VISUAL-MOTOR BEHAVIOR OF PRE-SCHOOL CHILDREN AND TWO RELATED VARIABLES: MATERNAL ATTITUDES TOWARD CHILD-REARING PRACTICES AND CHILDREN'S SOCIAL BEHAVIOR

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ABSTRACT

VISUAL-MOTOR BEHAVIOR OF PRE-SCHOOL CHILDREN AND TWO RELATED VARIABLES: MATERNAL ATTITUDES TOWARD CHILD-REARING PRACTICES AND CHILDREN'S SOCIAL BEHAVIOR

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The purpose of this study was to examine the relationship of two interrelated aspects of high and low visual-motor behavior: (1) maternal attitudes toward child-rearing practices; (2) children's social behavior as rated by teachers.

The subjects were 45 mothers of children enrolled in a university laboratory pre-school, and their pre-school child. The mother sample consisted of Caucasian, student wives with a mean age of 28.4 years averaging 14.8 years of education. The children (27 boys and 18 girls) had a mean age of 57.6 months. The children were considered by their teachers to have no unusual developmental problems.

The research instruments were the Parent Attitude Research Instrument, the Children's Behavior Check List, and the Developmental Test of Visual Perception. Correlational analysis and the t-test were the statistical techniques used.

Three major questions were explored:

1. What is the relationship between the attitude structure of mothers who have children with high and low visual-motor behavior?

2. What is the relationship between the structure of social behavior of children with high and low visual-motor behavior?

3. What is the relationship between the attitude structure of mothers who have children with high and low ratings in social behavior?

The major findings may be summarized as follows:

1. Disagreement with Seclusion of the Mother, Martyrdom, Suppression of Aggression, Inconsiderateness of the Husband, and Dependency of the Mother scales was associated with high Eye-Motor perception; agreement with low.

2. Disagreement with the Rejection of the Homemaker Role, and Dependency of the Mother scales was related to high Figure Ground perception; agreement with low.

3. Agreement with Encouraging Verbalization and disagreement with Marital Conflict, Suppression of Aggression, and Dependency of the Mother scales was associated with high Form Constancy perception; disagreement with Encouraging Verbalization and agreement with the other three scales was associated with low.

4. Agreement with Encouraging Verbalization and disagreement with Irritability, Rejection of the Homemaker Role, and Dependency of the Mother was associated with High Form

Constancy; disagreement with Encouraging Verbalization and agreement with the other three scales was associated with low.

5. Agreement with Equalitarianism was associated with high Spatial Relations perception; disagreement with low.

6. Agreement with Equalitarianism and disagreement with Dependency of the Mother scales was associated with high Perceptual Quotient; disagreement with Equalitarianism and agreement with Dependency of the Mother with low.

7. High ratings in Lack of Leadership versus Social Ascendence, Lack of Personal Appeal versus Personal Attractiveness, Non-dependability versus Dependability were associated with high Figure Ground perception; low ratings with low Figure Ground perception.

8. High ratings in Lack of Leadership versus Social Ascendence, Social Ineptitude versus Social Effectiveness, and Non-dependability versus Dependability were associated with high Spatial Relations perception; low ratings with low Spatial Relations perception.

9. High ratings in Social Ineptitude versus Social Effectiveness and Lack of Persnal Appeal versus Personal Attractiveness were associated with high Perceptual Quotient; low ratings with low Perceptual Quotient.

10. Disagreement with Fostering Dependency and Deification were associated with high ratings in Lack of Leadership versus Social Ascendence; agreement with low ratings.

11. Disagreement with Strictness was associated with a high rating in Irresponsible Compulsiveness versus Personal Responsibility; agreement with low ratings.

12. Disagreement with Excluding Outside Influences, Deification, Ascendence of the Mother, and Dependency of the Mother was associated with a high rating in Need for Presence and Support of Others versus Introspective Self-Sufficiency; agreement with a low rating.

13. Disagreement with Dependency of the Mother was associated with Lack of Personal Appeal versus Personal Attractiveness; agreement with a low rating.

14. Disagreement with Approval of Activity and Acceleration of Development were associated with a high rating in Emotional Instability versus Personal Security; agreement with a low rating.

15. Disagreement with Intrusiveness was associated with a high rating in Non-dependability versus Dependability; agreement with a low rating.

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CHAPTER I

THE PROBLEM

General

Each year a significant number of children enter school not ready for the learning tasks to be presented them.

> Most of the learning experiences which the public school presents to the child are oriented toward symbolic materials. Visually, we present words, diagrams, and similar representations on a printed page. Verbally, we manipulate conceptual items and deal in intricate, logical sequences. Underlying such presentations is a fundamental assumption: that the child has established an adequate orientation to the basic realities of the universe--space and time. It is well known that ability to deal with symbolic and conceptual materials is based upon consistent and veridical perceptions of the environment. Numerous normative studies have indicated that the child, under normal conditions, has established a stable world by the age of six years when he comes to us in the public schools. Therefore, our fundamental assumption is legitimate.
>
> However, in a significant percentage of children, accidnets occur during the developmental period. The accident may be any one of a large number of events. Its effect is to interfere with the establishment of a stable perceptual-motor world. Many children come into our school system lacking the fundamental assumptions which underlie so much of the material which we present (Kephart, 1964, p. 201).

Several studies reported by Frostig indicate that from 25 to 36 per cent of beginning kindergarten children score below the normal range on the Developmental Test of

Visual Perception (Frostig and Horne, 1964). Low visual-motor scores are associated with a variety of learning and behavioral problems including: learning disabilities, reading disabilities, mental retardation, emotional disturbance, social maladjustment, slow learning, and brain injury.

Koppitz (1964) reported that evaluation of the young child's visual-motor development using the Bender-Gestalt test can be effective in predicting school success during the first three grades, and that it offers a short, efficient school readiness test. It was found that a poor Bender score in beginning school children may reflect either a delayed rate of development in the visual-motor perception or a malfunctioning or retardation in visual-motor processes. Children with a slow but normal rate of development will most likely mature sufficiently in visual-motor perception during the course of the school year to do well despite the poor initial Bender score. Children with visual-motor dysfunctions will continue to have a low Bender score, and their slow progress in maturation will be reflected in poor achievement (Koppitz, 1964). Many children show increased maturation in visual-motor perception between the ages of 6 and 7 years. There is wide variation in individual differences in rate of maturation at this time. Maturation for some children is a gradual process, while for others, it comes about suddenly and rapidly.

Many of the children with learning or behavioral problems have damage to the central nervous system related to harmful events during pregnancy and parturition. Some of the factors relate to certain maternal diseases, diseases directly attacking the developing fetus, lack of adequate prenatal care, prolonged labor, excessive uses of certain drugs and medications at critical periods, improper nutritional level of the mother, lack of diet supplements during pregnancy, maternal-fetal blood type incompatibility, radiation, maternal age, heavy maternal work, and severe chronic stress upon the mother during pregnancy (Knoblock and Pasamanich, 1966). Pasamanich, Knoblock, and Lilenfield (1956) found influences of reproductive causality in five percent of the white upper economic fifth, in the white lower fifth, 15 percent, and in non-whites, 50.6 percent. Implications from this research are that the major work in this area will be done by medical programs requiring massive public education involving changes in health patterns of a large number of people, especially in the marginal working class.

Researchers in general medicine, psychology, child development, special education, neurology, psychiatry, and education have been interested in perceptual problems in young children for a number of years. Descriptions have often been in terms of characteristics that the child does not possess: learning problems not due to mental retardation, deafness, motor impairment, blindness, or faulty instruction.

> The children who do have special learning disabilities might be described by some clinicians as educationally handicapped, minimally brain damaged, emotionally disturbed, neurologically disturbed, dysgraphic, aphasic, interjacent, or word blind . . . (Bateman, 1964, p. 167).

Cruickshank (1967, p. 2) states: "More than forty terms appear in the professional literature, each slightly different from the other, all pertaining essentially to the same group of children." Much disagreement exists regarding etiology, definition, incidence, and treatment of special learning disabilities.

The seeming confusion in the literature can be partially explained by the number of disciplines interested in children having actual or "functional" lesions. Each approaches the child from a special vantage point. Each conceptualizes that interest from its own special disciplined point-of-view.

Early interest in these problems began with medicine. The emphasis was on medical etiology explaining pathology in terms of hereditary or cerebral-pathology correlates. Usually these approaches were couched in terms of factors such as: brain damage, cortical inhibition, hemispheric dominance, cerebral plasticity, and synaptic connections. This meant that the Special Educators received very little information from the diagnosis that would aid in planning classroom procedures. However, children who are neurologically impaired are coming to school, and educators are faced with the dilemna of what

to do with children who have, for a number of years, been socialized in a culture that expects them to perform like their "normal" age mates.

Little developmental data on brain-injured children exists (Cruickshank, 1967). There is a need to determine how the socializing influences affect the development of neurologically impaired children. These children do not develop in a vacuum; they are socialized like other children into behavior patterns. They may have suffered a developmental accident, but their behavior is also affected by socialization influences.

Increased communication among the complex of disciplines interested in children with learning disorders and behavioral problems has also led to the confusion. Many Special Educators have dealt with this seeming confusion in etiology, definition and treatment by holding to the notion that the Special Educator must begin with the child in the classroom, planning remediation programs based on the child's present behavior rather than offering differential treatment based on medical etiology. Bateman (1964) calls this a symptomatic or behavioral approach. Much of the current work is being directed at the development of procedures that will ameliorate the disability, centering in the development of diagnostic procedures and remedial practices in each of the areas of reading, communication, and visual-motor problems (Bateman, 1964, 1966).

The establishment of a brain-injury diagnosis appears to be a thorny issue facing diagnosticians. Taking a somewhat pragmatic view: Does it matter to the Special Educator whether a child is actually brain-injured or possesses a "functional" lesion? Are there ways of conceptualizing the child's behavior in terms more amenable to education that open the closed-door of medical diagnosis of brain-injury? Perhaps, as Bateman (1964) has suggested, educational diagnosis and remediation are better couched in terms of reading, communication, and visual-motor problems.

Adding to the confusion is a lack by researchers in theory building. Much of the literature is based on clinical findings and practices of established workers over a long period of time, or too narrowly conceived in learning theory. Factors influencing the child's behavior have primarily been confined to physical causes. Finding medical etiology of little use has led some workers to assume etiology generally to be of little value. There is a need for a more comprehensive theory of behavior that explains deviations in the normal development of visual-motor processes. To assert that children exhibiting learning or behavioral problems and possessing "brain-injury" signs all have physical damage will restrict the discovery of other important influences.

A number of researchers have demonstrated that visual-motor perception is part maturational and part

learned (Kephart, 1960, 1964) (Koppitz, 1964) (Russell, 1956) (Solley and Murphy, 1960). Deviations from normal development are explained by: (1) the role of cerebral dominance; (2) the lack of cerebral dominance; (3) brain damage; (4) environmental, instructional, emotional, and motivational factors; (5) maturational lag (Bateman, 1966). Some workers have suggested what Bateman (1964, p. 170) calls "intriguing relationships between personality and visual-motor functioning." Some disturbances in visual-motor behavior may be related to environmental influences other than those associated with neurological complications (Frostig and Horne, 1964) (Witkin et al., 1962) (Koppitz, 1964).

The relationship between maturation and learning is a long standing classical problem in child development (Ausebel, 1958). Maturation refers to internal growth processes of ". . . moving toward an unfolding of the potential of the human organism--a ripening of the physical equipment coupled with a change in the organizma capacity to perform. . ." whereas learning refers to modifications of behavior as a result of experience (McNeil, 1966, p. 18). Perceptual development can not be understood in terms of maturation and learning alone. Or, perhaps better stated, there is a kind of learning that seems to permanently alter the individual. This one-instant learning, imprinting, occurs during critical periods of development.

Factors influencing both maturation and learning as well as imprinting are important considerations in understanding perceptual functioning (Solley and Murphy, 1966). Maturational lag is seen as a major factor in low visual-motor functioning (Frostig and Horne, 1964) (Koppitz, 1964) (Bateman, 1966). Consideration of the learned aspects of visual-motor functioning are enormous. The environmental influences beginning with the mother-child relationship centering in family life to the influences of the teacher and the school are all socializing forces that shape and modify the child's behavior.

Does the source or contributing conditions to low educational functioning matter in the classroom? Does it matter that the child's low performance is the result of a developmental accident, a single event; or that the child has always been difficult from birth, having a long history of strained interpersonal relationships; or that no single event can be found but that the family has a heavy loading of psychopathological traits? Does the source and/or the contributing factors to learning problems determine how much change in the child's behavior at a given time is possible?

Theoretical and Empirical Considerations

The theoretical and empirical aspects of this research are rooted in the Perceptual-phenomenological Approach developed by Combs and others (Combs and Snygg,

1949, 1959) (Combs, 1962) (Rogers, 1962) (Maslow, 1962) (Kelly, 1962); Kephart's (1960, 1964) work in establishing the sensory-motor basis of form perception; Solley and Murphy's (1960) efforts to draw together a theory of the development of perception; Medinnus and other's (Medinnus, 1967) (Handel, 1967) (Yarrow et al., 1966) (Gordon, 1967) (Schaefer and Bell, 1955, 1958) examination of the psychology of parent-child relations; and Nye and Berardo's (1966) presentation of conceptual frameworks in family analysis.

The Perceptual-phenomenological Approach

The Perceptual theorists have developed an approach to understanding human behavior in terms of the person's perceptual field. Stated briefly:

> People behave in a manner consistent with their beliefs about reality. These beliefs, or perceptions, are influenced by several factors including: needs, values, physiological condition, threat, opportunity, and concept of self and other people. At the instant of action we are presented with choices. What we do when we behave is dependent on the basic drive--the need to maintain or to enhance self organization. People are capable of self-actualization, and given sufficient freedom move in the direction of self-realization.
>
> Of the factors which influence perception, the most important are our beliefs about ourselves and other people. These concepts are learned in interaction with other people and significantly influence our behavior toward them (Bills, 1955, p. 29).

From this theoretical position human behavior is seen as learned in an interpersonal environment. Behavior can be

conceptualized in terms of a belief system that is influenced by the interaction among needs-satisfaction, value structure, physical condition, reaction to threat, opportunity to experience the environment, and the self-concept. A person chooses to act in a manner that will maintain or enhance self-organization. The self-concept developed by internalizing the expectations of significant others becomes a structure that gives stability and consistency to behavior.

The Development of Form Perception

Form perception develops from a vague, ill defined mass called by Werner (Werner and Strauss, 1939) "globular" form. "What the child sees when he looks out in the world is probably nothing more than a series of ill defined blobs having no qualities in and of themselves except their extension and intensity." (Kephart, 1960, p. 72) Solley and Murphy (1960) content that the child has the innate ability to perceive the environment but does not yet have specific meaning attached to the perceptions. The child begins organizing the blobs when some of them begin acting in a characteristic and predictable manner. If the child expresses discomfort by crying, certain blobs respond, some do not, and the child begins to differentiate the elements. The child uses "signal qualities" for recognition. At first the element or elements used as signals for recognition are not held together in an integrated fashion. They

may be any feature of the blob: dark or light spots, changes in contour, or protuberences. The child differentiates one element after another until a large number of elements characterize a particular form. This process of recognition does not occur suddenly but is a gradual process extending into adult life.

As the child learns to put the details of the elements together, he differentiates out of the globular mass into a new organization: "integrated" or "constructive" form (Strauss and Lehtinen, 1947) (Strauss and Kephart, 1955). Constructive form is the integration into a coordinated unit of the mass of details that give a new quality characteristic to a particular form. It is this uniqueness of a set of elements and their interrelationship from which form emerges. "Although the globular form characteristic of the initial stage of perception is innate the constructive form characteristics of the final stage must be learned" (Kephart, 1960, p. 76).

The Sensory-motor Basis for Form Perception

"The development of adequate form perception depends upon the adequate learning of basic sensory-motor skills . . ." (Kephart, 1960, p. 87). The child's first attempts to organize the environment grow from motor learning. First, he learns specific motor responses to acquire certain ends. The development of these motor skills demands

the child's attention; before these skills are generalized into motor patterns, little environmental interaction occurs. As the child becomes proficient in building motor patterns, his attention can be shifted to exploring the environment. Kephart (1964) maintains that four motor patterns appear significant to the field of education: balance and maintenance of posture, locomotion, contact, and receipt and propulsion.

Spatial relationships emerge from an internal sense of direction; up and down, left and right. A child develops a sense of laterality as he learns relationships with gravity (balance and posture), and begins investigating the environment by moving his body through space (locomotion), manipulating objects through reaching, grasping, and releasing (contact), and by moving objects through space (receipt and propulsion). When the child comes to feel a movement is to his left or right internally, he then can transfer the relationships to outside objects. As external direction develops (directionality) he can begin to explore the environment perceptually. He now can acquire data from the environment through perception alone.

Perceptual information must match motor data if a stable world is to develop. The process of perceptual-motor matching begins with the child comparing incoming motor information with perceptual observations. The child comes to "see" up and down as he had learned to "feel" up and down.

Control over eye movements is one of the child's first major tasks. Muscular control of the direction that the eyes are pointing allows the child to visually explore an object as he once explored it with his hands. Manipulation of the eyes presents two problems: the child must learn patterns of movement in the extraocular muscles, and he must learn to manipulate the eye in terms of incoming information. Gaining control over the extraocular muscles at first is a motor skill task requiring most of the child's attention. As the motor skills shift to integrated patterns, his eyes become capable of gathering information. By many experiments the child matches visual information with the more stable motor data. When the perceptual-motor match is adequate he can drop the motor step thus gaining new control over the exploration of the environment. "Now all information--motor or perceptual, sensory input or motor response--is a part of a stable overall system which gives consistent information wherever it is tapped" (Kephart, 1964, p. 205).

The child's relationship to time must also be generalized and systematized. Three aspects of time are important to education: synchrony, rhythm, and sequence (Kephart, 1964). Stable time perception also develops from the child's motor activity. Synchrony, muscles moving together, establishes a point of origin in time. The child experiences rhythm when muscles move alternately and

recurrently. Sequence emerges from movement in coordinated patterns. The temporal-motor system is at first internal being projected to external objects as was the visual-motor system. As auditory rhythm develops speech becomes rhythmical. The eyes can move across the printed page maintaining a temporal relationship leading to logical reason organized in time.

As these two systems become adequate the child can translate information from one to the other thus being able to do tasks that require coordinated activities in space and time. Perceptual input can be manipulated in spatial and temporal dimensions allowing the child to complete a series of directional movements one at a time.

The Perceptual Act

"Perception is . . . an inferred process . . . unobservable except in a phenomenological sense" (Solley and Murphy, 1960, p. 16). Only the perceiver can observe his own percept. Several conditions are necessary to infer perception: (1) a physical stimulus must be present and excite sense receptors; (2) continuous presence of a stimulus insuring the possibility that perception has taken place; (3) some overt response must be made that is not when the stimulus is absent; (4) if an inference is valid other related perceptual properties may also be inferred.

Kephart (1960 as do Solley and Murphy (1960) conceptualize the psychological and physiological aspects of

the perceptual process as closed input-output system with a feedback control. Figure 1 shows Kephart's (1960, p. 56) formulation, while Figure 2 shows Solley and Murphy's (1960, p. 25). Kephart's representation lends itself to a more general discussion of the perceptual act while Solley and Murphy's diagram is a much more detailed presenting the stages of perception from which research can be conceptualized. Kephart's schema will be used here to develop the physiological aspects of the perceptual process; Solley and Murphy's to develop the psychological aspects.

The Physiology of the Perceptual Act

Kephart (1960, p. 55), in describing the physiological aspects of the perceptual process, states that input can be thought of as "activity in the sensory projection areas of the cerebral cortex." As external stimuli impinge upon the person, receptor cells on the surface of the body are fired sending a pattern of neural impulses to the cortex. In the projection areas of the cortex an analogous pattern of neural impulses is set up. This pattern of electrical impulses constitutes input.

It is generally agreed that the integrative process serves two functions: first, it is concerned with all the input operating at a given moment; second, it involves the effect of past experience. In the integrative phase the

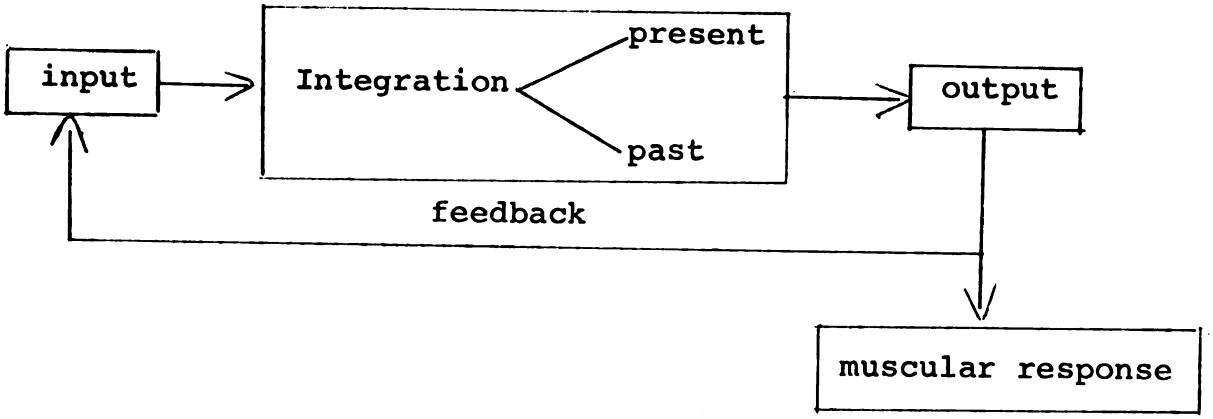

Figure 1.--The perceptual act (Kephart, 1960).

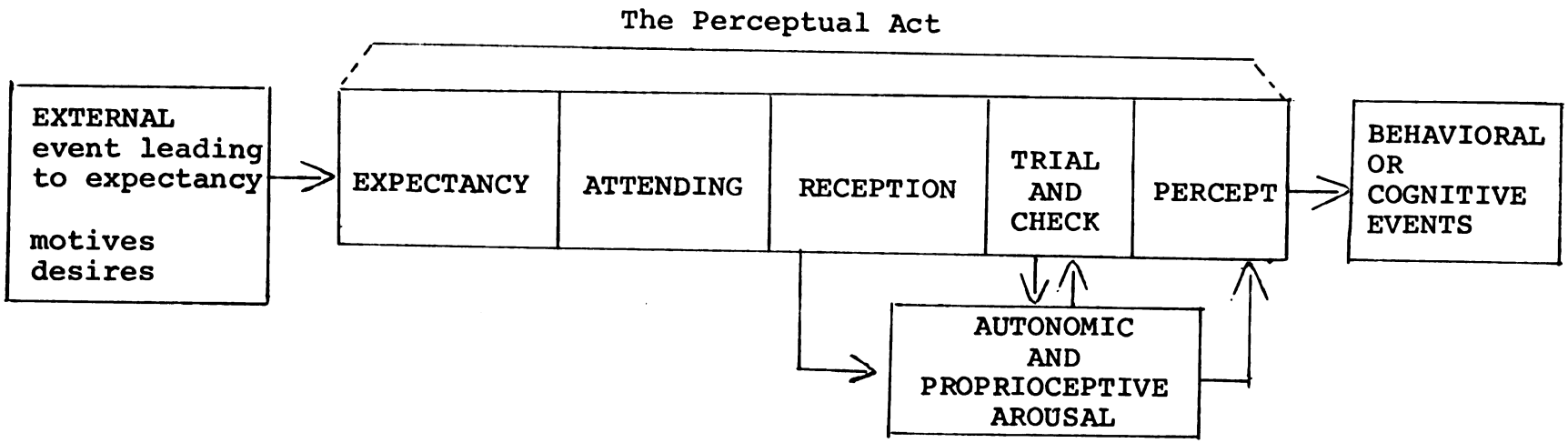

Figure 2.--The perceptual act (Solley and Murphy, 1960).

input pattern is elaborated by the addition of all other stimulation present in the person at a given moment and by the modification of the input pattern by the person's previous experience. As a result of a scanning operation an output pattern is generated in the motor areas of the cortex which will be sent to the muscles and will result in behavior. As the output pattern is sent to the muscles some of the energy re-enters as input. In this way output modifies new input allowing the system to make corrections between new inputs and former outputs.

The Psychology of Perception

Solley and Murphy (1960) conceptualize the perceptual act as an instrumental act that structures stimulation. It is a process composed of a number of interrelated stages: a preparatory stage of expectancy and attending, reception, trial and check, and a structuring stage. Motivation and reinforcement affect perceptual learning. Motivation produces: (1) internal stimulation, (2) emotional-affective responses, and (3) energization. Internal stimuli function as background stimuli and influences perception as does external stimuli. The emotional-affective responses function as competing or complementary stimuli. Reinforcers all seem to elicit stimuli and produce emotional-affective responses. These stop the perceptual act resulting in the reinforcement of the preceding act. Clearly formed percepts also reinforce the previous perceptual act.

In the first stage, the person perceives what he expects to perceive. Expectancy serving to "set" the person prior to actual reception of stimuli is influenced by lingering perceptual traces, the motivational state of the person, and prior experience.

Attending, stage two, occurs the moment before stimulation. At first the child attends to certain native attention-getters, bright lights or loud sounds. By association and conditioning a relatively few are elaborated into thousands. If they are associated with satisfiers an approach reaction tends to occur while those associated with non-satisfiers tend to elicit withdrawal reactions. Attention is directed more and more to significant objects.

Stage three, reception, is contingent upon the nature of the receptor organs, the characteristics of the projection areas of the brain, and the interrelationship between the receptors and projection areas. Perceptual learning takes place within the limits or capabilities set up by the reception-projection organs. The development of these depends on maturation and their function under the impact of experience and growth patterns.

Trial and check, stage four, overlaps somewhat with the reception phase. A measurable timelag between reception and percept characterizes this phase. In this stage, feedback is triggered which allows for the testing of inferences about the environment. Also, trial and check

allows for additional searching for information from the environment, especially when input is inadequate.

The fifth is a consolidation stage. Meaning is realized from the coming together of all effective traces including autonomic, proprioceptive, and other exteroceptive traces. In this stage a percept is formed resulting in behavior or a cognitive event.

Perception, as it has already been pointed out, is more than forming percepts from reception of stimuli from the external environment, or simply a function of the receptor-projection area organs. A number of signals which originate within the person either stabilize or distort adequate percepts. The person is constantly scanning for internal cues. "It is believed that such concepts as set, expectancy, anticipation, conditioning of attention, are pertinent to the act of scanning; in fact, these represent different aspects of the act" (Solley and Murphy, 1960, p. 253). Scanning seeks congruency with the established set, and excludes that which is noncongruent. In a sense the scanning operation overrides accurate percept formation. A person seeking deficiency needs satisfaction will distort reality to "see what he needs to see."

Stability or distortion of the perceptual act also comes about through practice, reward and punishment. Practice and reward have similar effects upon the perceptual act. Practice in perceptual learning is dynamic in that

the percepts in themselves are reinforcers of the perceptual act and that perceptual activity is in itself gratifying. Practice establishes both tentative judgmental frames of reference and stable memory patterns which together with other perceptual data proceed to form conscious percepts. Rewards also reinforce the perceptual act, motivating the person to finer discriminations. Both expectancy and attending are influenced by rewards. Punishment has a more complex effect on perceptual learning. "There is no universal or single effect" (Solley and Murphy, 1960, p. 123). Time, intensity, response possibilities, and individual differences in defensive reaction all produce differences of effects. Punishment that is extreme or prolonged tends to distract the person from the perceptual act focusing attention on the punishment or creates anxiety that weakens the perceptual act. Some punishment produces positive reinforcement.

In summary, the perceptual act can be thought of as a set-input-integration-output system with a feed back override that allows for the effect of past experience. Prior to reception of external stimuli, the person is set to perceive. Because of past perceptual learning, he selectively attends to the external world and to his own internal organization. Expectancy and attending occur prior to reception. With reception a trial and check operation serves to test tentative percepts with memory

and other internal data. By internal scanning, the signals are fed into the system from the autonomic and/or proprioceptive area. These signals function to stabilize or distort the perceptual act. Practice and reward give stability to percept formation while punishment has a more complex effect. Under some conditions punishment reinforces perception; in others causes distortion and escape behavior.

The Interactional Approach to the Study of the Family

"Most research in the parent-child area operates on the assumption that there is a direct and discernible relationship between parent variables (behavior, attitudes, personality) and child behavior and personality variables" (Medinnus, 1967, p. 1). Numerous studies have established that the family is the primary socializing influence on the acquisition of personality characteristics in behavior of preschool children (Hoffman and Hoffman, 1964, 1966) (Mussen, 1963) (Medinnus, 1967) (Sears, Maccoby and Levin, 1957). Out of a family setting, a child comes to school with qualities that many times hinder his capacity to perform learning tasks. What are the characteristics of the child and his family that interfere with the child's capacity to learn? What parental attitudes shape the child's self concept? What characteristics of the child influence the parent's attitude? What is the nature of the parent-child relationship where the impaired child does not

incidentally learn the "cultural" lessons? Does the teacher's perception of the child influence the child's behavior? How do teachers view children with poor visual-motor ability?

In the past four or five years, with the advent of Head Start and other school preparation programs, the child's environmental background and its influence on his school performance has again been brought under question. The child coming to school is not just an individual personality. Self-concept and relationship among peers and teachers are influenced by a number of variables such as: the family's socio-economic status, the density of the family, the education of the parents, the father's occupation, the language of the parents, ordinal position of the child, national background, race and religion, and parental attitudes and behavior (Medinnus, 1967).

An Interactionist views the family as a unity of interacting personalities. The child is born into an ongoing society where he comes to occupy positions to which roles are assigned. The child perceives the norms and role expectations held by other family members for his attitudes and behavior. This conception by the child is either reinforced or challenged by them.

Role-taking is seen as a central process in interaction. The child defines his role expectations in a given situation in terms of a reference group and his own emerging

self-concept. Each person is supported or limited by the pattern of family life that has evolved in its interaction with the larger society.

Research from the Interaction Approach has focused primarily on personality formation in the parental family (Schvaneveldt, 1966). The child observing the roles played within the family by other members incorporates them into his own personality. From this point of view each family member must integrate himself into multiple roles resulting from the communication process.

The assumptions underlying this approach have been listed by Schvaneveldt (1966). They are:

> 1. Man lives in a symbolic as well as physical environment and is stimulated in social situations to act by symbols as well as by physical stimuli (Rose, 1962). One learns nearly all symbols through interaction with other people, specifically members of the family, and therefore most symbols can be thought as common or shared meanings and values.
>
> 2. Through symbols, a man has the capacity to stimulate others in ways other than those in which he himself is stimulated. Role-taking is involved in all communications by means of significant symbols. The individual can imagine, that is, evoke within himself, how the recipient of his communication interprets that which has been transmitted. Man communicates to others in order to evoke meanings and values that he intends to evoke (Rose, 1962).
>
> 3. Man has the capacity to learn huge numbers of meanings and values through symbolic communication. He learns these by interacting with other persons. This is the process of socialization in which the individual learns the cultural and subcultural values and roles which he is to follow (Rose, 1962).
>
> 4. Symbols appear in social-stimulus situations both as isolated entities and as clusters. The role of the person at a given time is guided and directed by

the related meanings stemming from the cluster of symbols. Thus a person is likely to play many roles in the course of a day (Rose, 1962).

5. "Thinking is the process by which possible symbolic solutions and other future courses of action are examined, assessed for their relative advantages and disadvantages in terms of the values of the individual, one of them chosen for action" (Rose, 1962, p. 12). Thinking is a symbolic process because the alternatives the thinker assesses have certain relevant meanings, and the assessment is made in terms of the individual's values. The individual in thinking manipulates his own role in imagining himself in possible situations.

6. Interaction cannot be fully understood by means of external observation. It must be viewed in the context of how the participants define one another in the social-stimulus situation (Hess and Handel, 1952). Foote (1951) states, "Definitions of the situation account for attitudes, not the reverse." Any particular action is formed in the light of the situation in which it takes place.

7. It is assumed that the human being is an actor as well as reactor. That is, the human being does not simply respond to stimuli occurring outside himself (Stryker, 1959). What is a stimulus depends on the activity in which the organism is engaged.

8. "Man must be studied on his own level. The position of symbolic interactionism is anti-reductionist; it argues that valid principles of human social-psychological behavior cannot be derived from . . . the study of non-human forms" (Stryker, 1959, p. 112).

9. The basic unit of observation is interaction. From the process of interaction both the individual and society are derived (Stryker, 1959). The acting individual is the basic autonomous unit in the social setting.

10. The human infant is neither social nor anti-social, but rather asocial. The child possesses potentialities for social development (Stryker, 1959).

11. "Social conduct is most immediately a function of the social milieu" (Hill and Hansen, 1960, p. 309). Individuals act toward social-stimulus situations as they define the situation. Social organizations enter into action only to the extent to which they shape social situations.

12. A final assumption has to do with interrelationships of the parts and the whole.
    (a) The relationship represents more than the sum of the personalities that make it up.
    (b) The dynamics of the two units, individual and group, are appropriate to the one level of organization cannot be imposed upon the other.
    (c) An effect on the one partner in the relationship will always influence the behavior of the other (Ackerman, 1954).

The Interactional Approach relies on naturalistic observations, interviews, or questionnaires for sources of data rather than upon experimentation in controlled settings; it views family relationships in constant flux; and it assumes that all social objects are interpreted by individual family members giving them special meaning (Schvaneveldt, 1966).

Parent Attitude and Child Behavior

In describing the psychological atmosphere of the home, studies of maternal behavior and attitudes reveal two principle dimensions: Love vs. Hostility and Autonomy vs. Control (Schaefer, 1959). Yarrow (1963) found significant correlations betwen infant IQ at six months and ratings of mothers on "stimulus-learning conditions" variables. Medinnus (1967) concluded that the child's cognitive development is affected by parental achievement pressures and intellectual stimulation and may only be slightly correlated with Schaefer's dimensions.

Recognizing that perception and cognition are highly interrelated processes in young children (Solley and Murphy, 1967) and that visual-motor scores are related to school

readiness, school adjustment, success in early grades and indicate a rough IQ estimate (Koppitz, 1966) (Frostig and Horne, 1964), it is hypothesized that both visual-motor behavior and social behavior of preschool children will be related to maternal attitudes toward child rearing practices and family life. Low visual-motor scores will be associated with maternal attitudes that are oriented toward constricting and limiting the child from freely exploring the physical, interpersonal, and ideation aspects of the environment while high visual-motor scores will be related to maternal attitudes that encourage the child to interact fully and freely with the environment within the context of parental approval with minimal reliance upon techniques of coercive control (definition of maternal acceptance and rejection: Hurley, 1965). Below average ratings of the child's social behavior by teachers also will be related to maternal attitudes that are rejecting while above average ratings will be associated with the accepting dimensions.

Hurley (1965) found a substantial inverse relationship between parental acceptance-rejection variables and IQ scores of third grade children. From the Berkeley Growth Studies data, Bayley and Schaefer (1960) reported that for both young boys and girls behavior characterized as friendly, cooperative, attentive, and facile tend to be related to high maternal scores in autonomy, positive

evaluation, equalitarian treatment, and expression of affection. However, by eight years old girls showed a reverse shift in some factors. In a study of first graders and their parents, Medinnus (1961) found that mothers of well-adjusted children scored high on scales measuring approval of activity, irritability and dependancy of the mother, and low on fear of harming the baby. Scales measuring general babying, child centeredness of the home, general protectiveness, restrictiveness of regulation, and acceleration attempts also distinguished the two groups with the mothers of well-adjusted children scoring high. Medinnus (1961, p. 204) interpreted the results ". . . as indicating that the lower ratings of the home of the poorly adjusted children on several dependency-encouraging variables reflect parental rejection which was a causal factor in the children's poor adjustment to the demands of the first grade situation." Bing (1963) reported that democratic homes, maternal acceleration, and a warm positive family atmosphere increase the rate of growth of children's intelligence, especially verbal ability. She also cited evidence that suggests certain conditions favor a discrepancy in the development of verbal ability and non-verbal skills like numerical and spatial ability. Growth restricting child rearing practices such as parental overlimitation and excessive control, maternal overprotection, emphasis on verbal accomplishment and demanding discipline with emphasis

on academic achievement contribute to discrepant verbal-non-verbal abilities. Overanxious discipline and tense parent-child relationships may also be responsible for low spatial ability in young children. In a longitudinal study (Klatskin et al., 1956) relating maternal child care practices and young children's social behavior, relationships between rigid and overpermissive maternal attitudes and child problem behavior in sleep, feeding, toileting, and socialization were noted. Difficulties arising in the child's second and third year in feeding and socialization were related to rigid maternal practices. Problems in toileting were present in the child's second and third years when mothers were either rigid or overpermissive. Sleep problems occurred in each of the first three years related to overpermissive maternal practices.

In summary, an attempt was made in this first chapter to establish a need for a more comprehensive theory of behavior that explains deviations from normal development of visual-motor processes. Literature was presented that suggested a general theory of perceptual development as well as empirical findings that extend a view of perceptual functioning beyond a physical causation model. It was argued that the perceptual act has several stages prior to reception of stimuli that are social-psychological in nature which "set" the person to receive. Further, this "set" is learned partially in the context of the family.

CHAPTER II

PROCEDURES

The purpose of this research was to examine the relationship of two aspects of high and low visual-motor functioning of nursery school children: (1) the structure of maternal attitudes toward child-rearing and family life; (2) the child's social behavior as rated by teachers.

Questions

The two major concerns for this research centered around the following:

1. What is the relationship between visual-motor behavior of pre-school children and maternal attitudes toward child-rearing and family life?
2. What is the relationship between visual-motor and social behavior of pre-school children?

The questions derived from these concerns are:

Question 1: Is there a significant difference between the attitude structure of mothers who have children with high and low visual-motor behavior?

Question 2: How does the attitude structure of mothers who have children with high and low visual-motor behavior differ?

Question 3: Is there a significant difference between the structure of social behavior of children with high and low visual-motor behavior?

Question 4: How does the structure of the social behavior of children with high and low visual-motor behavior differ?

Operational Definitions

The operational definitions for this study were:

1. Visual-motor behavior is defined as the child's responses to the Frostig Developmental Test of Visual Perception.
   a. High visual-motor behavior is defined as scoring a perceptual quotient of 90 or above.
   b. Low visual-motor behavior is defined as scoring a perceptual quotient of 89 or below.
2. Maternal attitudes toward child-rearing practices and family life are defined as the mother's responses to the Parent Attitude Research Instrument. Responses are expressed as subscale scores defined as structure of attitudes.
3. Social behavior is defined as the ratings by teachers of the child on the Children's Behavior Check List. Ratings are expressed as subscales defined as the structure of social behavior.
   a. High ratings in social behavior is defined as scoring 6 or above on the Social Behavior Profile.
   b. Low ratings in social behavior is defined as scoring 5 or below on the Social Behavior Profile.

Design

Selection of Sample

Data for this study were collected from children enrolled in Spartan Nursery School on Michigan State University campus, and their mothers. Spartan Nursery School is a cooperative nursery school administered by the Family and Child Sciences Department of the College of Human Ecology as part of a teaching and research program.

Criteria for the selection of the mother sample were derived from Schaeffer and Bell's (1958) findings that responses to the Parent Attitude Research Instrument were effected by the age of the mother, the educational level of the mother and the socio-economic class of the family. To control for the above variables the criteria were established that: (1) families must be in the early stages of the family life cycle; (2) one or both parents must be a student; and (3) the mothers must be willing to complete the questionnaires. The criteria for selecting the child sample were: (1) pre-school children of the mother sample; (2) the child must be at least 4.0 years of age at the beginning of the research and not older than 5.9 years; (3) the child must have attended only Spartan Nursery School; and (4) the child must be considered "normal" by the teacher.

Each teacher was asked, "Which children in your group do you consider to have unusual motor, behavior, or

speech problems?" The mothers of the "problem-free" children were contacted by mail followed by a telephone call to seek participation in the study. The intent was to select a sample that was relatively homogeneous in age and educational level of the mother, socio-economic background of the family with the children having no unusual physical or emotional problems. Forty-five mother-child pairs met the criteria for inclusion in the sample (see Tables 1 and 2).

TABLE 1.--Chronological age and educational level of mothers (N = 45).

	Range	Mean	s.d.
Age (in years)	22.4-32.4	28.4	2.5
Education Level (in years)	12-17	14.8	1.8

TABLE 2.--Chronological age and sex of children (N = 45).

Sex	No.	Age Range (months)	Age Mean (months)	s.d.
Boys	27	48-69	57.8	4.4
Girls	18	48-69	57.2	4.9
Total	45	48-69	57.6	4.8

Description of the Sample

The mother sample consisted of 45 Caucasian women whose ages ranged from 22.4 years to 32.4 years with a mean of

28.4 years. Their educational level ranged from 12 to 17 years of schooling with a mean of 14.8. This was their first and only marriage with none separated from their husband at the time of the study. They had from 1 to 3 children, averaging 2.1. The children (27 boys and 18 girls) were from 48 to 69 months old with a mean of 57.6 months. They were considered by teacher to be "normal" with no unusual developmental problems. Each had been enrolled in the nursery school from the beginning of the school year.

Data and Instruments

Data for this study were derived from four sources: The Parent Attitude Research Instrument (Schaeffer and Bell, 1958, Appendix B); The Developmental Test of Visual Perception (Frostig and Horne, 1963); The Children's Behavior Check List (Stott, 1962, Appendix A); and a family demographic questionnaire constructed by the researcher (see Appendix C).

A family demographic questionnaire and an attitude survey were mailed to each mother with instructions that they be returned by mail in one week. Those not returned were contacted by telephone during the next week. The children were assessed for visual-motor functioning during the early portion of the nursery school day prior to outdoor-time. Procedures established by the Family and Child Sciences Department for conducting research with young

children were followed. All tests were administered following procedures suggested by respective authors. The teachers rated all the children in their groups on a social behavior checklist from which the sample children's ratings were selected.

The Parent Attitude Research Instrument (PARI).--(Appendix B) The maternal form of the PARI used consisted of 23 scales and 115 items, 5 items for each scale. The instrument is scored by assigning 4, 3, 2, or 1, depending upon the responses from "strongly agree," "somewhat agree," "somewhat disagree," or "strongly disagree." The scale ranges from 5 to 20. The items are written in a negative response format resulting in high disagreement being interpreted as agreeing with a positive mental health statement. The categories and their description are (Fleigler, 1960):

1. Encouraging Verbalization: Encouragement of expression, including differences of opinion; importance and value of opinion of children.
2. Fostering Dependency: Over-protection and over-possessiveness by the parent so that the child will not face disappointment, frustration and failure.
3. Seclusiveness of the Mother: Achieving gratification through home and family; denial of need for outside pursuits and interests; sublimation into the home-making role.

4. Breaking the Will: The need to instill fear and recognition of parental and general adult dominance in order to prevent malevolent and mischievous behavior.
5. Martyrdom: Drawing attention to personal suffering, self-sacrifice; statement of lack of recognition, support and gratitude.
6. Fear of Harming the Baby: Expression of fear of hurting the infant in normal activities; reflection on resultant guilt if the infant is harmed.
7. Marital Conflict: The inevitability of marital tension and conflict.
8. Strictness: The desirability of utilization of disciplinary measures which tend to develop a child who has good character and is happier.
9. Irritability: The difficult and "nerve-wracking" job of rearing children.
10. Excluding Outside Influences: The child is not permitted to question parental authority and dominance either through insight or external influences (which might color the child's point of view toward the parents).
11. Deification of Parent: Reverence and unquestioning loyalty to the parent who may be regarded as infallible and wise.
12. Suppression of Aggression: The desirability and necessity for avoiding physically aggressive acts by parents (or other authority figures) decision or instruction.

13. Rejection of the Homemaking Role: Reaction to the restrictive aspect of homemaking and child-rearing role; expression of aggression or irritability toward motherhood.
14. Equalitarianism: The recognition by parents that their children should have equal status and rights through reciprocity in interaction.
15. Approval of Activity: The child is urged to consistently strive, keep busy, and not waste time in order to assure future success and happiness.
16. Avoidance of Communication: A restriction or a noncommittal attitude toward communication through the expression of hostility or anxiety.
17. Inconsiderateness of Husband: Assignation of blame for inadequacy in maternal role to neglect, lack of cooperation of husband; expression of desire for support, cooperation, understanding from husband.
18. Suppression of Sexuality: The restriction of sexual concepts which may be elicited in curiosity, play or exposure.
19. Ascendancy of Mother: Role of competent and powerful mother in home management; effect upon family and individuals in home.
20. Intrusiveness: An awareness that the child has the ability and should be allowed to do thinking without subjection to parental pressure.

21. Comradeship and Sharing: Closeness of the intra-familial relationship and desirability for reciprocal positive behavior which results in a more effective and a happier child.
22. Acceleration of Development: Emphasizes that parents try to start their child early in toilet training, walking and feeding.
23. Dependency of the Mother: Statements regarding adequacy in performing child-rearing role; reaction to being left alone, independence in role performance.

The Developmental Test of Visual Perception.--The Frostig Developmental Test of Visual Perception is a pencil and paper testing instrument used to assess visual-motor functioning of young children. It contains five subtests yielding perceptual ages in months for each and a total score expressed as a perceptual quotient similar to an IQ score.

The subtests and their descriptions (Frostig and Horne, 1964) are:

1. Eye-motor coordination is the ability to coordinate vision with movements of the body or with movements of a part or parts of the body.
2. Figure ground perception is the ability to selectively attend to an object and distinguish it from other objects in the same perceptual field. This includes shifting attention from figure to ground back to figure. It also includes whole-part relationships.

3. Form constancy is the ability to perceive an object as possessing invariate properties, such as shape, position, and size, in spite of variability of the sensory surface.
4. Position in space is the perception of the relationship of an object to the observer.
5. Spatial relations is the ability of an observer to perceive the position of two or more objects in relation to himself and in relation to each other.

Children's Behavior Check List (CBCL).--(Appendix A) The CBCL is a pencil and paper device for making non-clinical assessments of children's social behavior by teachers. It is composed of 166 items that are checked by the teacher if she feels that the child possesses the given trait. Raw scores are converted to standard scores which yield a Social Behavior Profile of eight factors.

The categories and their descriptions (Stott, 1967) are as follows:

1. Lack of Leadership versus Social Ascendence is defined as behavior rated as ranging from inefficiency, fatigu-ability, and cautious withdrawing behavior to leader-ship behavior, managerial tendency, vigor, originality, dominance in a group, zest, self-reliant behavior and talkativeness.
2. Irresponsible Impulsiveness versus Personal Responsi-bility is defined as behavior rated as ranging from

impulsive behavior to cooperative behavior, concentrative, conforming behavior, empathy, unselfishness, responsible behavior, and reality oriented behavior.

3. Need for Presence and Support of Others versus Introspective Self-sufficiency is defined as behavior rated as ranging in self-containedness, self-reliance, and resourcefulness.
4. Social Ineptitude versus Social Effectiveness is defined as behavior rated as ranging in social ease, friendly behavior, and social sensitivity.
5. Lacking Personal Appeal versus Personal Attractiveness is defined as behavior rated as ranging in personal bearing, pleasant voice, and high physical endowment.
6. Emotional Instability versus Personal Security is defined as behavior rated as ranging in independence of adults, emotional maturity, unselfconsciousness, and affective stability.
7. Compliant, Retiring versus Compulsive Domination is defined as behavior rated as ranging from submissive behavior, affective stability, cautious withdrawal to bossiness.
8. Non-dependability versus Dependability is defined as behavior rated as ranging from evasive behavior to decisiveness, affectionateness, and responsibility.

Analysis of Data

The method used to examine the structure between the variables was the least square routine as described in the Michigan State University Experimental Station STAT Series #7 (Ruble and Rafter, 1966). The routine was run at the Michigan State University Computer Center on the CDC 3600 using the CORE routine to calculate means, standard deviations, and simple correlations. The "t" test of significance was applied to the correlations to determine whether they were statistically and significantly different from zero (McNemar, 1955).

CHAPTER III

FINDINGS

Part I

The form of the PARI used in this study consisted of twenty-three scales, the Frostig had a total score and five scale scores, and the Children's Behavior Check List had eight scales. To examine the interrelationship among the variables simple correlations between scales were compared.

Question 1

> Is there a significant difference between the attitude structure of mothers who have children with high and low visual motor behavior?

Eye Motor Coordination.--Table 3 shows five scales, Seclusion of the Mother, Martyrdom, Suppression of Aggression, Inconsiderateness of the Husband, Dependency of the Mother, to be associated with Eye-Hand Coordination. Ten other scales are in the expected direction but are not significant. Four of the five scales express attitudes related to adequacy in performing and accepting the child-rearing role with blame for inadequacy being placed on the husband and children. The negative aspects of these scales reflect a "put-upon" attitude. Suppression of Aggression

TABLE 3.--Pearson product-moment correlation coefficients between PARI scales and eye-motor coordination.

	Scales	Eye-motor coordination
1.	Encouraging Verbalization	.131
2.	Fostering Dependency	-.131
3.	Seclusion of Mother	-.357[b]
4.	Breaking of Will	-.122
5.	Martyrdom	-.297[c]
6.	Fear of Harming the Baby	-.269
7.	Marital Conflict	.178
8.	Strictness	.035
9.	Irritability	.004
10.	Excluding Outisde Influence	-.088
11.	Deification	-.117
12.	Suppression of Aggression	-.321[c]
13.	Rejection of the Homemaker Role	-.112
14.	Equalitarianism	.013
15.	Approval of Activity	-.171
16.	Avoidance of Communication	-.029
17.	Inconsiderateness of the Husband	-.332[c]
18.	Suppression of Sexuality	-.117
19.	Ascendance of the Mother	-.159
20.	Intrusiveness	-.069
21.	Comradeship and Sharing	.145
22.	Acceleration of Development	-.230
23.	Dependency of the Mother	-.302[c]

Level of significance: a=.01
b=.02
c=.05

reflects concerns for a controlled, quiet child who should seek adult aid in settling disputes with other children.

Figure Ground.--Table 4 shows two scales, Rejection of the Homemaker Role and Dependency of the Mother, to be associated with figure-ground behavior. Ten of the other 21 scales were in the expected direction but were not significant. Rejection of the Homemaker Role reflects attitudes toward restrictive aspects of homemaking and child-rearing roles with expression of aggression or irritability toward motherhood. Dependency of the Mother expresses a sense of adequacy in performing and accepting child-rearing roles.

Form Constancy.--Table 5 shows four scales, Encouraging Verbalization, Marital Conflict, Suppression of Aggression, Dependency of the Mother, to be associated with Form Constancy. Twelve of the other 19 scales were in the expected direction but were not significant. Two scales are child oriented with the other two being related to the mother's attitude toward performing of the child-rearing role and marital tension. Encouraging Verbalization reflects an attitude of encouraging expression including differences of opinion with valuing the importance and opinion of children. Suppression of Aggression expresses attitudes toward encouraging children to seek adult aid in settling disputes with other children. Marital Conflict reflects

TABLE 4.--Pearson product-moment correlation coefficients between PARI scales and figure ground.

	Scales	Figure Ground
1.	Encouraging Verbalization	.093
2.	Fostering Dependency	.010
3.	Seclusion of Mother	-.098
4.	Breaking of Will	-.024
5.	Martyrdom	-.035
6.	Fear of Harming the Baby	-.057
7.	Marital Conflict	-.070
8.	Strictness	.103
9.	Irritability	-.109
10.	Excluding Outside Influence	.060
11.	Deification	.037
12.	Suppression of Aggression	.036
13.	Rejection of the Homemaker Role	-.355[b]
14.	Equalitarianism	-.074
15.	Approval of Activity	.071
16.	Avoidance of Communication	.007
17.	Inconsiderateness of the Husband	-.161
18.	Suppression of Sexuality	.070
19.	Ascendance of the Mother	-.028
20.	Intrusiveness	.112
21.	Comradeship and Sharing	.185
22.	Acceleration of Development	-.085
23.	Dependency of the Mother	-.343[b]

Level of significance: a=.01
b=.02
c=.05

TABLE 5.--Pearson product-moment correlation coefficients between PARI scales and form constancy.

	Scales	Form Constancy
1.	Encouraging Verbalization	-.295[c]
2.	Fostering Dependency	.159
3.	Seclusion of Mother	.011
4.	Breaking of Will	-.082
5.	Martyrdom	-.087
6.	Fear of Harming the Baby	.128
7.	Marital Conflict	-.366[b]
8.	Strictness	.075
9.	Irritability	-.134
10.	Excluding Outisde Influence	-.203
11.	Deification	-.077
12.	Suppression of Aggression	-.302[c]
13.	Rejection of the Homemaker Role	-.140
14.	Equalitarianism	-.156
15.	Approval of Activity	.231
16.	Avoidance of Communication	-.176
17.	Inconsiderateness of the Husband	-.113
18.	Suppression of Sexuality	-.282
19.	Ascendance of the Mother	.001
20.	Intrusiveness	-.139
21.	Comradeship and Sharing	.105
22.	Acceleration of Development	-.054
23.	Dependency of the Mother	-.324[c]

Level of significance: a=.01
b=.02
c=.05

an attitude toward the inevitability of marital tension and conflict. Dependency of the Mother expresses an attitude of adequacy in performing and accepting the child-rearing role.

Position in Space.--Table 6 shows four scales, Irritability, Rejection of the Homemaker Role, Equalitarianism, Dependency of the Mother, to be associated with Position in Space. Nine other scales were in the expected direction but are not significant. Three scales are related to attitudes concerning child-rearing and homemaking roles with one, Equalitarianism, recognizing that children should have equal status and rights within the family. Irritability expresses the difficulty and "nerve-wracking" job of child-rearing. Rejection of the Homemaker Role reflects the restrictive aspects of home making and child-rearing roles with expression of aggression or irritability toward motherhood. Dependence of the Mother expresses attitudes regarding adequacy in performing the child-rearing role.

Spatial Relations.--Table 7 shows Equalitarianism to be associated with Spatial Relations. Eight of the other 20 scales are in the expected direction but are not significant. Equalitarianism expresses a recognition by parents that their children should have equal status and rights through reciprocity in interaction.

TABLE 6.--Pearson product-moment correlation coefficients between PARI scales and position in space.

	Scales	Position in Space
1.	Encouraging Verbalization	-.183
2.	Fostering Dependency	.033
3.	Seclusion of Mother	-.208
4.	Breaking of Will	-.162
5.	Martyrdom	-.038
6.	Fear of Harming the Baby	.120
7.	Marital Conflict	-.239
8.	Strictness	.102
9.	Irritability	-.438[a]
10.	Excluding Outside Influence	.120
11.	Deification	.148
12.	Suppression of Aggression	.133
13.	Rejection of the Homemaker Role	-.486[a]
14.	Equalitarianism	-.551[a]
15.	Approval of Activity	.004
16.	Avoidance of Communication	-.112
17.	Inconsiderateness of the Husband	-.205
18.	Suppression of Sexuality	.072
19.	Ascendance of the Mother	-.054
20.	Intrusiveness	.079
21.	Comradeship and Sharing	-.255
22.	Acceleration of Development	.031
23.	Dependency of the Mother	-.325[c]

Level of significance: a=.01
b=.02
c=.05

TABLE 7.--Peason product-moment correlation coefficients between PARI scales and spatial relations.

	Scales	Spatial Relations
1.	Encouraging Verbalization	-.146
2.	Fostering Dependency	.123
3.	Seclusion of Mother	.041
4.	Breaking of Will	.207
5.	Martyrdom	.168
6.	Fear of Harming the Baby	.187
7.	Marital Conflict	.114
8.	Strictness	-.267
9.	Irritability	-.170
10.	Excluding Outside Influence	.171
11.	Deification	.111
12.	Suppression of Aggression	.155
13.	Rejection of the Homemaker Role	-.231
14.	Equalitarianism	-.488[a]
15.	Approval of Activity	-.065
16.	Avoidance of Communication	.089
17.	Inconsiderateness of the Husband	.157
18.	Suppression of Sexuality	.203
19.	Ascendance of the Mother	-.023
20.	Intrusiveness	.158
21.	Comradeship and Sharing	-.129
22.	Acceleration of Development	.124
23.	Dependency of the Mother	-.037

Level of significance: a=.01
b=.02
c=.05

Perceptual Quotient.--Table 8 shows Equalitarianism and Dependency of the Mother to be associated with Perceptual Quotient. Ten of the other 21 scales were in the expected direction but were not significant. Equalitarianism reflects an attitude that children should have equal status and rights through reciprocity in interaction. Dependency of the Mother as a scale expresses attitudes toward a sense of adequacy in performing the child-rearing role, reaction to being left alone, and independence in role performance.

Question 2

> How do the attitude structure of mothers who have children with high and low visual-motor behavior differ?

The items of the PARI are written in a negative format, except for three rapport scales. Disagreement with the item and a large scale score reflect a positive, mental health point-of-view (Schaeffer and Bell, 1958). The direction of the rapport scales were corrected in the scoring program. The expected direction of the simple correlations was negative, leading to the interpretation that significant negative correlation between visual-motor behavior and maternal attitudes indicated that high visual-motor behavior was associated with disagreement with the scales and low visual-motor behavior was associated with agreement. Rapport scales were reverse.

TABLE 8.--Pearson product-moment correlation coefficients between PARI scales and perceptual quotient.

	Scales	Perceptual Quotient
1.	Encouraging Verbalization	.039
2.	Fostering Dependency	-.023
3.	Seclusion of Mother	-.109
4.	Breaking of Will	.001
5.	Martyrdom	-.123
6.	Fear of Harming the Baby	.046
7.	Marital Conflict	-.148
8.	Strictness	.063
9.	Irritability	-.111
10.	Excluding Outside Influence	-.004
11.	Deification	.116
12.	Suppression of Aggression	.103
13.	Rejection of the Homemaker Role	-.253
14.	Equalitarianism	-.347[b]
15.	Approval of Activity	.137
16.	Avoidance of Communication	.069
17.	Inconsiderateness of the Husband	-.177
18.	Suppression of Sexuality	-.165
19.	Ascendance of the Mother	-.024
20.	Intrusiveness	-.078
21.	Comradeship and Sharing	.010
22.	Acceleration of Development	.089
23.	Dependency of the Mother	-.369[b]

Level of significance: a=.01
b=.02
c=.05

Eye-Hand Coordination.--Five scales (see Table 3), Seclusion of the Mother, Suppression of the Mother, Inconsiderateness of the Husband, Dependency of the Mother, and Martyrdom, were associated with Eye-Motor Coordination. Disagreement with these scales was related to high visual-motor behavior.

Mothers who express attitudes of sublimation into the homemaking role, deny need for outside pursuits and interests, draw attention to personal suffering as a mother, assign blame for inadequacy in maternal role to neglect, lack of cooperation of the husband, are burdened with rearing children alone and foster the desirability and necessity for children to avoid physical aggressive acts have children who tend to score low in Eye-Motor Coordination.

Figure Ground.--Two scales (see Table 4), Rejection of the Homemaker Role and Dependency of the Mother were related to Figure Ground perception. Disagreement with these scales was associated with high Figure Ground behavior. Mothers who agree with an attitude that homemaking and child-rearing roles are restrictive, expressing aggression or irritability toward motherhood, who make statements regarding a sense of inadequacy and rejection in performing the child-rearing role have children who tend to score low in Figure Ground.

Form Constancy.--Four scales (see Table 5), Encouraging Verbalization, Marital Conflict, Suppression of Aggression, and Dependency of the Mother, were associated with Form Constancy. Agreement with Encouraging Verbalization, a rapport scale, and disagreement with the other three were related to high Form Constancy. Mothers who discourage expression, including differences of opinion, who express that marital tension and conflict are inevitable, who reject the child-rearing role and who foster an attitude that children should seek adult aid in settling disputes with other children involving physical aggression have children who tend to score low in Form Constancy.

Position in Space.--Four scales (see Table 6), Irritability, Rejection of the Homemaker Role, Equalitarianism, and Dependency of the Mother, were associated with Position in Space. Agreement with Equalitarianism and disagreement with the other three are related to high Position in Space. Mothers who reject equal status and rights for children within the family, who express an attitude that child-rearing is a nerve-wracking job, who express aggression or irritability toward motherhood, who reject the child-rearing role, have children who tend to be low in Position in Space perception.

Spatial Relations.--One scale (see Table 7),Equalitarianism, was associated with Spatial Relations. Agreement

with this scale was related to high Spatial Relations. Mothers who rejected equal status and rights through reciprocity in interaction have children who tend to have low Spatial Relations.

Perceptual Quotient.--Two scales (see Table 8), Equalitarianism and Dependency of the Mother were associated with Perceptual Quotient. Agreement with Equalitarianism, a rapport scale, and disagreement with Dependency of the Mother were associated with high Perceptual Quotient. Mothers who express attitudes that children should have equal status and rights in the family, and who express a sense of independence, adequacy, and rights in performing the child-rearing role have children who tend to score high in Perceptual Quotient.

Question 3

> Is there a significant difference between the attitude structure of mothers who have children with high and low visual-motor behavior?

Eye-Motor Coordination.--No social behavior dimensions were related to Eye-Motor Coordination (see Appendix D).

Figure Ground.--Table 9 shows four social behavior dimensions, Lack of Leadership versus Social Ascendence, Social Ineptitude versus Social Effectiveness, Lack of Personal Appeal versus Personal Attractiveness, and Non-Dependability versus Dependability, associated with Figure

TABLE 9.--Pearson product-moment correlation coefficients between children's social behavior and figure ground.

Social Behavior	Figure Ground
1. Lack of Leadership vs Social Ascendence	.341[c]
2. Irresponsible Compulsiveness vs Personal Responsibility	.166
3. Need for Presence and Support of Others vs Introspective Self-sufficiency	.291
4. Social Ineptitude vs Social Effectiveness	.300[c]
5. Lack of Personal Appeal vs Personal Attractiveness	.401[a]
6. Emotional Instability vs Personal Security, Stability	.120
7. Compliant, Retiring vs Compulsive Domination	.160
8. Non-dependability vs Dependability	.395[a]

Level of significance: a=.01
b=.02
c=.05

Ground. The child behavior dimensions include leadership behavior, managerial tendencies, vigor, originality, dominance in a group, zest, self reliant behavior, talkativeness, social ease, friendly behavior, social sensitivity, pleasant voice, high physical endowment, decisiveness, affectionateness, and respect for the property of others.

Form Constancy.--No social behavior related to Form Constancy (see Appendix D).

Position in Space.--No social behavior related to Position in Space (see Appendix D).

Spatial Relations.--Table 10 shows three social behavior dimensions, Lack of Leadership versus Social Ascendence, Social Ineptitude versus Social Effectiveness, and Non-Dependability versus Dependability, associated with Spatial Relations. The social behavior dimension includes leadership behavior, managerial tendencies, vigor, originality, zest, self reliant behavior, talkativeness, social ease, friendly behavior, social sensitivity, decisiveness, affectionateness, and respect for the property of others.

TABLE 10.--Pearson product-moment correlation coefficients between children's social behavior and spatial relations.

Social Behavior	Spatial Relations
1. Lack of Leadership vs Social Ascendence	.334[c]
2. Irresponsible Compulsiveness vs Personal Responsibility	.165
3. Need for Presence and Support of Others vs Introspective Self-sufficiency	.266
4. Social Ineptitude vs Social Effectiveness	.315[c]
5. Lack of Personal Appeal vs Personal Attractiveness	.143
6. Emotional Instability vs Personal Security, Stability	.191
7. Compliant, Retiring vs Compulsive Comination	.071
8. Non-dependability vs Dependability	.425[a]

Level of significance: a=.01
b=.02
c=.05

Perceptual Quotient.--Table 11 shows two social behavior dimensions, Social Ineptitude versus Social Effectiveness and Lack of Personal Appeal versus Personal Attractiveness, related to Perceptual Quotient. The social behavior dimensions include social ease, friendly behavior, social sensitivity, and physical attractiveness.

TABLE 11.--Pearson product-moment correlation coefficients between children's social behavior and perceptual quotient.

Social Behavior	Perceptual Quotient
1. Lack of Leadership vs Social Ascendence	.261
2. Irresponsible Compulsiveness vs Personal Responsibility	.155
3. Need for Presence and Support of Others vs Introspective Self-sufficiency	.101
4. Social Ineptitude vs Social Effectiveness	.330[c]
5. Lack of Personal Appeal vs Personal Attractiveness	.336[c]
6. Emotional Instability vs Personal Security, Stability	.092
7. Compliant, Retiring vs Compulsive Comination	.039
8. Non-dependability vs Dependability	.142

Level of significance: a=.01
b=.02
c=.05

Question 4

How does the structure of social behavior of children with high and low visual-motor behavior differ?

Eye-Motor Coordination.--No social behavior dimensions were related to Eye-Motor Coordination (see Appendix D).

Figure Ground.--Four social behavior dimensions (see Table 9), Lack of Leadership versus Social Ascendence, Social Ineptitude versus Social Effectiveness, Lack of Personal Appeal versus Personal Attractiveness, and Non-Dependability versus Dependability have a positive association with Figure Ground. High ratings in the behavior dimensions, social ease, friendly behavior, social sensitivity, and personal attractiveness were associated with high Figure Ground, while inefficiency, fatiguability, cautiousness, withdrawn behavior, lack of self confidence, little smiling, difficulty in approaching other children, hesitant in approaching other children, hesitant in making suggestions to other children, lacking personal appeal and evasive behavior, were associated with low Figure Ground.

Form Constancy.--No social behavior related to Form Constancy (see Appendix D).

Position in Space.--No social behavior related to Position in Space (see Appendix D).

Spatial Relations.--Three social behavior dimensions (see Table 10), Lack of Leadership versus Social Ascendence, Social Ineptitude versus Social Effectiveness, Non-Dependability versus Dependability, had positive association with Spatial Relations. High ratings in the behavior dimensions, leadership behavior, managerial tendencies, vigor, originality, dominance in a group, zest, self-reliant

behavior, talkativeness, social ease, friendly behavior, social sensitivity, decisiveness, affectionateness, and respect for the property of others were associated with high Spatial Relations, while low ratings, inefficiency, fatiguability, cautiousness, withdrawing behavior, lacking self confidence, little smiling, hesitant in making suggestions to other children, and evasive behavior were related to low Spatial Relations.

Perceptual Quotient.--Two social behavior dimensions (see Table 11), Social Ineptitude versus Social Effectiveness and Lack of Personal Appeal versus Personal Attractiveness, had a positive association with Perceptual Quotient. High ratings in the behavior dimension, social ease, friendly behavior, social sensitivity, and personal attractiveness were associated with high Perceptual Quotient, while lacking self confidence, little smiling, difficulty in making friends, hesitant in making suggestions to other children and lack of personal attractiveness were associated with low Perceptual Quotient.

Part II

In addition to the concerns and questions posed in Chapter II, the writer felt that examining the relationship between maternal attitudes toward child-rearing practices and family life and children's social behavior would be in order. To maintain consistency in form, the following

questions were treated in the same manner as the two major concerns of this study:

1. What is the relationship between the attitude structure of mothers who have children with high and low ratings in social behavior?
2. How does the attitude structure of mothers who have children with high and low ratings in social behavior differ?

The questions derived from these additional concerns are:

Question 1: Is there a significant difference between the attitude structure of mothers who have children with high and low ratings in social behavior?

Question 2: How does the attitude structure of mothers who have children with high and low ratings in social behavior differ?

Other Findings

Question 1

Is there a significant difference between the attitude structure of mothers who have children with high and low ratings in social behavior?

Lack of Leadership versus Social Ascendence.--Table 12 shows one scale, Fostering Dependency, related to the leadership dimension. Fostering Dependency reflects an attitude of over-protection and over-possessiveness by the mother so that the child will not have to face disappointment, frustration or failure. The leadership dimension ranges from self-consciousness, timidity and a kind of unfriendly withdrawal from direct interaction with other

TABLE 12.--Pearson product-moment correlation coefficients between PARI scales and lack of leadership versus social ascendence.

	Scales	Lack of Leadership vs social ascendence
1.	Encouraging Verbalization	.153
2.	Fostering Dependency	.307[c]
3.	Seclusion of Mother	.095
4.	Breaking of Will	.196
5.	Martyrdom	.210
6.	Fear of Harming the Baby	.104
7.	Marital Conflict	.136
8.	Strictness	-.019
9.	Irritability	.112
10.	Excluding Outside Influence	.280
11.	Deification	.338[c]
12.	Suppression of Aggression	.155
13.	Rejection of the Homemaker Role	-.024
14.	Equalitarianism	-.245
15.	Approval of Activity	.102
16.	Avoidance of Communication	.150
17.	Inconsiderateness of the Husband	.167
18.	Suppression of Sexuality	.156
19.	Ascendance of the Mother	.145
20.	Intrusiveness	.183
21.	Comradeship and Sharing	-.014
22.	Acceleration of Development	.170
23.	Dependency of the Mother	-.060

Level of significance: a=.01
b=.02
c=.05

children to characteristics suggesting "natural" leadership, forcefulness, originality, resourcefulness in group situations, socially outgoing and self-assurance.

Irresponsible Compulsiveness versus Personal Responsibility.--Table 13 shows one scale, Strictness, related to the responsiblity dimension. The Strictness scale reflects an attitude that disciplinary measures tend to develop a child who has good character and is happier. The child behavior dimension ranges from impulsive, irresponsible, restlessness with resistence to adult imposed routine activities to a highly generalized disposition in the child of personal responsibility in relationship with peers and adults.

Need for Presence and Support of Others versus Introspective Self-Sufficiency.--Table 14 shows four scales, Excluding Outside Influences, Deification, Ascendence of the Mother, and Acceleration of Development, related to the independence dimension. These four scales reflect attitudes that the child should not be permitted to question parental authority, a reverence and unquestioning loyalty to the parent who may be regarded as infallible and wise, that the mother should "take-charge" of the home, and that she resents the burden of raising the children primarily by herself. The child behavior dimension ranges from a sense of intimate "belongingness," a need to affiliate

TABLE 13.--Pearson product-moment correlation coefficients between PARI scales and irresponsible compulsiveness versus personal responsibility.

	Scales	Irresponsible Compulsiveness vs Personal Responsibility
1.	Encouraging Verbalization	-.055
2.	Fostering Dependency	-.017
3.	Seclusion of Mother	.117
4.	Breaking of Will	.045
5.	Martyrdom	-.002
6.	Fear of Harming the Baby	-.026
7.	Marital Conflict	-.106
8.	Strictness	-.331[c]
9.	Irritability	-.018
10.	Excluding Outside Influence	.019
11.	Deification	.030
12.	Suppression of Aggression	.156
13.	Rejection of the Homemaker Role	.082
14.	Equalitarianism	-.132
15.	Approval of Activity	.243
16.	Avoidance of Communication	.102
17.	Inconsiderateness of the Husband	-.063
18.	Suppression of Sexuality	.009
19.	Ascendance of the Mother	.064
20.	Intrusiveness	.142
21.	Comradeship and Sharing	-.056
22.	Acceleration of Development	.240
23.	Dependency of the Mother	-.261

Level of significance: a=.01
b=.02
c=.05

TABLE 14.--Pearson product-moment correlation coefficients between PARI scales and need for presence and support of others versus introspective self-sufficiency.

	Scale	Need for Presence and Support of Others vs Introspective self-sufficiency
1.	Encouraging Verbalization	.069
2.	Fostering Dependency	.193
3.	Seclusion of Mother	.176
4.	Breaking of Will	.247
5.	Martyrdom	.195
6.	Fear of Harming the Baby	.072
7.	Marital Conflict	.068
8.	Strictness	-.165
9.	Irritability	.071
10.	Excluding Outside Influence	.328[c]
11.	Deification	.408[a]
12.	Suppression of Aggression	.280
13.	Rejection of the Homemaker Role	.135
14.	Equalitarianism	-.111
15.	Approval of Activity	.168
16.	Avoidance of Communication	.103
17.	Inconsiderateness of the Husband	.222
18.	Suppression of Sexuality	.188
19.	Ascendance of the Mother	.351[b]
20.	Intrusiveness	.221
21.	Comradeship and Sharing	-.019
22.	Acceleration of Development	.373[b]
23.	Dependency of the Mother	-.053

Level of significance: a=.01
b=.02
c=.05

closely with select individuals and groups to a need for a lack of involvement with others, a need to engage in private projects without the interference of others.

Social Ineptitude versus Social Effectiveness.--No attitude scales related to the sociability dimension (see Appendix E).

Lack of Personal Appeal versus Personal Attractiveness.--Table 15 shows one scale, Dependency of the Mother, related to the attractiveness dimension. Dependency of the Mother reflects an attitude regarding adequacy and acceptance in performing the child-rearing role with reaction to being left alone to care for children. The child behavior dimension ranges from a lack of personal appeal, especially regarding physical beauty to looking very healthy, walking with grace and ease, having a pleasant voice and beautiful features.

Emotional Instability versus Personal Security.--Table 16 shows two scales, Approval of Activity and Acceleration of Development as related to the personal security dimension. Approval of Activity urges the child to consistently strive, keep busy, and not waste time in order to assume future success and happiness. Acceleration of Development emphasizes that parents should start their child early in toilet training, walking and feeding. The child behavior dimension ranges from a lazy, non-deliberative

TABLE 15.--Pearson product-moment correlation coefficients between PARI scales and lack of personal appeal versus personal attractiveness.

	Scales	Lack of Personal Appeal vs Personal Attractiveness
1.	Encouraging Verbalization	.288
2.	Fostering Dependency	-.043
3.	Seclusion of Mother	.011
4.	Breaking of Will	-.021
5.	Martyrdom	-.101
6.	Fear of Harming the Baby	-.023
7.	Marital Conflict	-.106
8.	Strictness	-.094
9.	Irritability	.053
10.	Excluding Outside Influence	-.112
11.	Deification	-.092
12.	Suppression of Aggression	.136
13.	Rejection of the Homemaker Role	-.072
14.	Equalitarianism	.043
15.	Approval of Activity	.167
16.	Avoidance of Communication	.001
17.	Inconsiderateness of the Husband	.134
18.	Suppression of Sexuality	-.118
19.	Ascendance of the Mother	-.186
20.	Intrusiveness	-.055
21.	Comradeship and Sharing	.108
22.	Acceleration of Development	-.101
23.	Dependency of the Mother	-.366[b]

Level of significance: a=.01
b=.02
c=.05

TABLE 16.--Pearson product-moment correlation coefficients between PARI scales and emotional instability versus personal security.

	Scales	Emotional Instability vs Personal Security
1.	Encouraging Verbalization	.122
2.	Fostering Dependency	-.005
3.	Seclusion of Mother	.252
4.	Breaking of Will	.153
5.	Martyrdom	.195
6.	Fear of Harming the Baby	.027
7.	Marital Conflict	-.122
8.	Strictness	-.133
9.	Irritability	.006
10.	Excluding Outside Influence	.067
11.	Deification	.136
12.	Suppression of Aggression	.208
13.	Rejection of the Homemaker Role	.230
14.	Equalitarianism	-.097
15.	Approval of Activity	.329[c]
16.	Avoidance of Communication	.262
17.	Inconsiderateness of the Husband	.194
18.	Suppression of Sexuality	.051
19.	Ascendance of the Mother	.203
20.	Intrusiveness	.163
21.	Comradeship and Sharing	.179
22.	Acceleration of Development	.393[a]
23.	Dependency of the Mother	-.098

Level of significance: a=.01
b=.02
c=.05

behavior to a quiet manner, controlled behavior and independence of adults.

Compliant, Retiring versus Compulsive Domination.--No attitude scales related to this child behavior dimension (see Appendix E).

Non-dependability versus Dependability.--Table 17 shows one scale, Intrusiveness, related to the dependability dimension. Intrusiveness reflects an awareness that the child has the ability and should be allowed to do his own thinking without subjection to parental pressure. The child behavior dimension ranges from evasive behavior to decisiveness, affectionateness, and responsibility.

Question 2

> How does the attitude structure of mothers who have children with high and low ratings in social behavior differ?

Lack of Leadership versus Social Ascendance.--Two scales (see Table 12), Fostering Dependency and Deification, were associated with the leadership dimension. Agreement with both scales, attitudes of over-protection and over-possessiveness by the parent so that the child will not have to face disappointment, frustration and failure, and reverence and unquestioning loyalty to the parent who may be regarded as infallible and wise, was associated with a low rating in the leadership dimension. A high rating was associated with rejecting both scales.

TABLE 17.--Pearson product-moment correlation coefficients between PARI scales and non-dependability versus dependability.

	Scale	Non-dependability vs dependability
1.	Encouraging Verbalization	.114
2.	Fostering Dependency	-.045
3.	Seclusion of Mother	.157
4.	Breaking of Will	.137
5.	Martyrdom	.124
6.	Fear of Harming the Baby	.151
7.	Marital Conflict	.111
8.	Strictness	-.013
9.	Irritability	.060
10.	Excluding Outside Influence	.115
11.	Deification	.045
12.	Suppression of Aggression	.120
13.	Rejection of the Homemaker Role	.046
14.	Equalitarianism	-.100
15.	Approval of Activity	.151
16.	Avoidance of Communication	.137
17.	Inconsiderateness of the Husband	.131
18.	Suppression of Sexuality	.049
19.	Ascendance of the Mother	.054
20.	Intrusiveness	.304[c]
21.	Comradeship and Sharing	.114
22.	Acceleration of Development	.148
23.	Dependency of the Mother	.048

Level of significance: a=.01
b=.02
c=.05

Irresponsible Compulsiveness versus Personal Responsibility.--One scale (see Table 13), Strictness, was associated with the responsibility dimension. Agreement with the Strictness scale was associated with a high personal responsibility rating. Mothers who expressed the desirability of utilizing disciplinary measures to develop a child who has good character have children who tend to be cooperative, concentrative, conforming, empathetic, unselfish, respect property rights, and are reality oriented, while disagreement with the Strictness scale was related to impulsive behavior such as mischievousness and showing-off or acting silly.

Need for Presence and Support of Others versus Introspective Self-Sufficiency.--Four scales (see Table 14), Excluding Outside Influences, Deification, Ascendance of the Mother, and Acceleration of Development were associated with the independence dimension. Disagreement with the scales was related to a high rating on the child behavior dimension. Mothers who reflect attitudes that children should not be permitted to question parental authority, that parents should teach their children unquestioning loyalty to them, that the mother should be "in-charge" of children and husband, and that parents should try to start their children early in toilet training, walking and feeding, have children who tend to look to others for attention, who are unhappy when not playing with other children, who are dependent, and who lack resourcefulness in solving tasks.

Social Ineptitude versus Social Effectiveness.--No attitude scales related to this dimension (see Appendix E).

Lack of Personal Appeal versus Personal Attractiveness.--One scale (see Table 15), Dependency of the Mother, was associated with the attractiveness dimension. Disagreement with this scale was associated with a high personal attractiveness rating. Mothers who express concerns for inadequacy and reject the child-rearing role and who resent being left alone to care for children have children who tend to be less attractive than children of mothers who express an acceptance of the child-rearing role.

Emotional Instability versus Personal Security.--Two scales (see Table 16), Approval of Activity and Acceleration of Development were related to the personal security dimension. Disagreement with both scales was associated with a high personal security rating. Mothers who agree with these scales, reflecting attitudes that children should be urged consistently to strive, keep busy and not waste time, and that parents should try to start toilet training, walking and feeding early, have children who tend to be rated as dependent of adults, emotionally immature, self-conscious, and affectively unstable.

Compliant, Retiring versus Compulsive Domination.--No attitude scales related to this dimension (see Appendix E).

Non-Dependability versus Dependability.--One scale (see Table 17), Intrusiveness, was related to the dependability dimension. Disagreement with this scale was associated with a high dependability rating. Mothers who agree with the scale, expressing an attitude that children are unable and should not be allowed to do their own thinking without subjection to parental pressure, have children who tend to be rated as lacking decisiveness, affectionateness, and a sense of responsibility, and who exhibit evasive behavior.

Summary of Findings

Part I

1. Equalitarianism (PARI 14) had a correlation of -.347 with the Frostig Perceptual Quotient (.02 level of significance).
2. Dependency of the Mother (PARI 23) had a correlation of -.369 with the Frostig Perceptual Quotient (.02 level of significance).
3. Social Effectiveness vs Social Ineptitude (CBCL 4) had a correlation of .330 with the Frostig Perceptual Quotient (.05 level of significance).
4. Personal Attractiveness vs Lack of Personal Appeal (CBCL 5) had a correlation of .336 with the Frostig Perceptual Quotient (.05 level of significance).

5. Seclusiveness of the Mother (PARI 3) had a correlation of -.357 with Frostig Perceptual Age for Test I (Eye-motor coordination) (.02 level of significance).
6. Martyrdom (PARI 5) had a correlation of -.297 with the Frostig Perceptual Age for Test I (Eye-motor coordination) (.05 level of significance).
7. Suppression of Aggression (PARI 12) had a correlation of -.321 with the Frostig Perceptual Age for Test I (Eye-motor coordination) (.05 level of significance).
8. Inconsiderateness of Husband (PARI 17) had a correlation of -.332 with the Frostig Perceptual Age for Test I (Eye-motor coordination) (.05 level of significance).
9. Dependency of the Mother (PARI 23) had a correlation of -.302 with the Frostig Perceptual Age for Test I (Eye-motor coordination) (.05 level of significance).
10. Rejection of the Homemaker Role (PARI 13) had a correlation of -.355 with the Frostig Perceptual Age for Test II (Figure Ground)(.02 level of significance).
11. Dependency of the Mother (PARI 23) had a correlation of -.343 with the Frostig Perceptual Age for Test II (Figure Ground) (.05 level of significance).
12. Leadership vs Lack of Leadership (CBCL 1) had a correlation of .341 with the Frostig Perceptual Age for Test II (Figure Ground) (.05 level of significance).

13. Social Effectiveness vs Need for Presence and Support of Others (CBCL 4) had a correlation of .300 with the Frostig Perceptual Age for Test II (Figure Ground) (.05 level of significance).
14. Personal Attractiveness vs Lack of Personal Appeal (CBCL 5) had a correlation of .401 with the Frostig Perceptual Age for Test II (Figure Ground) (.01 level of significance).
15. Dependability vs Non-dependability (CBCL 8) had a correlation of .395 with the Frostig Perceptual Age for Test II (Figure Ground) (.01 level of significance).
16. Encouraging Verbalization (PARI 1) had a correlation of .294 with the Frostig Perceptual Age for Test III (Form Constancy) (.05 level of significance).
17. Marital Conflict (PARI 7) had a correlation of -.376 with the Frostig Perceptual Age for Test III (Form Constancy) (.02 level of significance).
18. Suppression of Aggression (PARI 12) had a correlation of .302 with the Frostig Perceptual Age for Test III (Form Constancy) (.05 level of significance).
19. Dependency of the Mother (PARI 23) had a correlation of -.324 with the Frostig Perceptual Age for Test III (Form Constancy) (.05 level of significance).
20. Irritability (PARI 9) had a correlation of -.438 with the Frostig Perceptual Age for Test IV (Position in Space) (.01 level of significance).

21. Rejection of Homemaker Role (PARI 13) had a correlation of -.486 with the Frostig Perceptual Age for Test IV (Position in Space) (.01 level of significance).
22. Equalitarianism (PARI 14) had a correlation of -.550 with the Frostig Perceptual Age for Test IV (Position in Space) (.01 level of significance).
23. Dependency of the Mother (PARI 23) had a correlation of -.325 with the Frostig Perceptual Age for Test IV (Position in Space) (.05 level of significance).
24. Equalitarianism (PARI 14) had a correlation of -.488 with the Frostig Perceptual Age for Test V (Spatial Relations) (.01 level of significance).
25. Leadership vs Lack of Leadership (CBCL 1) had a correlation of .334 with the Frostig Perceptual Age for Test V (Spatial Relations) (.05 level of significance).
26. Social Effectiveness vs Social Ineptitude (CBCL 4) had a correlation of .315 with the Frostig Perceptual Age for Test V (Spatial Relations) (.05 level of significance).
27. Dependability vs Non-dependability (CBCL 8) had a correlation of .425 with the Frostig Perceptual Age for Test V (Spatial Relations) (.01 level of significance).

Part II

28. Fostering Dependency (PARI 2) had a correlation of .307 with Leadership vs Lack of Leadership (CBCL 1) (.05 level of significance).

29. Strictness (PARI 8) had a correlation of -.331 with Personal Responsibility vs Irresponsible Compulsiveness (CBCL 2) (.05 level of significance).
30. Excluding Outsiders (PARI 10) had a correlation of .328 with Self-sufficiency vs Need for Presence and Support of Others (CBCL 3) (.05 level of significance).
31. Deification of Parents (PARI 12) had a correlation of .338 with Leadership vs Lack of Leadership (CBCL 1) (.05 level of significance).
32. Deification of Parents (PARI 12) had a correlation of .408 with Self-sufficiency vs Need for Presence and Support of Others (CBCL 3) (.01 level of significance).
33. Approval of Activity (PARI 15) had a correlation of .329 with Personal Security vs Dependency (CBCL 6) (.05 level of significance).
34. Ascendency of Mother (PARI 19) had a correlation of .351 with Self-sufficiency vs Need for Presence and Support of Others (CBCL 3) (.02 level of significance).
35. Intrusiveness (PARI 20) had a correlation of .304 with Dependability vs Non-dependability (CBCL 8) (.05 level of significance).
36. Acceleration of Development (PARI 22) had a correlation of .373 with Self-sufficiancy vs Need for Presence and Support of Others (CBCL 3) (.02 level of significance).

37. Acceleration of Development (PARI 22) had a correlation of .393 with Personal Security vs Dependency (CBCL 6) (.01 level of significance).

38. Dependency of Mother (PARI 23) had a correlation of -.367 with Personal Attractiveness vs Lack of Personal Appeal (CBCL 5) (.02 level of significance).

CHAPTER IV

SUMMARY, DISCUSSION, AND CONCLUSIONS

Summary

The purpose of this investigation was to examine the relationship of two interrelated aspects of high and low visual-motor behavior of nursery school children: (1) the structure of maternal attitudes toward child-rearing practices and family life; (2) the child's social behavior as rated by teachers. Further, the relationship between maternal attitudes and the child's social behavior was examined.

The subjects were 45 mothers of children enrolled in 1965-1966 in the Spartan Nursery School on the Michigan State University Campus, and their pre-school child. The mother sample consisted of Caucasian, student wives whose ages ranged from 22.4 years to 32.3 years with a mean of 28.4 years with from 12 to 17 years of education, averaging 14.8 years. The children (27 boys and 18 girls) were from 48 to 69 months old with a mean of 57.6 months. They were considered by their teachers to have no unusual developmental problems.

The research instruments were the Parent Attitude Research Instrument, the Children's Behavior Check List,

and the Developmental Test of Visual Perception. Correlational analysis and the t-test were the statistical techniques used.

Argument was presented that low visual-motor behavior was associated with maternal attitudes that are oriented toward constricting and limiting the child from freely exploring the physical, interpersonal, and ideation aspects of the environment, while high visual-motor behavior was related to maternal attitudes that encourage the child to interact fully and freely with the environment within the context of parental approval with minimal reliance upon techniques of coercive control; and that low ratings of children's social behavior were related to maternal attitudes that were rejecting, while high ratings were related to accepting dimensions. This study considered the following:

Part I

Question 1: Is there a significant difference between the attitude structure of mothers who have children with high and low visual-motor behavior?

Question 2: How does the attitude structure of mothers who have children with high and low visual-motor behavior differ?

Question 3: Is there a significant difference between the structure of social behavior of children with high and low visual-motor behavior?

Question 4: How does the structure of social behavior of children with high and low visual-motor behavior differ?

Part II

Question 1: Is there a significant difference between the attitude structure of mothers who have children with high and low ratings in social behavior?

Question 2: How does the attitude structure of mothers who have children with high and low ratings in social behavior differ?

Findings

The findings may be summarized as follows:

1. Eye-motor Coordination was related to Seclusion to the Mother, Martyrdom, Suppression of Aggression, Inconsiderateness of the Husband, and Dependency of the Mother.
2. Figure Ground was related to Rejection of the Homemaker Role and Dependency of the Mother.
3. Form Constancy was related to Encouraging Verbalization, Marital Conflict, Suppression of Aggression, and Dependency of the Mother.
4. Position in Space was related to Irritability, Rejection of the Homemaker Role, Equalitarianism, and Dependency of the Mother.
5. Spatial Relations was related to Equalitarianism.
6. Perceptual Quotient was related to Equalitarianism and Dependency of the Mother.
7. Disagreement with Seclusion of the Mother, Martyrdom, Suppression of Aggression, Indonsiderateness of the Husband, and Dependency of the Mother scales was associated with high Eye-motor perception; agreement with low.

8. Disagreement with the Rejection of the Homemaker Role, and Dependency of the Mother scales was related to high Figure Ground perception; agreement with low.
9. Agreement with Encouraging Verbalization and disagreement with Marital Conflict, Suppression of Aggression, and Dependency of the Mother scales was associated with high Form Constancy perception; disagreement with Encouraging Verbalization and agreement with the other three scales was associated with low.
10. Agreement with Encouraging Verbalization and disagreement with Irritability, Rejection of the Homemaker Role, and Dependency of the Mother was associated with high Form Consistancy; disagreement with Encouraging Verbalization and agreement with the other three scales was associated with low.
11. Agreement with Equalitarianism was associated with high Spatial Relations perception; disagreement with low.
12. Agreement with Equalitarianism and disagreement with Dependency of the Mother scales was associated with high Perceptual Quotient; disagreement with Equalitarianism and agreement with Dependency of the Mother with low.
13. Figure Ground was associated with Lack of Leadership versus Social Ascendence, Social Ineptitude versus Social Effectiveness, Lack of Personal Appeal versus Personal Attractiveness, Non-dependability versus Dependability.

14. Spatial Relations was associated with Lack of Leadership versus Social Ascendence, Social Ineptitude versus Social Effectiveness, Non-dependability versus Dependability.
15. Perceptual Quotient was associated with Social Ineptitude versus Social Effectiveness and Lack of Personal Appeal versus Personal Attractiveness.
16. High ratings in Lack of Leadership versus Social Ascendence, Lack of Personal Appeal versus Personal Attractiveness, Non-dependability versus Dependability were associated with high Figure Ground perception; low ratings with low Figure Ground perception.
17. High ratings in Lack of Leadership versus Social Ascendence, Social Ineptitude versus Social Effectiveness, and Non-dependability versus Dependability were associated with high Spatial Relations perception; low ratings with low Spatial Relations perception.
18. High ratings in Social Ineptitude versus Social Effectiveness and Lack of Personal Appeal versus Personal Attractiveness were associated with high Perceptual Quotient; low ratings with low Perceptual Quotient.
19. Lack of Leadership versus Social Ascendence was related to Fostering Dependency.
20. Irresponsible Compulsiveness versus Personal Responsibility was associated with Strictness.

21. Need for Presence and Support of Others versus Introspective Self-Sufficiency was related to Excluding Outside Influences, Deification, Ascendence of the Mother and Acceleration of Development.
22. Lack of Personal Appeal versus Personal Attractiveness was associated with Dependency of the Mother.
23. Emotional Instability versus Personal Security was associated with Approval of Activity and Acceleration of Development.
24. Non-dependability versus Dependability was associated with Intrusiveness.
25. Disagreement with Fostering Dependency and Deification were associated with high ratings in Lack of Leadership versus Social Ascendence; agreement with low ratings.
26. Disagreement with Strictness was associated with a high rating in Irresponsible Compulsiveness versus Personal Responsibility; agreement with low ratings.
27. Disagreement with Excluding Outside Influences, Deification, Ascendence of the Mother, and Dependency of the Mother was associated with a high rating in Need for Presence and Support of Others versus Introspective Self-Sufficiency; agreement with a low rating.
28. Disagreement with Dependency of the Mother was associated with Lack of Personal Appeal versus Personal Attractiveness; agreement with a low rating.

29. Disagreement with Approval of Activity and Acceleration of Development were associated with a high rating in Emotional Instability versus Personal Security; agreement with a low rating.
30. Disagreement with Intrusiveness was associated with a high rating in Non-dependability versus Dependability; agreement with a low rating.

Discussion

Eye-motor Coordination

Eye-motor coordination has been defined as the ability to coordinate vision with movements of the body or parts of the body. Activities such as running, jumping, kicking a ball, getting dressed, and sitting down rely heavily on the eyes and whole body working together. Poorly developed eye-motor coordination may handicap a child in adjusting to the demands of the environment.

> A child with disabilities in visual-motor coordination is not only handicapped in practical accomplishments, but also develops a poor self concept because of his failure to meet the expectations of parents, teachers, and peers (Frostig and Horne, 1967).

The finding that low eye-motor coordination was associated with a constellation of maternal attitudes reflecting rejection of the child and homemaker roles, and encouraging dependence in the child that the parent will solve problems with other children was consistent with Medinnus' (1961) findings that children's poor adjustment to first grade was related to parental rejection.

Low eye-motor coordination results in difficulties in managing the coordination of vision and body. The matching of body information with information gathered through vision is crucial in establishing a stable perceptual motor world that allows the child to become more efficient in exploring the environment (Kephart, 1964).

Form Constancy

Form Constancy has been defined as the ability to perceive an object as possessing invariant properties, such as shape, position, and size, in spite of variability of impression on the sensor surface. It involves three aspects besides shape that must remain constant, shape, brightness and color. Shape and size are seen as the most important.

A child with poorly developed shape and size constancy is made anxious by the general unreliability of the appearance of the world and has major academic problems (Frostig and Horne, 1964).

Maternal attitudes relating to rejecting the homemaker and child-rearing roles as well as rejecting and restricting the child were associated with low Form Constancy behavior. This is consistent with the general hypothesis.

Position in Space

Position in Space has been defined as perception of the relationship of an object to the observer. It

involves direction, behind, before, above, below, or to the side. Position in Space has three aspects that are fundamental to accurate perception and knowledge of the body, body image, body concept, and body schema.

> A child's ability to coordinate eye and hand and to correctly perceive both position in space and spatial relationships depends upon the development of an adequate body image, concept, and schema (Frostig and Horne, 1964).

Children with disturbances in Position in Space have been described as clumsy and hesitant in movements, and have difficulty in spatial position words such as in, out, down, before, behind, left, and right.

Figure Ground

Figure Ground has been defined as the ability to selectively attend to an object and distinguish it from other objects in the same perceptual field. This includes shifting attention from figure to ground and back to figure. It also includes whole-part relationships. Figure ground perception is seen as important as a foundation for other perceptual abilities; the person can judge the distance to an object, its size, and shape only when he perceives it in proper relationship to its ground.

Children with poorly developed figure ground perception appear to be inattentive and disorganized, resulting in the complaint that they seem unable to find anything even when it is right in front of them (Frostig and Horne, 1964).

The findings related to figure ground were consistent with the general hypothesis that restrictive and rejecting maternal attitudes tend to be associated with low figure ground behavior. Frostig's (1964) statement that children with figure ground problems seem inattentive and disorganized was extended by the findings of this study in that low figure ground behavior was related to social behavior that included inefficiency, fatiguability, cautiousness, withdrawn behavior, lack of self confidence, little smiling, difficulty in approaching other children, and lack of personal appeal.

An irritability of the mother, a rejection of the child-rearing and homemaker roles, and a rejection of the child's right for equal status within the family are consistent findings with Bing's research (1963) findings that democratic homes, maternal acceleration, and a warm positive family atmosphere increase the rate of growth of children's intelligence, especially verbal ability. Bing suggests that a discrepancy in the development of verbal ability and non-verbal skills like numerical and spatial ability are increased by restrictive child-rearing practices. Overanxious discipline and tense parent-child relationships may also contribute to low spatial ability in young children.

Spatial Relations

Spatial Relations has been defined as the ability of an observer to perceive the position of two or more objects in relation to himself and in relation to each other.

> The ability to perceive spatial relationships develops later than, and grows out of, the simpler one of perceiving the position of an object in relation to one's body . . . (Frostig and Horne, 1964).

Spatial Relations are a complicated series of sequences that involves other mental tasks including visualization and visual memory.

Only one scale, Equalitarianism, was related to this dimension. With the suggested interrelationship between Position in Space and Spatial Relations it was expected the two areas would have similar findings.

Three social behavior dimensions were related to Spatial Relations which were similar to the findings for Figure Ground: inefficiency, fatiguability, little smiling, withdrawing behavior, lack of self confidence, little smiling, difficulty in approaching other children, and lack of personal appeal.

Perceptual Quotient

The Perceptual Quotient was defined as a score obtained from the sum of subtest scale scores after correcting for age variation.

The findings for total perceptual functioning are consistent with the general hypothesis, rejection of the child's right for equal status within the family and rejection of the homemaker and child-rearing roles were related to low Perceptual Quotient.

Lacking self confidence, little smiling, difficulty in making friends, hesitant in making suggestions to other children and lack of personal appeal were related to low Perceptual Quotient.

Conclusions

In retrospect a number of limitations of this study emerge that seem to be related to the length of time it was underway. The design using a selected rather than a random sample controlling with a multivariate analysis is open to question. Originally a series of studies cutting across socio-economic, educational, and age lines were planned as a continuation of this one. The changing attitude toward case study approaches opens methods more compatible with the nature of the problem posed.

This study does suggest that within a white, educated, middle-class population differences in maternal attitudes toward child-rearing practices are related to children's visual-motor functioning and social behavior. Two dominant attitudinal themes (Schaeffer and Bell, 1955, 1958) have emerged from study in this area: the pattern of authority in the home, and acceptance of the child as an

individual. Findings from this study suggest that mothers who express attitudes reflecting a sense of martyrdom, seclusiveness, dependency, rejection of the homemaking role, irritability, and marital conflict; and who express attitudes reflecting suppression of aggression in their child, discourage his verbalization, and who do not feel that children should have equal status within the family have children who tend to have low perceptual-motor scores, and who show social behavior such as inefficiency, fatigu-ability, cautious withdrawing, social uneasiness, unfriend-liness, lacking personal attractiveness, indecisiveness, lacking affection and being irresponsible. Children from autocratic homes may be more likely to exhibit behavioral problems, take less risks, and show less exploratory be-havior necessary for school success. The child may tend to be unfriendly, lack personal appeal in the eyes of the teachers, and, generally, exhibit a pattern of behavior not related to the classroom environment.

Low perceptual-motor scores are associated with a number of learning and behavioral problems in young chil-dren. A significant number of them do not sufficiently recover from low perceptual-motor functioning during the first grade. Historically, explanations for low scores have been physiological in nature. However, this study suggests that perhaps a more comprehensive explanation re-quires concern for psycho-social aspects of the family

setting including family composition, birth order and sibling position, family size, marital relations of the parents, and minority group membership as well as parent personality, parent attitude, and parent behavior. For maximizing the child's educational opportunity discrepancy between the conditions within an autocratic home where the child tends to be rejected and that of a permissive nursery where the new freedom may contribute to the child's perceptual and other behavior problems needs exploration.

The magnitude of the correlations in this study are not large. However, their meaning becomes important when by squaring the simple correlation (Bloom, 1969) they can be interpreted as the percentage of variation in one variable which is accounted for by another variable. The significant correlations here range from about .3 to .5 (9% to 25%). Variation in children's perceptual-motor and social behavior at this level means the difference between normal and below normal functioning or normal and above normal functioning. This research opens the question for more in-depth study.

Research is needed in both methodology and content. Methodological concerns are most pressing in that dependable data regarding the non-public aspects of family life are difficult to obtain. Case study approaches of the psycho-social interior of the family have become acceptable. Research content suggested by this study are:

1. Re-examination of existing sample for psycho-social variables from family demographic data.
2. Children's social behavior related to perceptual-motor behavior at several age levels.
3. Parental attitudes related to perceptual-motor behavior at several age levels.
4. Parental behavior related to perceptual-motor behavior of young children.
5. Children's social behavior related to perceptual-motor behavior in different settings.
6. Relationship of the psycho-social aspects of the family setting and the school setting related to children's behavior.

APPENDICES

APPENDIX A

CHILDREN'S BEHAVIOR CHECK LIST

CHILDREN'S BEHAVIOR CHECK LIST

Name_____School or Agency_____

Age_____ Grade_____Sex_____Time of Day_____

Birthdate_____Checker_____

Directions: Check only those statements which you feel are <u>really true</u> of the child. Do not guess if you are not reasonably sure.

1. ( ) Vigorous and energetic in his attack on a project.
2. ( ) Over-cautious, not venturesome, afraid to attempt the untried.
3. ( ) Nearly always accomplishes task in spite of difficulties.
4. ( ) Voice animated, alive.
5. ( ) Does not become fatigued easily.
6. ( ) Poor in concentration.
7. ( ) Merely copies other children's reactions, not original.
8. ( ) Concentrates well at his task.
9. ( ) Original and inventive reactions.
10. ( ) Curious and questioning.
11. ( ) Expresses himself well for his age.
12. ( ) Resourceful in dealing with difficult situations.
13. ( ) Poor use of language for his age.
14. ( ) Patient
15. ( ) Absorbed; self-sufficient in his activity.
16. ( ) Restless - a certain dissatisfaction with his own activity.
17. ( ) Retiring; wishes to be in the background.
18. ( ) Even-tempered
19. ( ) Frequently disturbed; easily upset by the disagreeable or exciting.
20. ( ) Seldom disturbed; sudden changes in mood infrequent.
21. ( ) Slow to adjust to a novel experience.
22. ( ) Original in play.
23. ( ) Is easily distracted from task at hand.
24. ( ) Gives up easily, lacks persistence.
25. ( ) Submits to any child who takes the initiative.
26. ( ) Dominates children of his own age (either sex).
27. ( ) Will submit to a specific child only.
28. ( ) Submits to a leader only after a struggle to dominate.
29. ( ) Is a follower in one specific group only.
30. ( ) Occasionally dominates a group.
31. ( ) Usually leads a small group.
32. ( ) Decides who shall participate in the group activities.
33. ( ) Can organize the activities of a group to carry out a definite purpose.
34. ( ) Leads or follows as the occasion demands.
35. ( ) Neither leads nor follows; plays alone.
36. ( ) Dominates other children through his ability to talk effectively.
37. ( ) Dominates other children through their love or admiration for him.
38. ( ) Dominates other children through his wealth of ideas.
39. ( ) Definitely schemes to get others to carry out his plans.
40. ( ) Gives commands with an air of finality.
41. ( ) Helpless unless someone organizes activity for him.
42. ( ) Hesitates to initiate activity.
43. ( ) Usually follows the ideas of others for activity.

44. ( ) Usually has his own ideas for activity.
45. ( ) Usually takes the initiative.
46. ( ) Does not push the issue in case of opposition.
47. ( ) Fights for his place as leader.
48. ( ) Insists that other children do as he wishes.
49. ( ) Does not defend his own rights with other children.
50. ( ) Easily led into mischief by others.
51. ( ) Fails to secure cooperation when he tries to direct activities.
52. ( ) Gets willing cooperation easily.
53. ( ) Almost never laughs or smiles.
54. ( ) Has an unusually good sense of humor.
55. ( ) Has a way of making an appeal with his eyes.
56. ( ) Has a pleasing manner of speech.
57. ( ) Thoughtful of others.
58. ( ) Moderately selfish.
59. ( ) Sympathetic nature.
60. ( ) Inconsiderate of others.
61. ( ) Polite
62. ( ) Mischievous
63. ( ) Brave when hurt.
64. ( ) Truthful
65. ( ) Seldom cries
66. ( ) A good sport
67. ( ) Rough and ready
68. ( ) Forgiving nature
69. ( ) Wanders around aimlessly.
70. ( ) Self-conscious
71. ( ) Intelligently cooperative
72. ( ) Often shows off or acts silly.
73. ( ) Makes pleasant conversation with adults.
74. ( ) Unaffected, spontaneous, natural.
75. ( ) Imaginative
76. ( ) Lacks imagination
77. ( ) Eager to try new things.
78. ( ) Seems to have a plan for every minute.
79. ( ) Brimming over with ideas for activity.
80. ( ) Plays or works virgorously.
81. ( ) Haphazard methods of work and play.
82. ( ) Lacks self-confidence.
83. ( ) Adjusts immediately to the daily routine.
84. ( ) Always goes through the daily procedure willingly.
85. ( ) Has to be constantly urged to carry out routine activities.
86. ( ) Takes a long time to adjust to the daily routine.
87. ( ) Responds readily to direction in the day's routine.
88. ( ) Proceeds as usual with routine in the presence of visitors.
89. ( ) Is businesslike and systematic in endeavoring to carry out routine activities.
90. ( ) Dawdles over routine activities.
91. ( ) Always cooperates in trying to keep the schoolrooms neat and clean.
92. ( ) Perfectly natural in the presence of adults.
93. ( ) Matter of fact in his relations with adults.
94. ( ) Independent of adult in overcoming difficulties.
95. ( ) Dependent upon adult to solve difficulties.
96. ( ) Independent of adult in having ideas about or planning work or play activities
97. ( ) Resents aid from adults.
98. ( ) Pays no attention to visitors.

99. ( ) Bids for attention from adults.
100. ( ) Craves affection from adults but is afraid to show it.
101. ( ) Beautiful features.
102. ( ) Unusually pleasant facial experssion.
103. ( ) Expressive eyes.
104. ( ) Stands erect.
105. ( ) Walks with ease and grace.
106. ( ) Does not take possessions of other children without permission.
107. ( ) Takes good care of school property while using it.
108. ( ) Wants to keep a particular piece of equipment even if not using it himself.
109. ( ) Gives up equipment to other children as soon as finished with it.
110. ( ) Extreme sense of property rights and keen desire to see this enforced.
111. ( ) Shows extreme consideration for school property.
112. ( ) Shows extreme consideration for possessions of others.
113. ( ) Takes good care of his own possessions.
114. ( ) Takes good care of the possessions of other children.
115. ( ) Adds cooperative additions to the suggestion.
116. ( ) Lags in following suggestion.
117. ( ) Responds without undue delay to authority.
118. ( ) So absorbed in his own thoughts that does not comprehend.
119. ( ) Cooperative and responsible.
120. ( ) Makes friends with other children easily.
121. ( ) Finds it difficult to approach other children and make friends.
122. ( ) Makes friends with any child who happens to be around him.
123. ( ) Resents interest shown by other children; wants to be left alone.
124. ( ) Does not respond to friendly advances.
125. ( ) Tries to make entry into group of children but fails.
126. ( ) Unhappy if he is not playing with other children.
127. ( ) So absorbed in his own ideas that he pays no attention to other children.
128. ( ) Contributes to the ideas of the group though not a leader (cooperative companion).
129. ( ) Hesitant in making suggestions to other children.
130. ( ) Assumes a protective attitude towards other children (underline: same sex, opposite sex).
131. ( ) Usually pleasant with other children.
132. ( ) Has a pleasant manner of securing cooperation from other children.
133. ( ) Often abrupt and surly with other children.
134. ( ) Has strong likes and dislikes for other children.
135. ( ) Rather placid attitude toward other children; neither likes nor dislikes them to any degree.
136. ( ) Quarrels with other children often over trivial things.
137. ( ) Seldom quarrels with other children over trivial matters.
138. ( ) Rough and mean with other children.
139. ( ) Hurts other children often due to carelessness.
140. ( ) Impatient with other children.
141. ( ) Very critical of other children.
142. ( ) Is a good sport when he loses to some other child.
143. ( ) Is sympathetic toward other children.
144. ( ) Affectionate toward other children.
145. ( ) Tries to help the smaller children.
146. ( ) Resents aid from other children.
147. ( ) Forgiving of other children who have hurt him, taken his belongings, etc.
148. ( ) Tries to get even with a child with whom he is angry.
149. ( ) Talks to other children a great deal.
150. ( ) Seldom talks to other children.

151. ( ) Cries easily in playing with other children.
152. ( ) Generous in letting other children share activities and possessions.
153. ( ) Attention from other children leads him to "show off" or act silly.
154. ( ) Not jealous if other children play with his particular friends.
155. ( ) Faces the issue squarely.
156. ( ) Concentrates his energy to accomplish a difficult task.
157 ( ) Meets situations in a quiet, matter of fact manner.
158. ( ) Dawdles to avoid a difficult task.
159. ( ) Accepts necessary facts as a matter of course.
160. ( ) Does the best he can with what he has.
161. ( ) Recognizes and accepts the superiority of another child.
162. ( ) Accepts just criticism willingly.
163. ( ) Finds it difficult to accept just blame from his faults.
164. ( ) Regresses to babyish behavior in the face of difficulty.
165. ( ) Quietly accepts success.
166. ( ) Knows when he has done a task well.

APPENDIX B

THE PARENT ATTITUDE RESEARCH INSTRUMENT

INVENTORY OF ATTITUDES ON FAMILY LIFE AND CHILDREN

Read each of the statements below and then rate them as follows:

A	a	d	D
strongly agree	mildly agree	mildly disagree	strongly disagree

Indicate your opinion by drawing a circle around the "A" if you strongly agree, around the "a" if you mildly agree, around the "d" if you mildly disagree, and around the "D" if you strongly disagree.

There are no right or wrong answers so answer according to your own opinion. It is very important to the study that all questions be answered. Many of the statements will seem alike but all are necessary to show slight differences of opinion.

INVENTORY OF ATTITUDES ON FAMILY LIFE AND CHILDREN

		Agree		Dis-agree	
1.	Children should be allowed to disagree with their parents if they feel their ideas are better.	A	a	d	D
2.	A good mother should shelter her child from life's little difficulties.	A	a	d	D
3.	The home is the only thing that matters to a good mother.	A	a	d	D
4.	Some children are just so bad they must be taught to fear adults for their own good.	A	a	d	D
5.	Children should realize how much parents have to give up for them.	A	a	d	D
6.	You must always keep tight hold of baby during his bath for in a careless moment he might slip.	A	a	d	D
7.	People who think they can get along in marriage without arguments just don't know the facts.	A	a	d	D
8.	A child will be grateful later on for strict training.	A	a	d	D
9.	Children will get on any woman's nerves if she has to be with them all day.	A	a	d	D
10.	It's best for the child if he never gets started wondering whether his mother's views are right.	A	a	d	D
11.	More parents should teach their children to have unquestioning loyalty to them.	A	a	d	D
12.	A child should be taught to avoid fighting no matter what happens.	A	a	d	D
13.	One of the worst things about taking care of a home is a woman feels that she can't get out.	A	a	d	D
14.	Parents should adjust to the children some rather than always expecting the children to adjust to the parents.	A	a	d	D
15.	There are so many things a child has to learn in life there is no excuse for him sitting around with time on his hands.	A	a	d	D
16.	If you let children talk about their troubles they end up complaining even more.	A	a	d	D
17.	Mothers would do their job better with the children if fathers were more kind.	A	a	d	D
18.	A young child should be protected from hearing about sex.	A	a	d	D

		Agree		Dis-agree	
19.	If a mother doesn't go ahead and make rules for the home the children and husband will get into troubles they don't need to.	A	a	d	D
20.	A mother should make it her business to know everything her children are thinking.	A	a	d	D
21.	Children would be happier and better behaved if parents would show an interest in their affairs.	A	a	d	D
22.	Most children are toilet trained by 15 months of age.	A	a	d	D
23.	There is nothing worse for a young mother than being alone while going through her first experience with a baby.	A	a	d	D
24.	Children should be encouraged to tell their parents about it whenever they feel family rules are unreasonable.	A	a	d	D
25.	A mother should do her best to avoid any disappointment for her child.	A	a	d	D
26.	The women who want lots of parties seldom make good mothers.	A	a	d	D
27.	It is frequently necessary to drive the mischief out of a child before he will behave.	A	a	d	D
28.	A mother must expect to give up her own happiness for that of her child.	A	a	d	D
29.	All young mothers are afraid of their awkwardness in handling and holding the baby.	A	a	d	D
30.	Sometimes it's necessary for a wife to tell off her husband in order to get her rights.	A	a	d	D
31.	Strict discipline develops a fine strong character.	A	a	d	D
32.	Mothers very often feel that they can't stand their children a moment longer.	A	a	d	D
33.	A parent should never be made to look wrong in a child's eyes.	A	a	d	D
34.	The child should be taught to revere his parents above all other grown-ups.	A	a	d	D
35.	A child should be taught to always come to his parents or teachers rather than fight when he is in trouble.	A	a	d	D
36.	Having to be with the children all the time gives a woman the feeling her wings have been clipped.	A	a	d	D
37.	Parents must earn the respect of their children by the way they act.	A	a	d	D

		Agree		Dis-agree	
38.	Children who don't try hard for success will feel they have missed out on things later on.	A	a	d	D
39.	Parents who start a child talking about his worries don't realize that sometimes it's better to just leave well enough alone.	A	a	d	D
40.	Husbands could do their part if they were less selfish.	A	a	d	D
41.	It is very important that young boys and girls not be allowed to see each other completely undressed.	A	a	d	D
42.	Children and husbands do better when the mother is strong enough to settle most of the problems.	A	a	d	D
43.	A child should never keep a secret from his parents.	A	a	d	D
44.	Laughing at children's jokes and telling children jokes makes things go more smoothly.	A	a	d	D
45.	The sooner a child learns to walk the better he's trained.	A	a	d	D
46.	It isn't fair that a woman has to bear just about all the burden of raising children by herself.	A	a	d	D
47.	A child has a right to his own point of view and ought to be allowed to express it.	A	a	d	D
48.	A child should be protected from jobs which might be too tiring or hard for him.	A	a	d	D
49.	A woman has to choose between having a well-run home and hobnobbing around with neighbors and friends.	A	a	d	D
50.	A wise parent will teach a child early just who is boss.	A	a	d	D
51.	Few women get the gratitude they deserve for all they have done for their children.	A	a	d	D
52.	Mothers never stop blaming themselves if their babies are injured in accidents.	A	a	d	D
53.	No matter how well a married couple love one another, there are always differences which cause irritation and lead to arguments.	A	a	d	D
54.	Children who are held to firm rules grow up to be the best adults.	A	a	d	D
55.	It's a rare mother who can be sweet and even-tempered with her children all day.	A	a	d	D
56.	Children should never learn things outside the home which make them doubt their parents' ideas.	A	a	d	D

		Agree		Dis-agree	
57.	A child soon learns that there is no greater wisdom than that of his parents.	A	a	d	D
58.	There is no good excuse for a child hitting another child.	A	a	d	D
59.	Most young mothers are bothered more by the feeling of being shut up in the home than by anything else.	A	a	d	D
60.	Children are too often asked to do all the compromising and adjustment and that is not fair.	A	a	d	D
61.	Parents should teach their children that the way to get ahead is to keep busy and not waste time.	A	a	d	D
62.	Children pester you with all their little upsets if you aren't careful from the first.	A	a	d	D
63.	When a mother doesn't do a good job with children it's probably because the father doesn't do his part around the home.	A	a	d	D
64.	Children who take part in sex play become sex criminals when they grow up.	A	a	d	D
65.	A mother has to do the planning because she is the one who knows what's going on in the home.	A	a	d	D
66.	An alert parent should try to learn all her child's thoughts.	A	a	d	D
67.	Parents who are interested in hearing about their children's parties, dates and fun help them grow up right.	A	a	d	D
68.	The earlier a child is weaned from its emotional ties to its parents the better it will handle its own problems.	A	a	d	D
69.	A wise woman will do anything to avoid being by herself before and after a new baby.	A	a	d	D
70.	A child's ideas should be seriously considered in making family decisions.	A	a	d	D
71.	Parents should know better than to allow their children to be exposed to difficult situations.	A	a	d	D
72	Too many women forget that a mother's place is in the home.	A	a	d	D
73.	Children need some of the natural meanness taken out of them.	A	a	d	D
74.	Children should be more considerate of their mothers since their mothers suffer so much for them.	A	a	d	D
75.	Most mothers are fearful that they may hurt their babies in handling them.	A	a	d	D

		Agree		Dis-agree	
76.	There are some things which just can't be settled by a mild discussion.	A	a	d	D
77.	Most children should have more discipline than they get.	A	a	d	D
78.	Raising children is a nerve-wracking job.	A	a	d	D
79.	The child should not question the thinking of his parents.	A	a	d	D
80.	Parents deserve the highest esteem and regard of their children.	A	a	d	D
81.	Children should not be encouraged to box or wrestle because it often leads to trouble or injury.	A	a	d	D
82.	One of the bad things about raising children is that you aren't free enough of the time to do just as you like.	A	a	d	D
83.	As much as is reasonable a parent should try to treat a child as an equal.	A	a	d	D
84.	A child who is "on the go" all the time will most likely be happy.	A	a	d	D
85.	If a child has upset feelings it is best to leave him alone and not make it look serious.	A	a	d	D
86.	If mothers could get their wishes they would most often ask that their husband be more understanding.	A	a	d	D
87.	Sex is one of the greatest problems to be contended with in children.	A	a	d	D
88.	The whole family does fine if the mother puts her shoulders to the wheel and takes charge of things.	A	a	d	D
89.	A mother has a right to know everything going on in her child's life because her child is part of her.	A	a	d	D
90.	If parents would have fun with their children, the children would be more apt to take their advice.	A	a	d	D
91.	A mother should make an effort to get her child toilet trained at the earliest possible time.	A	a	d	D
92.	Most women need more time than they are given to rest up in the home after going through childbirth.	A	a	d	D
93.	When a child is in trouble he ought to know he won't be punished for talking about it with his parents.	A	a	d	D
94.	Children should be kept away from all hard jobs which might be discouraging.	A	a	d	D

		Agree		agree	
95.	A good mother will find enough social life within the family.	A	a	d	D
96.	It is sometimes necessary for the parents to break the child's will.	A	a	d	D
97.	Mothers sacrifice almost all their own fun for their children.	A	a	d	D
98.	A mother's greatest fear is that in a forgetful moment she might let something bad happen to the baby.	A	a	d	D
99.	It's natural to have quarrels when two people who both have minds of their own get married.	A	a	d	D
100.	Children are actually happier under strict training.	A	a	d	D
101.	It's natural for a mother to "blow her top" when children are selfish and demanding.	A	a	d	D
102.	There is nothing worse than letting a child hear criticisms of his mother.	A	a	d	D
103.	Loyalty to parents comes before anything else.	A	a	d	D
104.	Most parents prefer a quiet child to a "scrappy" one.	A	a	d	D
105.	A young mother feels "held down" because there are lots of things she wants to do while she is young.	A	a	d	D
106.	There is no reason parents should have their own way all the time, any more than that children should have their own way all the time.	A	a	d	D
107.	The sooner a child learns that a wasted minute is lost forever the better off he will be.	A	a	d	D
108.	The trouble with giving attention to children's problems is they usually just make up a lot of stories to keep you interested.	A	a	d	D
109.	Few men realize that a mother needs some fun in life too.	A	a	d	D
110.	There is usually something wrong with a child who asks a lot of questions about sex.	A	a	d	D
111.	A married woman knows that she will have to take the lead in family matters.	A	a	d	D
112.	It is a mother's duty to make sure she knows her child's innermost thoughts.	A	a	d	D
113.	When you do things together, children feel close to you and can talk easier.	A	a	d	D
114.	A child should be weaned away from the bottle or breast as soon as possible.	A	a	d	D
115.	Taking care of a small baby is something that no woman should be expected to do all by herself.	A	a	d	D

APPENDIX C

QUESTIONNAIRE

*This information is for research *
purposes only, and will be avail-
*able only to the research staff. *
* * * * * * * * * * * * * * * * * * *

CONFIDENTIAL

068

FAMILY PROFILE

I. Child's name_____birthdate_____sex_____

height_____weight_____birth weight_____

II. A. Parent's name: mother_____birthdate_____

father_____birthdate_____

B. Marital status of mother: _____1st and only marriage
_____divorced and not remarried
_____divorced and remarried
_____widowed
_____separated

C. Education of parents:

Mother_____(last grade completed) degree(s)_____

Father_____(last grade completed) degree(s)_____

D. Occupation of parents:

1. Mother (housewife-part or full time outside home)_____
2. How many hours employed outside of home per week?_____
3. Type of job (Professional, managerial, clerical, sales, craftsman, service worker, laborer) _____
4. Father (full-time-part-time-unemployed) _____
5. How many hours per week employed? _____
6. If unemployed, number of weeks since last job. _____
7. Type of job (Professional, managerial, clerical, sales, craftsman, service worker, laborer) _____
8. Does the father have a second job and if so, what type of job? _____

E. Place reared:

	mother	father
farm	_____	_____
urban	_____	_____
suburban	_____	_____
farm to city	_____	_____
city to farm	_____	_____

III. Children living in home: (oldest to youngest)

	Names	birthdate	sex	relationship to mother
1.				
2.				
3.				
4.				
5.				
6.				

IV. Residence:

A. Present address_____

1) How long have you lived here?_____
2) How many times have you moved in the past five years?_____

B. Live in a house, apartment, or shared house?_____

1) Are you renting or buying home?_____
2) Live with parents or relatives?_____
3) Do you rent a portion of house to tenant?_____

C. Location of house (open country-subdivision-city)_____

D. Number of <u>other</u> adults besides the immediate family living in your home._____

Name	age	relationship

V. Language spoken in the home_____

APPENDIX D

PEARSON PRODUCT-MOMENT CORRELATION COEFFICIENTS BETWEEN CHILDREN'S SOCIAL BEHAVIOR AND EYE-HAND COORDINATION, FORM CONSTANCY, AND POSITION IN SPACE

PEARSON PRODUCT-MOMENT CORRELATION COEFFICIENTS BETWEEN CHILDREN'S SOCIAL BEHAVIOR AND EYE-HAND COORDINATION, FORM CONSTANCY, AND POSITION IN SPACE

Social Behavior	Eye-Hand Coordination	Form Constancy	Position in Space
1. Lack of Leadership vs Social Ascendence	.209	.177	.160
2. Irresponsible Compulsiveness vs Personal Responsibility	.110	.098	-.065
3. Need for Presence and Support of Others vs Introspective Self-Sufficiency	.065	.197	-.075
4. Social Ineptitude vs Social Effectiveness	.242	.197	.142
5. Lack of Personal Appeal vs Personal Attractiveness	.205	.269	.052
6. Emotional Instability vs Personal Security, Stability	-.050	.213	-.192
7. Compliant, Retiring vs Compulsive Domination	.029	.044	.161
8. Non-dependability vs Dependability	.232	.108	-.096

APPENDIX E

PEARSON PRODUCT-MOMENT CORRELATION COEFFICIENTS BETWEEN PARI SCALES AND COMPLIANT, RETIRING VS COMPULSIVE DOMINATION AND SOCIAL INEPTITUDE VS SOCIAL EFFECTIVENESS

PEARSON PRODUCT-MOMENT CORRELATION COEFFICIENTS BETWEEN PARI SCALES AND COMPLIANT, RETIRING VS COMPULSIVE DOMINATION AND SOCIAL INEPTITUDE VS SOCIAL EFFECTIVENESS

	Scales	Compliant, Retiring vs Compulsive Domination	Social Ineptitude vs Social Effectiveness
1.	Encouraging verbalization	.120	.121
2.	Fostering Dependency	.262	.135
3.	Seclusion of Mother	.053	.061
4.	Breaking of Will	.063	.036
5.	Martyrdom	.225	.050
6.	Fear of Harming the Baby	.266	.043
7.	Marital Conflict	.063	.055
8.	Strictness	.132	-.209
9.	Irritability	.156	.050
10.	Excluding Outside Influence	.150	.135
11.	Deification	.102	.146
12.	Suppression of Aggression	.035	.171
13.	Rejection of the Homemaker Role	-.087	.103
14.	Equalitarianism	-.172	-.140
15.	Approval of Activity	-.130	.150
16.	Avoidance of Communication	-.050	.137
17.	Inconsiderateness of the Husband	.009	.115
18.	Suppression of Sexuality	.173	.004
19.	Ascendance of the Mother	.003	-.029
20.	Intrusiveness	.065	.145
21.	Comradeship and Sharing	.036	-.064
22.	Acceleration of Development	-.177	.165
23.	Dependency of the Mother	.130	-.136

BIBLIOGRAPHY

BIBLIOGRAPHY

1. Ausebel, D. P. Theory and Problems of Child Development. New York: Grune and Stratton, Inc., 1958.

2. Bateman, Barbara. "Learning Disabilities." Review of Educational Research, 36, 93-119; February, 1966.

3. Bateman, Barbara. "Learning Disabilities--Yesterday, Today and Tomorrow." Exceptional Children, 31, 165-177; December, 1964.

4. Bayley, N. and Schaeffer, E. "Maternal Behavior and Personality Development: Data from the Berkley Growth Studies." Psychiatric Research Reports, 13, 155-173; 1960.

5. Bayley, Nancy and Schaefer, Earl S. "Relationships Between Socio-economic Variables and the Behavior of Mothers Toward Young Children." Journal of Genetic Psychology, 96, 61-77; March, 1960.

6. Bell, Richard Q. "Retrospective Attitude Studies of Parent-Child Relations." Child Development, 29, 323-338; September, 1958.

7. Bills, Robert. "About People and Teachings." Bulletin. Lexington: University of Kentucky Press, 1955.

8. Bing, Elizabeth. "Effect of Childrearing Practices on Development of Differential Cognitive Abilities." Child Development, 34, 631-648, 1963.

9. Bloom, B. S. Stability and Change in Human Characteristics. New York: John Wiley and Sons, 1964.

10. Combs, Arthur W. and Snygg, Donald. Individual Behavior. New York: Harper and Row, Publishers, 1959.

11. Combs, Arthur W. "A Perceptual View of the Adequate Personality." in Perceiving, Behaving, Becoming. ASCD Yearbook, 1962, National Education Association.

12. Cruickshank, William M. Brain-Injured Child in Home, School and Community. Syracuse: Syracuse University Press, 1969.

13. Fliegler, L. A. and Hebler, Jean. A Study of the Structure of Attitudes of Parents of Educable Mentally Retarded Children and a Study of Attitude Change. Washington, D. C.: U. S. Office of Health, Education and Welfare, Syracuse University, 1960.

14. Frostig, M. and Horne, D. The Frostig Program for the Development of Visual Perception. Chicago: Follett Publishing Company, 1964.

15. Frostig, M.; Maslow, P.; Lefever, D. W.; Whittlesey, J. The Marriane Frostig Developmental Test of Visual Perception, 1963 Standardization. Palo Alto, Calif.: Consulting Psychologist Press, 1964.

16. Gordon, Ira (ed.). Human Development: Readings in Research. New York: Scott Foresman and Company, 1965.

17. Handel, Gerald (ed.). Psychosocial Interior of the Family: A Source Book for the Study of the Whole Family. Chicago: Aldine Publishing Company, 1967.

18. Hoffman, Martin L. and Lois W. (eds.). Review of Child Development Research, Volume I. New York: Russell Sage Foundation, 1964.

19. Hoffman, Martin L. and Lois W. (eds.). Review of Child Development Research, Volume II. New York: Russell Sage Foundation, 1966.

20. Kelley, Earl C. "The Fully Functioning Self." in Perceiving, Behaving, Becoming. ASCD Yearbook, 1962, National Education Association.

21. Kephart, Newell C. "Perceptual-Motor Aspects of Learning Disorders." Exceptional Children, 31, 201-206; December, 1964.

22. Kephart, Newell C. The Slow Learner in the Classroom. Columbus, Ohio: Charles E. Merrill Books, 1960.

23. Klatskin, E. H.; Jackson, E. B.; and Wilkin, L. C. "The Influence of Degree of Flexibility in Maternal Child Care Practices on Early Child Behavior." American Journal of Orthopsychiatry, 26, 79-93; 1956.

24. Knoblock, H. and Pasamanick, B. "Prospective Studies on the Epidemiology of Reproductive Casuality: Methods, Findings, and Some Implications." Merrill-Palmer Quarterly, 12, 27-44; January, 1966.

25. Koppitz, Elizabeth M. The Bender Gestalt Test for Young Children. New York: Grune and Stratton, Inc., 1964.

26. Maslow, A. H. "Some Basic Propositions of a Growth and Self-Actualization Psychology." in Perceiving, Behaving, Becoming, ASCD Yearbook, 1962, National Education Association.

27. McNemar, Quinn. Psychological Statistics, Second Edition. New York: John Wiley and Sons, Inc., 1955.

28. McNeil, Elton B. Concept of Human Development. Belmont, Calif.: Brooks-Cole Publishing Company, 1966.

29. Medinnus, Gene R. (ed.). Readings on the Psychology of Parent-Child Relations. New York: John Wiley andSons, Inc., 1967.

30. Medinnus, Gene R. "The Relation Between Several Parent Measures and the Child's Early Adjustment to School." Journal of Educational Psychology, 52, 153-156, 1961.

31. Mussen, P. H. (ed.). Handbook of Research Methods in Child Development. New York: John Wiley and Sons, Inc., 1960.

32. Nye, Francis I. and Berardo, F. M. (eds.). Emerging Conceptual Frameworks in Family Analysis. New York: Macmillan Company, 1966.

33. Pasamanick, B. and Knobloch, H. "Retrospective Studies on the Epidemiology of Reproductive Casualty: New and Old." Meriill-Palmer Quarterly, 12, 7-26; January, 1966.

34. Rogers, Carl R. "Toward Becoming a Fully Functioning Person." in Perceiving, Behaving, Becoming, ASCD Yearbook, 1962, National Education Association.

35. Ruble, William L. and Rafter, Mary E. "Calculation of Least Square (Regression) Problems." Michigan State University: Agricultural Experiment Station, STAT #7; January, 1966.

36. Russell, David H. Children's Thinking. New York: Ginn and Company, 1956.

37. Solley, Charles M. and Murphy, Gardner. Development of the Perceptual World. New York: Basic Books, Ind., 1960.

38. Schaefer, Earl S. "A Circumplex Model for Maternal Behavior." Journal of Abnormal Social Psychology, 59, 226-235; September, 1959.

39. Schaefer, Earl S. and Bell, Richard Q. "Development of a Parental Attitude Research Instrument." Child Development, 29, 339-361; September, 1958.

40. Schvanevelelt, Jay D. "The Interactional Framework in the Study of the Family." in Emerging Conceptual Frameworks in Family Analysis. New York: The Macmillan Company, 1966.

41. Sears, R. R.; Macoby, E. E.; and Levin, H. Patterns of Child Rearing. Evanston, Ill.: Row-Peterson, 1957.

42. Stott, Leland H. Child Development: An Individual Longitudinal Approach. New York: Holt, Rinehart and Winston, Inc., 1968.

43. Strauss, A. A. and Lehtinen, L. E. Psychopathology and Education of the Brain-Injured Child. Volume I. New York: Grune and Stratton, Inc., 1947.

44. Strauss, A. A. and Kephart, N. C. Psychopathology and Education of the Brain-Injured Child. Volume II. New York: Grune and Stratton, Inc., 1955.

45. Werner, H. and Strauss, A. A. "Types of Visuo-Motor Activity in Their Relationship to Low and High Performance Ages." Proceeding of American Association of Mental Deficiency. XLIV, 163-168, 1939.

46. Witkin, H. A.; Kyk, R. B.; Patterson, H. F.; Goodenough, D. R.; and Kapp, S. A. Psychological Differentiation, Studies of Development. New York: John Wiley and Sons, Inc., 1955.

47. Yarrow, Marian R. "Problems in Methods in Parent-Child Research." Child Development, 34, 215-226; 1963.

48. Yarrow, Marian R. et al. Child Rearing: An Inquiry into Research and Methods. San Francisco: Jossey-Bass, Inc., Publishers, 1968.