal verbal orientation behaviors of middle-class mothers and of lower-class mothers (socioeconomic group effect), but no differences were found in verbal orientation with respect to race, sex of the child, and the interactions of race, sex of the child, and/or socioeconomic group, nor were age of the mother or ordinal position of the child found to be related to maternal verbal orientation behaviors.

2) There was a significant difference between the maternal nonverbal orientation behaviors of middle-class mothers and of lower-class mothers (socioeconomic group effects) but again, no differences were found in nonverbal orientation with respect to race, sex of the child, and the interactions of race, sex and/or socioeconomic group,

nor were age of the mother or ordinal position of the child found to be related to maternal nonverbal orientation behaviors.

3) There were no differences found in maternal affective orientation behavior, with respect to sex, race, socioeconomic group, or the interaction of race, sex, and/or socioeconomic group. Age of the mother and ordinal position of the child were not found to be related to maternal affective orientation behaviors.

4) There were no significant differences between the affective orientation behaviors of black children and white children (race effects with repeated measures), between the affective orientation behaviors of middle-class children and lower-class children (socioeconomic group effects with repeated measures), nor between the interactions of race, sex, and/or socioeconomic status group. However, there was a significant difference in the interaction between sex of the child and the repeated measures dimension. In a separate analysis, the repeated measures dimension was found to be significant for female children, but not for male children.

5) There was a significant difference between the total maternal affective orientation behaviors of middle-class mothers and of lower-class mothers (socioeconomic group effects), but no differences were found in total maternal affective orientation with respect to race, sex of the child, or the interactions of race, sex, and/or socioeconomic group.

Univariate Comparisons

Tests for individual variables were examined. The results are summarized in Table 4-49.

Verbal Orientation Behaviors

On eleven of the twenty-three variables considered as making up verbal orientation behavior, significant differences or at least trends were indicated on the six hypotheses of interest for verbal orientation behavior. The contributions of each variable were as follows:

Verbalization--quantity. Middle-class mothers tended to talk more to their children than did lower-class mothers. No other effects were noted.

Verbalization--type. Verbalization type was broken down into three broad categories: nursery school-related, trailer-related and other-related.

1. *Nursery school-related.* No differences were found among mothers of varying demographic groups and no relationships were determined between verbalizations about the nursery school and mother's age or ordinal position of the child.

2. *Trailer-related.* Middle-class mothers made more verbalizations about every specific aspect of the trailer environment (furniture, blocks-specific, experimenter, other attributes, and atmosphere) than did lower-class mothers. No other effects were noted.

Table 4-49

Summary of Significance and Marginal Significance for Individual Variables

Variable	Univariate Alpha		
	<0.01	0.02-0.05	0.05-0.10
Verbalization			
Quantity	SES	-	-
Types			
Nursery school/trailer	-	-	-
Other/trailer	SES	-	-
Nursery school			
Teacher/program	-	-	-
Building/program	-	-	-
Children/program	-	-	-
Child/program	-	-	-
Trailer			
Furniture/blocks-general	SES	-	-
Blocks-specific/blocks-general	-	-	SES
Experimenter/blocks-general	SES	-	-
Other attributes/blocks-general	SES	-	-
Atmosphere/blocks-general	-	-	SES
Other			
Home/miscellaneous	-	-	-
School/miscellaneous	-	-	SES
Verbal focus			
No obvious focus/child	-	-	-
Mother/child	-	-	-
Other/child	-	-	-
Verbal fantasy	-	SES	-
Verbal time orientation	-	-	-
Voice affective tone	-	-	-
Verbal initiation-response mode	-	-	-
Verbal support	-	-	SES[a]
Verbal independence promotion	SES[a]	-	-
Nonverbal Orientation Behavior			
Affective physical behavior			
Quantity	-	SES[a]	-
Types			
Social physical/approach	-	-	-
Defensive/approach	-	-	-
Negative physical/approach	-	-	-

Table 4-46--Continued

Variable	Univariate Alpha		
	<0.01	0.02-0.05	0.05-0.10
Neutral physical behavior			
Quantity	-	-	SES
Blocks/pointing	-	-	-
Nonverbal initiation-response mode	-	SES[a]	-
Nonverbal support	-	-	SES[a]
Nonverbal independence promotion	-	SES[a]	-
Maternal Affective Orientation Behavior			
Hostility	SES[a]	-	-
Warmth	-	-	-
Anxiety	-	-	-
Child Affective Orientation Behavior			
Anxiety			
1st-4th intervals	-	-	-
2nd-4th intervals	-	-	-
3rd-4th intervals	-	-	-
Dependency			
Quantity			
1st-4th intervals	-	S,G	-
2nd-4th intervals	-	-	-
3rd-4th intervals	-	-	-
Type: emotional/instrumental			
1st-4th intervals	-	-	-
2nd-4th intervals	-	-	-
3rd-4th intervals	-	S	-

S indicates sex of the child difference.

SES indicates socioeconomic group difference.

G indicates an effect for the grand mean (repeated measures).

[a]Indicates group difference on total maternal affect variables in addition to difference in original grouping of variables.

3. Other-related. A socioeconomic group difference was determined for verbalizations which were other-related with middle-class mothers making more such statements than lower-class mothers. In looking at the variables which make up other-related, however, a trend could be found where lower-class mothers tended to make more verbalizations about other schools than did middle-class mothers. No other effects were noted.

Verbal focus. No differences were found among mothers of varying demographic groups and no relationships were determined between verbal focus and mother's age or ordinal position of the child.

Verbal fantasy. Middle-class mothers tended to use more fantasy in their verbalizations to their children than did lower-class mothers. No other effects were noted.

Time orientation. No differences were found between mothers of varying demographic groups and no relationships were determined between time orientation and mother's age or ordinal position of the child.

Voice affective tone. No differences were found between mothers of varying demographic groups and no relationships were determined between voice affective tone and mother's age or ordinal position of the child.

Verbal initiation-response mode. No differences were found between mothers of varying demographic groups and no relationships were determined between verbal initiation-response mode and mother's age or ordinal position of the child.

Verbal support. Middle-class mothers tended to have more supportive verbalizations than did lower-class mothers. This difference was upheld in the subsequent analysis of total maternal affective orientation behavior. No other effects were noted.

Verbal independence promotion. Middle-class mothers did more independence promoting in their verbalizations than did lower-class mothers. This difference was upheld in the subsequent analysis of total maternal affective orientation behavior. No other effects were noted.

Nonverbal Orientation Behaviors

On five of the nine variables considered as making up nonverbal orientation behavior, significant differences or at least trends were indicated on the six hypotheses of interest for nonverbal orientation behavior. The contribution of each variable was as follows:

Affective physical behavior--quantity. Middle-class mothers tended to use more affective physical behavior than did lower-class mothers. This difference was upheld in the subsequent analysis of total maternal affective orientation behavior. No other effects were noted.

Affective physical behavior--types. No differences were found between mothers of varying demographic groups, and there was no relationship found between type of affective physical behavior and maternal age or ordinal position of the child.

Neutral physical behavior--quantity. Lower-class mothers tended to use more neutral physical behaviors than did middle-class mothers. No other effects were noted.

Neutral physical behavior--type. No differences were found among mothers of varying demographic groups and no relationship was determined between type of neutral physical behavior and age of the mother or ordinal position of the child.

Nonverbal initiation-response mode. A socioeconomic group difference was determined for this variable, middle-class mothers tending to use more proactive physical behavior than lower-class mothers. This difference was upheld in the subsequent analyses of total maternal affective orientation behavior. No other effects were noted.

Nonverbal support. Middle-class mothers tended to use more nonverbal support than did lower-class mothers. This difference was upheld in the subsequent analyses of total maternal affective orientation behavior. No other effects are noted.

Nonverbal independence promotion. Middle-class mothers tended to use more nonverbal independence promotion than did lower-class mothers. This difference was upheld in the subsequent analyses of total maternal affective orientation behavior. No other effects were noted.

Maternal Affective Behaviors

On one of the three variables considered as making up maternal affective orientation behavior, trends were indicated on the six hypotheses of interest. The contributions of each variable were as follows:

Hostility. On the subsequent analyses of total maternal affective orientation behavior, lower-class mothers were found to be more hostile than middle-class mothers. No other effects were noted.

Warmth. No differences were found between mothers of varying demographic groups, nor were relationships determined between maternal warmth and ordinal position of the child or mother's age.

Anxiety. No differences were found between mothers of varying demographic groups, nor were relationships determined between maternal anxiety and mother's age or ordinal position of the child.

Child Affective Behaviors

On two of the nine variables considered as making up child affective behavior, trends were indicated or significance was determined on the five hypotheses of interest for child affective behavior. The contributions of each variable were as follows:

Anxiety. No differences were found on the repeated measures dimensions between children of varying demographic groups.

Dependency--quantity. A sex of the child main effect with repeated measures interaction was found to exist in the difference between the quantity of dependency shown between the first and the fourth intervals; females tended to increase in quantity of dependency over elapsed time while males tended to decrease in quantity of dependency over elapsed time. A repeated measures effect was shown to indicate a trend for the variable, difference in quantity of dependency shown between the first and the fourth intervals; females tended to increase in quantity of dependency shown between the first and the fourth intervals. No other effects were noted.

Dependency--relative amount of emotional dependency. A sex of the child main effect with repeated measures interaction was found to exist in the difference between the relative amount of emotional dependency shown between the third and the fourth intervals; males tended to increase in relative amount of emotional dependency over the elapsed time, while females tended to decrease in relative amount of emotional dependency over the elapsed time. No other effects were noted.

CHAPTER V

CONCLUSION

Discussion

Summary of Results

In the investigation of three areas of maternal orientation behavior and the area of child affective behavior it was determined that differences did occur between mothers of differing socioeconomic groups in all three areas of maternal orientation, and differences did occur between male and female children in the area of child orientation behavior. No interaction effects were determined for the multivariate tests of any of the orientation behaviors of the mothers, and no interaction effects existed for child orientation behavior. The results based on the regrouping of variables related to total maternal affective orientation behavior indicated that the only differences in these behaviors were with respect to social class.

Maternal Orientation Behaviors

Social Class Differences

The primary differences in the behavior of the mothers were found to exist as a function of socioeconomic group on the orientation

behaviors. The results of this study are not surprising in light of the literature existing on the effects of social class. Psathas (1957) found middle-class homes to have more verbal contact between the parent and the child than lower-class homes. The results in Psathas' study indicated that middle-class mothers made far more total verbalizations to their children than did lower-class mothers. In addition, in this study, middle-class mothers appeared to concentrate on the environment in which they found themselves, making many more comments about the trailer and things in the trailer than did the lower-class mothers. Perhaps this is indicative of concern on the part of the parent to provide labels for what the child is experiencing.

In addition, middle-class mothers had more other-related verbalizations than lower-class mothers. However, there was the indication present that lower-class mothers tended to make more verbalizations about other school environments than did middle-class mothers. Thus, while middle-class mothers were far more "chatty" about things other than the trailer or the nursery school than were lower-class mothers, lower-class mothers had more to say about schools other than the nursery school in question.

In this study, middle-class mothers used more fantasy verbalizations than lower-class mothers. Since utilization of fantasy is a communication technique which can be used effectively to teach concepts or ideas (Spodek, 1972), and since middle-class parents feel that it is their duty as parents to help their children learn as much as they can, while lower-class parents tend not to view their role as "teacher"

(Smilansky, 1968) it seems entirely within the realm of possibility that middle-class mothers would use more verbalizations with fantasy content than lower-class mothers would.

The results of this study did not bear out LeShan's (1952) premise that the middle-class is future-oriented and the lower-class is present-oriented, as there were no significant differences in relation to social class on this variable. A reason for this finding in this particular study could be that in 1969-1970 (the years in which the bulk of the data for this study was collected), nearly twenty years later than LeShan's study, the social classes have become more homogeneous in their temporal focus chiefly as a result of the middle-class becoming more present-oriented. Another reason could be inherent in the nature of the Familiarization Task procedure: Mothers were asked to make the child familiar with the trailer environment as a part of the nursery school experience and a great preponderance of the conversations were about the "present" trailer environment.

On the whole, middle-class mothers tended to be more supportive (verbally and nonverbally) as well as less hostile than lower-class mothers. This finding does not seem surprising in view of the environmental conditions with which the lower-class must cope. The lower-class often must endure substandard living conditions in terms of jobs (income, security, and status), housing, and educational opportunity. Cunningham (1972) also found instances of more negative affect demonstrated by lower-class parents, particularly the mothers.

Middle-class mothers tried to do more verbally and nonverbally to promote independence in their children than did lower-class mothers.

Perhaps this result is a function of the fact that middle-class parents are concerned about their children being able to function independently in some future endeavor. While all parents of all socioeconomic levels are concerned about their children's futures (Clausen, 1963), lower-class parents may not either have the necessary resources or the motivation to urge their children to attempt to break the perpetual cycle, especially when failure is the usual "reward."

Another finding relevant to social class differences was in the quantities of nonverbal behaviors. Middle-class mothers used more affective physical behaviors than did lower-class mothers, while lower-class mothers tended to use more neutral physical behaviors than did middle-class mothers. It appears that middle-class mothers are more physically demonstrative, both in terms of positive and negative affect, and in terms of contact and noncontact, while lower-class mothers seem less demonstrative and seem to rely on nonaffective, noncommittal physical behaviors. Lower-class mothers did more pointing and block handling than did middle-class mothers. A possible explanation of this may be that lower-class mothers are not at ease in the situation and being able to handle some of the props physically has a tension reduction function. Another possible rationale may be that lower-class parents are not socialized to be overly demonstrative to their children.

Race Differences

No race differences were determined for any of the maternal orientation behavior variables. No race differences were determined

in the subsequent analysis of total maternal affective orientation behavior.

Sex of the Child Differences

No sex of the child differences were determined for any of the maternal orientation behavior variables. No sex of the child differences were determined in the subsequent analysis of total maternal affective orientation behavior.

Age of the Mother

Age of the mother was not found to be related to any of the maternal orientation behavior variables. Age of the mother was not included as a variable in the subsequent analysis of total maternal affective orientation behavior.

Ordinal Position of the Child

Ordinal position of the child was not found to be related to any of the maternal orientation behavior variables. Ordinal position of the child was not included as a variable in the subsequent analysis of total maternal affective orientation behavior.

Child Orientation Behavior

Socioeconomic Class Differences

No socioeconomic class differences were determined for the child orientation variables. In addition, no interaction effects were found.

Race Differences

No race differences were determined for the child orientation variables. In addition, no interaction effects were found.

Sex of the Child

A significant finding of this study relevant to sex of the child with repeated measures interaction had to do with differences in the amount of emotional dependency shown between the third and the fourth intervals. Males increased in emotional dependency, while females decreased in emotional dependency. Another significant finding relevant to sex of the child with repeated measures interaction had to do with the difference in the total quantity of dependency shown between the first and the fourth intervals; females increased in quantity of dependency from relatively little to quite a bit, while males decreased slightly, from a high amount to slightly less than the females. In looking at these two findings simultaneously, it appears that while males were increasing and females were decreasing in amount of emotional dependency, females had to be increasing in amount of instrumental dependency because of the increase in quantity of dependency for the girls. Thus, while females are not expressing emotional dependency as readily as the liberated male who is freer to express emotional feeling, they are still engaged in help-seeking and attention-getting maneuvers.

When males and females were independently analyzed to test the repeated measures effect, none of the variables were found to be significant for the boys, not even the emotional dependency variables.

The quantity of dependency between the first and the fourth intervals was again found to be significant for girls as was the test for all the child affective behavior variables. Thus, it appears that little girls continue to live up to social expectations and are dependent, attention-seeking, and nonself-reliant.

Total Maternal Affective Orientation Behavior

The only differences in total maternal orientation behavior revealed in the results was with respect to social class. On the basis of this subsequent analysis further support was given for differences found in the preliminary analysis on several of the affective behaviors cited. As before, middle-class mothers were found to be more verbally and nonverbally supportive as well as less hostile than lower-class mothers. Middle-class mothers tried to do more verbally and nonverbally to promote independence in their children than did lower-class mothers. Also this analysis further supported the finding that middle-class mothers used more affective physical behaviors than did lower-class mothers.

Any explanation of these findings must lie in the cultural and environmental differences which are by definition inherent in the two social classes. Many of these differences have been discussed in prior sections of this study as well as in numerous other research-based works. Major reasons for these differences appear to be a result of socialization differences but the general reason for these socialization differences apparently lies in the economic sphere. The lower-class individual,

because of limited resources--both material in the forms of goods and money and human in terms of education and development of useful and marketable skills--is at the bottom to begin with and most often finds it difficult or virtually impossible to bring himself out of the "rut" into which he is born. The problem then for him becomes searching for and learning how best to utilize any means by which he can break the endless chain of poverty passed on from generation to generation.

The Limitations of This Study

The limitations of this study which should be considered in the interpretation of the results are:

1) In a family all family members are important socialization agents, but with special emphasis on the parents. This study is limited to the study of the mother's orientation and affective behaviors in an unfamiliar situation, and thus, is limited in its inference. A father's treatment of the same situation might be altogether different. A second repetition of the same situation using the father instead of the mother would no longer be an unfamiliar situation to the child. However, a potentially similar unfamiliar situation might be developed.

2) The situation may have been more "unfamiliar" for some of the subjects than for others; for instance, middle-class parents have often had more exposure to nursery school type situations than lower-class parents.

3) The Familiarization Task is a potentially artificial mother-child interaction situation, and it thereby is limited in its inference.

4) Previous validation of the Familiarization Task Rating Procedure as a measure of maternal and child orientation behavior was minimal. Predictive validity especially needs to be ascertained as this study can say nothing about the child's subsequent development in the nursery school as a function of the means with which his mother oriented him to the new situation. Reliability could be increased by finer definitional descriminations on some of the variables which were too subjective. Inevitable errors of measurement occurred in the data collection.

5) The selection of the subjects was from a fortuitous sample from a larger population. Sample size was also relatively small.

6) Because only one aspect of the child's behavior (affective orientation behavior) and three aspects of the mother's behavior (verbal, nonverbal and affective orientation behaviors) were considered, the scope of the study was limited. Other relevant variables may not have been considered.

7) Reciprocal parts of the communication process were not determined and thus relevant interactive data may not have been considered.

8) The length of the time period in the Familiarization Task session may have been too restrictive for allowing the varying types of behaviors to occur.

9) The quality of the data was questionable with some of the subjects. Some of the video tapes were not in good condition; in some, the audio and/or video components were substandard. The time periods in the Familiarization Task session were not all equivalent; a few were not even the prescribed five minutes.

Implications

There are many directions one could go from here, which points to the fact that while this study was limited in scope, it certainly is not limited in its implications. The results of this study offer a contribution to the whole study of child socialization and family interaction. The findings of this study provide useful information about how mothers of varying demographic groups attempt to deal with orienting their children to new situations, and provide a base for future research directed at ascertaining the relationship between the employment of varying kinds of orientation techniques and children's subsequent adjustment to the originally unfamiliar environments.

The socialization of the child has fortunately become a focal point of much child development research of late. In this increasingly complex world, it is a wonder that children adapt as well as they appear to do. Anything which can be done which can facilitate this adaptation and adjustment process lasting a lifetime should be done.

If there can be found special techniques which work well to facilitate this process, it is important to distribute this kind of information to parents, to schools, to doctors or to anyone else who may deal with children in everyday life. It may well be that techniques will have to be situation specific. Levy's (1959) research already alluded to this probability. But, perhaps, some general kinds of techniques applicable in any situation might apply as well. Knowledge about how a child becomes most comfortable in a new situation as well as knowledge about how parents can best make a child comfortable in such a situation would be useful information for any child socialization institution. Any enrichment program involving lower-class children must utilize available knowledge about social-class differences in parent-child interaction. Development of personality, development of self concept, and development of self-esteem can all stem from the particular manner in which a child is raised. The job of child advocates everywhere is to create the best environment in which a child, any child, can be raised.

Suggestions for Future Research

A number of researchable possibilities arise from this study. Several of the most important are enumerated below:

1) A replication of the present study using the father as the parent figure could be undertaken. It may be argued that the father is an integral part of the American family, and as such makes an important contribution to the socialization of the child.

2) A replication of the present study with both parents, father and mother, present to familiarize the child to a new environment should be done.

3) Two types of follow-up studies should be done:

a) A short-term study should be done to assess how a parent familiarizes his child to a new environment, and to assess how well the child adjusts to the new environment without the parent present, immediately after.

b) A long-term study should be done to assess how the child adjusts to the new environment over an extended period of time after the initial parent-child contact with the new environment.

4) A replication of the present study should be undertaken to assess the total parent-child interaction process which takes place in the situation.

5) A study similar to this one could be undertaken, but with a completely different unfamiliar situation setting, to determine situation specificity.

6) A comparison could be done of how a mother familiarizes each of her two or more children to the same unfamiliar environment, systematically varying the order of presenting each of the children to the unfamiliar environment.

7) The present study should be redone, but the time allowed in the session should be lengthened in order to assess more adequately the behaviors which are exhibited.

8) The present study could be done using older than preschool age children and younger than preschool age children (under three years).

9) Further validation of the Familiarization Task Rating Procedure should be undertaken.

10) A straight replication of the present study is needed.

11) A study could be done to compare the use of three treatments of child orientation to a new unfamiliar environment:

a) A treatment where no specific directions are given to the parent with respect to familiarizing the child to a new environment.

b) A treatment where mild nondirective directions are given to the parent, much like was done for this study.

c) A treatment where emphatic, explicit directions are given to the parent, along with a lecture on how important it is to make a child feel comfortable in a new situation.

12) Studies could be done using other parent-figures, such as teachers, grandparents, and neighbors, to determine how well the child is able to adjust, and to assess how the familiarizing individual accomplishes his task.

APPENDIX I

THE FAMILIARIZATION TASK AND THE FAMILIARIZATION TASK RATING PROCEDURE

APPENDIX IA

THE FAMILIARIZATION TASK

This instrument was developed by Jo Lynn Cunningham and Robert P. Boger, Head Start Research Center, Michigan State University.[1,2] Specific materials and procedures are described in the sections which follow.

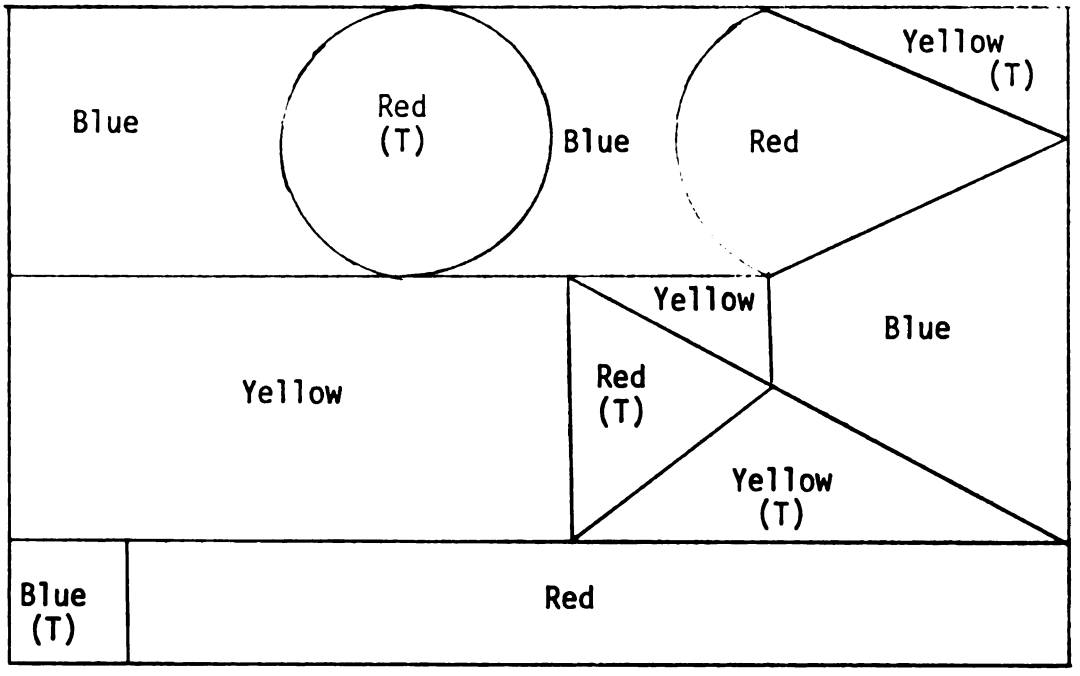
Materials

Twelve wooden blocks are used in this task. The blocks are all 1½" high and vary on the following dimensions: (a) color--red, blue, and yellow; (b) texture--smooth and rough; and (c) shape--11 shapes of varying sizes in 9 geometric forms. All the blocks are painted with brightly colored enamel. Rough texture was obtained by making indentations in the wood with both the blunt and pointed ends of nails. The twelve blocks can be fit together to form a 12-3/4" rectangle as shown in Figure A-1.

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[1] Cunningham, J. L., and Boger, R. P. Familiarization Task. Unpublished instrument description, Head Start Research Center, Michigan State University, 1969.

[2] Special credit is given to Chris Walter and Sharon Evans for their assistance with the development of this instrument. Rick Walter and Bill Brown helped with the development of materials, and Judy Kuipers and Marilyn Beery provided helpful comments with respect to the structure of the task.



T = Textured

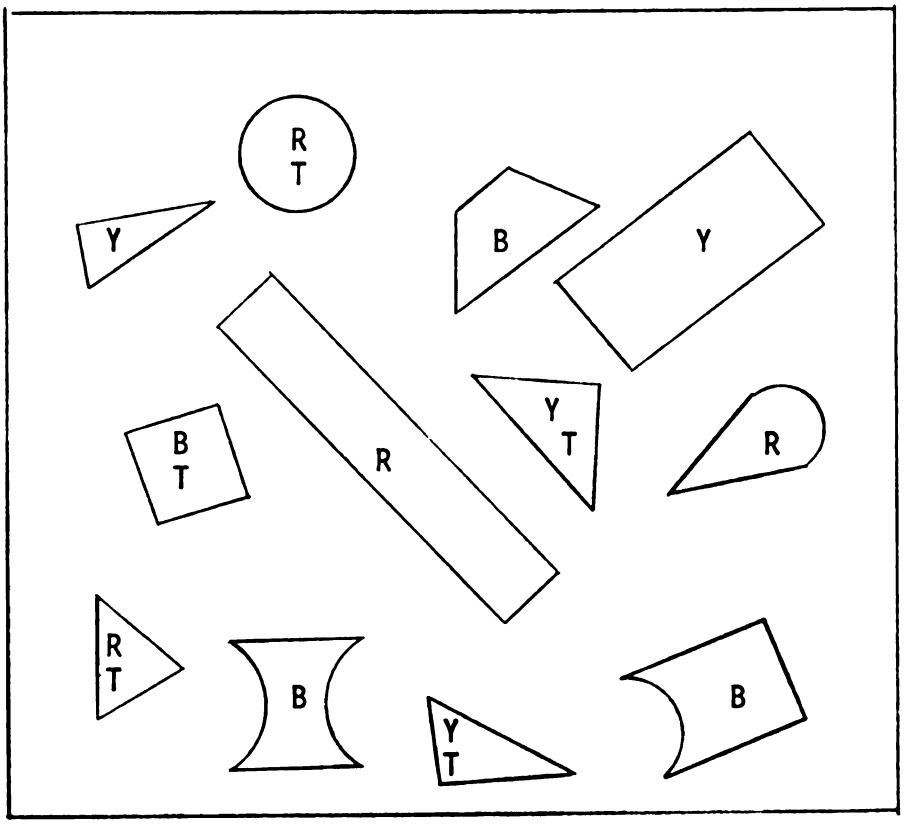
Figure A-1. Closed arrangement of familiarization task blocks.

Procedure

The blocks are arranged on a small table at one end of the room, with three small chairs randomly placed in the room. The arrangement of the blocks on the table is shown in Figure A-2.

The following instructions are given the mother by the experimenter outside the testing room: I WOULD LIKE _____ TO SEE WHERE WE WILL BE PLAYING SOME GAMES TOGETHER LATER ON. THERE ARE SOME TOYS INSIDE THAT HE MAY PLAY WITH TODAY. BECAUSE THERE ARE SO MANY NEW THINGS, I WOULD LIKE YOU TO HELP HIM GET USED TO THE TRAILER FIRST. THEN I WILL COME IN SO HE AND I CAN GET TO KNOW EACH OTHER BETTER.

The mother and child are then left alone in the testing room. The mother is free to interact with the child in any way she wishes. At the end of five minutes from their entry into the room, the examiner returns. Additional time is spent getting acquainted with the child.



R = Red
B = Blue
Y = Yellow
T = Textured

Figure A-2. Arrangement of familiarization task blocks.

APPENDIX IB

FAMILIARIZATION TASK RATING PROCEDURE

The Familiarization Task Rating Procedure (FTRP) was designed for use with videotaped interactions to assess parent and child behaviors in an unfamiliar situation. It was developed by Marilyn Olson, Jo Lynn Cunningham, and Robert P. Boger, Institute for Family and Child Study, Michigan State University.

General Procedures

In this observational rating system, certain behaviors exhibited by the parent and the child are rated every twenty seconds for as long as the session lasts. Each twenty-second interval is considered as a separate entity and rated independently of every other interval. In order to assess adequately all the behaviors exhibited by the parent and the child, several viewings of each session are necessary (approximately four to six times through the tape). Thus, it would take one trained rater approximately forty-five minutes to one hour to complete the rating of one parent-child familiarization task session of approximately five minutes (including rewindings of tape). For continuity and efficiency, it is best that the same rater assess all the behaviors throughout the entire tape.

Rating Format

The behaviors assessed during each twenty-second interval for the parent are as follows:

1. Verbalization
2. Verbal focus
3. Verbal fantasy
4. Verbal time orientation
5. Voice affective tone
6. Verbal initiation-response mode
7. Verbal support behavior
8. Verbal independence promotion
9. Affective physical behavior
10. Neutral physical behavior
11. Nonverbal initiation-response mode
12. Nonverbal support behavior
13. Nonverbal independence promotion
14. Hostility
15. Warmth
16. Maternal anxiety

The behaviors assessed during each twenty-second interval for the child are:

1. Child anxiety
2. Child dependency

The format for recording an observation segment consisting of these parent and child behaviors for each twenty seconds is shown in Figures B-1 and B-2.

Recording Observations

A code must be recorded in each code position for each interval on the rating form. An "X" is coded or a line is drawn through any specific behavior position which is not applicable. The ratings for hostility, warmth, maternal anxiety, and child anxiety must each be a code other than "X" for each interval.

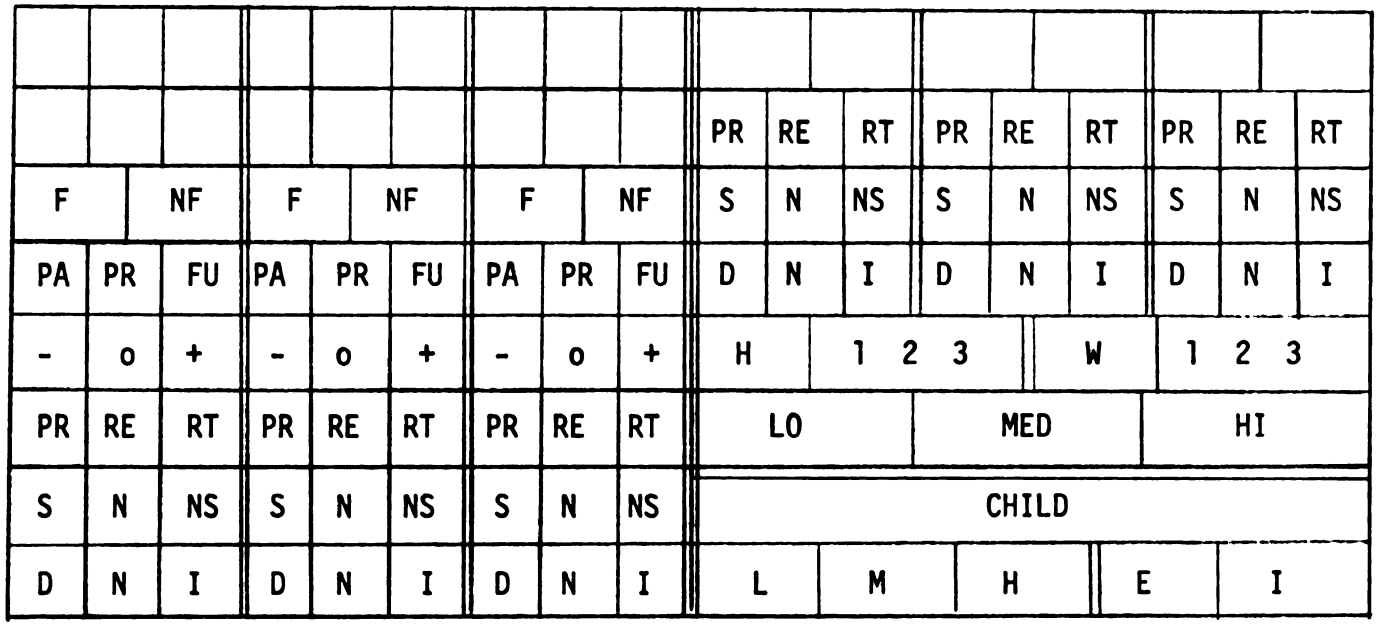


Figure B-1. Rating frame for the Familiarization Task Rating Procedure.

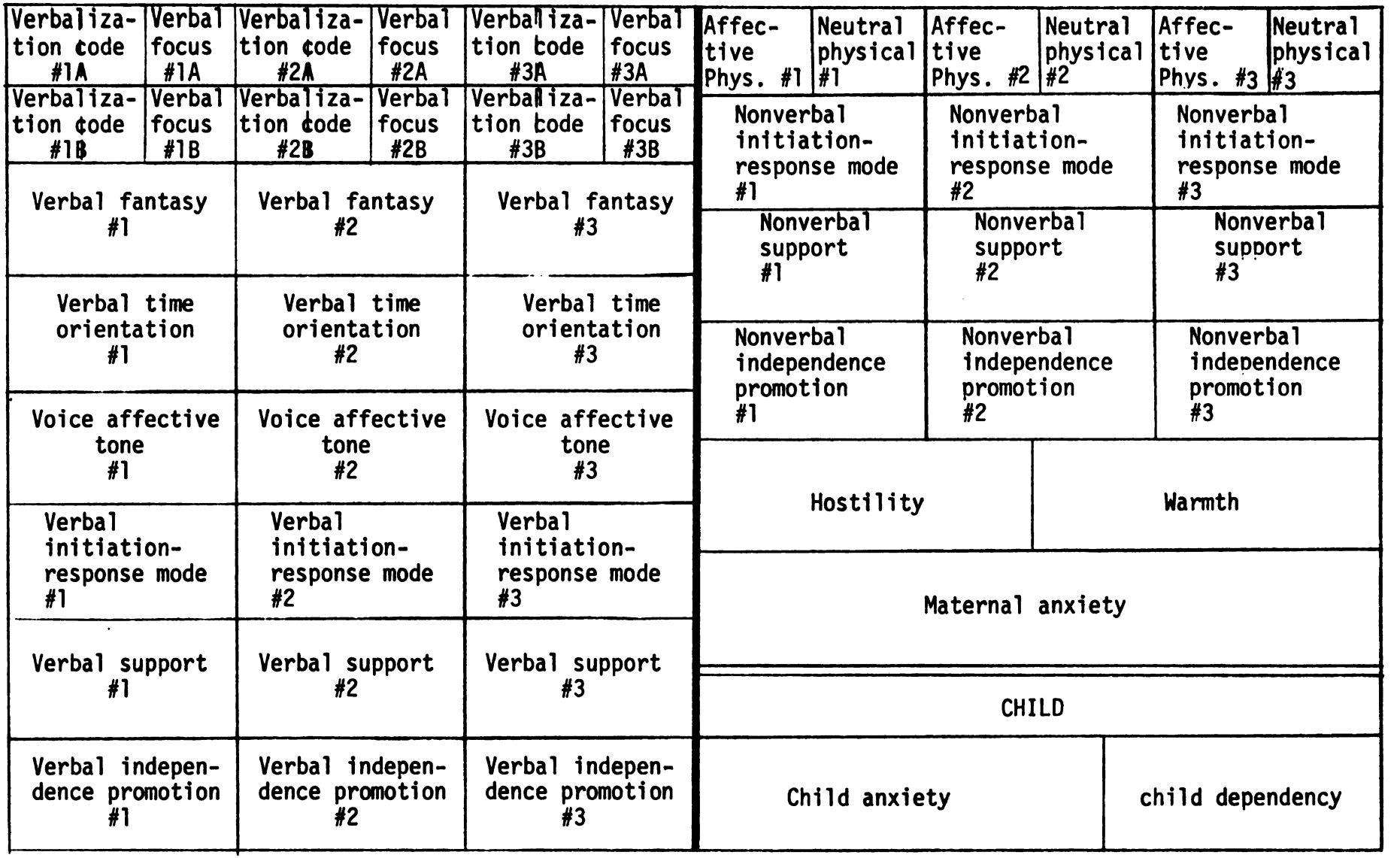


Figure B-2. Format of rating frame for the Familiarization Task Rating Procedure.

Coding for each category is achieved by assigning the appropriate alpha-numeric code (for verbalization, verbal focus, affective physical behavior, and neutral physical behavior) or by circling the appropriate code letters (verbal fantasy, verbal time orientation, voice affective tone, verbal initiation-response mode, verbal support behavior, verbal independence promotion, nonverbal initiation-response mode, nonverbal support behavior, nonverbal independence promotion, hostility, warmth, maternal anxiety, child anxiety, and child dependency). All the verbal-related codes depend on the verbalization coded and if there is none, the related categories are also inapplicable and a line is drawn through them. All the nonverbal-related codes depend on the affective physical and/or neutral physical behavior coded and if there is none, the related categories are also inapplicable and a line is drawn through them.

The focus in recording the time sampled behaviors is on the total behavior unit. Frequently a particular verbal behavior is accompanied by a nonverbal behavior and, conversely, frequently a particular nonverbal behavior is accompanied by a verbal behavior. In this rating procedure the verbalization-related codes are linked up with the nonverbal-related codes such that there are three interaction units per interval, each of which can be marked for verbalization and/or nonverbal behavior.

Because of the complex nature of the codes to be recorded every twenty seconds it is necessary to go through the tapes several times.

The suggested order in which to rate behaviors each time through the tape is as follows:

1) General verbalizations paired with general nonverbal codes.

2) Specific nonverbal codes (nonverbal initiation-response mode, nonverbal support, and nonverbal independence promotion).

3) Hostility, warmth, maternal anxiety, child anxiety, and child dependency.

4) Specific verbalization codes.

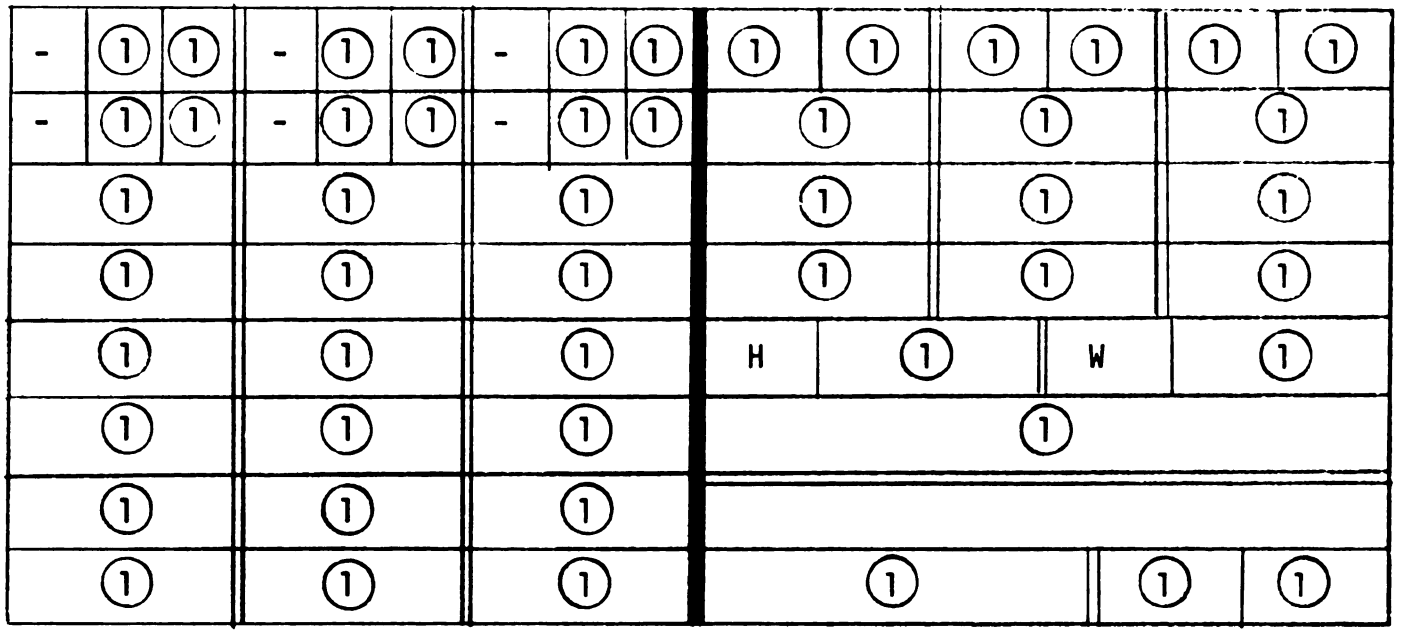
5) Remaining specific verbalization codes (including fantasy, time orientation, voice affective tone, verbal initiation-response mode, verbal support and verbal independence promotion).

6) Final check, resolution of remaining problems, and completion of ratings.

Reliability

Two types of reliability are determined. Intrarater reliability is established by the same observer rating the same tape at two different points in time. Interrater reliability is established between two observers rating the same tape. Comparison of the resultant ratings for both types is then made code by code.

Two methods of determining reliability are used: one based on total blanks and one based on total recorded positions. Points for figuring reliability are assigned as is shown in Figure B-3. The


-
1
1
-
1
1
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1
1
1

procedures used to compute reliability are exactly the same as those used by Cunningham and Boger (1970).

Total Blanks

The method of computing reliability by total blanks is best described by Cunningham and Boger (1970).

> Count and evaluate the total number of possible codes, regardless of whether anything was recorded within that area for that time interval or not. This method credits the observers with agreements for those instances on which they agree that no recordable behavior occurred, i.e., both recorded an "X" for that category of that interval (Cunningham and Boger, 1970, p. 11).

The formula for figuring reliability by this method for the Familiarization Task Rating Procedure is:

$$\% \text{ reliability} = \frac{\text{agreements (number of points)}}{\text{number of frames X 51}}$$

Total Recorded Positions

The method of computing reliability by total recorded positions is best described by Cunningham and Boger (1970).

> Count and evaluate only those positions in which one or both observers recorded something other than "X" (Cunningham and Boger, 1970, p. 11).

The formula for figuring reliability by this method for the Familiarization Task Rating Procedure is:

$$\% \text{ reliability} = \frac{\text{agreements (number of points)}}{\begin{array}{l}\text{agreements plus disagreements} \\ \text{(number of points possible for} \\ \text{positions in which either} \\ \text{observer recorded any code)}\end{array}}$$

Reliability Minumums

Suggested reliability minimums have been made for each method of computing reliability for both interobserver reliability and intra-observer reliability. These reliability minimums are presented in Table I-1.

Codes

The description of each code used in the Familiarization Task Rating Procedure is as follows:

Type of verbalization: Up to two subject specifics can be rated for each of up to three possible behavioral units per interval.

Environment	Specifics
NS - General statements about nursery school	P - Statements about nursery school program T - Statements about nursery school teacher B - Statements about nursery school tangibles or building (e.g., inside or outside toys, equipment) K - Statements about other children in nursery school C - Statements about child (subject) in nursery school
TR - Trailer-related statements	F - Statements about furniture (i.e., table and chairs) in the trailer BG - General statements about blocks BS - Specific statements about blocks (e.g., color, shape, size, texture) E - Statements about the experimenter R - Statements about other specific physical attributes of the trailer (e.g., walls, lights, camera, floor, mirror) A - Statements about the atmosphere of the trailer (e.g., emotional feelings, the child, the mother)

Table I-1

Minimum Suggested Observer Reliability Indices for Familiarization Task Rating Procedure

Method	Type of reliability	
	Interobserver	Intraobserver
Total blanks	.85	.90
Total recorded positions	.75	.80

Environment	Specifics
O - Statements about things other than nursery school or trailer	H - Statements about the home environment, neighbors, other friends, other non-school places S - Statements about school places other than nursery school in question (e.g., Sunday School, another nursery school) M - Miscellaneous statements (e.g., weather, vacations, going to bathroom)
X - No verbalizations	X - Not applicable

Verbal referent: This code must be rated for each verbalization specific.

Specific verbalization circled--the specific verbalization (listed above) not actually mentioned but referred to only indefinite reference.
Specific verbalization not circled--the specific verbalization (listed above) actually mentioned.

Verbal focus: This code must be rated for each verbalization specific.

C - Child
M - Mother
O - Other (e.g., siblings, father, neighbor)
N - No obvious focus
X - No verbalization

Verbal fantasy: This code must be rated for each verbalization specific.

F - Fantasy verbalization--statements incorporating some elements of what really does not exist.
NF - Nonfantasy verbalization--reality-oriented statements.

Verbal time orientation: This code must be rated for each verbalization specific.

PA - Statements about the past--before the mother and child entered the trailer environment.
PR - Statements about the present--the mother and child in the trailer environment.
FU - Statements about the future--either to being in the trailer in the future, or in the nursery school at some later date, or something in the child's future other than anything connected with the nursery school.

Voice affective tone: This code must be rated for each verbalization specific.

- - - Negative voice tone (i.e., critical, antagonistic, hostile).
- o - Neutral voice tone
- + - Positive voice tone (i.e., praising, warm)

Verbal initiation-response mode: This code must be rated for each verbalization specific.

- PR - Proactive--giving information not specifically sought by the child; giving direction, guidance, initiating new material to enhance the child's understanding of the environment, providing suggestions for acting not asked for by the child.
- RE - Reactive--primarily responding to the child's immediately preceding verbal and/or nonverbal behavior; reactionary, not providing unsolicited information.
- RT - Retroactive--delayed reaction; responding to the child's behavior which has occurred sometime in the past (not immediate); response is presented as new material.

Verbal support behavior: This code must be rated for each verbalization specific.

- S - Support--verbalization shows support of the child's position in the environment; consideration by mother of child's needs.
- N - Neutral--shows neither support nor nonsupport.
- NS - Nonsupport--verbalization shows lack of support for the child; ignores child's needs; focus by mother on other things or on herself.

Verbal independence promotion: This code must be rated for each verbalization specific.

- D - Dependence--verbalizations in which the mother seems to expect child to depend on her, or stay near her; encourages dependence.
- N - Neutral--verbalizations in which neither independence promotion nor dependence promotion occurs.
- I - Independence--verbalizations in which the mother encourages child to operate independently; encourages child to explore environment.

Nonverbal affective physical behavior: Up to three codes per interval may be recorded.

NP - Negative physical behavior--behavior which is not socially acceptable and which involves physical contact between the parent and the child (e.g., hitting, pushing, slapping).
SP - Social physical behavior--behavior which is socially acceptable and/or conveys affection and which involves physical contact between the parent and the child (e.g., patting, hugs, kisses, holding hands).
AP - Approach gesture--behavior which is socially acceptable or positive in connotation and which does not involve actual physical contact between the parent and the child (e.g., smiles, motions to approach, claps).
DF - Defensive posture--behavior which is not socially acceptable or is negative in connotation and which does not involve actual physical contact between the parent and the child (e.g., moves child's chair away, threatens, shakes finger at child).
X - Not applicable.

Nonverbal neutral physical behavior: Up to three codes per interval may be recorded.

P - Points out aspects of environment, including blocks.
B - Builds or plays with blocks; physically handles the blocks.
X - Not applicable (includes all other neutral physical behaviors).

Nonverbal initiation-response mode: This code must be rated for each physical behavior recorded.

PR - Proactive--initiating new behaviors or material to enhance the child's understanding of the environment; providing guidance or direction in a nonverbal way or coupled with a verbalization.
RE - Reactive--nonverbal behavior primarily responding to the child's immediately preceding verbal and/or nonverbal behavior; reactionary, not providing unsolicited information.
RT - Retroactive--delayed reaction; responding nonverbally to the child's behavior which has occurred sometime in the past (not immediate); response presented as new material.

Nonverbal support behavior: This code must be rated for each physical behavior recorded.

S - Support--nonverbal behavior which shows support of the child's position in the environment; consideration by mother of child's needs.
N - Neutral--nonverbal behavior which shows neither support nor nonsupport.
NS - Nonsupport--nonverbal behavior which shows lack of support for the child; ignores child's needs; focus by mother on other things or on herself.

Nonverbal independence promotion: This code must be rated for each physical behavior recorded.

D - Dependence--nonverbal behavior in which mother seems to expect child to depend on her, or stay near her; encourages dependence.
N - Neutral--nonverbal behavior in which neither independence-promotion nor dependence-promotion occurs.
I - Independence--mother's nonverbal behavior in which the mother encourages child to operate independently; encourages child to explore environment (e.g., pushes blocks toward child).

Hostility: This code must be rated for each interval.

1 - No overt hostility or annoyance shown.
2 - Moderate hostility or annoyance--some threats made.
3 - High hostility or annoyance--physical and/or verbal abuse shown.

Warmth: This code must be rated for each interval.

1 - No overt warmth or affection shown.
2 - Moderate warmth and affection--some attempt at kindness or affection.
3 - High warmth and affection shown--physically and/or verbally demonstrative.

Maternal anxiety: This code must be rated for each interval.

L - Low anxiety shown.
M - Moderate anxiety--indications of some anxiety-related behaviors shown, with anxiety inferred (e.g., figiting, nervousness, tapping fingers, readjusting position, nondirective looking around).
H - High anxiety--obvious overt and direct tension or discomfort in the situation (e.g., explicit verbal indications, loss of temper, expressions of loss of control, "I don't know what to do").

Child anxiety: This code must be rated for each interval.

L - Low anxiety shown.
M - Moderate anxiety--indicators of some anxiety-related behaviors shown, with anxiety inferred (e.g., figiting, restlessness, kicking table, frequent moves).
H - High anxiety--obvious overt and direct tension or discomfort in the situation (e.g., explicit verbal indicators, "I don't like it here," crying, tension reduction maneuvers, seeks out the mother).

Child dependency: One, both, or none must be circled, depending on which applies.

E - Emotional dependency--psychological dependency shown (e.g., clinging behavior, whining, crying, seeking physical proximity, reluctance to leave).
I - Instrumental dependency--asking by child for help because of lack of self-sufficiency and independence, but not specifically to seek out physical proximity, praise, reassurance or attention; seeking guidance in his activities or further information.

APPENDIX II

CELL MEANS OF VARIABLES

FOR THE DEMOGRAPHIC GROUPS

APPENDIX II-A

CELL MEANS OF VERBAL ORIENTATION BEHAVIOR VARIABLES

Cell means and standard deviations are given for those verbal orientation behavior variables used in the analyses. The dimensions for verbal orientation described are as follows: verbalization categories, Table II-1; verbal focus, Table II-2; fantasy verbalization, Table II-3; time orientation, Table II-4; voice affective tone, Table II-5; verbal initiation-response mode, Table II-6, verbal support, Table II-7; and verbal independence promotion, Table II-8.

Table II-1

Demographic Group Means for Verbalization Categories on the Familiarization Task Rating Procedure

Category	Mean Proportion	Standard Deviation
Lower Socioeconomic Group Black Males		
Quantity	1.57017	0.62133
Types		
Nursery school/trailer	0.37433	0.79997
Other/trailer	0.14233	0.16208
Nursery school		
Teacher/program	0.75967	1.83238
Building/program	0.50950	1.22009
Children/program	0.09300	0.19939
Child/program	0.50967	1.22001
Trailer		
Furniture/blocks-general	0.10267	0.13391
Blocks-specific/blocks-general	0.05150	0.06417
Experimenter/blocks-general	0.07350	0.12897
Other attributes/blocks-general	0.19283	0.39585
Atmosphere/blocks-general	0.14283	0.25914
Other		
Home/miscellaneous	0.01150	0.00138
School/miscellaneous	0.01150	0.00138
Middle Socioeconomic Group Black Males		
Quantity	0.68617	0.36281
Types		
Nursery school/trailer	0.14183	0.28681
Other/trailer	0.15783	0.10086
Nursery school		
Teacher/program	0.01017	0.00041
Building/program	0.73417	1.60617
Children/program	0.09933	0.21833
Child/program	0.01017	0.00041
Trailer		
Furniture/blocks-general	0.16967	0.10657
Blocks-specific/blocks-general	0.29883	0.41053
Experimenter/blocks-general	0.18433	0.14570
Other attributes/blocks-general	0.14900	0.09236
Atmosphere/blocks-general	0.24133	0.24839
Other		
Home/miscellaneous	0.05617	0.11260
School/miscellaneous	0.01017	0.00041

Table II-1--Continued

Category	Mean Proportion	Standard Deviation
Lower Socioeconomic Group Black Females		
Quantity	3.52633	3.96249
Types		
Nursery school/trailer	0.05300	0.05029
Other/trailer	0.05967	0.08006
Nursery school		
Teacher/program	0.01083	0.00117
Building/program	18.00933	44.08624
Children/program	0.17550	0.40392
Child/program	0.17550	0.40392
Trailer		
Furniture/blocks-general	0.13017	0.14376
Blocks-specific/blocks-general	0.31233	0.73762
Experimenter/blocks-general	0.01367	0.00758
Other attributes/blocks-general	0.01083	0.00117
Atmosphere/blocks-general	0.13550	0.65110
Other		
Home/miscellaneous	15.03083	36.72728
School/miscellaneous	0.01083	0.00117
Middle Socioeconomic Group Black Females		
Quantity	1.24417	0.88921
Types		
Nursery school/trailer	0.04633	0.06259
Other/trailer	0.45317	0.81614
Nursery school		
Teacher/program	0.01017	0.00098
Building/program	0.01017	0.00098
Children/program	0.07517	0.15914
Child/program	0.01017	0.00098
Trailer		
Furniture/blocks-general	0.91017	1.90941
Blocks-specific/blocks-general	0.26533	0.39955
Experimenter/blocks-general	0.02983	0.04034
Other attributes/blocks-general	0.31367	0.38621
Atmosphere/blocks-general	0.41667	0.69445
Other		
Home/miscellaneous	0.08300	0.15636
School/miscellaneous	0.01017	0.00098

Table II-1--Continued

Category	Mean Proportion	Standard Deviation
Lower Socioeconomic Group White Males		
Quantity	1.32850	0.57920
Types		
Nursery school/trailer	0.14750	0.28876
Other/trailer	0.11083	0.09069
Nursery school		
Teacher/program	0.27050	0.63711
Building/program	0.05633	0.11252
Children/program	30.05450	73.45808
Child/program	0.08017	0.17090
Trailer		
Furniture/blocks-general	0.06367	0.04513
Blocks-specific/blocks-general	0.09283	0.14808
Experimenter/blocks-general	0.12033	0.17372
Other attributes/blocks-general	0.16783	0.10148
Atmosphere/blocks-general	0.12733	0.17819
Other		
Home/miscellaneous	0.01017	0.00147
School/miscellaneous	0.01017	0.00147
Middle Socioeconomic Group White Males		
Quantity	1.01583	0.33323
Types		
Nursery school/trailer	0.18367	0.24122
Other/trailer	0.31033	0.13362
Nursery school		
Teacher/program	0.05700	0.07284
Building/program	32.00867	78.37943
Children/program	16.12767	39.13014
Child/program	0.04600	0.06344
Trailer		
Furniture/blocks-general	0.41917	0.31173
Blocks-specific/blocks-general	0.39750	0.65172
Experimenter/blocks-general	0.23433	0.26120
Other attributes/blocks-general	0.62250	0.65007
Atmosphere/blocks-general	0.26767	0.27941
Other		
Home/miscellaneous	0.29200	0.40682
School/miscellaneous	0.01033	0.00052

Table II-1--Continued

Category	Mean Proportion	Standard Deviation
Lower Socioeconomic Group White Females		
Quantity	6.99683	13.74460
Types		
Nursery school/trailer	0.07667	0.08646
Other/trailer	0.10533	0.13768
Nursery school		
Teacher/program	0.01133	0.00197
Building/program	0.01133	0.00197
Children/program	0.12400	0.19912
Child/program	0.01133	0.00197
Trailer		
Furniture/blocks-general	0.03767	0.04358
Blocks-specific/blocks-general	0.04650	0.05525
Experimenter/blocks-general	0.03567	0.05996
Other attributes/blocks-general	0.06733	0.09980
Atmosphere/blocks-general	0.14667	0.10669
Other		
Home/miscellaneous	0.13117	0.18970
School/miscellaneous	0.01133	0.00197
Middle Socioeconomic Group White Females		
Quantity	1.11533	0.27560
Types		
Nursery school/trailer	0.06183	0.09936
Other/trailer	0.23983	0.14252
Nursery school		
Teacher/program	0.01050	0.00084
Building/program	0.34217	0.81217
Children/program	0.01050	0.00084
Child/program	0.67550	1.62867
Trailer		
Furniture/blocks-general	0.16867	0.18398
Blocks-specific/blocks-general	0.10067	0.19608
Experimenter/blocks-general	0.17867	0.23629
Other attributes/blocks-general	0.33267	0.44967
Atmosphere/blocks-general	0.24867	0.14767
Other		
Home/miscellaneous	0.28800	0.51665
School/miscellaneous	0.01050	0.00084

Note: N = 8 for each cell. Each proportion indicates ratio of observations designated by respective categories.

Table II-2

Demographic Group Means for Verbal Focus on the Familiarization Task Rating Procedure

Category	Mean Proportion	Standard Deviation
Lower Socioeconomic Group Black Males		
No obvious focus/child	0.08217	0.07361
Mother/child	0.09100	0.10094
Other/child	0.01583	0.01046
Middle Socioeconomic Group Black Males		
No obvious focus/child	0.02800	0.02021
Mother/child	0.03250	0.01571
Other/child	0.03300	0.02996
Lower Socioeconomic Group Black Females		
No obvious focus/child	0.12500	0.25755
Mother/child	0.05717	0.04060
Other/child	0.01083	0.00117
Middle Socioeconomic Group Black Females		
No obvious focus/child	0.01933	0.00819
Mother/child	0.06033	0.06172
Other/child	0.01983	0.02362
Lower Socioeconomic Group White Males		
No obvious focus/child	0.04133	0.03946
Mother/child	0.01683	0.01102
Other/child	0.04700	0.08917

Table II-2--Continued

Category	Mean Proportion	Standard Deviation
Middle Socioeconomic Group White Males		
No obvious focus/child	0.02067	0.01722
Mother/child	0.05750	0.05506
Other/child	0.02317	0.02166
Lower Socioeconomic Group White Females		
No obvious focus/child	0.02967	0.04528
Mother/child	0.02517	0.02598
Other/child	0.02400	0.02024
Middle Socioeconomic Group White Females		
No obvious focus/child	0.04167	0.03781
Mother/child	0.02267	0.01607
Other/child	0.02133	0.02630

Note: N = 8 for each cell. Each proportion indicates ratio of observations designated by respective categories.

Table II-3

Demographic Group Means for Fantasy Verbalization on the Familiarization Task Rating Procedure

Demographic Group	Mean Proportion	Standard Deviation
Lower socioeconomic group black males	0.04900	0.04582
Middle socioeconomic group black males	0.13417	0.11376
Lower socioeconomic group black females	0.10050	0.10933
Middle socioeconomic group black females	0.05600	0.05177
Lower socioeconomic group white males	0.03033	0.05031
Middle socioeconomic group white males	0.05483	0.05012
Lower socioeconomic group white females	0.06150	0.05187
Middle socioeconomic group white females	0.17900	0.24942

Note: N = 8 for each cell. Each proportion indicates ratio of verbalizations which were fantasy in contrast to nonfantasy.

Table II-4

Demographic Group Means for Time Orientation on the Familiarization on Task Rating Procedure

Demographic Group	Mean	Standard Deviation
Lower socioeconomic group black males	2.08200	0.18106
Middle socioeconomic group black males	2.08200	0.05099
Lower socioeconomic group black females	2.01650	0.04103
Middle socioeconomic group black females	2.00033	0.07525
Lower socioeconomic group white males	2.04133	0.05652
Middle socioeconomic group white males	2.09517	0.11417
Lower socioeconomic group white females	2.05017	0.06982
Middle socioeconomic group white females	2.01467	0.03627

Note: N = 8 for each cell. Means were based on a weighting of "1" for past time orientation, "2" for present time orientation, and "3" for future time orientation.

Table II-5

Demographic Group Means for Voice Affective Tone on the Familiarization Task Rating Procedure

Demographic Group	Mean	Standard Deviation
Lower socioeconomic group black males	1.98967	0.21992
Middle socioeconomic group black males	2.18833	0.18030
Lower socioeconomic group black females	2.07017	0.15580
Middle socioeconomic group black females	2.04017	0.05610
Lower socioeconomic group white males	2.04850	0.14801
Middle socioeconomic group white males	2.13517	0.07805
Lower socioeconomic group white females	2.20083	0.16826
Middle socioeconomic group white females	2.12367	0.15310

Note: N = 8 for each cell. Means were based on a weighting of "1" for negative voice tone, "2" for neutral voice tone, and "3" for positive voice tone.

Table II-6

Demographic Group Means for Verbal Initiation-Response Mode for the Familiarization Task Rating Procedure

Demographic Group	Mean	Standard Deviation
Lower socioeconomic group black males	1.84350	0.05220
Middle socioeconomic group black males	1.80333	0.09720
Lower socioeconomic group black females	1.77167	0.09731
Middle socioeconomic group black females	1.84433	0.06867
Lower socioeconomic group white males	1.90200	0.02923
Middle socioeconomic group white males	1.80683	0.10985
Lower socioeconomic group white females	1.86083	0.08862
Middle socioeconomic group white females	1.84817	0.07665

Note: N = 8 for each cell. Means were based on a weighting of "1" for proactive, "2" for reactive, and "3" for retroactive.

Table II-7

Demographic Group Means for Verbal Support on the Familiarization Task Rating Procedure

Demographic Group	Mean	Standard Deviation
Lower socioeconomic group black males	1.47567	0.38981
Middle socioeconomic group black males	1.14633	0.17541
Lower socioeconomic group black females	1.38167	0.41315
Middle socioeconomic group black females	1.31433	0.07976
Lower socioeconomic group white males	1.36300	0.19971
Middle socioeconomic group white males	1.18400	0.14256
Lower socioeconomic group white females	1.13333	0.11567
Middle socioeconomic group white females	1.20117	0.17541

Note: N = 8 for each cell. Means were based on a weighting of "1" for support, "2" for neutral, and "3" for nonsupport.

Table II-8

Demographic Group Means for Verbal Independence Promotion on the Familiarization Task Rating Procedure

Demographic Group	Mean	Standard Deviation
Lower socioeconomic group black males	2.38717	0.18017
Middle socioeconomic group black males	2.63283	0.18852
Lower socioeconomic group black females	2.32233	0.19863
Middle socioeconomic group black females	2.34017	0.30685
Lower socioeconomic group white males	2.27967	0.16718
Middle socioeconomic group white males	2.51117	0.24295
Lower socioeconomic group white females	2.28850	0.24058
Middle socioeconomic group white females	2.46683	0.20978

Note: N = 8 for each cell. Means were based on a weighting of "1" for dependence promotion, "2" for neutral, and "3" for independence promotion.

APPENDIX II-B

CELL MEANS OF NONVERBAL ORIENTATION BEHAVIOR VARIABLES

Cell means and standard deviation are given for those nonverbal orientation behavior variables used in the analyses. The dimensions for nonverbal orientation described are as follows: affective physical behavior categories, Table II-9; neutral physical behavior categories, Table II-10; nonverbal initiation-response mode, Table II-11; nonverbal support, Table II-12; and nonverbal independence promotion, Table II-13.

Table II-9

Demographic Group Means for Affective Physical Behavior on the Familiarization Task Rating Procedure

Category	Mean Proportion	Standard Deviation
Lower Socioeconomic Group Black Males		
Quantity	14.4465	15.2889
Types		
Social physical/approach	0.0300	0.0465
Defensive/approach	0.1765	0.4034
Negative physical/approach	0.0115	0.0014
Middle Socioeconomic Group Black Males		
Quantity	6.5090	8.9007
Types		
Social physical/approach	0.1362	0.1085
Defensive/approach	0.0102	0.0004
Negative physical/approach	0.0102	0.0004
Lower Socioeconomic Group Black Females		
Quantity	5.8813	3.5764
Types		
Social physical/approach	1.1755	2.8534
Defensive/approach	0.0922	0.1998
Negative physical/approach	0.0300	0.0466
Middle Socioeconomic Group Black Females		
Quantity	5.0087	2.2936
Types		
Social physical/approach	1.1512	2.5051
Defensive/approach	0.0418	0.0775
Negative physical/approach	0.0360	0.0642

Table II-9--Continued

Category	Mean Proportion	Standard Deviation
Lower Socioeconomic Group White Males		
Quantity	14.3658	16.8232
Types		
Social physical/approach	1.4337	2.3597
Defensive/approach	0.0102	0.0015
Negative physical/approach	0.0102	0.0015
Middle Socioeconomic Group White Males		
Quantity	8.4365	8.6153
Types		
Social physical/approach	0.1127	0.1082
Defensive/approach	0.0103	0.0005
Negative physical/approach	0.0103	0.0005
Lower Socioeconomic Group White Females		
Quantity	17.8077	16.2272
Types		
Social physical/approach	0.0512	0.0974
Defensive/approach	0.0113	0.0020
Negative physical/approach	0.0113	0.0020
Middle Socioeconomic Group White Females		
Quantity	3.7340	1.7885
Types		
Social physical/approach	0.1488	0.2575
Defensive/approach	0.0640	0.1318
Negative physical/approach	0.0105	0.0008

Note: N = 8 for each cell. Each proportion indicates ratio of observations designated by respective categories.

Table II-10

Demographic Group Means for Neutral Physical Behavior on the Familiarization Task Rating Procedure

Category	Mean Proportion	Standard Deviation
Lower Socioeconomic Group Black Males		
Quantity	15.5067	33.1436
Blocks/pointing	5.3770	4.1374
Middle Socioeconomic Group Black Males		
Quantity	4.7213	2.9930
Blocks/pointing	0.7420	0.4012
Lower Socioeconomic Group Black Females		
Quantity	12.8220	15.9606
Blocks/pointing	86.0335	207.7091
Middle Socioeconomic Group Black Females		
Quantity	13.2980	20.1045
Blocks/pointing	1.7293	2.2529
Lower Socioeconomic Group White Males		
Quantity	5.7062	4.5534
Blocks/pointing	265.2517	426.5465

Table II-10--Continued

Category	Mean Proportion	Standard Deviation
Middle Socioeconomic Group White Males		
Quantity	23.0747	35.4459
Blocks/pointing	49.1005	117.0517
Lower Socioeconomic Group White Females		
Quantity	17.9678	32.0538
Blocks/pointing	109.3670	263.8833
Middle Socioeconomic Group White Females		
Quantity	45.9080	40.3074
Blocks/pointing	48.3938	117.3851

Note: N = 8 for each cell. Each proportion indicates ratio of observations designated by respective categories.

Table II-11

Demographic Group Means for Nonverbal Initiation-Response Mode for the Familiarization Task Rating Procedure

Demographic Group	Mean	Standard Deviation
Lower socioeconomic group black males	1.9523	0.0517
Middle socioeconomic group black males	1.8118	0.1037
Lower socioeconomic group black females	1.8108	0.1731
Middle socioeconomic group black females	1.8633	0.1172
Lower socioeconomic group white males	1.9525	0.0510
Middle socioeconomic group white males	1.7645	0.1309
Lower socioeconomic group white females	1.9110	0.0984
Middle socioeconomic group white females	1.9342	0.0843

Note: N = 8 for each cell. Means were based on a weighting of "1" for proactive, "2" for reactive, and "3" for retroactive.

Table II-12

Demographic Group Means for Nonverbal Support on the Familiarization Task Rating Procedure

Demographic Group	Mean	Standard Deviation
Lower socioeconomic group black males	1.1608	0.2355
Middle socioeconomic group black males	1.1107	0.2080
Lower socioeconomic group black females	1.3517	0.2609
Middle socioeconomic group black females	1.1675	0.1590
Lower socioeconomic group white males	1.2707	0.3356
Middle socioeconomic group white males	1.0845	0.1153
Lower socioeconomic group white females	1.1993	0.2129
Middle socioeconomic group white females	1.1763	0.1673

Note: N = 8 for each cell. Means were based on a weighting of "1" for support, "2" for neutral, and "3" for nonsupport.

Table II-13

Demographic Group Means for Nonverbal Independence Promotion on the Familiarization Task Rating Procedure

Demographic Group	Mean	Standard Deviation
Lower socioeconomic group black males	1.7547	0.4599
Middle socioeconomic group black males	2.5353	0.2603
Lower socioeconomic group black females	1.8732	0.4163
Middle socioeconomic group black females	1.7977	0.4528
Lower socioeconomic group white males	1.8225	0.3699
Middle socioeconomic group white males	2.1162	0.5309
Lower socioeconomic group white females	2.3255	0.2714
Middle socioeconomic group white females	2.3153	0.2984

Note: N = 8 for each cell. Means were based on a weighting of "1" for dependence promotion, "2" for neutral, and "3" for independence promotion.

APPENDIX II-C

CELL MEANS OF MATERNAL AFFECTIVE ORIENTATION BEHAVIOR VARIABLES

Cell means and standard deviations are given for those maternal affective orientation behavior variables used in the analyses. The dimensions for maternal affective orientation described are as follows: hostility, Table II-14; warmth, Table II-15; and anxiety, Table II-16.

Table II-14

Demographic Group Means for Hostility on the Familiarization Task Rating Procedure

Demographic Group	Mean	Standard Deviation
Lower socioeconomic group black males	1.20983	0.12692
Middle socioeconomic group black males	1.09950	0.16047
Lower socioeconomic group black females	1.10017	0.11725
Middle socioeconomic group black females	1.03133	0.07675
Lower socioeconomic group white males	1.14450	0.12616
Middle socioeconomic group white males	1.00000	0.00000
Lower socioeconomic group white females	1.04683	0.05800
Middle socioeconomic group white females	1.05367	0.07358

Note: N = 8 for each cell. Means were based on a weighting of "1" for no overt hostility, "2" for moderate hostility, and "3" for high hostility.

Table II-15

Demographic Group Means for Warmth on the Familiarization Task Rating Procedure

Demographic Group	Mean	Standard Deviation
Lower socioeconomic group black males	1.24000	0.18968
Middle socioeconomic group black males	1.48650	0.13465
Lower socioeconomic group black females	1.24800	0.09557
Middle socioeconomic group black females	1.27733	0.12685
Lower socioeconomic group white males	1.18867	0.16756
Middle socioeconomic group white males	1.29867	0.14353
Lower socioeconomic group white females	1.32333	0.26651
Middle socioeconomic group white females	1.29250	0.33407

Note: N = 8 for each cell. Means were based on a weighting of "1" for no overt warmth, "2" for moderate warmth, and "3" for high warmth.

Table II-16

Demographic Group Means for Maternal Anxiety on the Familiarization Task Rating Procedure

Demographic Group	Mean	Standard Deviation
Lower socioeconomic group black males	1.03900	0.06819
Middle socioeconomic group black males	1.02950	0.04936
Lower socioeconomic group black females	1.06667	0.07847
Middle socioeconomic group black females	1.02233	0.03469
Lower socioeconomic group white males	1.02783	0.04436
Middle socioeconomic group white males	1.00000	0.00000
Lower socioeconomic group white females	1.16867	0.30804
Middle socioeconomic group white females	1.05283	0.10024

Note: N = 8 for each cell. Means were based on a weighting of "1" for low anxiety, "2" for moderate anxiety, and "3" for high anxiety.

APPENDIX II-D

CELL MEANS OF CHILD AFFECTIVE ORIENTATION BEHAVIOR VARIABLES

Cell means and standard deviations are given for those child affective orientation behavior variables used in the analyses. The dimensions for child affective orientation described are as follows: anxiety, Table II-17; quantity of dependency, Table II-18, and emotional dependency, Table II-19.

Table II-17

Demographic Group Means for Child Anxiety for Each Minute Interval on the Familiarization Task Rating Procedure

Category	Mean	Standard Deviation
Lower Socioeconomic Group Black Males		
1st interval	1.0555	0.1359
2nd interval	1.0555	0.1359
3rd interval	1.1110	0.1720
4th interval	1.0000	0.0000
Middle Socioeconomic Group Black Males		
1st interval	1.5000	0.7818
2nd interval	1.2777	0.2510
3rd interval	1.4443	0.7794
4th interval	1.4445	0.8074
Lower Socioeconomic Group Black Females		
1st interval	1.4443	0.7794
2nd interval	1.3333	0.8165
3rd interval	1.1667	0.4082
4th interval	1.0555	0.1359
Middle Socioeconomic Group Black Females		
1st interval	1.2222	0.2722
2nd interval	1.2777	0.3897
3rd interval	1.3333	0.8165
4th interval	1.3888	0.8005

Table II-17--Continued

Category	Mean	Standard Deviation
Lower Socioeconomic Group White Males		
1st interval	1.6667	0.7890
2nd interval	1.3333	0.8165
3rd interval	1.5000	0.7818
4th interval	1.5557	0.6208
Middle Socioeconomic Group White Males		
1st interval	1.3333	0.2983
2nd interval	1.1110	0.1720
3rd interval	1.0555	0.1359
4th interval	1.1667	0.2790
Lower Socioeconomic Group White Females		
1st interval	1.1667	0.2790
2nd interval	1.1665	0.1824
3rd interval	1.1667	0.2790
4th interval	1.0000	0.0000
Middle Socioeconomic Group White Females		
1st interval	1.2777	0.3897
2nd interval	1.0555	0.1359
3rd interval	1.0000	0.0000
4th interval	1.0555	0.1359

Note: N = 8 for each cell. Means were based on a weighting of "1" for low anxiety, "2" for moderate anxiety, and "3" for high anxiety.

Table II-18

Demographic Group Means for Quantity of Dependency Shown for Each Minute Interval on the Familiarization Task Rating Procedure

Category	Mean Proportion	Standard Deviation
Lower Socioeconomic Group Black Males		
1st interval	93.7520	143.6075
2nd interval	49.1630	117.0080
3rd interval	0.6687	0.6808
4th interval	94.0833	143.3501
Middle Socioeconomic Group Black Males		
1st interval	52.3350	124.2725
2nd interval	144.5000	157.6090
3rd interval	144.9968	157.0652
4th interval	99.7477	152.8990
Lower Socioeconomic Group Black Females		
1st interval	132.6655	144.0276
2nd interval	96.3387	148.8981
3rd interval	45.7535	109.8617
4th interval	90.5833	138.9768
Middle Socioeconomic Group Black Females		
1st interval	91.3303	138.8644
2nd interval	48.7532	117.2101
3rd interval	1.4182	0.9146
4th interval	90.5015	139.5058

Table II-18--Continued

Category	Mean Proportion	Standard Deviation
Lower Socioeconomic Group White Males		
1st interval	1.0865	1.0166
2nd interval	0.4232	0.7970
3rd interval	48.4173	117.3735
4th interval	0.7510	0.9768
Middle Socioeconomic Group White Males		
1st interval	0.9995	0.7750
2nd interval	96.7518	148.1423
3rd interval	45.5035	109.9828
4th interval	49.1627	117.0082
Lower Socioeconomic Group White Females		
1st interval	132.4180	144.2921
2nd interval	150.4187	169.4329
3rd interval	1.2460	0.8172
4th interval	42.9167	102.4321
Middle Socioeconomic Group White Females		
1st interval	94.3298	143.1581
2nd interval	0.9965	0.7692
3rd interval	90.9983	139.1228
4th interval	1.0867	1.0164

Note: N = 8 for each cell. Each proportion indicates ratio of observations designated dependency in contrast to nondependency.

Table II-19

Demographic Group Means for Emotional Dependency Shown for Each Minute Interval on the Familiarization Task Rating Procedure

Category	Mean Proportion	Standard Deviation
Lower Socioeconomic Group Black Males		
1st interval	0.0928	0.1995
2nd interval	15.1743	36.6591
3rd interval	0.0115	0.0014
4th interval	0.0115	0.0014
Middle Socioeconomic Group Black Males		
1st interval	48.0085	117.5713
2nd interval	0.0102	0.0004
3rd interval	17.0085	41.6372
4th interval	99.0052	127.2037
Lower Socioeconomic Group Black Females		
1st interval	59.0072	102.9727
2nd interval	42.0088	102.8742
3rd interval	0.4235	0.6594
4th interval	0.1760	0.4037
Middle Socioeconomic Group Black Females		
1st interval	18.0087	44.0866
2nd interval	54.0903	132.2283
3rd interval	54.0087	132.2682
4th interval	54.1737	132.1180

Table II-19--Continued

Category	Mean Proposition	Standard Deviation
Lower Socioeconomic Group White Males		
1st interval	45.0083	110.2230
2nd interval	45.0620	110.1967
3rd interval	59.0882	108.6350
4th interval	59.3382	108.4748
Middle Socioeconomic Group White Males		
1st interval	32.3385	78.2193
2nd interval	0.0640	0.1318
3rd interval	0.2568	0.4134
4th interval	46.0068	76.0477
Lower Socioeconomic Group White Females		
1st interval	63.0100	154.3130
2nd interval	0.0113	0.0020
3rd interval	14.1740	34.2099
4th interval	0.0113	0.0020
Middle Socioeconomic Group White Females		
1st interval	16.0088	39.1875
2nd interval	16.1738	39.1087
3rd interval	16.0088	39.1875
4th interval	0.0105	0.0008

Note: N = 8 for each cell. Each proportion indicates proportion of observations designated emotional dependency in contrast to instrumental dependency.

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