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A STUDY OF THE RELATIONSHIPS BETWEEN MATERNAL TEACHING STYLE, AUTHORITARIAN TENDENCIES, AND EXPECTATION

by
Barbara Morris Stock

A dissertation submitted in partial fulfullment
of the requirements for the degree of
Doctor of Philosophy
(Education & Psychology)
in The University of Michigan
1972

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Professor William C. Rhodes, Chairman
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ACKNOWLEDGMENTS

I am ecstatic on the completion of this thesis. Designing the study, collecting the data, writing the thesis are comparable to initiation rites. Today I am a psychologist and educator.

This achievement, however, brings tremendous responsibility. Many will respect me for my university degree rather than my wisdom. I can only promise myself that I will strive to be ethical as well as knowledgeable.

This thesis belongs to many people. It belongs to the mothers of Hardin County School District who allowed the research; to Mr. Earl Goodman, Mr. Grady Hundley, Mr. Dellard Moor, Mr. Warden Thomas, and Miss Pearl Miller, principals of the schools through which mothers were contacted; to Mrs. Butler, who drove through the countryside on her own time to show me where the children live; to Mrs. Jackie Benton, Social Worker for the Headstart Program; and mostly to Mrs. Charlene Llewellyan, County Social Worker, who encouraged this research.

It is difficult to write any thesis in absentia. It can be impossible without the use of computers and library facilities. I am indebted to Mr .William Osborne for his statistical advice and to Dr. Donald Haggard, Mrs. Dorothy Herbert, and the staff at HUMRO who always knew where I could find anything. I am especially thankful to Mrs. Susan Brenner who is perhaps the only person who can make a winter of data scoring enjoyable.

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I wish I were a poet to express my overwhelming appreciation of my husband. I am reminded of the time I received some money from an uncle to buy dinner on a train trip. In thanking him, I itemized every cent I had spent. The gift lost its meaning. So with Lee, if I were to list the ways in which he helped, the whole would be reduced to nothing. I can say only thank you.

I write this paper thinking of my three year old son Aric, who insists I will never be a doctor: "Mommies aren't doctors. They're nurses."

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CHAPTER I

INTRODUCTION

Few mothers would call themselves teachers. Even when they can find time, most think it foolish to tutor their preschoolers. However, research in education and psychology makes it clear that unknown to mother, she is teaching her children and they are learning much from her.

Purpose of this Study

The purpose of this study is to explore some aspects of mother's teaching style. First, it is hypothesized in this study that mother's approach to her child reflects her approach to life in general. Specifically, if mother uses an authoritarian, unreasonable teaching style, she is probably an authoritarian, unreasonable person. Although she may never sit down to teach her child a task, she may well be teaching him a fatalistic, superstitious approach to problem solving through her daily behavior. On the other hand, if mother uses a more reasonable teaching style with her child, she is probably a logical person who is teaching her child to solve his problems by himself.

Secondly, it is hypothesized in this study that mother's teaching style reflects her hopes and aspirations for her child. Specifically, if the mother believes her child is capable of understanding, she will help him understand. The mother who expects her child to learn will take time to teach him.

This study is designed to test these hypothesizes. Specifically, we shall consider the relationships between mother's teaching style, her authoritarian tendencies, and her expectations for her child.

Value of this Study

Psychologists and educators need more information about mother's teaching style in order to help her better educate her preschool children.

A few hours of day care or nursery school may supplement a stimulating home environment but cannot readily compensate for a restrictive environment. Because her child learns so much at home, mother must be helped to teach him the attitudes and skills he needs. Otherwise, the attitude underlying her teaching approach and the pervasiveness of this approach could undermine the child's school progress.

If the child has been exposed to a pervasive authoritarian teaching style, he may need to be taught how to question and experiment. Rote learning may be easy for this child but may be self defeating in the long run.

A study of the pervasiveness of mother's teaching style will help us better understand the home dimension of teaching and learning. More importantly, it may lead us to redefine some of the goals of our educational programs.

Definiton of Terms

Teaching style is the approach a mother uses when given the opportunity to point out to her child cause-effect relationships and personal responsibility. Teaching styles have been categorized and described by Hess (1965, 1967, 1968) as cognitive-rational, personal-subjective, and status-normative.

Hess describes the cognitive-rational mother as reasonable. She encourages her child to explore alternatives and discuss possibilities. Rather than ordering her child, she points out logical consequences of his actions.

The personal-subjective mother, in Hess's terms, is sensitive to feelings. She helps her child see his effect on other people and encourages him to empathize with them.

Hess's status-normative mother accepts rules and roles. She relies on tradition and precedent for guidelines to behavior. Impatient with questioning, she encourages her child to submit to authority.

The second variable studied is mother's authoritarian tendencies. The authoritarian mother has been described by Adorno (1950) as close-minded, accustomed to accepting conventional, traditional, sterotyped explanations. In childrearing, she is seen as suppressive, punitive and restrictive.(Levinson, 1953; Block, 1955). She submits to authority and sees herself as an authority over her children. (Kates, 1955).

The third variable, expectation, is defined in this study as the degree of success which mother predicts for her child. Her expectations are closely related to her aspirations or hopes for him.

Subjects

The subjects in this study were Caucasian mothers of 68 children preregistered for the first grade in Hardin County, Kentucky. Children ranged in age from 5. 9-7. 0 with the mean age being 6.2. The sample was subdivided by socio-economic class and sex. By class, there were 32 lower class and 36 middle class children; by sex, there were 32 girls and 36 boys. Of the 68 children, there were 17 lower class girls, 15 lower class boys, 15 middle class girls, and 21 middle class boys.

Class was determined according to Hollingshead's (1953) criteria. The lower class families are in Hollingshead's class IV and V and the middle class families are in class II and III. In this sample, the average lower class father is an unskilled laborer or a tenant farmer with little more than an eighth grade education. The average middle class father is a professional, a landowner, a salesman, or a skilled laborer with a second source of income; he has better than twelve years of education.

Settings

To enchance rapport and improve participation in this study, all interviews were conducted in the home. This was necessary for two reasons. First, the mothers in this sample are not familiar with interviews and laboratory studies. School personnel expected them to be reticent to participate. Secondly, even if they wished to volunteer, few mothers have cars and babysitters available. It was essential, then, that the interviewer travel to the mothers. In all cases, the author served as interviewer.

The homes were miles apart, isolated by dirt roads, tobacco fields , and pastures. Maps generally showed only hard top roads; detailed maps, used by school busdrivers, included what seemed like cowpaths. Country storekeepers, school personnel, and other parents were major sources of information for locating houses.

The white wooden fences which border the horse farms of the Lexington area are not to be found in this region; wooden fences are largely unpainted and most homes were wooden. Newer lower class homes were generally mobile homes set on a plot of land. Chickens settled under the porch or clattered near the doorway. Newer middle class homes were sometimes brick, occasionally perma-stone. Animals were kept further from the entrances of middle class homes.

Once contact was made, the mothers were hospitable and co-operative. On occasion, a child was sent to draw water from a well for a cup of tea or coffee. The children seemed to enjoy the chance to be the center of attention. They all crowded around until mother shooed them away.

Most often the interviews were conducted in the living room. The lower class homes had very few rooms; because noise traveled easily, the children were usually sent outside. The rambling middle class farm house allowed more space for privacy and quiet.

Studies Relating to Teaching Style

Mother's teaching style is a relatively new but powerful concept. It has been found to predict a child's intelligence and to significantly relate to measures of achievement. (Hess, 1968) Class differences have been found which indicate that the middle class tends to be cognitive-rational and personal-subjective while the lower class tends to be status-normative. (Hess, 1967)

Researchers have studied language dimensions of teaching style. Olim, Hess and Shipman (1967) reported that the status-normative mother uses fewer words, less complex sentences, and fewer abstractions than the other mothers.

No studies have yet examined mother's attitudes in relation to her teaching style. If mother's teaching style can predict her child's intelligence and achievement, if it is apparent in mother's speech, it seems reasonable to assume that mother's teaching style is integrally related to her personality. Specifically, it is hypothesized that mother's teaching style is correlated with mother's authoritarian tendencies and expectations for her child.

Outline of this Paper

The present chapter described the problem, the subjects and the setting. The next chapter will review literature pertinent to this study. Experimental design will be presented in Chapter Three and data analyses in Chapter Four. Chapter Five will summarize the most important results, draw conclusions, and speculate on the causes and implications of the results.

CHAPTER 2

LITERATURE REVIEW

Theoretical Positon

An interaction model of child development serves as the theoretical foundation of this study. While other models picture the child as an empty box with robot-like reactions (Watson, 1928; Skinner, 1938) or as a butterfly unfolding in a cocoon (Rousseau, Froebel in Wingo, 1965; Gesell, 1940), the interaction model describes both the child and his environment as dynamic forces, acting and reacting. The environment is seen as a network of social, physical, and intellectual forces which surround the child. Family, neighborhood, schools are all part of this larger environment. The child and the environment continuously interact.

This study focuses on the child's mother as a central figure of the child's environment. Although mother may be unaware that she is teaching her child, studies by Hess (1965, 1968) encourage us to assume that mother influences her child's cognitive growth by her daily interactions with him. The particular hypotheses of this study relate mother's teaching style to basic aspects of her personality, e. g., authoritarian tendencies and expectation.

Purpose of Literature Review

This literature review first describes the interaction model of cognitive development and the interaction view of the I. Q. in order to show the importance of early environmental stimulation. Specific maternal behaviors which are thought to influence the child's cognitive development are discussed under the headings of maternal involvement, verbalizations, expectations, and attitudes toward discipline. Social class and ethnic difference in these behaviors are considered in order to explain varied patterns of cognitive growth.

The Interaction View of Cognitive Development

One of the most important precedents for studying the child's cognitive development in terms of his interaction with his environment is found in the work of Piaget (in Flavell, 1963). Piaget laid the foundation of interaction research in cognitive development with his detailed accounts of his own three children. Observations like the following formed the basis for his explanations of cognition:

> [Laurent, 3 months] Laurent grasps a paper knife which he sees for the first time; he looks at it a moment and then swings it while holding it in his right hand. During these movements the object happens to rub against the wicker of the bassinet: Laurent then waves his arm vigorously and obviously tries to reproduce the sound he has heard, but without understanding the necessity of contact between the paper knife and the wicker and, consequently without achieving this contact otherwise than by chance. [five days later] ...same reactions, but Laurent looks at the object at the time when it happens to rub against the wicker... two days later the movement becomes intentional: as soon as the child has the object in his hand he rubs it with regularity against the wicker of the bassinet. He does the same, subsequently, with his dolls and rattles.
>
> (Flavell, 1963, p.103)

Piaget saw that the sound fromthe rubbing stimulates the child to wave his arms and look around; once he could repeat the sound, Laurent used dolls, rattles, anything to interact with his environment.

To discuss this interaction, Piaget applies the biological concepts of assimilation and accomodation . According to Piaget, the child first assimilates new information by seeing how it is the same as information he already has. After assimilating, he can see the real differences between his information and new information. Only then can he change his perspective or accomodate to these differences. As Piaget explains these data, the child moves from a state of uncertainty to a state of understanding which includes readiness to take in new

information and again reach a state of uncertainty. The state of understanding is more pleasant than the state of uncertainty.

The Interaction View of I.Q.

Long accepted notions about the intelligence tests which claim to measure cognitive development are challenged by an interaction view. In 1958, Anastasi reviewed the literature supporting an interaction view of intelligence. Hunt (1961) interpreted hundreds of studies by an interactionist view and found support for his argument that the I.Q. should be thought of as continuously developing, rather than fixed or predetermined. He argues that the child always interacts with a different environment and the environment always interacts with a continuously growing child. Not until the child enters school at the age of five or six, says Hunt, can we assume a "relatively common program of environmental encounters." (p. 313) . The variations in children's environments before school age then become very important for laying the foundation for intelligence.[1]

Just how important these variations are has been estimated by Benjamin Bloom (1964). According to Bloom, variations in the environment have greatest quantitative effect on a characteristic at its most rapid period of change and least effect on the characteristic during the least rapid period of change. To support his argument , Bloom notes that I.Q. scores before age five do not have a significant correlation with later scores but after age five, have a correlation coefficient of .70 with scores at age seventeen. From this information, Bloom concludes

---

[1]The interaction view does not give sufficient emphasis to similarities in environments. Kohlberg (1968) has addressed himself to this problem in a discussion of universal elements in environments. He speaks of logical orderings inherent in given concepts and discrepancies between children's expectation and experience. Such a reinterpretation resolves an important problem posed by the interaction view.

that intelligence changes most rapidly in the first five years.

Although we are sympathetic to Bloom's biases, we must challenge his logic on two counts. First, the tests before age five do not measure the same skills as the school year tests. The latter are more verbal, more factual. It is little wonder that they do not correlate with earlier scores. Secondly, as Hunt (1961) has pointed out, the environment remains relatively constant between ages five and seventeen. If children were exposed to different cultures or more variations in educational programs, the correlation might not be so high.

The importance of early stimulation can be seen not from correlations between I. Q. scores but from experiments to alter scores in controlled environments. Burton White (1968), for example, has found that mobiles dangling above a crib can stimulate perceptual development and hence alter infant I.Q. scores. As yet, we do not know the effects of early perceptual stimulation on later measures of intelligence.

Most reports of the effects of early stimulation come from loosely controlled studies. Using the interaction model of growth, William Fowler (1968) re-examined studies of toddler learning and found that early environmental stimulation is important to toddler's development. In the past, most of these studies had been cited to support the naturalistic theory of intelligence. One such study is McGraw's classic experiment with a set of twins. McGraw gave one twin daily intensive instruction in skills like climbing, swimming, roller skating, and bicycle riding; she gave the other twin no such instruction. Many Gesell students cite this study because the control twin did learn and eventually equalled his twin in these skills. However, McGraw reports that the experimental twin had more self confidence and better general motor coordination even four years later. Fowler finds the evidence more impressive with studies of intellectual

development. In reviewing studies of gifted children, he notes that

> the unvarying coincidence of extensive early stimulation with cognitive precocity and subsequent superior competence in adulthood suggest that stimulation is a necessary if not sufficient condition of the development of high abilities. (p. 17)

It would appear that the child's interaction with his early environment is fundamental to his intellectual development. However, it is not possible to conclude that environmental deprivation leaves permanent, irreversible damage to intelligence. It is not known if the early years are critical in the sense that all losses can never be regained. (Schultz and Aurbach, 1971; Robinson, 1968). Although these early years are certainly important, interactionist theory asserts that children will always grow mentally when they can interact with an intellectually stimulating environment.

Unfortunately, there is no blueprint for an intellectually stimulating environment. There are only sketches drawn from studies of academically successful families and social classes. In general terms an intellectually stimulating environment seems to be characterized by emotional involvement, elaborated language, high expectations, and reasonable discipline. The young child is usually dependent on his family for these aspects of the environment.

Role of the Mother

In the majority of families, the mother interacts most with the child. However, no definitive work has been done on the role of the mother in stimulating her child. Hess cleverly summarizes the little research which looks at the mother's role:

> Investigators of maternal behavior have a creative streak and flair for originality. Rarely will they try to use a concept, a variable, a techinque for gathering data, or a research population exactly as did another investigator. Nuances, variations and revisions abound: in effect, each of these studies is a single, independent study. Since unreplicated results are only slightly better than no results, the research landscape in my view tends toward clutter rather than clarity. Describing it coherently is a task that seems to call more for literary artistry than scholarship. (Hess, 1969, ED 036 3322)

These studies of intellectually stimulating environments provide hypotheses as to how mother can enhance her child's cognitive development. The aspects of mother's behavior to be considered are her involvement, verbalizations, expectations, and attitudes toward discipline.

Maternal Involvement

Burton White (in Pines, 1969) is undertaking what is perhaps the most exhaustive study of mother's involvement in the cognitive environment of her child. White sends observers into the homes of infants and young children to tape record and note mother-child interactions. His forty categories include mother's smiling, questioning, answering, threatening, and slapping. Tentative findings show that the child's cognitive development relates to mother's emotional involvement.

Foster care provides an especially good experimental situation for studying the effects of mother's behavior because the same parents care for different children and the same children are placed with different parents. Yarrow (1963) finds that the infant's development during his first six months is positively related to the amount of maternal stimulation, the appropriateness of maternal stimulation, and the sensitivity of maternal reaction to the child's responses. The correlation coefficient between amount of stimulation and quality of stimulation, and child's I.Q. scores are unusually high: .65 and .72 respectively.

Because maternal behavior in natural settings is difficult to categorize, some researchers observe mother when her child is attempting an experimental task. Bing (1963) watched mothers of children differing in verbal ability as the children trid to solve puzzles. She found that mothers of children with high verbal ability became more involved; they provided more assistance voluntarily for focusing, prompting, encouraging, and approving; they also provided help sooner in response to the child's requests for help. When interviewed, the mothers of verbal children were able to recall more of their child's early accomplishments.

In a similar study observing parents whose sons differed in degree of

achievement motivation, Rosen and d'Andrade (1959) conclude that it is the "factor of involvement [the use of much warmth and much rejection] that most clearly sets the mothers of high need achievement boys apart from the mothers of low need achievement boys." (p. 216)

Behavioral observations by White, Yarrow, Bing and Rosen and d'Andrade suggest that maternal involvement relates to children's cognitive development. Involvement, of course, may be part of a larger picture of affect. It seems logical that the parent who finds it easy to become involved with his child really likes his child.

A 36-year longitudinal study by Bayley (1968) sheds some light on the relationship between maternal affection and children's cognitive development. Bayley found a negative correlation between boys' developmental scores in their first 12 months and mothers' expressions of affection; however, from sons' age 5 through 36, she found a positive correlation between mothers' "love and understanding" and sons' intelligence scores. By age 36, the correlation is +.46 between sons' I.Q. scores and mothers' behavior when sons were less than three years old. Mothers who were seen as being anxious, irritable and rejecting when interacting with their infants and toddlers have sons whose I.Q.'s remain below the group average. Most interesting are the consistent sex differences. Bayley reports high relationships between boys' intelligence scores and their mothers' behavior but insignificant relationships between girls' intelligence scores and their mothers' behavior. She suggests that there may be a "genetically determined sex difference in the extent to which early experiences, e.g., maternal love and hostility, persist. Boys seem to be more permanently affected by the emotional climate in infancy." (Bayley, 1968, p. 15)

Although the time involved in Bayley's study is impressive, we must not regard the data as facts. Bayley (1964) planned the study to examine children, not the mother-child relationship. Only when she noticed that the children's I.Q. scores changed from month to month did she begin to note mothers

behavior. Even then, she explains that the observations were informal and biased by the communicativeness of the mother, the amount of significant behavior noted by the observer, and the number of regularly scheduled sessions which the mother attended.

A better controlled study of the effect of warmth was designed by Milner (1951). Milner examined the relationship between children's language scores and mothers' reports of their own behavior. Mothers of low scorers report that "during the course of apparently most days...neither they nor any other related adult hug or kiss or speak approvingly to their children" while mothers of high scorers report just the opposite (Milner 1951, p. 105). Milner did not look at sex differences.

Milner's behavioral criteria of affection are similar to Radin's (1969) criteria for nurturance of identification. Radin looks at mothers' sensitivity to their children, consultations with their children, and use of reinforcement. She reports that nurturance of identification is significantly related to children's initial Binet I. Q. score and residual Binet gain after preschool. When motivational factors during testing are held constant, these correlations become insignificant. This leads Radin to speculate that nurturance affects the I. Q. by affecting the child's ability to form strong relations with female adults, e. g. the psychologist administering the Binet tests.

These studies of maternal behavior shed some light on the remarkable study by Skeels and Dye (1939). In their experiment, thirteen one and two year old orphanage children, thought to be mentally retarded, were placed singly or in pairs on wards of institutionalized mentally retarded women. In two years, the youngsters had gained an average of 27.5 I. Q. points while a control group, remaining in the orphanage, lost an average of 26.2 points.

The description of the ward environments points out the effect of environment stimulation and emotional involvement. Skeels and Dye report that each ward took pride in its child and competed with other wards to see which baby would walk and talk first:

> The girls would spend a great deal of time with the children, teaching

> them to walk, talk, play with toys and play materials, and in the training of habits. (p. 123)

The role of emotional involvement can be seen in the I. Q. gains:

> ...the children favored with the more intense personal contacts made greater gains [an average of 33.8 points] than those considered as being limited to the more general contacts [average gain, 14 points]...(p. 133)

A combination of emotional involvement and specific educational opportunities seems to have enhanced the children's cognitive growth.

Mother's role in her children's cognitive environment has been examined in terms of her general involvement and her affect. These are often dimensions of mother's behavior not especially intended to encourage cognitive development. On the other hand, some parents become involved with their children by consciously trying to help them learn.

Studies by Dave (1963) and Wolf (1964) assess parental involvement via "Provisions for General Learning" which is separate from emotional involvement. The opportunities for learning that parents provide are significantly correlated with children's intelligence and achievement scores.

Whiteman and Deutsch (1968) have considered specific parental provisions for learning in categorizing environments of all socio-economic classes as more or less deprived. Regardless of socio-economic class, Deutsch's less deprived children score higher on ability tests than more deprived children.

However, emotional involvement and specific opportunities for learning may interact in influencing children's growth. Using a modified form of the Dave and Wolf questionnaire, Radin (1969) has related affect and provisions for learning to cognitive development. Radin asks how often mother reads to her child, what presents she buys for the child, whether or not she provides crayons, paste, encyclopedia in the home. Contrary to Wolf, Radin finds no significant relationship between environmental stimulation and I. Q. scores for white children or Negro girls. She does find a positive significant relationship, however, for Negro boys. Radin suggests that these boys, resisting an

affectionate mother, are responsive to the cognitive stimulation she provides.

Studies of maternal behavior suggest that mother enhances development by taking an interest in her child, by encouraging and praising him, and by providing intellectual experiences for him. What types of intellectual experiences are most important? The next section examines studies which emphasize the importance of mother's verbalizations. There is reason to believe that the quantity and quality of mother's language affects the child's cognitive development. Quantity has been studied mainly within social classes; quality, mainly between social classes.

Quantity of Maternal Verbalization

The mother who talks and reads to her child supplies what may be the basic ingredient of an intellectually stimulating environment. Irwin (in Freeburg and Payne, 1967) found that working class mothers, by reading ten minutes a day to their twelve to twenty month old children, were able to improve "all phases of their children's speech." (p. 79). Mary-Claire Boroughs (Behavior Today October 26, 1970, p. 1) designed a similar study for a group of disadvantaged three-year olds. "After only three months, the children in the reading program showed significant increases in verbal intelligence as measured by a number of scales." (names of scales not reported)

Esther Milner (1951) provides data to corroborate the importance of reading to the child. Milner found that children who scored high on the language subtests of the California Test of Mental Measurements reported that they had several or a great many books and were often read to.

The Dave and Wolf (1964) questionnaire attempts to quantify mother's press for language development. Press is defined as the amount of pressure for language development in a variety of situations. Wolf reports a .53 correlation between I. Q. scores and opportunities for enlarging vocabulary.

Because she was interested in verbal interaction in general, Levenstein (1969) gave mothers not only books but toys chosen to promote verbal interaction.

After seven months of heightened verbal interaction, the children gained an average of seventeen I. Q. points. Levenstein's belief in general verbal stimulation is supported by a study of an unusual population. Elizabeth Bing (1963) compared the environmental stimulation of children with similar overall I. Q. scores but extremely high or low verbal scores. She found that mothers of more verbal children had played and read more with their children, responded consistently to their early questions, took them on outings, and tutored them before school. Bing concludes that children do not develop a particular ability because the parents selectively train them in it. Rather, she suggests, the high level of mother-child interaction creates intervening conditions which enhance verbal rather than numerical or spatial abilities.

Quality of Maternal Verbalization

A mother who reads and talks to her children seems to stimulate their cognitive development. But what is it about this verbal communication that is important? The lower class child in a large family probably hears as many words during the day as a middle class child with no one at home but mother. Yet there are consistent class differences in children's verbal abilities.

Basil Bernstein (1961) has studied these differences in terms of linquistics. Bernstein finds that lower class children use a language devoid of abstractions and alternatives. Their language focuses on external objects, not internal feelings. Because of the limitations of his language, the child has difficulty participating in intellectual arguments. He does not learn to look for reasons.

Bernstein's example of a typical mother-child interaction points to the family's role in hindering cognitive development. Where the middle class mother often says, "Please be quiet for a minute. I am on the phone now, "the lower class mother more often says, "shut up!" The elaborated message of the former offers a reason. The restricted message of the latter issues an unquestionable law.

Robert Hess (1965. 1967, 1968) has further operationalized Bernstein's explanations. Hess describes mother's verbal communication as her teaching style. He discusses three styles, two middle class and one lower class. The first, cognitive-rational, reasons with the child and explains cause-effect relationships. The second, personal-subjective, also reasons but focuses on internal feelings. The third, status-normative, simply orders the child to accept the mother's words without reasons. Cognitive-rational and personal-subjective are Bernstein's "elaborated language." Hess believes that these encourage the child to question and actively interact with his world. Status-normative is Bernstein's "restricted language, " typical of the lower class. The restricted, says Hess, is likely to produce a passive, incompetent person. Hess finds significant correlations between mother's teaching style and her child's I.Q. scores , reading readiness scores, achievement scores, and ability to perform specific laboratory tasks.

Hess has also studied the quality of mother's language when she is teaching. A paper by Olim, Hess and Shipman (1967) reports that mothers using a status-normative (sometimes referred to as imperative) teaching style tend to use shorter sentences, fewer words before verbs, fewer verb phrases , less complex sentences, and fewer abstractions. Conversely, mothers with rational, subjective or instructional teaching styles tend to use longer sentences, more words before verbs, more verb phrases, and more complex sentences.

Maternal Verbalizations in Terms of Social Class Power, Role Models, and Values

These class differences in maternal verbalization may well reflect class differences in power, occupational role models, and values.

Strodtbeck (1967) argues persuasively that "conditions which facilitate the development of verbal ability in a child relate much less to curricular stimulus material than to power differentials." (p.244) Strodtbeck goes on to say that in middle class families, parents have equal power and children have much power. Shared power provides the "hidden curriculum" which

necessitates elaborate conversation. However, in lower class families, father has control but even he does not have much power to change circumstances. Hence "motivation for verbally indicated inductions and resistances in undercut." (p. 245) Where father has absolute power or where noone has any power, there is no need to discuss and not need to listen.

As Kahn (1959, 1963) points out, the very nature of lower class occupations encourages powerlessness. The wage-earner takes orders at work and expects his family to take orders at home. Because he does not see the problem solving that enters into issuing orders, he is apt to issue orders thoughtlessly. The middle class child, on the other hand, learns problem solving techniques from a father who expects his family to think of causes and effects.

Class differences in maternal language may also reflect class differences in values. Duvall (in Kahn, 1963) has characterized class values as "traditional" and middle class values as "developmental." By this, she means that "working class parents want their child to conform to externally imposed standards while middle class parents are far more attentive to his internal dynamics." (p. 474-5)

The literature on maternal verbalization allows the tentative conclusion that the quantity and quality of mother's speech influence her child's cognitive development. The nature of maternal language may reflect her power, role models and values.

Another aspect of the child's cognitive environment is maternal expectation.

Maternal Expectation

There is evidence that adults and children respond to what is predicted of them. Studies by Orne (1962), Rosenthal (1966a, 1966b, 1967) and Beez (personal communication) in the laboratory and by Rosenthal (1968), Rist (1970), Flowers (1969) and Dalton (1969) in the classroom suggest that

situations can be structured so that children are aware of what is expected of them and therefore behave in such a way as to fulfill the expectations. The results of these studies are not clear cut; the measurements and data analyses have been appropriately criticized (Thorndike, 1968) and the results have not always been replicated (Jose and Cody, 1971; Fleming and Anttonen , 1971; Clairborn, 1969).

Nevertheless, many believe that children do not achieve because they are not expected to achieve (Schultz and Aurbach, 1971; Rosenthal, 1968; Zigler and Butterfield, 1958). In studying aspects of an intellectually stimulating environment, expectation must be considered.

A mother's expectation for her child refers to the probability held by the mother that the child's "achievement efforts will lead to goal attainment." (Crandall, Katkovsky, and Preston, (1960, p. 787). Expectation is often discussed with aspiration, the mother's hope that the child will succeed.

Relationship of Expectation to Intellectual Achievement

Maternal expectation, measured in various ways, has been related to children's achievement. Most often these studies measure expectation by questionnaires or interviews. For example, Dave (1963) measured expectation with questions like "What grades do you expect your child to receive?" "What grades would satisfy you?" and "Do you have any ideas about the kind of work you would like your child to do when he grows up?" He reports significant correlations between expectation and school achievement.

Douglas (in Turknett, 1969) in England, was able to use the single question, "How far do you want your child to go in school?" to predict how far the child actually did go in school. His study found that children whose mothers wanted them to go to grammar school and stay until age seventeen received 11 percent more grammar school places then expected while children whose mothers were undecided about how far they wanted

their children to go in school received 8 percent fewer places than expected. Even more important , children whose mothers wanted them to go to modern secondary schools and leave early received 60 percent fewer places than expected.

A study by Kahl (1953) in the United States reaches much the same conclusion. Kahl studied high school boys with the potential to go to college; half planned to go on and half did not. Kahl reports that families having aspirations of getting ahead took education more seriously than those who tended to get by; these aspirations related significantly to the boys' plans.

While most researchers do find a significant relationship between expectation and achievement, Bing (1963) found none. In her study of parents of high and low verbal children, Bing found that a combination of measures including reward for academic achievement, level of schooling desired by parents, amount of present tutoring. and criticism for poor academic achievement did not correlate with the child's verbal intelligence score. She did find that the single score, criticism for poor academic achievement, taken by itself, discriminated between high and low verbal boys, girls, and both sexes combined .

Some researchers have found differences in expectation related to sex of child or parent. Crandall (1964) measured expectation in terms of questions about parental participation with the child in intellectual activities, parental reactions to the child's competence, and parental instigation of intellectual activities. .Based on data from 2 1/2 -3 hour interviews in the Fels laboratories, they report that parental attitudes and reported behavior are associated with daughers' performance on scholastic achievement tests much more frequently than sons'. They suggest that "girls may be more susceptible to adult influence." (p. 66)

With a more subtle measure or expectation, Rosen and d'Andrade (1959) confirm the generalization that expectation affects achievement.

Rosen and d'Andrade asked parents to estimate how well their sons would do on stacking blocks blindfolded, copying patterns, and tossing rings onto pegs. They found that parents of high need achievers expected significantly more of their sons on some of these tasks; expectation, however, varied with the task and the sex of the parent.

A study by Honzik (in Hess, 1969) further complicates the problem of expectation. Honzik reports a positive relationship between the opposite sex parent's concern with academic achievementand the child's academic achievement scores.

There is some evidence that mother's expectation is related to her social class. Rosen (1956) interviewed mothers to ascertain some reasons for these differences in expectation. According to Rosen, the middle class mothers have achievement oriented values. The lower class mothers, however, emphasize a passive life style, focusing on the present rather than the future and the group rather than the individual. Socio-economic life style may give mother a guide for prejudging her child. What she expects of him may have little to do with what he could achieve under different expectations.

Different definitions and measures of expectation prevent detailed comparisons between studies. In general, the majority of studies find significant relationships between maternal or family expectation and child's achievement.

The next section considers the communication of expectation.

The Communication of Expectation

The mystery surrounding the relationship between expectation and achievement involves the communication of the expectation . Do parents simply tell their children they expect them to do well? Can children do well just because they are told to do so? Obviously more subtle parental behaviors are involved. Most experiments in expectation communication, unfortunately, do not study parents. Hence, hints must be found in classroom studies.

Early classroom studies of expectation (Rosenthal and Jacobson, 1968) led the teacher to expect higher achievement from particular children. Victor Beez (personal communication) used this model to study communication of teachers in a controlled laboratory experiment. Beez interpreted intelligence test scores of preschool children in such a way that their teachers expected good symbol learning from one group and poor symbol learning from another group. As a result, the teachers actually tried to teach more symbols to those children they expected would learn.

The ethical problems in such studies have led experimenters to observe rather than manipulate. Dalton (1969) found that the teacher was more direct with students whom she rated low; she accepted their feelings more, praised them more, accepted their ideas, and asked them questions. She was also more critical with them. Dalton, however, used only one teacher.

Rist (1970) studying several teachers, found that they spent more time controlling the children in their lowest reading groups than they did controlling the other children in the class. Contrary to Dalton's findings, Rist reports that teachers spent less time supporting children in their low expectation group. Kester (1969) corroborated this finding .

A study by Brophy and Good (1969) provides additional data favoring Rist's conclusions. Their four first grade teachers were more likely to accept poor performance from students for whom they held low expectations and were less likely to praise their performance. These teachers demanded better performance from those children for whom they had higher expectations and were more likely to praise them.

Even these few studies present mixed results. Teachers who expect little of a child do not all treat the child the same. Some praise him less; some, more. Some talk to him less; some , more.

The studies of mother's communication of expectation are even

more confusing. Rather than in situ observations, questionnaires are used. The study which comes closest to assessing mother's communication was designed by Marian Winterbottom (1958; see also McClelland, 1953). However, Winterbottom was measuring not the expectation of success so much as the expectation of independence. Winterbottom asked middle class mothers to indicate the age at which they expected certain tasks of their sons. She found that the mothers agreed on the age that children should eat alone and look after their own possessions but disagreed on demands relating to the welfare of the children, e.g., the age that they should know their way around the city and try new things for themselves.

Shaw (1964) related the Winterbottom scale to actual school achievement. He found that mothers of high achievers expected their sons to entertain themselves, stay home alone during the day, and make their own decisions. Incredibly, mothers of underachievers did not report these goals even though their sons were of high school age. Mothers of achievers expect their daughters to participate in parent interests and conversations significantly earlier than mothers of underachievers.

It would be misleading to imply that all of Shaw's data allow for clear generalizations. Shaw does, however, suggest four interesting hypothesies about the communication of expectation:

(a) parents of achievers make demands that are more clearly defined, and specific, than do parents of underachievers.
(b) parents of achievers are concerned with developing in their children the ability to make their own decisions.
(c) the parents of achievers expected them to be more adult in their behavior at an earlier age than did the parents of underachievers.
(d) parents of underachievers (particularly fathers of male underachievers) are concerned with having their children learn to protect their personal rights. (p.374)

Findings of June Chance (1961) disagree with those of Shaw. Using a young sample with high I.Q. scores, Chance finds that

> children whose mothers favor earlier demands for independence make poorer school progress relative to their intelligence than children whose mothers favor later independence demands.
> (p. 153)

The studies using Winterbottom's questionnaire present conflicting evidence on the relationship of expectation to school achievement. Hence, it is not possible to say that expectation is communicated through demands for independence. Studies measuring the communication of expectation with other questionnaires are even more difficult to interpret.

Nakamura and Rogers (1969) conceptualize the communication of expectation in terms of demands for assertive rather than practical autonomy. By definition, behavior of practical autonomy has convenience value to the parent, e. g. , a child at age three can pour without spilling. Behavior of assertive autonomy has no practical value to the parent and sometimes has nuisance value, e. g., a child of two refuses to eat unless he is allowed to feed himself. Mother's answers to the Parent Expectation Inventory were correlated with her child's behavior away from and toward her in a nursery school classroom. Nakamura and Rogers report that the autonomy level of the boys but not girls was clearly associated with mothers' expectations on the assertive scale. The expectation for assertion was more closely related to children's autonomy scores than the expectation for practical behavior. Nakamura offers two lists dividing Winterbottom's scale into assertive and practical autonomy items. He concludes that his findings are consistent with those of Winterbottom, i.e., that demands for assertion are similar to demands for independence.

Callard sees the communication of expectation in terms of the age at which parents "push" for certain tasks, e. g., tieing shoes, and "let go" for other tasks, e. g., choosing friends. She relates the answers to her Parental Developmental Timetable to the child's achievement motivation.

Socio-economic class and sex interact so that early expectation is correlated with low achievement for lower class children but high achievement for upper class children, especially for girls. The data indicate that mothers do not communicate expectation in the same way to all children.

Different concepts of expectation, different instruments and procedures, and different subjects make it impossible to generalize from these studies. Suffice it to say that maternal expectation may relate to cognitive development but no one knows the process involved in the relationship. The questionnaires all assess specific parental demands but reach no firm conclusions. No one has studied actual behavior involved in communicating demands in the home.

The mother's impact on her child's cognitive development has been discussed in terms of her involvement, language, and expectations. In the course of the mother's day , much of her time is spent disciplining or controlling her children. Does the family attitude toward discipline have an effect on the child's cognitive development?

Family Attitude Toward Discipline

The family's attitude toward discipline has generally been studied in terms of the parents' authoritarian tendencies. Authoritarian tendencies are described by Adorno et al. (1950) as conventional, submissive, aggressive, suspicious of introspection, superstitious, prone to sterotype, power-oriented, and ethnocentric.

Several studies have investigated the relationship between authoritarian tendencies and attitudes specific to childrearing (Levinson, 1953; Loevinger, 1961; Hart, 1957). Usually the authoritarian parent is defined as one who "disciplines through bodily harm, social isolation, and/or shaming, rather than loss of lovesince the giving of love and the establishment of strong, affectional ties are not likely to be primary issues in an autocratic setting." (Levinson, 1953, p.251) Parents scoring high on Adorno's authoritarian scale are seen as restrictive (Block, 1955), possessive, and dominant. (Kates, 1955)

Do these parental attitudes influence children's cognitive development? Baldwin (1948), observing authoritarian and democratic behaviors in the home, concludes that parental authoritarian control seems to produce conformity to cultural demands at the price of "robbing the child of the personal integrity which gives him a mind of his own and supports him in his attempts to satisfy his curiousity and to carry out his plans and phantasies (sic) in his dealing with the real world..." (p.132). Baldwin suggests that the "predominant effect of parental behavior ...is to raise or lower [the child] willingness and ability to behave actively toward his environment." (p. 135) Radke, in an early review of the literature (1946) and Watson in a later review (1960) support Baldwin's conclusion. They see the child of authoritarian parents as slow to take initiative and burdened with a sense of inadequacy.

Most studies of the relationship between authoritarian tendencies and cognitive development assess the former not by behavioral observations but by questionnaires. The Parent Attitude Research Inventory (Schaefer and Bell, 1958) is the most widely used measure of authoritarian views of childrearing.

As he predicted, Aaronson (1967) found a negative correlation between the Strictness subscale of the PARI and children's ability to learn to read.

A partial validation of Aaronson's study can be found in the report that children who score low in reading have parents who discipline by physical punishment while high scorers have parents who use different disciplinary measures. (Milner 1951).

However, other studies using the PARI do not find positive relationships between authoritarian tendencies and cognitive development. Using the PARI, Drews and Teahan (1957) interviewed mothers of high and low achievers of gifted and average intelligence. Contrary to prediction, they report that mothers of high achieving gifted children endorse punitive attitudes toward disobedience. Drews and Teahan interpret this data

to mean that the "high achiever is a child who has a rigidly defined place within the home which he is expected to keep with docile acceptance. " (p. 332)

At first glance, this interpretation runs counter to Baldwin's statements on the effects of authoritarian control. Hurley (1959), however, has pointed out that Drews and Teahan need to differentiate between achievement and intelligence. Their data show that mothers of average children actually endorse more authoritarian views than mothers of gifted children. Mothers' authoritarian scores correlate positively with achievement within an intelligence range but negatively with intelligence. Drews and Teahan may be correct in suggesting that conformity helps in getting good grades but may be wrong in implying that conformity relates to intelligence.

Hurley himself (1967) conducted a study pertinent to this issue. Hurley looks at "parental malevolence" which he defines in terms of rejection, hostility, and punitiveness. Using a 286 item questionnaire , he finds a negative relationship between malevolence and intelligence. The relationship is strongest for girls.

It is difficult to summarize studies of maternal attitudes toward discipline . Attitudes have been defined as anti-democratic , authoritarian, punitive, and malevolent . In general, harsh attitudes toward discipline seem to relate negatively to children's cognitive development.

Summary

The role of the mother in her child's intellectual environment has been discussed in terms of mother's involvement, verbalizations, expectations, and attitudes toward discipline. Each of these topics has been examined by observations, interviews, and questionnaires, rarely with the same subjects. Sometimes the measures have been related to children's achievement scores; sometimes to intelligence scores; sometime to motivation to achieve scores. Children have been of preschool through grade school

age. Social class and sex of child sometimes influence results; sometimes they are not even considered. The situation is reminiscent of the characters in search of an author: all need to have their stories told more fully.

Despite these limitations, most studies find that maternal involvement, verbalizations, expectation and attitudes toward discipline influence children's cognitive development.

No one study can organize the chaotic situation in the literature. The following chapter describes the experimental design of the present study. The variables of maternal teaching style, authoritarian tendencies, and expectation are examined in relationship to each other, in the hope of making one step toward correlating present knowledge.

CHAPTER 3

METHOD

This study is based on the assumption that the environment can stimulate or restrict the cognitive development of the child. Because mother is a primary agent of the environment, this study focuses on the role mother plays in this development. Mother is seen as a teacher whose teaching style is integrally related to her personality.

Hess and Shipman (1965, 1967) have described and categorized mothers' teaching styles as status-normative, cognitive-rational, and personal-subjective. By their definitions, the status-normative style appeals to traditional views of behavior; mother does not question the status quo. The cognitive rational style emphasizes logical cause-effect relationships; if a traditional view is unreasonable, mother feels free to challenge tradition. The personal-subjective style focuses on personal feelings; mother encourages her child to think of how other people feel. While mothers using either the cognitive-rational or personal-subjective styles provide reasons to their children, the status-normative mother is uncomfortable with reasons.

It was anticipated that mothers' teaching style in this sample could be coded according to the three categories developed by Hess and Shipman (1965, 1967). However, a range of scores was found only in the status-normative category. Hence, only this category is considered in the operational hypotheses and in the discussion of results.

This study examines the relationship of the status-normative teaching style to authoritarian tendencies and expectation. The hypotheses predict that mothers whose behavior in a specially contrived teaching task is status-normative will tend to have strong authoritarian tendencies and low expectations for their children.

In this chapter, the operational hypotheses are stated, subjects and instruments are described, and procedures are outlined for administration, coding, and data analyses.

Hypotheses

To study the relationship between teaching style, authoritarian tendencies, and expectation, the following operational hypotheses were considered:

Hypothesis 1: there is a significant multiple correlation between status-normative teaching style scores, expectation scores, and a measure of authoritarian tendencies.

Hypothesis 2: there is a significant positive correlation between a measure of authoritarian tendencies and each measure of status-normative teaching style, regardless of mother's socio-economic status, the sex of her child, or both class and sex.

Hypothesis 3: there is a significant negative correlation between each measure of high expectation and each measure of status-normative teaching style, regardless of mother's socio-economic status, the sex of her child, or both class and sex.

Hypothesis 4: there is a significant negative correlation between a measure of mother's authoritarian tendencies and each measure of high expectation, regardless of mother's socio-economic status, the sex of her child, or both class and sex.

Subjects

For this study, a group of sixty-eight mothers and their first grade children were selected as subjects. The subjects come from Hardin County, a rural area of northwestern Kentucky, approximately a one hour drive from Louisville. The major city of this county, Elizabethtown, has the highest per capital income in Kentucky, mainly due to Dow-Corning, Coca-Cola Bottling, and Crucible Steel plants. All subjects in our study live in the county rather than city area; a few fathers have jobs with these plants.

Subjects were recruited through the County School District. Most of the lower class children and a few of the middle class children were enrolled in a summer Headstart program and were contacted through the program director. The remaining children were preregistered for first grade and were contacted through their school principals. (See Appendix J for letters to parents.) Mothers of first graders were chosen because their children were the youngest known to the school personnel since Kentucky has no public kindergarten. Only Caucasian families with non-working mothers with no obvious physical or mental disabilities were contacted.

Administering and Coding

All instruments were administered in a standardized manner by the author after practice with mothers and children not included in the sample.

In coding teaching style, the responses of each mother were divided into three categories, described by Hess and Shipman (1967) as status-normative, cognitive-rational, and personal-subjective. (Appendices A, B). Status-normative mothers rely on established definitions of proper behavior; cognitive-rational mothers use logical, reasonable definitions; and personal-subjective mothers also use reasonable definitions but focus on internal states of the individual. Each mother received a score based on the percentage of responses in each category. However, mothers in the Kentucky sample rarely used any other than the status-normative category. Thus for this study, each mother was given only one teaching style score based on the percentage of status-normative answers.

Mother's teaching style was also assessed from her behavior in teaching the Block Sort Task. Her verbal behavior was divided into message units which were scored for content in the following categories: task information, physical commands, verbal or physical questions, positive or negative feedback. (See Appendix E for definitions of these categories).

Mother's authoritarian tendencies were assessed by a shortened form of the Parent Attitude Research Inventory. (Appendix F) The form was derived by using every third question from the original form, thus retaining the proportion between factors found in the original. Correlations between each authoritarian question and the total authoritarian score for the shortened version and for the longer version are reported in Appendix K. Each answer is coded on a four point scale; high scores indicate strong authoritarian tendencies.

Mother's expectation for her child was assessed by the Winterbottom Scale of Independence (Appendix I) and eight questions of the Cognitive Home Environment Scale, referred to as CHES . (Appendix G)

The Winterbottom Scale asks the age at which certain behaviors are expected; a high score indicates low expectation. The CHES is scored by a manual provided by Radin and Weikart, included in Appendix H. A high score indicates high expectation.

Coding of teaching style questionnaires and behavioral protocols and scoring of the CHES were done by the author and a woman with a master's degree in counseling. Reliability coefficients were .87 for the First Day School answers, .90 for Mastery answers , .92 for Block Sort protocols, and .95 for the CHES. All differences were resolved by discussion.

Data

The following data for the mother were used in analyses for this paper:

1. Socio-economic status
2. Proportion of status-normative instructions to First Day School question
3. Proportion of status-normative answers to Attitude toward Mastery questions
4. Mean age for expecting independence on the Winterbottom Scale of Independence
5. Mean score , Cognitive Home Environment Scale
6. Total score, modified form of Parent Attitude Research Inventory

The following data for the child were used in analyses for this paper:

1. Sex
2. Peabody Picture Vocabulary Test score
3. Block Sort score

Data Analysis

The data obtained for mothers and children were analyzed for the total sample and for subsamples divided by socio-economic class, sex of child, and both class and sex. The Pearson product moment correlation coefficients (r) and the multiple correlation coefficient were the statistical tools used for these analyses.

The different measures of teaching style (First Day School question, Mastery questions, behavior while teaching Block Sort) were not significantly correlated with each other (see Appendix K for these correlations); the different measures of expectation (Winterbottom Scale and CHES) were not significantly correlated with each other (see Appendix K for these correlations); therefore, data for each instrument were considered separately.

The following multiple correlation coefficients were computed:

1. Relating each mother's percentage of status-normative answers to the First Day School question with her total score on the PARI authoritarian questions, her average score on the Winterbottom Scale, and her total score on the CHES.
2. Relating each mother's percentage of status-normative answers to the Attitude toward Mastery questions with her total score on the PARI authoritarian questions, her average score on the Winterbottom Scale, and her total score on the CHES.

The following Pearson product moment correlation coefficients were computed for the total sample, for the sample divided by socio-economic class, sex of child, and both class and sex:

1. Relating each mother's percentage of status-normative answers to the First Day School question with
   a. each mother's total score on the PARI authoritarian question

b. each mother's average score on the Winterbottom scale

c. each mother's total score on the CHES

2. Relating each mother's percentage of status-normative answers to the Attitude toward Mastery questions with

a. each mother's total score on the PARI authoritarian questions

b. each mother's average score on the Winterbottom scale

c. each mother's total score on the CHES

The following Pearson product moment correlation coefficients were computed for the sample divided by socio-economic class and by both class and sex of child:

1. Relating each mother's percentage of responses in each of thirteen behavioral categories of mother teaching her child with

a. each mother's total score of PARI authoritarian questions

b. each mother's average score on the Winterbottom Scale

c. each mother's total score on the CHES

In determining mother's teaching style, a percentage of responses in each of the three categories was obtained. This followed the Hess and Shipman analysis (1967) and the Rice analysis (1970) and was necessary because mothers generally answer in more than one category. However, as previously mentioned, mothers in this sample rarely used any other than the status-normative category. By measuring teaching style along a single scale (status-normative), it was possible to correlate these percentages with authoritarian and expectation scores by the Pearson product moment r.

In the next chapter, the results and discussion of results are presented.

CHAPTER 4

PRESENTATION OF RESULTS

This study focuses on the relationship between status-normative teaching style, authoritarian tendencies, and expectation. Data for the entire sample are examined to consider these relationships. Since mothers' answers often vary as a function of their socio-economic class and the sex of the child, the data are also analyzed in terms of these variables.

The presentation of results is divided into four parts. Part one presents data describing the maternal teaching style in this sample. Part two presents the data for each hypothesis for the sample as a whole and for samples divided by socio-economic class and sex of child. Because teaching style was measured by two questionnaires and by behavioral observations, and because expectation was measured by two questionnaires, results are discussed for each instrument separately. In part three the rural Kentucky sample is compared with urban and suburan samples from other studies in terms of status-normative teaching style. Part four presents the correlations between maternal teaching style and children's cognitive performance in order to determine whether mother's style does influence her child's performance.

Statistical tests applied to the correlation coefficients assumed the null hypothesis, that is, that no correlation existed between pairs of variables in the population from which the sample was assumed to have been drawn. The data make it possible to reject the four null hypotheses for the sample as a whole. Generalizations are more difficult to make when subsamples are considered separately.

Maternal Teaching Style in this Sample

This section describes the maternal teaching style of the present sample. Maternal teaching style was assessed by the First Day School Question, the Mastery Questions, and behavioral observations of mother teaching her child the Block Sort Task.

As mentioned in the Data Analyses section, these mothers primarily use the status-normative category in answering the questionnaires; hence, mothers are classified only as to percentage of status-normative answers.

TABLE I

MEANS, STANDARD DEVIATIONS, AND T-RATIOS BETWEEN STATUS GROUPS FOR QUESTIONNAIRES OF TEACHING STYLE

Measures of Teaching Style	Lower Class (N=32)		Middle Class (N=36)		
	Mean	SD	Mean	SD	T-ratio
First Day School	.76	.30	.59	.31	2.31*
Mastery Attitudes	4.08	1.11	3.28	1.38	2.65**

* significant at the .05 level, two tail.
** significant at the .01 level, two tail.

Table I presents the means, standard deviations, and t-ratios between socio-economic groups when teaching style is assessed by questionnaires. Socio-economic class differences are significant at the .05 level in answers to the First Day question and significant at the .01 level in answers to the Mastery questions. This means that lower class mothers give significantly more status-normative answers on both questionnaires. It is important to note that even the middle class mothers give a majority of status-normative answers.

TABLE 2

MEANS, STANDARD DEVIATIONS, AND T-RATIOS WITHIN STATUS GROUPS ON MEASURES OF TEACHING STYLE

Measures of Teaching Style	Mothers of Males			Mothers of Females			
	N	Mean	SD	N	Mean	SD	T-ratio
First Day School Question							
Lower Class	15	.73	.25	17	.78	.34	.47
Middle Class	21	.52	.32	15	.68	.28	1.60
Total N	36	.61	.31	32	.74	.31	1.74
Mastery Questions							
Lower Class	15	3.77	.74	17	4.35	1.32	-1.55
Middle Class	21	2.99	1.36	15	3.68	1.35	1.51
Total N	36	3.32	1.19	32	4.04	1.35	2.32**

** significant at the .01 level.

In Table 2, the means, standard deviations, and t-ratios are presented for the sample divided by socio-economic status and sex of child, when teaching style is assessed by questionnaires. The data indicate that mothers of females give significantly more status-normative answers to Mastery Questions than mothers of males. This finding is consistent with the trend, also shown in Table II, that mothers of females give more status-normative answers to the First Day School Question than mothers of males.

Almost three-fourths of the answers given by mothers of females are status-normative.

TABLE 3

MEANS, STANDARD DEVIATIONS, AND T-RATIOS FOR MATERNAL BEHAVIOR IN TEACHING THE BLOCK SORT TASK

Maternal Behavior	Lower Class (N=29) Mean	SD	Middle Class (N=36) Mean	SD	t-ratio
Task Informing	16.34	13.21	12.03	7.96	1.55
Engaging	3.17	3.16	2.67	2.31	.71
Orienting	2.48	1.93	1.81	1.82	1.43
Physical Command	4.62	4.90	2.64	2.99	1.91
Verbal Command	.62	1.00	1.92	1.48	-4.21**
Physical Question	4.59	5.75	3.06	2.95	1.30
Verbal Question	20.21	16.98	18.47	11.37	.47
Positive Feedback	6.83	5.28	8.50	6.27	-1.17
Negative Feedback	3.07	2.71	2.39	2.86	.98
Informing -reply	.48	1.00	.83	2.20	-.85
Control	1.72	2.46	.78	1.35	1.85
Focus	4.52	4.11	4.22	3.94	.30
Message Units	68.69	37.86	58.39	30.41	-1.19

** significant at the .01 level.

Table 3 presents the means, standard deviations, and t-ratios between socio-economic groups for mothers' behavior while teaching the Block Sort Task. Mothers differ significantly only in use of verbal commands. Because

mothers show no differences in the majority of teaching behaviors, it seems prudent not to overinterpret the one difference.

Results Pertinent to each Hypothesis:

Hypothesis I: there is no significant multiple correlation between status-normative teaching style, expectation, and authoritarian tendencies.

TABLE 4

MULTIPLE CORRELATION COEFFICIENTS AMONG STATUS-NORMATIVE TEACHING STYLE, EXPECTATION AND AUTHORITARIAN TENDENCIES (N=68)

Variables	Multiple Correlation Coefficient with Status-Normative Teaching Style
First Day School measure of teaching style Correlated with CHES, WINTERBOTTOM, PARI	.48**
Attitude toward Mastery measure of teaching style Correlated with CHES, WINTERBOTTOM, PARI	.57**

** significant at the .01 level.

Table 4 presents the multiple correlation coefficients among status-normative teaching style, expectation, and authoritarian tendencies. As this table indicates, measures of maternal expectation and authoritarian tendencies,

when considered together, are significantly correlated with measure of status-normative teaching style. The null hypothesis can thus be rejected. These measures of expectation and authoritarian tendencies account for almost a third of the variance in status-normative answers to the Mastery Situations and almost a quarter of the variance in answers to the First Day Question. They are important predictors of a mother's teaching style.

Hypotheisis 2 : there is no significant correlation between authoritarian tendencies and status-normative teaching style.

TABLE 5

CORRELATIONS BETWEEN AUTHORITARIAN TENDENCIES AND STATUS-NORMATIVE TEACHING STYLE (N=68)

Teaching Style Measure	Correlation With Authoritarian Tendencies
Status-Normative Style	
First Day School Question	.29*
Attitude toward Mastery Questions	.57**

*significant at the .05 level
**significant at the .01 level

Data for the total sample when teaching style is assessed by questionaries are shown in Table 5 . Status-normative First Day School answers are correlated with authoritarian tendencies, significant at the .05 level; status-normative

Mastery answers are correlated with authoritarian tendencies, significant at the .01 level. The hypothesis that there is a significant positive relationship between authoritarian tendencies and status-normative teaching style is accepted. Authoritarian attitudes account for more than one third of the variance in status-normative answers to Mastery Situation. This means that mothers using a status-normative teaching style tend to have strong authoritarian attitudes toward childrearing.

TABLE 6

CORRELATIONS BETWEEN AUTHORITARIAN TENDENCIES AND STATUS-NORMATIVE TEACHING STYLE WITH SAMPLE DIVIDED BY SOCIO-ECONOMIC STATUS

Teaching Style Measures	N	Correlation with Authoritarian Tendencies
Status-Normative Style		
First Day School Question		
Lower Class	32	.17
Middle Class	36	.19
Mastery Questions		
Lower Class	32	.45**
Middle Class	36	.54**

**significant at the .01 level

The correlations between authoritarian tendencies and teaching style for the sample divided by socio-economic status when teaching style is assessed

by questionnaires are shown in Table 6. Correlations between authoritarian tendencies and status-normative teaching style measured by Mastery Questions are significant at the .01 level for both the lower and middle class samples. Correlations between authoritarian tendencies and status-normative teaching style measured by the First Day School Question are not significant for either the lower or middle class samples. Thus, when socio-economic status is considered, mothers in both classes who use status-normative teaching style in Mastery Situations show authoritarian tendencies toward childrearing.

TABLE 7

CORRELATIONS OF AUTHORITARIAN TENDENCIES
AND STATUS-NORMATIVE TEACHING STYLE
WITH SAMPLE DIVIDED BY SOCIO-ECONOMIC STATUS

Teaching Style Measures	N	Correlation with Authoritarian Tendencies
Message Units		
Lower Class	29	.09
Middle Class	36	.08
Task Information		
Lower Class	29	.02
Middle Class	36	-.10
Physical Command		
Lower Class	29	-.41*
Middle Class	36	-.06
Verbal Command		
Lower Class	29	.29
Middle Class	36	-.05
Physical Questions		
Lower Class	29	.15
Middle Class	36	.03
Positive Feedback		
Lower Class	29	-.02
Middle Class	36	.09
Negative Feedback		
Lower Class	29	-.09
Middle Class	36	.24

* significant at the .05 level

Table 7 presents the data for the sample divided by socio-economic status when teaching style is assessed by behavioral observations. There is a significant correlation only between authoritarian tendencies and number of physical commands; this correlation is negative, contrary to the direction predicted. This correlation means that mothers giving few physical commands tend to have authoritarian views of childrearing.

TABLE 8

CORRELATIONS BETWEEN AUTHORITARIAN TENDENCIES AND STATUS-NORMATIVE TEACHING STYLE WITH SAMPLE DIVIDED BY SEX OF CHILD

Teaching Style Measures	N	Correlation with Authoritarian Tendencies
Status-Normative Style		
First Day School Question		
Mothers of Males	36	.46**
Mothers of Females	32	-.04
Mastery Questions		
Mothers of Males	36	.51**
Mothers of Females	32	.60**

** significant at the .01 level

The correlations between authoritarian tendencies and teaching style for the sample subdivided by sex of the child when teaching style is assessed by questionaires are presented in Table 8 . For mothers of boys, correlations are significant at the .01 level when teaching style is measured by either

the First Day School Question or the Mastery Questions. For mothers of girls, the correlation between authoritarian tendencies and status-normative teaching style is significant only when the latter is measured in Mastery situations. This relationship is strong enough to account for a third of the variance in status-normative Mastery answers. This means that regardless of sex of child, mothers who use the status-normative teaching style in Mastery Situations tend to have authoritarian views of childrearing; but only mothers of males who give status-normative instructions for the School Question tend to have authoritarian childrearing views.

TABLE 9

CORRELATIONS BETWEEN AUTHORITARIAN TENDENCIES AND STATUS-NORMATIVE TEACHING STYLE WITH SAMPLE DIVIDED BY SEX OF CHILD

Teaching Style Measures	N	Correlation with Authoritarian Tendencies
Status-Normative Style		
First Day School Question		
Lower Class Males	15	.48
Lower Class Females	17	-.08
Middle Class Males	21	.28
Middle Class Females	15	-.16
Mastery Questions		
Lower Class Males	15	.34
Lower Class Females	17	.54*
Middle Class Males	21	.45*
Middle Class Females	15	.59*

* significant at the .05 level.

Table 9 presents the data for the sample divided by socio-economic status and sex of child when teaching style is assessed by questionaires. There are significant correlations at the .05 level between authoritarian tendencies and status-normative teaching style assessed by First Day School Question. This means that when both class and sex of child are considered, all mothers who use a status-normative approach in Mastery situations except mothers of lower class males tend to have authoritarian views of childrearing.

TABLE 10

CORRELATIONS BETWEEN AUTHORITARIAN TENDENCIES AND STATUS-NORMATIVE TEACHING STYLE WITH SAMPLE DIVIDED BY SOCIO-ECONOMIC STATUS AND SEX OF CHILD

Teaching Style Measures	N	Correlation With Autnoritarian Tendencies
Message Units		
Lower Class Males	15	.10
Lower Class Females	14	.09
Middle Class Males	21	-.09
Middle Class Females	15	.12
Task Information		
Lower Class Males	15	.09
Lower Class Females	14	-.08
Middle Class Males	21	-.13
Middle Class Females	15	-.00
Physical Commands		
Lower Class Males	15	-.48
Lower Class Females	14	-.40
Middle Class Males	21	.09
Middle Class Females	15	-.16
Verbal Questions		
Lower Class Males	15	.20
Lower Class Females	14	.61**
Middle Class Males	21	.23
Middle Clss Females	15	-.33
Physical Questions		
Lower Class Males	15	.33
Lower Class Females	14	-.22
Middle Class Males	21	.14
Middle Class Females	15	-.18
Positive Feedback		
Lower Class Males	15	-.37
Lower Class Females	14	.37
Middle Class Males	21	.06
Middle Class Females	15	.16
Negative Feedback		
Lower Class Males	15	-.02
Lower Class Females	14	-.23
Middle Class Males	21	.51*
Middle Class Females	15	-.12

* significant at the .05 level

** significant at the .01 level

Table 10 presents the data for the sample divided by socio-economic status and sex of the child when teaching style is assessed by behavioral observations. Only two of the correlations are significant. Mothers of lower class females who ask many verbal questions are authoritarian in their views of childrearing. Mothers of middle class males who use much negative feedback tend to have authoritarian childrearing views. For most groups of mothers and most categories of behavior, mother's approach in teaching does not reflect her authoritarian tendencies.

To summarize the data pertaining to the second hypothesis, when teaching style is assessed by the Mastery questions, there are significant correlations between status-normative teaching style and authoritarian tendencies for all groups except mothers of lower class males. When teaching style is assessed by the First Day School Question, there is a significant correlation between status-normative teaching style and authoritarian tendencies only for mothers of males. Behavioral observations of teaching style do notconsistently relate to authoritarian tendencies.

Hypothesis 3: there is no significant correlation between low expectation and status-normative teaching style.

TABLE II

CORRELATIONS BETWEEN EXPECTATION AND STATUS-NORMATIVE TEACHING STYLE (N=68)

Teaching Style Measures	Correlation with Winterbottom***	CHES
Status-Normative Style		
First Day Questions	.44**	-.30*
Mastery Questions	.27*	-.28*

* significant at the .05 level.
** significant at the .01 level.
*** A low Winterbottom score indicates high expectation.

Table II shows the correlations between expectation and teaching style for the total sample when teaching style is assessed by questionnaires. Correlations between both measures of status-normative teaching style and both measures of expectation are significant. The correlation between status-normative teaching style assessed by the First Day School Question and expectation assessed by the Winterbottom scale is significant at the .01 level; other correlations are significant at the .05 level. The data then support hypothesis that a low expectation is significantly correlated with status-normative teaching style. This means that mothers who use a status-normative approach tend to have low expectations for their children.

TABLE 12

CORRELATIONS BETWEEN EXPECTATION AND STATUS-NORMATIVE TEACHING STYLE WITH SAMPLE DIVIDED BY SOCIO-ECONOMIC STATUS

Teaching Style Measures	N	Correlation With Winterbottom**	CHES
Status-Normative Style			
First Day School Question			
Lower Class	32	.42*	-.21
Middle Class	36	.33*	-.26
Mastery Questions			
Lower Class	32	.25	-.20
Middle Class	36	.14	-.19

*significant at the .05 level.
**A low Winterbottom score indicates high expectation.

The correlations between expectation and teaching style assessed by questionnaires when the sample is divided by socio-economic status are shown in Table 12. The correlations between status-normative teaching style assessed by the Fist Day School Question and expectation assessed by the Winterbottom Scale are significant at the .05 level for both the lower and middle classes. Regardless of socio-economic status, mothers who give status-normative instructions for school do not expect independence fo their children until they are relatively old. None of the other correlations between expectations and status-normative teaching style are significant.

TABLE 13

CORRELATIONS BETWEEN EXPECTATION AND STATUS-NORMATIVE TEACHING STYLE WITH SAMPLE DIVIDED BY SOCIO-ECONOMIC STATUS

Teaching Style Measures	N	Correlation With Winterbottom*	CHES
Message Units			
Lower Class	29	.23	-.06
Middle Class	36	-.02	-.08
Task Information			
Lower Class	29	.07	-.01
Middle Class	36	.03	-.05
Physical Command			
Lower Class	29	-.16	-.22
Middle Class	36	.08	-.22
Verbal Questions			
Lower Class	29	.13	-.11
Middle Class	36	.15	.22
Physical Questions			
Lower Class	29	.07	.09
Middle Class	36	.03	.01
Positive Feedback			
Lower Class	29	-.17	.20
Middle Class	36	-.26	-.06
Negative Feedback			
Lower Class	29	.03	.11
Middle Class	36	.05	-.02

*A low Winterbottom score indicates high expectation.

The correlations between expectation and teaching style assessed by behavioral observations for the sample divided by socio-economic status are shown in Table 13. None of the correlations are significant. Mother's behavior while teaching her child does not seem to reflect mother's expectations for her child.

TABLE 14

CORRELATIONS BETWEEN EXPECTATION AND STATUS-NORMATIVE TEACHING STYLE WITH SAMPLE DIVIDED BY SEX OF CHILD

Teaching Style Measures	N	Correlation With Winterbottom ***	CHES
Status-Normative Style			
First Day School Question			
Mothers of Males	36	.36*	-.58**
Mothers of Females	32	.48**	-.02
Mastery Questions			
Mothers of Males	36	.37*	-.41*
Mothers of Females	32	.12	-.20

* significant at the .05 level.
** significant at the .01 level.
*** A low Winterbottom score indicates high expectation.

Table 14 presents the correlations between expectation and teaching style assessed by questionaires when the sample is divided by the sex of the child. The correlations are significant for mothers of males for both measures of expectation and both measures of teaching style. However, only the correlation between status-normative First Day School instructions and Winterbottom expectation is significant for mothers of females. Mothers of males who use status-normative teaching style expect little of their sons. Mothers of females are not so consistent; only mothers who give status-normative First Day School instructions expect little independence of their daughters.

TABLE 15

CORRELATIONS BETWEEN EXPECTATION AND STATUS-NORMATIVE TEACHING STYLE WITH SAMPLE DIVIDED BY SOCIO-ECONOMIC STATUS AND SEX OF CHILD

Teaching Syle Measures	N	Correlation With Winterbottom**	CHES
Status-Normative Style			
First Day School			
Lower Class Males	15	.50	-.57*
Lower Class Females	17	.37	-.05
Middle Class Males	21	.13	-.48
Middle Class Females	15	.62*	.10
Mastery Questions			
Lower Class Males	15	.60*	-.62*
Lower Class Females	17	.07	-.17
Middle Class Males	21	.18	-.21
Middle Class Females	15	-.01	-.15

* significant at the .05 level.
** A low Winterbottom score indicates high expectation.

Table 15 presents the relationships between expectation and teaching style assessed by questionnaires when the sample is divided by socio-economic status and sex of child. The clearest relationships are between First Day School instructions and CHES expectations for all males. These correlations are negative and significant at the .05 level. This means that mothers of males who give status-normative school instructions tend not to provide cognitively stimulating environments for their sons. The other significant correlations indicate that mothers of lower class males who use status-normative teaching approaches in Mastery situations tend to have low

expectations for their sons. The only significant correlation for mothers of girls is between status-normative First Day School instructions and Winterbottom expectation. The correlation is significant at the .05 level only for middle class mothers. This means that middle class mothers who give status-normative school instructions do not expect early independence of their daughters.

TABLE 16

CORRELATIONS BETWEEN EXPECTATION AND STATUS -NORMATIVE TEACHING STYLE WITH SAMPLE DIVIDED BY SOCIO-ECONOMIC STATUS AND SEX OF CHILD

Teaching Style Measures	N	Correlation With Winterbottom**	CHES
Message Units			
Lower Class Males	15	.50	-.20
Lower Class Females	14	-.02	.09
Middle Class Males	21	.12	.15
Middle Class Females	15	-.22	-.31
Task Information			
Lower Class Males	15	-.18	-.13
Lower Class Females	14	.25	-.12
Middle Class Males	21	.12	-.24
Middle Class Females	15	-.05	.14
Physical Command			
Lower Class Males	15	.01	-.03
Lower Class Females	14	-.52*	-.22
Middle Class Males	21	.25	-.24
Middle Class Females	15	-.20	-.24
Verbal Questions			
Lower Class Males	15	.13	-.22
Lower Class Females	14	.18	.11
Middle Class Males	21	.08	.27
Middle Class Females	15	.45	.13
Physical Questions			
Lower Class Males	15	.18	-.07
Lower Class Females	14	-.09	.24
Middle Class Males	21	.13	.08
Middle Class Females	15	.10	-.07
Positive Feedback			
Lower Class Males	15	-.08	.09
Lower Class Females	14	-.37	.11
Middle Class Males	21	-.42	.15
Middle Class Females	15	-.04	-.34
Negative Feedback			
Lower Class Males	15	-.02	.28
Lower Class Females	14	.22	.11
Middle Class Males	21	.53*	-.14
Middle Class Females	15	-.61*	.13

* significant at the .05 level.

** A low Winterbottom score indicates high expectation.

Data for the relationships between expectation and teaching style assesed by behavioral observations when the sample is subdivided by socio-economic status and sex of child are presented in Table 16. Only three correlations are significant. Mothers of lower class females who use many physical commands in teaching tend to expect their daughters to be independent at an early age. Mothers of middle class males who use much negative feedback in teaching tend to expect little independence of their sons; however, mothers of middle class daughters who use negative feedback in teaching tend to expect independence of their daughters at an early age. Because the majority of behavioral measures of teaching style are unrelated to expectation, it is wiser not to overinterpret these few correlations.

To summarize data pertaining to the third hypothesis , status-normative teaching style is significantly related to low expectation for the total sample when teaching style is assessed by questionnaires. Therefore, the third hypothesis can be accepted. When each measure of teaching style and expectation is considered separately and when each subsample is considered separately, results are much less clear-cut. When expectation is assessed by the Winterbottom Scale of Independence and teaching style is assessed by the First Day School Question, there are significant correlations in the subsamples divided by socio-economic status and sex of child. When expectation is assessed according to the Cognitive Home Environment Scale and teaching style is assessed by the First Day School Question, there is a significant correlation for mothers of males, probably because of the high correlation for mothers of lower class males. When expectation is assessed according to the Cognitive Home Environment Scale and teaching style is assessed by the Mastery Questions, there is again a significant correlation for mothers of males probably because of the correlation for mothers of lower class males. Mothers of lower class males show the most consistent correlations between low expectation and

status-normative teaching style. When expectation is assessed by the Wintebottom Scale and teaching style by the Mastery Questions, there is a significant correlation for mothers of males, this time probably because of the high correlation for mothers of middle class males. When teaching style is assessed by behavioral observations of mother teaching her child, no consistent pattern of correlations can be ascertained.

Hypothesis 4: there is no significant correlation between authoritarian tendencies and expectation.

TABLE 17

CORRELATIONS BETWEEN AUTHORITARIAN TENDENCIES AND EXPECTATIONS
(N=68)

Authoritarian Measure	Correlation With Winterbottom *	CHES
PARI	.37**	-.41**

* A low Winterbottom score indicates high expectation.
**significant at the .01 level.

Table 17 shows the correlations between authoritarian tendencies and expectation for the total sample. Both the CHES and Winterbottom measures of expectation are correlated with authoritarian tendencies, significant at the .01 level. The hypothesis that authoritarian tendencies and expectation are significantly related is therefore accepted. This means that mothers with authoritarian tendencies have low expectations of independence for their children and provide little in the way of a cognitively stimulating environment.

TABLE 18

CORRELATIONS BETWEEN AUTHORITARIAN TENDENCIES AND EXPECTATION FOR THE SAMPLE DIVIDED BY SOCIO-ECONOMIC STATUS

Authoritarian Tendencies		N	Correlation With Winterbottom**	CHES
PARI				-.33
	Lower Class	32	.06	-.26
	Middle Class	36	.38*	

* significant at the .05 level.
** A low Winterbottom score indicates high expectation.

Table 18 shows the relationships between authoritarian tendencies and expectation for the sample divided by socio-economic status. The correlation between authoritarian tendencies and Winterbottom assessment for expectation is significant at the .05 level for middle class mothers. Lower class mothers' authoritarian tendencies do not relate significantly to cognitively stimulating home environments for either class. These correlations indicate that middle class mothers with strong authoritarian tendencies tend to expect little independence from their young children.

TABLE 19

CORRELATIONS BETWEEN AUTHORITARIAN TENDENCIES AND EXPECTATION FOR SAMPLE DIVIDED BY SEX OF CHILD

Authoritarian Tendencies	N	Correlation With Winterbottom***	CHES
PARI			
Mothers of Males	36	.51**	-.55**
Mothers of Females	32	.12	-.26

** significant at the .01 level.
*** A low Winterbottom score indicated high expectation.

Table 19 presents the correlations between authoritarian tendencies and expectation for the sample divided by sex of the child. The relationships for mothers of males are significant at the .01 level. Thus, mothers who have authoritarian tendencies seem to expect little independence of their sons at an early age and seem to provide little cognitive stimulation for their sons. Mothers of females show no significant correlations between authoritarian tendencies and either measure of expectation.

TABLE 20

CORRELATIONS BETWEEN AUTHORITARIAN TENDENCIES AND EXPECTATION FOR SAMPLE DIVIDED BY SEX OF CHILD AND SOCIO-ECONOMIC STATUS

Authoritarian Tendencies	N	Correlation With Winterbottom *	CHES
PARI			
Lower Class Males	15	.14	-.41
Lower Class Females	17	- .02	-.33
Middle Class Males	21	.60**	-.38
Middle Class Females	15	- .02	-.08

* A low Winterbottom score indicates high expectation.
** significant at the .01 level.

The correlations between authoritarian tendencies and expectation for the sample divided by socio-economic status and sex of child are shown in Table 20. The correlation between authoritarian tendencies and expectation assessed by the Winterbottom Scale is significant only for middle class mothers of males. This correlation is significant at the .01 level and accounts for more than one-third of the variance between these PARI and Winterbottom scores. Thus, middle class mothers of males who have authoritarian tendencies tend to have low expectations for their sons' independence. When both socio-economic status and sex of child are considered, other groups of mothers show no significant relationships between authoritarian tendencies and expectations.

To summarize the findings pertinent to Hypothesis 4, there is a significant correlation between authoritarian tendencies and expectation

for the total sample. Therefore, the fourth hypothesis is accepted. There are also significant correlations for authoritarian tendencies and both measures of expectation for mothers of males. When the sample is divided by socio-economic status and by both status and sex of child, only the relationship between authoritarian tendencies and expectation for independence is significant; this is true only for the middle class and is highest for middle class mothers of males. When we examine the relationship between expectation and authoritarian tendencies, the sex of the child seems to differentiate mothers more than their socio-economic status.

Graphic Summary of Data

Figure I graphically summarizes the data for all four hypotheses for the total sample. All correlations are significant at the .05 or .01 levels. This means that, in considering the total sample of mothers, it is possible to accept the hypotheses that there is a significant correlation among all three measures and that there are significant correlations between authoritarian tendencies and teaching style, expectation and teaching style, and authoritarian tendencies and expectation.

Figure 2 illustrates the data for all four hypotheses when the sample is divided by socio-economic status. Correlations are in predicted directions for both classes; socio-economic status does not differentiate mothers for these relationships. Only the correlation between Winterbottom expectation scores and authoritarian tendencies is significant for the middle class and not for the lower class. Significant for both classes are correlations between status -normative First Day School instructions and Winterbottom expectations and between status-normative Mastery attitudesand authoritarian tendencies.

Figure 3 shows the patterns of correlations when the sample is divided by sex of child. Relationships are in the predicted direction for

FIGURE 1
PATTERNS OF CORRELATIONS BETWEEN
MATERNAL TEACHING STYLE, AUTHORITARIAN TENDENCIES,
AND EXPECTATION FOR THE TOTAL SAMPLE

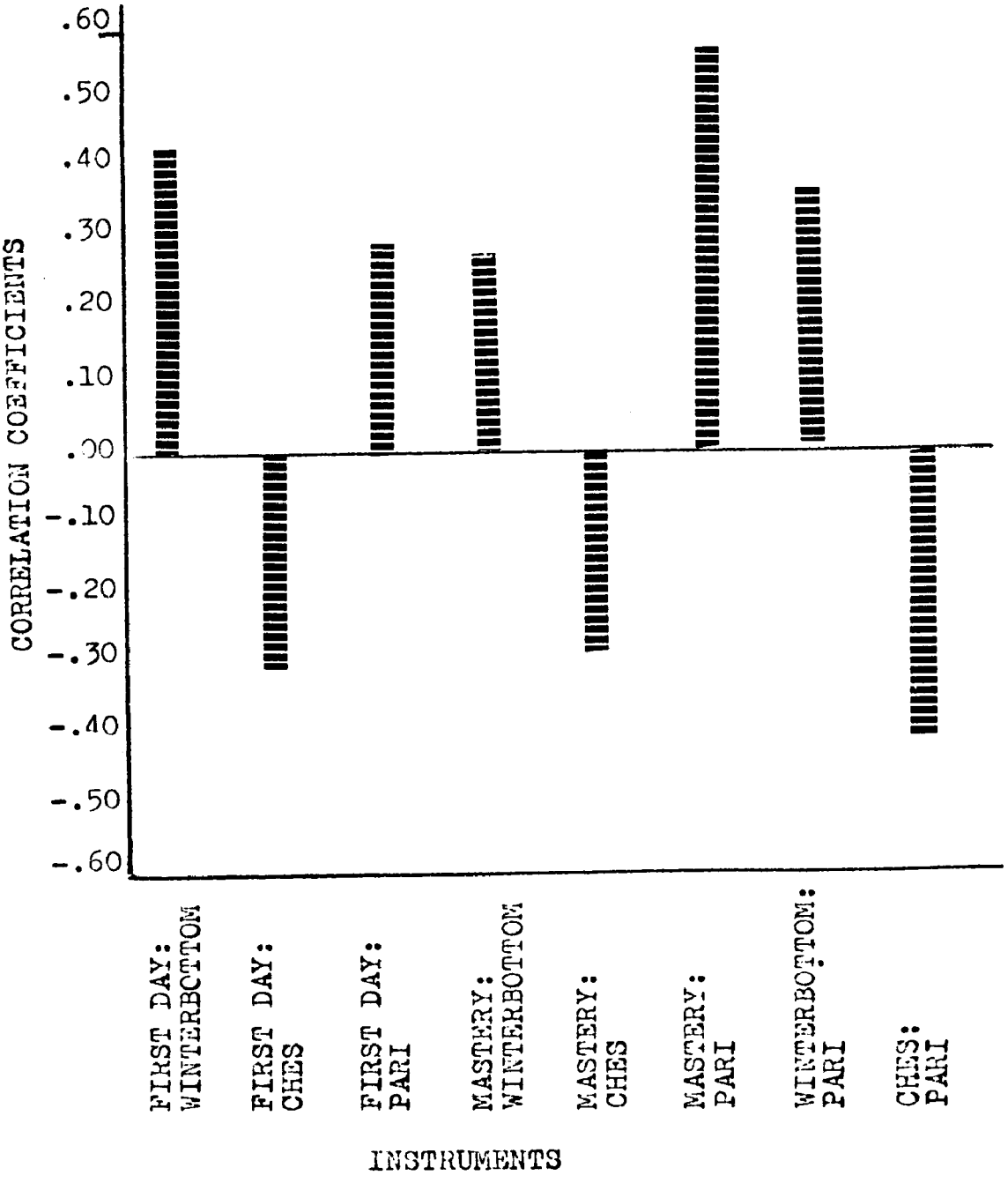
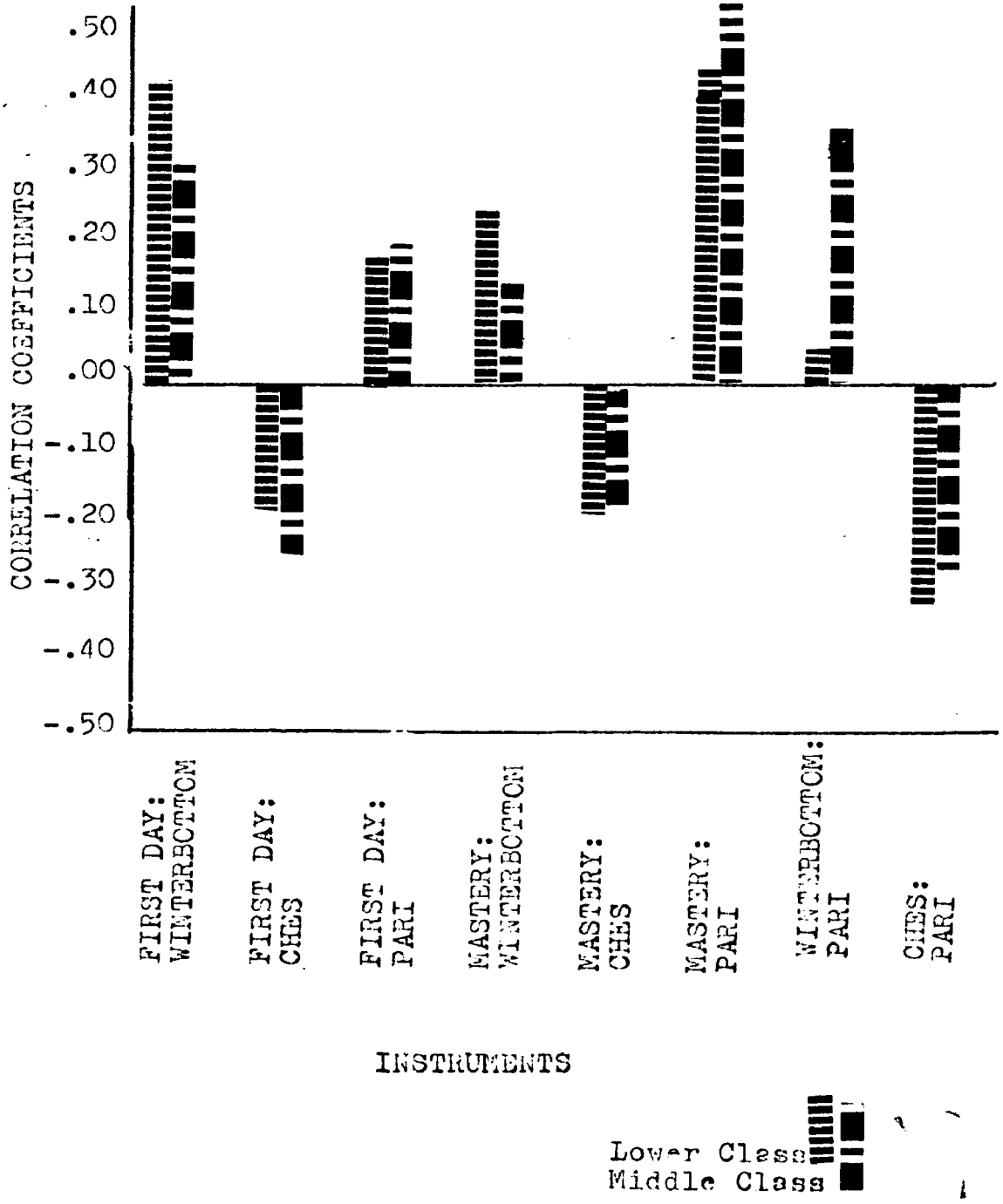


FIGURE 2
PATTERNS OF CORRELATIONS
WITH SAMPLE DIVIDED BY SOCIAL CLASSES



mothers of all children, regardless of sex. For mothers of males, the relationships are consistently significant. For mothers of females, relationships between status-normative teaching style and authoritarian tendencies are significant only when teaching style is measured by Mastery Questions. Correlations between teaching style and expectation are significant for mothers of females only when the First Day School instructions and Winterbottom Scale of Independence are used.

Figure 4 pictures the data for all hypotheses when the samples are divided by both class and sex of child. All significant correlations are in the direction predicted. Correlations between authoritarian tendencies and teaching style are not significant for any groups when teaching style is measured by the First Day School Question; however, when Mastery Questions measure teaching style, correlations are significant for all but mothers of lower class males. Correlations between status-normative teaching style and expectation are significant for certain groups with certain instruments. For mothers of lower class males, three of the four correlations between teaching style measures and expectation measures are significant. Correlations between authoritarian tendencies and expectation are significant only for mothers of middle class males, only when the Winterbottom Scale assesses expectation.

All hypotheses are accepted whn the sample is considered as a whole; when the sample is divided by socio-economic status and/or sex of child, it is important to know which instruments assess teaching style and expectation.

Comparison of Kentucky Sample and Other Samples

In order to generalize from the results, it is essential to determine whether or not this sample of mothers teaches similarly to other samples of mothers. This section compares the Kentucky data, where possible, to data collected in other studies.

FIGURE 3
PATTERNS OF CORRELATIONS
WITH SAMPLE DIVIDED BY SEX OF CHILD

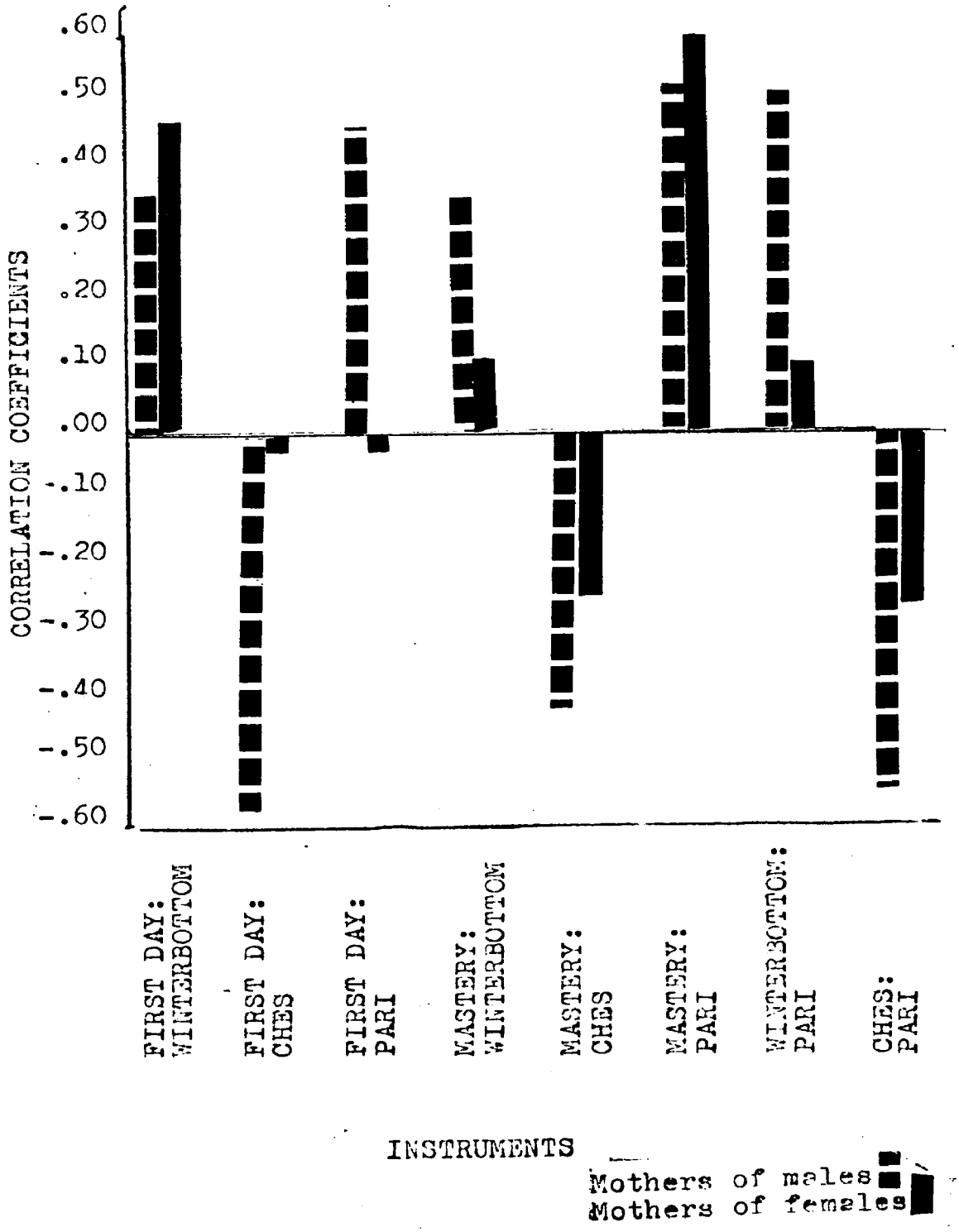
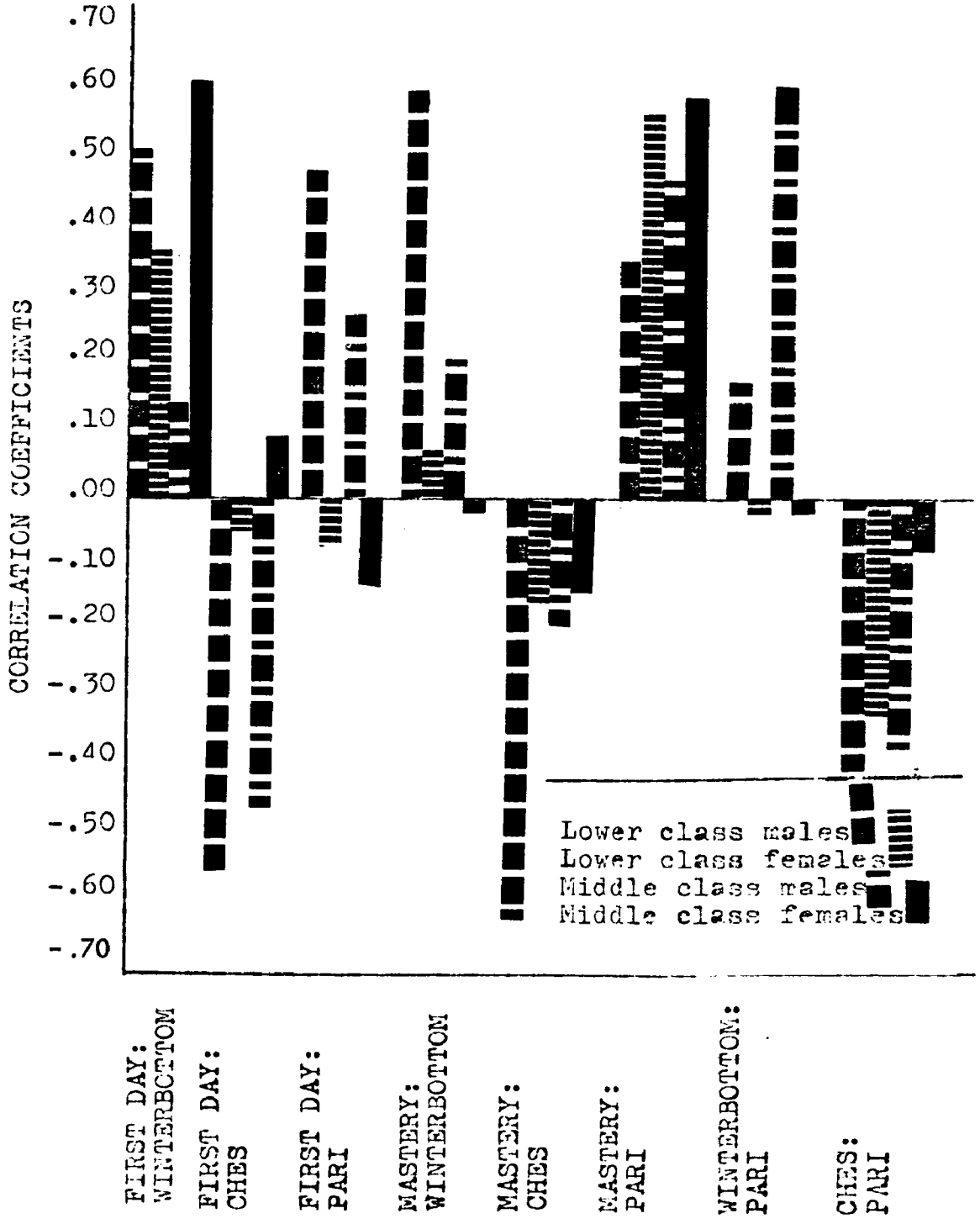


FIGURE 4
PATTERNS OF CORRELATIONS WITH SAMPLE
DIVIDED BY CLASS AND SEX OF CHILD



Teaching Style Assessed by Questionnaires

TABLE 21

MEANS, STANDARD DEVIATIONS AND T-RATIOS
BETWEEN STATUS GROUPS FOR A MEASURE OF TEACHING STYLE

First Day School Question	Lower Class N	Lower Class Mean	Lower Class SD	Middle Class N	Middle Class Mean	Middle Class SD	t-Ratio
Stock Sample	36	.76	.30	32	.59	-.31	2.31*
Hess Sample	36-41	.44 -.48	n.a.	39	.15	not available	
Rice Sample	29	.24	.28	30	.23	.26	.10 ns

*significant at the .05 level.
(Hess, 1965, p. 878, Rice, 1970, p. 42)

Table 21 compares means, standard deviations, and t-ratios for status-normative answers to the First Day School Question for the sample of the present study (Stock sample), the Hess sample (1965 , p. 878) and the Rice sample (1970, p. 42). The means for the Stock sample are surprisingly different from means reported by Hess for his Chicago sample and by Rice for his Ypsilanti, Michigan sample. In the Kentucky sample, mothers in both economic classes used a majority of status-normative answers; almost three-fourths of the answers given by these lower class mothers are status-normative. Indeed, this study compares mothers only in status-normative style because most mothers used no other method. In both the Hess and Rice groups, mothers in both classes used a minority of status-normative answers . Mothers in these samples use cognitive-rational and personal-subjectives styles as well as status-normative style.

Because one question was omitted and three others were reworded for the Kentucky sample, it is not possible to directly compare data from Kentucky Mastery Questions with data from the Hess or Rice studies. It is interesting, however, to note that while Hess and Rice report no sex differences, Table 2 presented earlier in this chapter indicates that there is a significant difference between mothers of males and mothers of females in the Kentucky sample. Mothers of females give significantly more status-normative answers to Mastery Questions than mothers of males. This finding is consistent with the trend, also shown in Table 19, that Kentucky mothers of females give more status-normative answers to the First Day School Question. Almost three-fourths of the answers given by mtohers of females are status-normative. Kentucky mothers' methods of teaching the Block Sort task are also different from methods reported by Hess and Rice. There are two ways of comparing these differences: comparisons can be made within and between subsamples.

TABLE 22

MEANS AND STANDARD DEVIATIONS FOR MATERNAL BEHAVIOR IN TEACHING BLOCK SORT TASK: KENTUCKY AND MICHIGAN STUDIES

Maternal Behavior	Kentucky Sample		Michigan Sample***		t-Ratio
	N=36		N=29		
Middle Class	Mean	SD	Mean	SD	
Task Informing	12.03	7.96	18.83	11.29	-2.85**
Engaging	2.67	2.31	6.79	6.73	-3.44**
Orienting	1.81	1.82	1.59	1.76	.49
Physical Command	2.64	2.99	11.41	8.95	-5.52**
Verbal Command	1.92	1.48	18.17	13.94	-6.96**
Physical Question	3.06	2.95	2.03	3.44	1.30
Verbal Question	18.47	11.37	9.21	7.99	3.72**
Positive Feedback	8.50	6.27	15.79	12.30	-3.10**
Negative Feedback	2.39	2.86	3.72	4.48	-1.46
Informing-reply	.83	2.20	1.10	1.40	- .58
Control	.78	1.35	1.66	3.07	-1.55
Focus	4.22	3.94	1.86	3.30	2.58*
Message Units	68.69	30.41	128.66	76.12	-5.07**
Lower Class		N=32		N=30	
Task Informing	16.34	13.21	18.93	11.84	- .83
Engaging	3.17	3.16	3.20	2.77	- .40
Orienting	2.48	1.93	1.13	1.93	2.81**
Physical Command	4.62	4.90	10.70	7.45	-3.90**
Verbal Command	.62	1.00	16.17	15.80	-5.67**
Physical Question	4.59	5.75	.83	2.10	3.45**
Verbal Question	20.21	16.98	5.60	5.96	4.54**
Positive Feedback	6.83	5.28	8.40	7.28	-1.00
Negative Feedback	3.07	2.71	4.60	5.05	-1.53
Informing-reply	.48	1.00	.53	.90	- .21
Control	1.72	2.46	2.83	3.64	-1.04
Focus	4.52	4.11	3.30	4.24	1.17
Message Units	58.59	37.86	103.86	59.00	-3.69**

*significant at the .05 level
**significant at the .01 level
*** Rice, 1970, pp.36, 40)

Rice's data, compared in Table 22 with the data from the present study, indicate that the Ypsilanti, Michigan sample used significantly more message units than the Kentucky sample. The Ypsilanti middle class sample used more than twice the number of message units and the lower class sample used one and a half times the number of message units as the Kentucky classes. If Rice's sample simply spoke more, there should be two times or one and a half times the number of units in each category. Contrary to this estimation, compared to the Kentucky sample, the Michigan middle class sample issued more than five times the number of physical commands and nine times the number of verbal commands. The lower class Ypsilanti sample issued more than two times the number of physical commands and more than twenty-five times the number of verbal commands. These dramatic and consistent differences are reversed in comparing the proportion of verbal questions. The Kentucky sample, instead of asking one half or one third the number of verbal questions, asked two times and almost four times more than the Michigan sample. Although the middle class samples did not differ significantly in proportion of physical questions, the Kentucky lower class asked not one third but five and a half times more physical questions than the Michigan lower class.

Compared with the sample from Michigan, then, the sample from Kentucky not only uses significantley fewer message units but significantly fewer commands and significantly more questions. The Kentucky mother asks rather than orders. This questioning does not seem to encourage deduction, e. g., the mother asks, "What's different with these blocks? See anything different with them? What's different? What's different with these three?" The mother repeats her questions over and over, barely pausing for the child to respond. More often than not, the mother answers her own questions.

TABLE 23

MEANS, STANDARD DEVIATIONS, AND SIGNIFICANT DIFFERENCES FOR MATERNAL BEHAVIOR IN TEACHING THE BLOCK SORT TASK: KENTUCKY AND CHICAGO STUDIES

Maternal Behavior	Kentucky Sample Mean	Kentucky Sample SD	Chicago Sample* Mean	Chicago Sample* SD	t-Ratio
Middle Class (N=36)			(N=40)		
Task Informing	12.03	7.96	23.46	8.38	6.10**
Engaging	2.67	2.31	5.30	4.49	3.26**
Orienting	1.81	1.82	8.12	4.03	8.94**
Positive Reinforcement	8.50	6.27	53.10	19.42	13.75**
Negative Reinforcement	2.39	2.86	44.73	25.97	10.24**
Lower Class*** (N=32)			(N=40)		
Task Informing	16.34	13.21	20.82	9.20	1.57
Engaging	3.17	3.16	2.73	2.57	- 0.62
Orienting	2.48	1.93	5.78	3.63	4.88**
Positive Reinforcement	6.83	5.28	40.75	21.68	9.51**
Negative Reinforcement	3.07	2.71	53.82	25.33	12.57**

*Hess, 1967 , p. 72

**significant at the .01 level. For 74 degrees of freedom a t-ratio of 2.64 is significant at the .01 level; for 67 degrees of freedom, a t-ratio of 2.32 is significant at the .01 level. Wherever the variance of the Chicago sample was twice the variance of the Kentucky sample, the F table was used to determine significance. For 74 degrees of freedom, an F-ratio of 2.23 is significant at the .01 level; for 67 degrees of freedom, an F-ratio of 2.32 is significant at the .01 level.

*** Hess uses an upper-lower class and a lower-lower class. These data are for Hess's lower-lower class because the characteristics of this sample are similar to the characteristics of the Kentucky Lower class sample.

Hess's Chicago data and the Kentucky data are compared in Table 23. In both studies, mothers could take as long as they wished to teach. The Chicago middle class mothers spoke much more than the Kentucky middle class mothers in all categories considered; these differences are significant at the .01 level. The Chicago lower class mothers spoke much more than the Kentucky lower class mothers in terms of orienting and using positive and negative feedback; these differences are significant at the .01 level. The lower class samples did not differ significantly in use of task information and engaging.

To summarize, the Kentucky sample seems different from the Chicago and Ypsilanti, Michigan samples. The Kentucky mothers are more status-normative. In teaching, they speak significantly less than the Chicago mothers in almost all categories. They ask proportionately more questions than the Michigan mothers but use proportionately less commands. The dramatic differences between the Kentucky mothers and the other mothers limit generalization from the Kentucky data.

Correlations Between Teaching Style and Children's Performance

Maternal teaching style has been studied because it has been found to be a predictor of children's intelligence and performance. It is thus important to be sure that teaching style predicts success in this Kentucky sample, just as it does in other samples.

TABLE 24

CORRELATIONS BETWEEN MOTHERS' MEASURES AND CHILDREN'S PERFORMANCE, WITH SAMPLE DIVIDED BY SOCIO-ECONOMIC CLASS

Status-Normative Teaching Style	N	Children's Performance PPVT	Block Sort
First Day School Questions			
Lower Class	29	-.15	.03
Middle Class	36	-.15	-.06
Mastery Questions			
Lower Class	29	-.03	-.49**
Middle Class	36	-.21	.10

** significant at the .01 level.

Table 25 shows that status-normative teaching style does not predict intelligence scores for the Kentucky sample. Only for the lower class is there a significant correlation between status-normative teaching style, assessed by Mastery Questions, and performance, assessed by the Block Sort scores. The negative correlation means that mothers in the lower class who use a status-normative approach to Mastery situations do not successfully teach their children the Block Sort Task.

TABLE 25

CORRELATIONS BETWEEN MOTHERS' AND CHILDREN'S MEASURES WITH SAMPLE DIVIDED BY SOCIO-ECONOMIC STATUS AND SEX OF CHILD

Status-Normative Teaching Style	N	Correlation With Children's Performance PPVT	N	Block Sort
First Day School				
Lower Class Males	15	-.29	13	-.18
Lower Class Females	14	-.05	14	.18
Middle Class Males	21	-.29	21	-.02
Middle Class Females	15	.18	15	-.15
Mastery Questions				
Lower Class Males	15	-.20	13	-.72**
Lower Class Females	14	.15	14	-.25
Middle Class Males	21	-.44*	21	-.20
Middle Class Females	15	.14	15	.54*

* significant at the .05 level.
** significant at the .01 level.

Table 25 shows the correlations between status-normative teaching style and children's performance when the sample is divided by both socio-economic class and sex of child. Mothers' status-normative instructions to the First Day School Question predict neither the children's intelligence nor Block Sort scores. Answers to the Mastery Questions are significantly correlated with intelligence for one subsample and with Block Sort scores for two subsamples. The correlation of intelligence and status-normative Mastery answers is significant only for middle class males.

This relationship means that middle class mothers who use a status-normative approach in Mastery situations have sons who score relatively low on the intelligence test. The correlation of Block Sort scores and status-normative teaching style in Mastery situations is significantly correlated for lower class males at the .01 level and for middle class females at the .05 level. This means that mothers of lower class males and middle class females who use a status-normative approach to Mastery situations have not successfully taught their children the Block Sort Task. This relationship for lower class males is high enough to account for half the variance in the two measures.

The Kentucky correlations in Table 24 are less often significant than those reported by Hess. Hess finds significant negative correlations between both measures of teaching style and both measures of children's performance in his lower and middle class samples.

Contrary to the present findings, Rice finds significant correlations between First Day School answers and Block Sort scores. Rice reports no correlations of intelligence with First Day or Mastery answers.

Again, the data indicate that the Kentucky sample differs from the Chicago, Illinois and Ypsilanti, Michigan samples.

In this chapter, the results were presented and discussed with reference to the hypotheses and the particular sample. The next chapter summarizes the most important results, draws conclusions and speculates on some reasons for these results.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND SPECULATIONS

Parents generally do not see themselves as teachers. Yet research of the 1960's has pointed to the importance of the mother as a teacher. Even if mothers do not consciously or actively teach, their children seem to learn by watching and hearing them.

Robert Hess and Virginia Shipman (1965, 1968) have described three categories of maternal teaching styles. These styles, varying in the extent to which mothers tend to use logic and reason, are labeled cognitive-rational, personal-subjective, and status-normative.

The present study further investigates the status-normative teaching style. It was predicted that mothers who tend to use status-normative teaching style would tend to be authoritarian and would hold low expectations of independence and achievement for their children.

To test these hypotheses, sixty-eight rural Kentucky mothers of first grade children were interviewed in their homes. The sample was divided by both socio-economic class and sex of child. There were thirty-two lower class and thirty-six middle class mothers; thirty-six mothers of males and thirty-two mothers of females.

Fifteen were mothers of lower class males; seventeen mothers of lower class females; twenty-one, mothers of middle class males and fifteen, mothers of middle class females.

Teaching style was assessed by a structured behavioral observation and two questionnaires. Mothers were taught two sorting tasks and were then observed teaching these tasks to their children. Mothers were also asked what instructions they would give their children on the First Day of School and how they would react in specific hypothetical situations (Mastery situations) in which the child, in the course of mastering certain skills, came into conflict with his environment.

Authoritarian tendencies were assessed by a shortened form of the

Parent Attitude Research Inventory. Expectations were assessed by two questionnaires, the Winterbottom Scale measuring expectation for independence and the Cognitive Home Environment Scale (CHES) measuring expectation for achievement.

Children's performance was assessed by their Peabody Picture Vocabulary Test scores and their behavior on the Block Sort task.

Multiple correlation coefficients were computed relating questionnaire measures of teaching style to the measure of authoritarian tendencies and the measures of expectation for the total sample. Pearson r correlation coefficients were computed relating measures of teaching style to authoritarian tendencies, teaching style to expectation, authoritarian tendencies to expectation, and teaching style to children's performance. These r's were computed for the total sample and for the sample divided by socio-economic status and sex of child.

Null Hypotheses

Hypothesis 1: there is no significant multiple correlation between status-normative teaching style scores, expectation scores, and a measure of authoritarian tendencies.

Two multiple correlation coefficients were computed, the first relating the First Day School Question to the other measures, the second relating Attitude toward Mastery questions to the other measures. Both were significant at the .01 level. Thus it is concluded that both authoritarian tendencies and expectation are significantly related to mothers' preference for the status -normative teaching style. Mothers who tend to use the status-normative style tend to be authoritarian and to have low expectations for independence and achievement for their children.

These significant relationships allow us to better understand the scope of mother's teaching style. Her style encompasses more than just her approach with a toy or her willingness to read a book. Because mother's style is related to her authoritarian tendencies and expectations, it seems to be enmeshed in her view of her world and her view of her child.

These findings have implications for programs for preschool children. The better preschool programs have required mother to teach her children at home. However, even these programs have been unable to alter children's cognitive development past the third grade in school. Perhaps to really alter a child's learning, mother must be taught not only certain behaviors; she must be taught more effective attitudes. Perhaps mother must be helped to raise her expectations and modify her authoritarian tendencies.

These findings also have implications for teacher training. Teacher 's attitudes, like mother's attitudes, may well influence her teaching style. Perhaps education courses need to consider the teacher's personality as well as her methods.

Hypothesis 2: there is no significant positive correlation between a measure of authoritarian tendencies and each measure of status-normative teaching style, regardless of mother's socio-economic status, the sex of her child, or both class and sex.

When teaching style is assessed by the First Day School Question, the correlation with authoritarian tendencies is significant at the .05 level for the total sample. When teaching style is assessed by the Attitude toward Mastery questions, the correlation with authoritarian tendencies is significant at the .01 level for the total sample. Across most subsamples, the correlations between authoritarian tendencies and teaching style assessed by Mastery questions are strong and consistent . It seems that most authoritarian mothers view the Mastery situations as reasons to discipline rather than as opportunities to help the child develop skills. Authoritarian mothers respond to the Mastery questions with strict controlling answers, usually physically punishing their children for what other mothers see as accidents. (e. g., spilling paint)

This significant positive relationship between authoritarian tendencies and status-normative Mastery answers is supported by Becker and Krug's (1965) findings that the PARI authoritarian scale is significantly correlated with maternal strictness. Status-normative teaching style does seem to reflect strictness.

However, no study has directly related status-normative teaching style to strictness. Indeed, no study has adequately assessed the behavior meant to show either strictness or status-normative teaching style. Perhaps an event-by-event account of the day (Hoffman, 1957) would validate verbal reports of teaching style by providing details of how the status-normative mother actually behaves with her child.

It is most puzzling that behavioral measures of teaching style used in this study are not significantly related to authoritarian tendencies. Seven categories of mother's behavior while teaching the Block Sort task were analyzed; no category is consistently significant for all subsamples; no trends in the correlations are apparent.

The behavioral measure of teaching style, i. e., the Block Sort task, may not assess the same dimensions that the First Day School Question and Attitude toward Mastery questions assess. In the Hess and Shipman studies (1965, 1967) all three were used to measure teaching style. The structured Block Sort is a situation which requires mother to teach. As mentioned above, the Mastery situations seem to be viewed by mothers in this sample as opportunities for disciplining rather than for teaching. Perhaps measures of authoritarian tendencies differentiate mothers in situations which encourage them to discipline but not in situations which encourage them to teach. Authoritarian tendencies may not be related to teaching style in limited, structured teaching situations.

On the other hand, it is possible that authoritarian tendencies are correlated with teaching style but the tasks in this study did not adequately assess teaching style. While authoritarian tendencies may influence the teaching style of a relaxed mother, sure of her subject matter, they may not influence the behavior of a mother in a totally unfamiliar situation. Perhaps mothers in this sample, unaccustomed to tape recorders and laboratory experiments, simply imitated the Experimenter's teaching style. The comparion of Kentucky and Chicago samples,

presented later in this chapter, will further elaborate on this speculation.

There is a third way to interpret the insignificant correlations between authoritarian tendencies and behavioral measures of teaching style. In this study, only verbal behaviors were scored. It may be that rural mothers, known to be less verbal, used nonverbal signals to express their authoritarian tendencies. Signals as subtle as raised eyebrows or tapping fingers may need to be studied for clues to behavioral expressions of authoritarian tendencies in mothers using a status-normative teaching style.

Hypothesis 3: there is no significant negative correlation between each measure of high expectation and each measure of status-normative teaching style, regardless of mother's socio-economic status, the sex of her child, or both class and sex.

The correlation between teaching style measured by the First Day School Question and expectation measured by the Winterbottom Scale is significant at the .01 level for the total sample. The correlation between the First Day School question and expectation measured by CHES, between teaching style measured by Attitude toward Mastery questions and the Winterbottom scale are significant at the .05 level for the total sample. The negative correlation between the Winterbottom scale and status-normative First Day School instructions is significant and consistent across most subgroups. This means that mothers, who give their children orders to obey in school tend to expect little independence of them at home. Nakamura and Rogers (1969) differentiate between mothers who allow independence despite the worry it causes them and mothers who allow independence by neglecting their children. It is possible to speculate that the neglectful mother will want her child to be good in school so that she is not embarassed by him; however, this mother may not be the one who limits independence at home. Correlations between status-normative answers and each item of the Winterbottom Scale may clarify this question. The data seem to indicate that the status-normative mother is training

her child to be submissive at and in school. In learning tasks calling for rote memorization, this child may excel; in tasks demanding creativity and independence, the child may fail. Studies relating mother's status-normative teaching style to children's abilities would be helpful.

To summarize the data from the first three hypotheses, authoritarian tendencies and expectation are both significantly related to status-normative teaching style in the total sample. When the sample is divided by socio-economic status and sex of child, the relationships are clearer. Teaching style assessed by the Mastery questions is most consistently correlated with mother's authoritarian tendencies. Mothers who prefer the status-normative teaching style have high scores on a measure of authoritarian tendencies. In this sample, Mastery questions may be seen as opportunities to discipline rather than to teach. The First Day School question, on the other hand, is most consistently correlated with expectation. Mothers preferring the status-normative style have low expectations for their children's achievement and independence.

The behavioral measures of teaching style are not significantley or consistently correlated with measures of expectation of authoritarian tendencies. This finding is most puzzling. Further research certainly needs to be done to study the relationship of behavioral measures of teaching style to questionnaire measures of teaching style, authoritarian tendencies, and expectation.

Hypothesis 4: there is no significant negative correlation between a measure of mother's authoritarian tendencies and each measure of high expectation, regardless of mother's socio-economic status, the sex of her child, or both class and sex.

Although correlations between the PARI measure of authoritarian tendencies and each measure of expectations are significant for the total sample, they are not consistent across subsamples. Strong authoritarian tendencies are significantly related to low expectations for achievement and independence for mothers of males

but not for mothers of females. Strong authoritarian tendencies are significantly related to low expectation for independence measured by the Winterbottom Scale for the middle class but only for mothers of middle class males when the sample is divided by sex. For the sample as a whole and for specific subsamples, the data support the generalization that mothers who think in terms of stereotypes and absolutes do not expect their children to act independently or to achieve much.

The behavioral measures of teaching style are not significantly correlated with either questionnaire measure of expectation. It should be noted that these behavioral measures from the Block Sort task were also not related to the measure of authoritarian tendencies. The speculations regarding the lack of relationship with authoritarian tendencies are also applicable here. The Block Sort task may not measure teaching style in the same way that the questionnaires measure teaching style; the traditional teaching task may not allow the mother a chance to express her expectation. Or, it may be that this task is so easy for six year olds that mothers teaching behavior has little to do with her expectation on this task.

Secondly, the Block Sort task may not be a valid or reliable measure of the way mother teaches her child when she is relaxed and feeling in control of the situation. Under pressure in a totally unfamiliar academic situation, she may base her behavior on how well her child knows his alphabet, colors, or shapes rather than how independent she usually encourages him to be. Mother's expectations in this situation may not be related to mother's expectations for her child in other situations.

Thirdly, mother may be communicating her expectations through subtle nonverbal cues. Videotapes may be used to test this speculation.

Sex Differences

When the sample is divided by sex of child, there are different patterns of correlations for mothers of males and mothers of females. Mothers of females

tend to expect less independence and to be more status-normative and more authoritarian. These behaviors, if consistent, would tend to protect girls and encourage them to obey and serve. However, mothers of girls are not as consistent across measures as mothers of boys. Why? Perhaps some of the answer lies in the changing definitions of the woman's role. It is no longer true that lower class women must choose between family and employment. The mother may be frustrated with the life she is leading, aware (perhaps through television) of the possibility that her daugher's life could be more interesting, but unsure as to how to prepare her daughter to assume a different life style. And because a different life style is foreign to her, her anxiety about the unknown may prevent her from feeling fully committed to preparing her daughter. Middle class mothers of females are more consistent in teaching either independence or submissiveness. The consistency may result from their opportunity to decide whether or not they wish to combine career and family. Working mothers, especially mothers who enjoy careers, may be most consistent with their daughters.

The group of mothers most consistent with their children is the group of lower class mothers of males. These status-normative mothers in this group have both low expectations and strong authoritarian tendencies. They neither reason with their sons nor expect them to cope independently. They may feel most threatened by the possibility of their sons learning and leaving. Conversely, the lower class mothers who hope their sons will better themselves are apt to consistently hold high expectations of achievement and independence for them and are apt to treat their sons like thinking, reasoning people. Perhaps these mothers are more aware than the others that their children will not automatically succeed; hence, they are more consistent in encouraging education and independence. Their consistency is reflected in the positive relationship of their behavior to their sons' intelligence.

Perhaps the sex difference is simply due to the difficulty involved in mothers raising daughters and fathers raising sons. Mothers may be more objective with their sons because they cannot identify so closely with them.

Perhaps the sex difference is, as Bayley (1968) speculates, the result of a genetic endowment in sons which makes them especially susceptible to mothers' behavior. On the other hand, perhaps mothers' consistency rather than a genetic endowment accounts for the high relationships between mothers' attitudes and sons' behavior. If mothers behave similarly with their sons in many types of situations, they are likely to have sizable impact on their sons. Further research, of course, is necessary to settle the issue.

The Relationship of the Kentucky Sample to Other Samples

Teaching Style

In comparing the rural Kentucky sample with other urban and suburban samples, dramatic differences are evident. The middle class Kentucky mother is more status-normative than even the lower class urban and surburan mother. The lower class Kentucky mother is even more extreme. The differences appear in answers to questionnaires and in behaviors while teaching the Block Sort task.

Why are the Kentucky mothers so different from the other mothers, especially when some of the others were born in Kentucky? The difference may be a historical one. Jack Weller (1965), a preacher who lives in the hills of Appalachian Kentucky, is one of the best sources of information about these people. According to Weller, native Kentuckians trace their roots to English and Scotch immigrants who wanted a society free from laws and restraints. These were independent people who wanted to leave the settled regions and evolve individual life styles. In this hilly area, farming has never been easy. Families who have stayed have done so in the face of hardship. Mothers in this sample, although not facing the difficulties of Appalachian terrain, mention that they or their kin have tried to live in the city but did not like others "telling us how to live." Although the fathers in the sample most often work for others during the day, they come home to farm their patch of land and "be my own man."

Perhaps the difference is a North-South difference. Kentucky is on the fringe of the southern Bible Belt. Prayer meetings and revivals are regular events inthe lives of lower and middle class families. The doctrinaire, unquestioning appraches taught by the preachers are meant to apply to specific problems of everyday living. Suffering is accepted and perhaps even welcomed as a test for earning a peaceful afterlife. Law and order is demanded . Obedience is taught through fear. Church signs even posted along the highway warn "Where are you going? Prepare to meet thy Maker." Although it is commonly believed that men separate their weekday behavior from their Sunday prays, e. g., moonshine stills of the Depression era, women are generally seen as "having religion" all week. Questioning, examining cause-effect relationships, applying logic are problem solving behaviors which Southern churches do not encourage.

Perhaps the difference is a rural-urban difference. Rural families live far from each other, often totally isolated in times of bad weather. The sign "Congested Area" usually points out only five or ten houses near each other. Housewives do not often drop in to talk over coffee. At the corner store, men sit toghether for long periods of time but only occasionally speak, rarely discuss subtleties. In the lower class families, telephones are not easily accessible. The simplistic rural life allows people the opportunity to escape complexities; it does not encourage verbal interaction. Even within families, one mother mentioned, "Each one is entitled to his opinion. We don't talk about our differences. Just makes the men folk violent." Jack Weller, (1965) also mentions that subjects that may engender conflicts are rarely discussed. If the adults seem close-mouthed with each other, there is every reason to believe that they speak little with their children. The mothers' message units and the children's poor verbal abilities give some justification to the speculation.

In addition to being more status-normative and less talkative, the Kentucky mother asks rather than orders her children more than the Chicago or Ypsilanti

mothers. This asking does not fit with the image of the status-normative mother and is not thought to be part of the everyday behavior observed by the County Social Worker. (personal communication) It may be that the Kentucky mother, lacking much social contact, was particularly susceptible to mimicing the non-directive teaching style which the Experimenter used to teach the mother. The repetition of questions without pause for answers may show the anxious, insecure mother incorporating the Experimenter's questioning into her authoritarian approach. These speculations may help to explain why behavior in teaching is not related to questionnaire measures of teaching style, authoritarian tendencies, and expectation. Mothers' teaching behavior may be very different when mother is more secure or at ease.

These speculations can be tested by studies using the same instruments with people in several regions of the country. Even within Kentucky, it may be possible to find some answers to these questions by inquiring about mothers' involvement in the community or participation in church.

The Relationship of Mother's Teaching Style to Children's Performance

According to Hess, (1967) maternal teaching style is a powerful concept because it predicts children's cognitive performance. However, in the Kentucky sample, mother's status-normative teaching style is significantly correlated with intelligence only for middle class males and with Block Sort scores only for lower class males and middle class females.

This should not be taken to mean that mother's teaching style does not have an impact on her child's cognitive development. The impact may not be adequately measured by the tests used in this study. Block Sort was designed for use with four year olds; it was used with six year olds only after ascertaining that mothers did not assume their children could do the task without being taught. It is possible that mothers simply misjudged their children's understanding; the six year old may have

sufficient experience to understand some of the concepts regardless of his mother's teaching style.

Perhaps the lack of correlation is not the result of understanding but of motivation. These Kentucky children have little experience in learning to trust strangers; they may withhold information because they are afraid of the testing situation. Some of the tapes show that the children performed the Block Sort successfully for mothers but not for the Experimenter. Perhaps these children should be tested only after they know the tester well.

Limitations of this study

This study was limited by the nature and size of the sample and by the nature of the instruments used.

Subjects were mothers in a rural area of Kentucky. Their teaching style is more status-normative than the teaching style of mothers in urban and suburban samples in other studies. They are less verbal but use more questions in teaching their children than mothers in other studies. Contrary to mothers in other regions, they teach their sons differently from their daughters. Because this sample is so different in so many ways from other samples tested, generalizations from this study must be restricted to mothers similar to those in this sample.

This study was further limited by the sample size. Only sixty-eight mothers were interviewed in all. When this sample is divided by socio-economic status and sex of child, the subsamples are particularly small. Data should be studied for clues for future research other than for conclusions.

This study was also limited by the instruments used. Scores from the instruments measuring teaching style were not highly correlated with each other; scores frominstruments measuring expectation were not highly correlated with each other. This may mean that these tests do not measure well defined constructs. The data from behavioral observations are not related to the questionnaires measuring teaching style; this calls into question the validity of either method of assessment.

In addition, the First Day School questionnaire asks only one question. Instruments with few parts tend to have low reliability. These issues limit the generalizations from the present study.

A Final Note

This study explored the relationships between status-normative teaching style, authoritarian tendencies, and expectations for a group of sixty-eight Caucasian mothers of first grade children in rural Kentucky. Data were gathered in structured home interviews and tape-recorded mother-child interactions.

The significant correlations allow us to conclude that status-normative mothers are apt to be authoritarian and to hold low expectations for their children. The relationships between teaching style and expectation are particularly consistent for mothers of lower class males.

Mothers of males differed from mothers of females in being less status-normative and more predictable in the relationship between status-normative teaching style, authoritarian tendencies, and expectation.

The Kentucky sample differs from other urban and suburban samples in the degree of status-normative teaching style and in the relationship between teaching style and children's performance.

Suggestions for future research have been offered, based on speculations as to why mothers of males behave differently from mothers of females and why Kentucky mothers behave differently from midwestern samples of mothers. Implications for working with mothers in preschool programs have been explained.

It is unusual to find results which corroborate popular stereotypes. This study was undertaken with much trepidation; the image of the silent mountain folk, rocking on their stoops with their shotguns nearby, never left the author as she drove over dusty roads and cowpaths. Warm hospitality and unusual willingness to participate dispelled these myths. But the data confirm many sterotypes of the rural mother. This mother seems to be short spoken and direct with her children.

She wants obedience, not questions or reasons. She allows her schoolage children to hide behind her or clutch her shorts. In effect, she leave us with the haunting image of mother as guardian and protector. Her status-normative teaching style, authoritarian tendencies, and low expectations seem to create an atmosphere which make it difficult for her child to leave home and cope for himself.

APPENDIX

ADDITIONAL STATISTICAL TABLES

TABLE 1

CORRELATIONS BETWEEN QUESTIONNAIRE AND BEHAVIORAL MEASURES OF STATUS-NORMATIVE TEACHING STYLE FOR SAMPLE DIVIDED BY SOCIO-ECONOMIC STATUS

Behavioral Measures-Block Sort	Correlated with Questionnaire Measures: First Day School	Mastery Attitudes
Lower Class: (N=32)		
Message units	-.15	.24
Task information	.13	.07
Command physical	-.28	-.14
Question verbal	.04	.24
Question physical	.05	-.19
Positive feedback	-.09	.12
Negative feedback	-.17	-.08
Middle Class: (N=36)		
Message units	-.23	.15
Task information	-.17	-.12
Command physical	.13	.16
Question verbal	.17	-.07
Question physical	.21	.18
Positive feedback	-.05	.06
Negative feedback	18	.35*

*significant at the .05 level

TABLE 2

CORRELATIONS BETWEEN QUESTIONNAIRE AND BEHAVIORAL MEASURES OF STATUS-NORMATIVE TEACHING STYLE FOR SAMPLE DIVIDED BY SOCIO-ECONOMIC STATUS AND SEX OF CHILD

Behavioral Measures	N	Correlated with Questionnaire Measures: First Day School	Mastery Attitudes
Message Units			
Lower class males	15	.28	-.23
Lower class females	14	-.44	.60*
Middle class males	21	-.10	.11
Middle class females	15	-.54*	.10
Task Information			
Lower class males	15	-.01	-.42
Lower class females	14	.19	-.01
Middle class males	21	-.18	-.27
Middle class females	15	-.09	.14
Physical Command			
Lower class males	15	-.48	.08
Lower class females	14	-.06	-.20
Middle class males	21	.34	.40
Middle class females	15	-.11	-.13
Verbal Questions			
Lower class males	15	.13	.47
Lower class females	14	-.16	.07
Middle class males	21	-.10	.11
Middle class females	15	-.10	-.19
Physical Questions			
Lower class males	15	.37	-.08
Lower class females	14	-.23	-.36
Middle class males	21	.15	.06
Middle class females	15	.25	.25
Positive Feedback			
Lower class males	15	-.24	-.22
Lower class females	14	-.05	.19
Middle class males	21	-.01	-.13
Middle class females	15	-.09	.32
Negative Feedback			
Lower class males	15	-.20	.15
Lower class females	14	-.13	-.20
Middle class males	21	.42	.59**
Middle class females	15	-.14	.05

*significant at the .05 level

**significant at .01 level

TABLE 3

CORRELATIONS BETWEEN TWO QUESTIONNAIRES MEASURES OF STATUS-NORMATIVE TEACHING STYLE FOR SAMPLE DIVIDED BY SOCIO-ECONOMIC STATUS, SEX OF CHILD, AND BOTH STATUS AND SEX

Sample of Mothers	N	Pearson r's First Day School and Mastery Attitudes
Lower Class	32	- .03
Middle Class	36	.29
Mothers of Males	36	.49**
Mothers of Females	32	-.13
Lower Class Males	15	.26
Lower Class Females	17	-.17
Middle Class Male	21	.49*
Middle Class Females	15	-.18

* significant at the .05 level.
**significant at the .01 level.

TABLE 4

PEARSON r's COMPUTED BETWEEN QUESTIONS MEASURING AUTHORITARIAN TENDENCIES AND TOTAL AUTHORITARIAN SCORE: COMPARISON OF STOCK AND SCHAEFFER DATA [1]

PARI Items	r with Total Stock (N=68)	Schaefer (N not reported)
2	.48	.58
4	.59	.83
6	.58	.40
7	.70	.64
8	.72	.49
9	.67	.51
10	.67	.46
12	.65	.79
14	.70	.52
15	.79	.73
16	.76	.54
17	.23	.49
18	.71	.47
20	.57	.47
21	.75	.50
22	.60	.69
25	.65	.58
27	.69	.83
29	.55	.40
30	.60	.64
31	.74	.49
32	.65	.51
33	.66	.46
35	.72	.79
37	.75	.52
38	.81	.73
39	.49	.54

[1] Earl Schaefer, "Item Locations for Sample 23 Scale 5 Item Questionnaire (Form IV) (mimeographed paper, HEW, Chevy Chase, Maryland, undated).

TABLE 5

CORRELATIONS BETWEEN TWO MEASURES OF EXPECTATION FOR SAMPLE AS A WHOLE AND SAMPLE DIVIDED BY SOCIO-ECONOMIC, SEX OF CHILD, AND BOTH STATUS AND SEX

Sample of Mothers	N	Pearson r's Winterbottom and CHES
Total Sample	68	-.32**
Lower Class	32	-.21
Middle Class	36	-.27
Mothers of Males	36	-.57**
Mothers of Females	32	-.07
Lower Class Males	15	-.62*
Lower Class Females	17	.03
Middle Class Males	21	-.39
Middle Class Females	15	-.04

* significant at .05 level.
**significant at .01 level.

TABLE 6

MEANS, STANDARD DEVATIONS, AND t-RATIOS BETWEEN STATUS GROUPS ON MEASURES OF AUTHORITARIAN TENDENCIES AND EXPECTATION FOR SAMPLE DIVIDED BY SOCIO-ECONOMIC STATUS

Mothers' Measures	Lower Class (N=32) Mean	SD	Middle Class (N=36) Mean	SD	t-ratio
Authoritarian Tendencies	74.91	10.00	61.06	13.13	4.92***
Expectation					
Winterbottom	6.96	1.15	6.19	.93	3.03**
CHES	36.69	7.92	42.08	7.08	-2.94**

** significant at .01 level, 2 tail
***significant at .002 level, 2 tail

TABLE 7

MEANS, STANDARD DEVIATIONS, AND t -RATIOS WITHIN STATUS GROUPS ON MEASURES OF AUTHORITARIAN TENDENCIES AND EXPECTATION, FOR SAMPLE DIVIDED BY SOCIO-ECONOMIC STATUS AND SEX OF CHILD

Mothers' Measures	Mothers of Boys			Mothers of Girls			
	N	Mean	SD	N	Mean	SD	t-ratio
PARI							
Lower Class	15	74.20	11.22	17	75.53	9.10	.37
Middle Class	21	57.76	13.23	15	65.67	11.91	1.83
Total N	36	64.61	14.76	32	70.91	11.48	1.98
Winterbottom							
Lower Class	15	6.83	1.13	17	7.07	1.19	.58
Middle Class	21	6.09	.96	15	6.33	.89	.77
Total N	36	6.40	1.08	32	6.72	1.11	1.20
CHES							
Lower Class	15	34.27	7.27	17	38.82	8.06	1.68
Middle Class	21	42.24	7.29	15	41.87	7.01	-.15
Total N	36	38.92	8.21	32	40.25	7.62	.69

TABLE 8

MEANS, STANDARD DEVIATIONS, AND t-RATIOS FOR SPECIFIC QUESTIONS OF THE CHES

Item	Lower Class (N=32) Mean	SD	Middle Class (N=36) Mean	SD	t-ratio
Grade expect	5.38	1.16	5.31	1.09	.26
Grade satisfied	4.22	1.21	4.57	1.10	-1.24
Read books child	3.13	2.00	4.03	2.30	-1.73
Teach words	3.19	2.42	3.56	2.35	- .64
Teach skills	3.38	2.06	3.06	1.90	.66
Amount schl like	5.06	1.54	6.33	1.04	-3.94**
Amount schl expect	4.13	1.39	5.83	1.42	-4.99**
Least amt. educ.	3.00	1.44	3.97	1.28	-2.92**
Occupational choice	5.22	1.58	5.94	1.17	-2.11*

* significant at the .05 level
** significant at the .01 level

TABLE 9

RANGES, MEANS, STANDARD DEVIATIONS. AND t-RATIOS
FOR SPECIFIC ITEMS ON THE WINTERBOTTOM SCALE OF
EXPECTATION WITH SAMPLE DIVIDED BY SOCIO-ECONOMIC STATUS

Item	Lower Class (N=32)			Middle Class (N=32)			
	Range	Mean	S.D.	Range	Mean	S.D.	t-Ratio
Stand up rights	1-13	5.09	2.47	1-10	4.31	2.14	1.38
Know area	3-13	7.03	2.76	3-4	6.17	2.78	1.27
Play outside	3-7	4.19	1.28	1-5	3.63	1.90	2.04*
Try new things	1-11	5.48	2.59	1-7	4.25	1.63	2.28*
Active, energetic	2-13	6.16	2.08	3-11	5.47	- 1.87	1.43
Pride in work	2-9	4.91	1.69	1-6	4.19	1.45	1.87
Parents' interests	3-16	7.91	3.50	2-10	5.89	1.94	2.89**
Try hard	4-12	6.50	2.06	3-10	5.86	1.88	1.31
Eat alone	2-8	5.44	1.79	3-10	5.88	1.62	-1.06
Lead peers	4-10	6.71	2.05	4-13	6.34	2.22	.70
Make friends	2-7	5.00	1.59	3-7	4.44	1.23	1.61
Hang up clothes	3-10	6.44	1.66	4-9	5.74	1.27	1.93
Well in school, self	6-11	6.33	1.16	5-10	6.37	1.06	- .14
Bed by self	4-8	5.22	1.21	3-6	4.72	.61	2.11*
Own interests	3-10	6.00	2.20	3-10	5.72	1.72	.58
Earn own money	5-16	12.09	3.28	6-16	12.31	2.40	-.31
Regular house tasks	4-11	6.66	1.73	2-8	5.69	1.17	2.68**
Alone at home, day	8-15	11.97	2.08	6-15	11.30	2.28	1.22
Own decisions	5-15	10.16	3.31	5-15	9.40	3.23	.94
Well competing	4-15	8.06	2.53	5-15	7.53	2.51	.85
Out of house-sight	2-10	7.90	2.37	2-11	6.64	2.14	2.25*

* significant at the .05 level.
**significant at the .01 level.

TABLE 10

MEANS, STANDARD DEVIATIONS, AND t-RATIOS FOR MEASURES OF CHILDREN'S PERFORMANCE WITH SAMPLE DIVIDED BY SOCIO-ECONOMIC STATUS

Children's Performance		Lower Class			Middle Class		
		Mean	S.D.		Mean	S.D.	t-Ratio
PPVT	N=29	84.17	14.66	N=36	100.00	18.61	-3.84**
Reading Readiness	N=21	93.66	23.60	N=33	106.24	30.56	-1.70
Block Sort	N=27	4.14	1.37	N=36	55.69	.81	-5.24**

**significant at the .01 level, 2 tail.

TABLE II

MEANS, STANDARD DEVIATIONS, AND t-RATIOS
FOR MEASURES OF CHILDREN'S PERFORMANCE
WITHIN STATUS GROUPS

Children's Performance	Boys			Girls			
	N	Mean	S.D.	N	Mean	S.D.	t-Ratio
PPVT							
Lower	14	85.50	16.66	15	82.93	13.00	.46
Middle	21	105.81	14.01	15	91.87	21.55	2.20
Total N	35	97.68	17.98	30	88.40	17.72	2.09*
Reading Readiness							
Lower	11	95.09	22.02	10	92.10	26.35	.28
Middle	20	115.40	12.68	13	110.85	15.67	.88
Total N	31	108.19	19.00	23	102.69	22.54	.94
Block Sort							
Lower	13	4.23	1.42	14	4.07	1.38	.30
Middle	21	5.66	.85	15	5.73	.80	-.25
Total N	34	5.11	1.29	29	4.93	1.38	.53

*significant at the .05 level, 2 tail.

TABLE 12

CORRELATIONS BETWEEN MOTHERS' MEASURES AND CHILDREN'S PERFORMANCE WITH SAMPLE DIVIDED BY SOCIO-ECONOMIC STATUS

Mothers' Measures	Correlated with Children's Performance N	PPVT	N	Reading Readiness	N	Block Sort
Status-Normative Style						
First Day School						
Lower Class	29	-.15	21	-.14	27	.03
Middle Class	36	-.15	33	.21	36	-.06
Mastery Attitudes						
Lower Class	29	-.03	21	.17	27	-.49**
Middle Class	36	-.21	33	.06	36	.10
Expectation						
Winterbottom						
Lower Class	29	-.24	21	-.01	27	-.43
Middle Class	36	-.24	33	.04	36	-.11
CHES						
Lower Class	29	.30	21	-.24	27	-.30
Middle Class	36	.43**	33	.10	36	.15
Authoritarian						
PARI						
Lower Class	29	.09	21	-.19	27	-.28
Middle Class	36	-.49**	33	-.10	36	-.10
Mothers' Schooling						
Lower Class	29	-.18	21	-.18	27	.05
Middle Class	36	.46**	33	.60**	36	.13

**significant at .01 level.

TABLE 13

CORRELATIONS BETWEEN MOTHERS' AND CHILDREN'S PERFORMANCE
WITH SAMPLE SUBDIVIDED BY SOCIO-ECONOMIC STATUS
AND SEX OF CHILD

Mothers' Measures	Correlated with Children's Scores					
	N	PPVT	N	Reading Readiness	N	Block Sort
Status -Normative Style						Lower Class
First Day School						
Mothers of Males	15	-.29	11	-.37	13	-.18
Mothers of Females	14	-.05	10	.51	14	.18
Mastery Attitudes						
Mothers of Males	15	-.20	11	.14	13	-.72**
Mothers of Females	14	.15	10	.23	14	-.25
Expectation						
Winterbottom						
Mothers of Males	15	-.58*	11	-.24	13	-.66**
Mothers of Females	14	.15	10	.15	14	-.20
CHES						
Mothers of Males	15	.50	11	.14	13	.38
Mothers of Females	14	.18	10	-.57	14	.30
Authoritarian						
PARI						
Mothers of Males	15	.22	11	-.17	13	-.01
Mothes of Females	14	-.06	10	-.20	14	-.33

TABLE 13 (continued)

CORRELATIONS BETWEEN MOTHERS' AND CHILDREN'S PERFORMANCE
WITH SAMPLE SUBDIVIDED BY SOCIO-ECONOMIC STATUS
AND SEX OF CHILD

Mothers' Measures	Correlated with Children's Scores					
	N	PPVT	N	Reading Readiness	N	Block Sort
Status-Normative Style					Middle Class	
First Day School						
Mothers of Males	21	-.29	20	.21	21	-.02
Mothers of Females	15	.18	13	.36	15	-.15
Mastery Attitudes						
Mothers of Males	21	-.44*	20	-.01	21	-.20
Mothers of Females	15	.14	13	-.27	15	.54*
Expectation						
Winterbottom						
Mothers of Males	21	-.41	20	-.12	21	-.13
Mothers of Females	15	-.02	13	.36	15	-.09
CHES						
Mothers of Males	21	.39	20	.04	21	.34
Mothers of Females	15	.53*	13	.25	15	-.16
Authoritarian						
PARI						
Mothes of Males	21	-.59**	20	.07	21	-.13
Mothers of Females	15	-.28	13	-.23	15	-.07

* significant at .05 level.
** significant at .01 level.

TABLE 14

MATERNAL BEHAVIOR IN TEACHING THE BLOCK SORT

Middle Class

Engaging	
X	f
0-5	32
6-10	4

Orienting	
X	f
0-5	35
6-10	1

Phys. Com.	
X	f
0-5	29
6-10	7

Control	
X	f
0-5	35
6-10	1

Phys. Ques.	
X	f
0-5	30
6-10	6

Focus	
X	f
0-5	27
6-10	6
11-15	2
16-20	1

Verbal Com.	
X	f
0-5	35
6-10	1

Neg. Fdbk.	
X	f
0-5	33
6-10	2
11-15	1

Task Inf.	
X	f
0-5	9
6-10	9
11-15	6
16-20	5
21-25	6
26-30	1

Verbal Ques.	
X	f
0-5	2
6-10	7
11-15	9
16-20	7
21-25	2
26-30	3
31-35	1
36-40	4
41-45	0
46-50	1

Pos. Fdbk.	
X	f
0-5	15
6-10	8
11-15	6
16-20	5
21-25	2

Mes. Units	
X	f
0-20	3
21-40	9
41-60	10
61-80	2
81-100	9
101-105	2
140	1

Inf. Rep.	
X	f
0-5	35
6-10	0
11-15	1

TABLE 14 (Cont'd)

Lower Class

Engaging	
X	f
0-5	24
6-10	3
11-15	2

Orienting	
X	f
0-5	27
6-10	2

Phys. Com.	
X	f
0-5	21
6-10	4
11-15	3
16-20	0
21-25	1

Control	
X	f
0-5	27
6-10	1
11-15	1

Phys. Ques.	
X	f
0-5	19
6-10	7
11-15	2
16-20	0
21-25	0
26-30	1

Focus	
X	f
0-5	20
6-10	4
11-15	4
16-20	1

Verbal Com.	
X	f
0-5	29

Neg. Fdbk.	
X	f
0-5	22
6-10	6
11-15	1

Task Inf.	
X	f
0-5	7
6-10	4
11-15	7
16-20	3
21-25	2
26-30	4
31-35	1
36-40	1
60	1

Verbal Ques.	
X	f
0-5	3
6-10	5
11-15	5
16-20	4
21-25	5
26-30	2
31-35	3
48	1
88	1

Pos. Fdbk.	
X	f
0-5	13
6-10	8
11-15	6
16-20	1
21-25	1

Mes. Units	
X	f
0-20	1
21-40	8
41-60	4
61-80	6
81-100	7
107	1
154	1
180	1

Inf. Rep.	
X	f
0-5	29

LIST OF REFERENCES

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Aaronson, Albert J. Investigation Into the Relationship of Maternal Attitudes toward Childrearing and Success of Boys in Beginning Reading. Dissertation Abstracts, 1967, 27-8A, 2382.

Adorno, T.W.; Frenkel-Brunswik, E.; Levinson, D.J.; and Sanford, R.N. The Authoritarian Personality. New York: Harper and Row, 1950.

Anastasi, Anne. Heredity, Environment, and the Question "How?". Psychological Review, 1958, 65, pp.197-208.

Baldwin, Alfred L. Socialization and the Parent-Child Relationship, Child Development, 1948, 19, pp.127-36.

Bayley, Nancy and Schaefer, E.S. Correlations of Maternal and Child Behaviors with the Development of Mental Abilities: Data from the Berkeley Growth Study. Monographs of the Society for Research in Child Development, 1964, 29, (whole number 97).

Bayley, Nancy. Behavioral Correlates of Mental Growth: Birth-36 Years. American Psychologist, 1968, 23, pp.1-17.

Becker, Wesley C. and Krug, Ronald S. The Parent Attitude Research Inventory: A Research Review. Child Development, 1965, 36, pp. 329-366.

Behavior Today. October 26, 1971.

Bernstein, Basil. Social Structure, Language, and Learning. Educational Research, 1961, 3, pp.163-76.

Bing, Elizabeth. Effect of Childrearing Practices on Development of Differential Cognitive Abilities. Child Development, 1963, 34, pp.631-48.

Block, Jack. Personality Characteristics Associated with Fathers' Attitudes toward Childrearing. Child Development, 1955, 26, 41-8.

Bloom, Benjamin S. Stability and Change in Human Characteristics. New York: Wiley, 1964.

Brophy, Jere and Good, Thomas L. Teachers' Communication of Differential Expectations for Children's Classroom Performance: Some Behavioral Data. Texas University

Austin Research and Development Center for Teacher Education, Report to Office of Education (DHEW), Washington, D.C. Bureau of Research, 1969, ERIC ED 041 838.

Callard, Esther D. Achievement Motive in Four-Year Old Children and Its Relationship to Achievement Expectancies of the Mother. Unpublished Ph.D. dissertation, University of Michigan, 1964.

Chance, June E. Independence Training and First Graders' Achievement. Journal of Consulting Psychology, 1961, 25, pp.149-54.

Claiborn, William L. Investigation Relating Teacher Expectancy, Teacher Behavior, and Pupil Performance. Dissertation Abstracts, 1969, 29-11B, 4364-5.

Crandall, Vaughn J.; Katkovsky, W.; and Preston, A. A Conceptual Formulation for Some Research on Children's Achievement Development. Child Development, 1960, 31, pp.787-97.

Crandall, Vaughn J.; Dewey, R.; Katkovsky, W.; and Preston, A. Parental Attitudes and Behaviors and Grade School Children's Academic Achievements. Journal of Genetic Psychology, 1964, 104, 53-66.

Dalton, William B. The Relations Between Classroom Interaction and Teacher Ratings of Pupils: An Exploration of One Means by Which a Teacher May Communicate Her Expectancies. Peabody Papers in Human Development. George Peabody College for Teachers, Nashville, Tennessee, Edited version of a paper presented at the annual meeting of the Southeastern Psychological Assn., New Orleans, La., Feb. 27, 1969, ERIC ED 036 468.

Dave, R.H. The Identification and Measurement of Educational Process Variables That Are Related to Educational Achievement. Unpublished Ph.D. dissertation, University of Chicago, 1963.

Drews, Elizabeth M. and Teahan, J.E. Parental Attitudes and Academic Achievement. Journal of Clinical Psychology, 1957, 13, pp.328-32.

Flavell, John H. The Developmental Psychology of Jean Piaget. Princeton, New Jersey: D. Van Nostrand Co., Inc., 1963.

Fleming, Elyse S. and Anttonen, Ralph G. Teacher Expectancy or My Fair Lady. American Educational Research Journal, 1971, 8, pp.241-53.

Flowers, Charles E. Effects of an Arbitrary Accelerated Group Placement on the Tested Academic Achievement of Educationally Disadvantaged Students. Dissertation Abstracts, 1966, 27-4A, p.991.

Fowler, William. The Effect of Early Stimulation in the Emergence of Cognitive Processes. Early Education. Edited by Robert D. Hess and Roberta Meyer Bear. Chicago, Illinois: Aldine Publishing Co., 1968.

Freeburg, N.E. and Payne, D.T. Parental Influence on Cognitive Development in Early Childhood. Child Development, 1967, 38, pp.65-87.

Gesell, A. First Five Years of Life. New York: Harper and Row, 1940.

Hart, I. Maternal Childrearing Practices and Authoritarian Ideology. Journal of Abnormal and Social Psychology, 1957, 55, 232-7.

Hess, Robert D. and Shipman, Virginia C. Early Experience and the Socialization of Cognitive Modes in Children. Child Development, 1965, 36, pp.869-86.

Hess, Robert D. Cognitive Elements in Maternal Behavior. Minnesota Symposium on Child Psychology, 1. Minneapolis: University of Minnesota Press, 1967.

Hess, Robert D. and Shipman, Virginia C. Maternal Influences upon Early Learning: The Cognitive Environments of Urban Pre-School Children. Early Education. Edited by Robert D. Hess and Roberta Meyer Bear. Chicago, Illinois: Aldine Publishing Co., 1968.

Hess, Robert. Parental Behavior and Children's School Achievement: Implications for Head Start. Proceedings of the Head Start Research Seminars: Seminar No.5, Intervention in Family Life (1st, Washington, D.C., January 13, 1969.) Educational Testing Service, Princeton, New Jersey, Report to Office of Economic Opportunity, Washington, D.C., January 13, 1969, ERIC ED 036 332.

Hoffman, Martin L. An Interview Method for Obtaining Descriptions of Parent-Child Interaction. Merrill-Palmer Quarterly, 1957, 3, pp.76-83.

Hollingshead, A. and Redlick, F.C. Socail Stratification and Psychiatric Disorders. American Sociological Review, 1953, 18, pp.163-9.

Hunt, J. McV. Intelligence and Experience. New York: Ronald Press Co., 1961.

Hurley, John R. Maternal Attitudes and Children's Intelligence. Journal of Clinical Psychology, 1959, 15, pp.291-2.

Hurley, John R. Parental Malevolence and Children's Intelligence. Journal of Consulting Psychology, 1967, 31, pp.199-204.

Jose, Jean and Cody, John L. Teacher-Pupil Interaction as It Relates to Attempted Changes in Teacher Expectancy of Academic Ability and Achievement. American Educational Research Journal, 1971, 8, pp.39-51.

Kahl, J.A. Educational and Occupational Aspirations of "Common Man" Boys. Harvard Educational Review, 1953, 23, 186-203.

Kahn, M.L. Social Class and Parent Values. American Journal of Sociology, 1959, 64, pp.337-51.

Kahn, M.L. Social Class and Parent-Child Relationships. American Journal of Sociology, 1963, 68, pp.471-80.

Kates, Solis L. and Diab, L.N. Authoritarian Ideology and Attitudes on Parent-Child Relationships. Journal of Abnormal and Social Psychology, 1955, 51, pp.13-16.

Kester, Scott Woodrow. Communication of Teacher Expectations and Their Effects on Achievement and Attitudes of Secondary School Pupils. Dissertation Abstracts, 1969, 30-4A, pp. 1434-5.

Kohlberg, Lawrence. Early Education: A Cognitive-Developmental View. Child Development, 1968, 39, pp. 1013-62.

Levenstein, Phyllis. Cognitive Growth in Low Income Pre-School Children Through Stimulation by Verbally Oriented Play Activity in Mother-Child Dyads. Dissertation Abstracts, 1969, 30-4B, p.1886.

Levinson, Daniel J. and Huffman, Phyllis E. Traditional Family Ideology. Journal of Personality, 1955, 23, pp. 251-73.

Loevinger, Jane and Sweet, Blanche. Construction of a Test of Mothers' Attitudes. Parental Attitudes and Child Behavior. Edited by John C. Glidewell. Springfield, Illinois: Charles C. Thomas, 1961.

McClelland, David C.; Atkinson, J.W.; Clark, R.A.; and Lowell, E.L. The Achievement Motive. New York: Appleton-Century-Crofts, 1953.

Milner, Esther. Relationship Between Reading Readiness in Grade One Schoolchildren and Patterns of Parent-Child Interaction. Child Development, 1951, 22, pp. 95-122.

Nakamura, Charles Y. and Rogers, Mary M. Parental Expectation of Autonomous Behavior and Children's Autonomy. Developmental Psychology, 1969, 5, pp.613-17.

Olim, E.G.; Hess, R.D.; and Shipman, V.C. Role of Mothers' Language Styles in Mediating Their Pre-School Children's Cognitive Development. School Review, 1967, 75, pp.414-24.

Orne, Martin T. On the Social Psychology of the Psychological Experiment: with Particular Reference to Demand Characteristics and Their Implications. American Psychologist, 1962, 17, pp.776-83.

Pines, Maya. Why Some Three-Year Olds Get A's--and Some Get C's. New York Times Magazine. July 6, 1969.

Radin, Norma and Weikart, David. Cognitive Home Environment Scale. Gale Preschool Program: Final Report. Norma Radin and Hanne Sonquist. Ypsilanti, Michigan: unpublished report, March 12, 1968.

Radin, Norma. Childrearing Antecedents of Cognitive Development in Lower Class Preschool Children. Unpublished Ph.D. dissertation, University of Michigan, 1969.

Radke, Marian J. Relationship of Parental Authority to Children's Behavior and Attitudes. Minneapolis: University of Minnesota Press, 1946.

Rice, Dale. Maternal Control and Cognitive Development: A Replication. Unpublished Ph. D. dissertation, University of Michigan, 1970.

Rist, Ray C. Student Social Class and Teacher Expectations: The Self-Fulfilling Prophecy in Ghetto Education. Harvard Educational Review, 1970, 40, pp.411-52.

Robinson, Halbert B. and Robinson, Nancy M. The Problem of Timing in Pre-School Education. Early Education. Edited by Robert D. Hess and Roberta Meyer Bear. Chicago: Aldine Publishing Co., 1968.

Rosen, Bernard C. The Achievement Syndrome: A Psycho-cultural Dimension of Social Stratification. American Sociological Review, 1956, 21, pp.203-11.

Rosen, Bernard C. and D'Andrade, R. The Psycho-social Origins of Achievement Motivation. Sociometry, 1959, 22, pp.185-218.

Rosenthal, Robert. Experimenter Effects in Behavioral Research. New York: Appleton-Century-Crofts, 1966 a.

Rosenthal, Robert; Kohn, P.; Greenfield, P.; and Carota, N. Data Desirability, Experimenter Expectancy, and Results of Psychology Research. Journal of Personality and Social Psychology, 1966b, 3, pp.20-27.

Rosenthal, Robert. Covert Communication in the Psychological Experiment. Psychological Bulletin, 1967, 67, pp.356-67.

Rosenthal, Robert and Jacobson, Lenore. Pygmalion in the Classroom: Teacher Expectation and Pupils' Intellectual Development. New York: Holt, Rinehart, and Winston, Inc., 1968.

Schaefer, E.S. and Bell, R.Q. Development of a Parental Attitude Research Inventory. Child Development, 1958, 29, pp.339-61.

Schaefer, Earl S. Item Locations for Sample 23 Scale 5-Item Questionaire (Form IV). HEW, Chevy Chase, Maryland, undated. (Mimeographed.)

Schultz, Charles B. and Aurbach, Herbert A. The Usefulness of Cumulative Deprivation as an Explanation of Educational Deficiencies. Merrill-Palmer Quarterly, 1971, 17, pp.27-39.

Shaw, M.C. Note on Parental Attitudes toward Independence Training and Academic Achievement of Children. Journal of Educational Psychology, 1964, 55, pp. 371-4.

Skinner, B.F. The Behavior of Organisms. New York: Appleton-Century-Crofts, 1938.

Strodtbeck, Fred L. Family Interaction, Values, and Achievement. Talent and Society. Edited by D.C. McClelland, A.L. Baldwin, U. Bronfenbrenner, and F.L. Strodtbeck, Princeton, New Jersey: D. Van Nostrand and Co., Inc., 1958.

Strodtbeck, Fred L. The Hidden Curriculum of the Middle-Class Home. Education of the Disadvantaged. Edited by A. Harry Passow, Miriam Goldberg, and Abraham J. Tannenbaum. New York: Holt, Rinehart, and Winston, Inc., 1967.

Thorndike, Robert. Review of Pygmalion in the Classroom by Robert Rosenthal and Lenore Jacobsen. American Educational Research Journal, 1968, 5, pp.708-11.

Turknett, Carolyn N. The Sociology of Early Childhood Education: A Review of Literature. Technical Report No. 1. Georgia University, Athens. Research and Development Center in Educational Stimulation. Report to Office of Education (DHEW), Washington, D.C. Bureau of Research, June, 1969, ERIC ED 032 944.

Watson, Goodwin. Some Personality Differences in Children Related to Strict or Permissive Parental Discipline. Human Development: Selected Readings. Edited by Haimowitz, Morris L. and Haimowitz, N.R. New York: Thomas Y. Crowell Co, 1960.

Watson, John B. Psychological Care of the Infant and Child. New York: W.W. Norton and Co., 1928.

Weller, Jack. Yesterday's People: Life in Contemporary Appalachia. Lexington, Kentucky: University of Kentucky Press, 1965.

White, Burton L. Informal Education During the First Months of Life. Early Education. Edited by Robert D. Hess and Roberta Meyer Bear. Chicago: Aldine Publishing Co., 1968.

Whiteman, Martin and Deutsch, Martin. Social Disadvantage as Related to Intellective and Language Development. Social Class, Race, and Psychological Development. Edited by Martin Deutsch, I. Katz, and A.R. Jensen. New York: Holt, Rinehart, and Winston, 1968.

Wingo, G. Max, The Philosophy of American Education. New York: D.C. Heath and Co., 1965.

Winterbottom, Marian R. The Relation of Need for Achievement to Learning Experiences in Independence and Mastery. Motives in Fantasy, Action, and Society. Edited by John W. Atkinson. Princeton, New Jersey: D. Van Nostrand Co., Inc., 1958.

Wolf, R.D. The Identification and Measurement of Environmental Process Variables. Unpublished Ph.D. dissertation, University of Chicago, 1964.

Yarrow, L.J. Research in Dimensions of Early Maternal Care. Merrill-Palmer Quarterly, 1963, 9, pp.101-14.

Zigler, E. and Butterfield, E.C. Motivational Aspects of Changes in IQ Test Performance of Culturally Deprived Nursery School Children. Child Development, 1958, 39, pp.1-14.

Zuckerman, Marvin and Oltean, Mary. Some Relationships Between Maternal Attitude Factors and Authoritarianism, Personality Needs, Psychopathology, and Self-Acceptance. Child Development, 1959, 30, pp.27-36.