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THE DEVELOPMENT OF EMPATHY, ROLE-TAKING
AND LISTENING AS A FUNCTION
OF PRESCHOOL EXPERIENCE

by

Joseph P. DeMarsh

A thesis submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF SCIENCE

in

Family and Human Development

Approved:

Major Professor

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UTAH STATE UNIVERSITY
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Joseph P. DeMarsh

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ABSTRACT

The Development of Empathy, Role-Taking
and Listening as a Function
of Preschool Experience

by

Joseph P. DeMarsh, Master of Science

Major Professor: Dr. Gerald R. Adams
Department: Family and Human Development

The major purpose of this investigation was to assess the potential effects of preschool education on indices of social competency. In specific, it was proposed that preschool education effects would be observed on measures of empathy, role-taking and listening.

A Solomon Four Group Design was employed to accomplish this task, using exposure of preschoolers to the Utah State University Child Development Laboratories for one quarter as the experimental treatment condition. While the typical Solomon design uses only one pretest-posttest experimental group, two groups were identified in this investigation since children were drawn from two preschool labs taught by different head teachers. Groups 3, 4, and 5 followed the conventional design, being; pretest-posttest, treatment-posttest, and posttest only control groups, respectively. Experimental group subjects were randomly assigned from the child development labs, while control groups came from families living in the surrounding communities.

Developmental changes over time were observed for empathy and listening skills, but were not observed on the role-taking measure. Some

evidence was presented to suggest that empathy may be primarily influenced by maturational effects, while listening skill development may be primarily influenced by preschool educational experiences. In particular, memory and auditory sequencing were found to be highly influenced by preschool influences. Further, there were also classroom differences, which indicate that either the individual teacher or classroom curriculum has specific influences which were not directly explored in this investigation. The practical significance of these findings and their relationship to existing literature was discussed.

(73 pages)

CHAPTER I

INTRODUCTION

In the last several decades, educators have been demonstrating the importance of cognitive and intellectual development during the early years. Bloom (1964) maintains:

Intelligence develops at a changing rate; as much development takes place in the first four years of life as in the next 13 years. Evidence suggests that marked changes in the environment in the early years can produce greater change in the intelligence than will equally marked changes in the environment at later periods of development. (p. 88)

Likewise, Hunt (1961) says, "It seems that change in the intellectual structures is most rapid during the early months and years, and that the effect of environmental encounters during the early period should perhaps be the most potent" (p. 361). While such statements have created a controversy which has been waging for more than a decade (Kagen, 1977), the importance of early childhood development can not be denied.

More recently, however, scientists and educators have been indicated that early years are equally important in the areas of social and emotional development. Zigler (1970) argues that, "The oft-heard truism that the early years are highly important for the intellectual development of the child need to be extended to include also the child's emotional and social adjustment" (p. 441). White (1975) supports this notion by suggesting:

My feeling is that once a child reaches two years of age, his primary orientation has been established, and from then on it becomes increasingly difficult to alter this significantly. To begin to look at a child's educational development when he is two years of age is already much too late, particularly in the area of social skills and attitudes. (p. 258)

Nonetheless, while White's statements are enlightening, they tend to be somewhat of an overstatement. If one considers these trends in educational, social, and psychological research, the present widespread surge in pre-school intervention programs should come as no surprise. American's tax dollars are currently being spent to fund some rather sizeable and expensive programs. These programs include Title I of the Elementary and Secondary Education Act at a cost of approximately 1.5 billion annually; the Head Start Program at a cost of over 400 million annually; and day care, which amounts to federal and state expenditures in excess of two billion a year (Zigler and Trickett, 1978). It is with little wonder that both legislators and taxpayers are now calling for some type of evaluative research to assess whether these programs succeed or fail. In the more familiar term, legislators and taxpayers want accountability. Given the differences in opinion by noted scholars like Bloom and White, it seems reasonable to specifically address the young child and pre-school educational impact.

Problem

One need not look far to see that the model response to the pressure of accountability has been housed in IQ scores, or more accurately, in the magnitude of change in the child's IQ. IQ is a good indice of several dimensions of human potential, but its value as an over-all evaluative measure for pre-schools has serious limitations. While this

of preschool intervention programs, have caught much "flack". The basis for these criticisms may be traced beyond IQ measures per se, and back to the original goals of preschool intervention programs.

Zigler (1970) suggests, "The proper goal of preschools is not the production of intellectual paragons but rather the production of adjusted individuals representing a wide spectrum of intellectual ability, who actualize themselves as human beings given whatever intellectual potential they have" (p. 410). Weber (1973) indicates, "Education must foster the development of complete human beings with a sense of integrity and a coherent set of values and personal goals" (p. 429). Further support for this "wholistic" approach as the goal for education is found in Dewey (1902), Lavatelli (1970), White and Siegel (1976), Jorden and Streets (1973), Travis (1976), Anderson and Messick (1974), and Greenberg and Sorensen (1974).

Hence, it may be seen that while IQ measures represent a valid and necessary component concerning pre-school outcome evaluations, sole reliance upon it ignores other equally important constituents of the education process. Zigler (1970) pragmatizes this notion by maintaining:

As long as we worship cognition, remedial efforts such as Head Start will be evaluated in terms of IQ change, which will be misinterpreted as an inexorable reflection of changes in the child's formal cognitive system. We can appreciate the importance of cognition, while at the same time attending to those other aspects of the child's development that are clearly important in determining into what type of adult the child will develop. (p. 409)

Further, Zigler (1970) remarks:

If I am correct in my suspicion that compensatory programs have a larger impact on social, motivational, and emotional factors than cognitive factors, we will never assess the magnitude of this impact by continuing to over emphasize cognitive measures in our evaluations of compensatory efforts. Social competence rather than IQ should be the primary measure of success of intervention programs. (p. 47)

Others supporting the notion that social skills are required for valid outcome evaluations include McClland (1973), Deutsch (1975) and Zigler (1973). Two points appear to be indicated: 1) that the goals of pre-school education encompass, as well as surpass, straight intellectual gains, and 2) that we require more indicies than a sole IQ measure to properly evaluate these programs, specifically, measures which tap social and emotional development and competence as well.

The difficulty now is that while many researchers indicate indicies, other than IQ measures are needed for evaluation purposes, few have devised such measures. There seem to be two etiological factors at present concerning the lack of such measures. First, as Zigler (1978) indicates:

We have witnessed no very wide adoption of the construct of social competence as the primary goal of early intervention programs for the very simple reason that there is little consensus as to exactly what measures should be employed to define social competence. (p. 794)

Second, an immediate problem with early and tentative competence indices is that they are hopelessly infused with values that are far from universal (Anderson and Messick, 1974). Hence, a serious deficit in both preschool educational literature and outcome evaluative research exists. Nonetheless, numerous indicies of social competence exist which can be utilized in evaluative research. However, as has been noted, widespread

acceptance of the measures as universally accepted indices of social competence is questionable.

Purpose

This study is concerned with assessing the effects of preschool intervention programs. Most previous attempts have relied primarily upon IQ measures for providing the data. These results, however were shown to be fractional and yield an incomplete picture with respect to the goals and objectives of the program, (eg., see the Westinghouse Evaluation Report, Appendix I). Present research and theory indicate a more diverse battery of measures is required for outcome assessments, including social, emotional, and intellectual measures. While support for this notion may be found withing the literature, few researchers have developed and used social skills measures.

Hence, the purpose of this project is to increase the utility of preschool intervention outcome evaluations through investigating the effect preschools have on the development of social competency skills. Specifically, differences between pretest and posttest scores on empathy, role-taking and listening were investigated. It is felt that any evaluative study, regardless of the subject matter, is valuable only to the extent to which it addresses itself to program goals and objectives. By including measures designed to tap the goals and objectives of preschool programs, other than straight cognitive development, a more ecologically valid assessment of intervention programs effectiveness may be obtained.

CHAPTER II

LITERATURE REVIEW

Recent years have witnessed a nation-wide surge in preschool education programs. These programs range from HEW's nationally sponsored Head Start/Home Start Project, through state funded extension services, to local and private enterprise. The U.S. Office of Education's 1977 report estimated that this nation spent over four billion dollars on programs designed for pre-schoolers. While the philosophies grounding these various programs, and the goals directing them may vary, and at times conflict, they all share one common thread, namely intervention. It is generally recognized throughout the various disciplines involved with the young child, that preschool is intervention (White, 1975; Zigler, 1970; Frost and Hawkes, 1966; Hunt, 1964; Hess and Shipman, 1965).

There are several possible etiological factors concerning this dramatic increase of intervention programs. The most obvious involves current research which indicates the importance of early years in the developmental process. Initially, these studies were interested in identifying various factors which affected school achievement. Deutsch (1970) summarizes the results from these early studies by maintaining:

The idea that no differences exist in children's learning processes is well supported by most learning theorists. Differences arise from the child's preparation to handle requirements at school. (p. 685)

These initial studies sparked the curiosity and interest of educators, researchers, politicians, and parents as well. As research continued and results compiled, it became increasingly clear that early education is important. Examples of studies supporting this contention are found abundantly throughout the literature.

Research by Skeels (1965), indicates there is a significant and lasting effect of early educational experiences. His longitudinal study of infants placed in cottages where they received "optimum" care and stimulation until the age of three, contrasted to those who remained institutionalized, remains a hallmark in learning theorists arguments for the effects of childhood experiences. Other studies, such as those carried out by the Perry Pre-School Project (1977), also support the importance early experience and learning plays in school achievement. Their program, emphasizing environmental enrichment and exposure, indicates significant short and long term gains in school achievement. Further support for the importance of early education may be found in Bloom (1964), Hunt (1961), Piaget (1952), Zigler (1970), and White (1975).

In addition, studies addressing the effects of educational experiences on school achievement, support the importance of early training and education in minimizing the effects of early experiential deprivation. For example, early experiential deprivation has been found to be associated with decreases in cognitive functioning, perceptual acuity, auditory attention, memory, and fine motor skills according to research reported by the High/Scope Foundation (1977), Bradshaw (1969), and Deutsch (1970).

Hence, one may conclude that indeed, early training and education is important. The importance of these findings for the present study, however, hinges on the connection between preschool education and the

development of the "whole child". As indicated previously, intervention programs and early life experiences effect a child in more ways than just IQ and cognitive development. In fact, only one of the seven goals listed in the 1978 Head Start Information Bulletin (Appendix II), concern the intellectual and/or cognitive development of the child.

Some of these broader goals include:

- A) Improving the child's health.
- B) Improving the child's social and emotional development.
- C) Improving and expanding the child's ability to speak clearly, think, and reason.
- D) Helping the child get more and varied experiences.
- E) Helping the child to gell success and erase feelings of frustration and failure.
- F) To change the family attitude toward society and work toward involving them in the community.
- G) Help families achieve the highest degree of independence they are capable of achieving.

The seven goal statements clearly demonstrate current intervention programs are interested not only in intellectual and cognitive development, but development of social skills as well. Obviously, the major assumption underlying these goals is that intervention programs and early life experiences can effect social skills as well as cognitive development. Next, evidence will be presented to support the contention that social skills, like school achievement, is a function of early experiences.

Zigler (1970) defined social skills and competence as:

An individuals' everyday effectiveness in dealing with his environment. A child's competency may be described as his ability to master appropriate formal concepts, to perform well in school, to stay out of trouble with the law, and to relate well to adults and other children. (p. 326)

A logical question at this point would be, "How are these skills and competencies developed?" Evidence suggests that social skills in children are a function of early experiences and interactions.

Mueller and Brenner (1977) carried out a study which investigated the origin of social skills and interaction among play-group toddlers. The study analyzed social interaction through a short-term longitudinal design. Fifteen toddlers were videotaped for 15 minutes during free play activity on four equally spaced occasions over a seven-month duration. The authors conclude:

In summary, these results demonstrate that the evaluation of peer social skill did not occur through maturation or even through immediate generalization of toddler skills with adults. Indeed, in isolation from peer interaction, the expression of social skills never showed frequency changes. Rather the increase use of coordinated social behaviors was consequent on participation in peer interaction itself. (p. 860)

As such, social interaction and experience was seen as a source of growing social skill, and not its product.

Oden and Asher (1977) completed a study designed to test the effect that a one-week coaching treatment of several social skills had on sociometrically isolated nine-ten year olds. Their results demonstrated that coached children received higher ratings on a sociometric post-test than did the control group. In a similar type of investigation, Chandler (1973) demonstrated that performance on a role-taking task was improved through a training procedure whereby the Ss engaged in

dramatic role play. These studies serve as testimony to the notion that social skills are grounded in childhood life experiences.

To proceed, we must briefly consider the notion of "social competence" and what, for the purposes of this study, it entails. Greenberger and Sorensen (1974) defined social competency as: 1) the capacity to interact adequately with others, 2) the capacity to function adequately on one's own, and 3) the capacity to contribute to societal cohesion. These three general categories subsume specific skills related to the ability of one to function in a socially acceptable manner. The degree to which one develops and displays these skills corresponds to how socially competent he is said to be, and how socially accepted he is. Similarly, Anderson and Messick (1974) devised a taxonomy of 29 statements defining social competence in young children. These statements describe certain behaviors which serve as indices in the assessment of social skill development in children. Among others are: 1) perceptual skills, 2) positive and affectionate personal relationships, 3) perceptual-motor skills, 4) communication skills, 5) appropriate regulation of anti-social behaviors, 6) curiosity and exploratory behavior, and 7) role perception and appreciation.

The importance of these taxonomies and categorizations lie in their bridging theory with reality. Without qualification, "social competence" is a relatively meaningless concept. By operationalizing it, however, "social competence" acquires meaning through measurable correlates. Acquisition and developmental trends may be assessed through investigating changes in the various skills over time. As indicated previously, social skills presently employed as indices of social competence, are grounded in early life experiences. The importance of this notion becomes

evident when the relationships between social skills and behavior are examined. For practical purposes, this study is concerned with three specific social skills that are seen as important components of social competence; empathy, role-taking, and listening. The following sections are divided according to these social skills, each containing operationalizations, relations to early life experiences and education, and behavioral correlates.

Empathy

Empathy is usually perceived as the ability to predict or relate to another person's feelings when observing that individual. Or, as the Western Regional Project (Note 1) maintains, "The ability to experience an emotional response, or recognize it, when viewing another person and inferring through that observation the perceived feeling in or by another" (p. 3). Research indicates that empathy is an important skill in relation to social competence and behavior (eg., Borke, 1971; Chandler, 1973; Feshbach and Roe, 1968; Hoffman, 1977; Lonrow, 1965; Borke, 1973; Gottman and Rasmussen, 1975).

In a study concerning social isolation, social competence, and friendships in children, Gottman and Rasmussen (1975) maintain that an important relationship exists between (a) social skills, (b) social interaction, and (c) popularity. Their results indicate popular children had higher scores on empathy measures, among others, and had greater incidence of peer interaction. These results support the growing consensus that, "Empathy is increasingly being recognized as one of the primary processes underlying human interaction and communication" (Borke, 1971, p. 263). In fact, in recent decades psychologists from

different theoretical persuasions have proposed it as the key underlying factor in altruistic behavior (Aronfreed, 1970; Freud, 1937; Hoffman, 1963; and Stern, 1924).

Hence, empathy may be seen as an important factor contributing to how a child functions in day to day living and interacting. Deficiencies in empathic ability have been shown to be correlated with isolation, rejection, egocentrism, and poor social adjustment. The importance of these findings for the present study, however, go one step beyond these empathy-behavior correlates, for as empathy has been shown to effect behavior, early experiences appears to influence the development of empathy.

Role Taking

Generally, role-taking is defined as, "The ability to adopt a viewpoint other than one's own, or perspectivism" (Hollis and Cowan, 1973, p. 631). Failure to develop age related role-taking skills has been shown to effect in a detrimental manner intellectual ability, social behavior and competency, (Chandler, 1973; Selman, 1971; Zahn-Waxler, Radke-Yarrow, and Brady-Smith, 1977; Jennings, 1975; Rubin and Maioni, 1975; Rothenberg, 1970; West, 1974; Hollis and Cowan, 1973; Gottman and Rasmussen, 1975).

In a study investigating the relationship of play preference with egocentrism, popularity, and role-taking, Rubin and Maioni, (1975) found role-taking may be used as an indice of child's popularity and play-style. The authors conclude that the ability to take the view of others (role-taking) is a function of a decline in the child's egocentric thinking. The type of play the child engages in (functional vs. dramatic)

is predictive of how the child thinks, (egocentrically vs. non-egocentrically). If a child can think in a way other than egocentrically; if he can adapt a viewpoint other than his own, he is likely to be popular.

The following studies indicate a positive relationship exists between role-taking ability and social adjustment; including such aspects as leadership (Bell and Hall, 1954), sociometric status (Rose and Frank, 1956), personality traits (Dymond and Raabe, 1952), and psychopathology (Dymond, 1950). In addition, several studies indicate pro-social behavior is linked to the development of ego-appropriate role-taking skills and demonstrate that a variety of forms of social deviancy are associated with persistent egocentric thought (Anthony, 1959; Chandler, 1972; Feffer, 1970; Oden and Asher, 1977).

These data suggest that role-taking, like empathy, may be viewed from a developmental perspective. Early experiences effect the development of role-taking skills, which in turn, effect behavior and interactions. Although empathy and role-taking share some common traits, with respect to acquisition and function, they do, however, encompass separate or unique characteristics as well. Empathy, defined as the ability to predict or relate to another person's feelings, deals with a cognitive awareness of another's emotions. Role-taking on the other hand, defined as the ability to perceive a viewpoint other than one's own, irregardless of feeling, involves perceptual and cognitive skills. As such, empathy and role-taking may be viewed as related but separate dimensions of social competency skills.

Listening

Listening may be defined as the ability to communicate with another by attending to their verbal cues. Of the three social skills relative to this study, listening is by far the least investigated. Unlike empathy and role-taking, few studies have examined the relationship between listening skills and behavioral correlates. Further, specific conditions effecting the acquisition of listening skills have also received little attention.

The relative lack of research in the area does not preclude it, however, from being an important factor contributing to a child's social adjustment and competency. In fact, the few studies available on the subject seem to indicate its importance. Oden and Asher (1977) for example, investigated the relationship between listening skills, friendship, and sociometric status. Their results demonstrated that scores on listening measures correlate with scores on sociometric measures and ability to make friends. Further, they report that coaching isolated children on basic listening techniques, produces significant gains on sociometric measures. Similarly, Childers (1970) also found that listening skills may be improved with instruction.

Given listening skills, like empathy and role-taking, are indices of social competency which are likely to be influenced by environmental effects, specific antecedents to listening skills should be identifiable. Therefore, it might be speculated that similar to empathy and role-taking, interaction and practice of listening skills are necessary for their development.

Hypotheses

In summary, early experience is thought to effect empathy, role-taking and listening skill acquisition. These skills, in turn, have previously been demonstrated to effect and predict children's social interactions, adjustment, and competency. If the goals of our pre-school intervention programs are, as stated earlier, the development of the "whole child", we should find some development of these social skills as a function of exposure to an intervention program. Although the Utah State Child Development Laboratories are not intervention-oriented in the sense of rectifying some early childhood deprivation (such as Head Start), they are intervention programs however, in that they interpose between infancy and the regular commencement of educational experiences.

The present study is designed to investigate this very question; specifically, to examine what effects exposure to a pre-school intervention program has on three and four year old's empathy, role-taking, and listening skills. It is hypothesized that in a pre-test, post-test experimental control group design, significant differences on empathy, role-taking and listening measures should occur as a function of the pre-school experience. As such, this study serves the function of assessing the effectiveness of a pre-school intervention program on social skill acquisition, as well as furthering our attempts at devising a valid outcome-evaluative measure for pre-school intervention effectiveness on social competency.

CHAPTER III

METHODOLOGY

Subjects

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Forty-one children were sampled in this study, 24 children from the Child Development Laboratories (experimental group), and 18 children randomly selected from names appearing on the waiting list for admission into the labs (control group). The ages range from three and one-half to five years old. Mean ages for experimental groups 1 and 2 and control group 3, 4, and 5 (4.0, 4.1, 4.0, 4.2, 3.7, respectively), showed no significant differences.

Measurement

The three standardized measuring instruments employed in this project were selected as the best suited for the purposes intended here. Each instrument was critically examined with respect to validity, reliability, applicability to the present study. Each test will be briefly described and general background on the rationalizations for their selection will be provided. In addition to these three standardized instruments, a parental questionnaire was devised as another technique for assessing preschool effects. These questions were designed as exploratory items.

The Borke Empathy Scale was devised in 1971 as an instrument and to measure interpersonal awareness. Despite the variety of conceptualizations

for empathy presently found throughout the literature (Borke, 1971; Feshbach and Roe, 1968; Mossler, et. al., 1974; Mead, 1934; Stotland, 1971; Hoffman, 1975), few emperical advances have been made (Deutsch and Madle, 1975). One reason for this paucity of significant research appears to be a lack of consensus for operational definitions concerning empathy.

Some early definitions (Kohler, 1929; Lipps, 1909), viewed empathy purely as a perceptual awareness of an individual's affect, a sharing of feeling. These notions however, were soon countered by more sophisticated conceptualizations which maintain empathy is a multi-facet social skill including affective and cognitive components. Mead (1934) for instance, supported this notion and defined empathy as a capacity to take the role of the other person with whom one interacts or, "putting yourself in his place" (p. 74). Differing opinions though, led to other notions concerning empathy. Stotland (1971) have maintained that the observer who actually shows the feelings of another (shared emotional response) is reflecting empathy. They described the empathic process as the observer recognized the other's emotional state and then reacts sub-jectively and physiologically to his perception of that state. Still, other researchers have revised operalizations for empathy by maintaining it to be conceptual perspective taking (Mossler, et. al., 1974), social sensitivity (Rothenberg, 1970), shared affective feelings (Feshbach and Roe, 1968), the Adlerian concept of Social Interest (Ansbacher, 1966), and cognitive awareness (Astin, 1967).

Although it would be highly impossible to define empathy in a manner that is agreeable to all, there are consistencies one may identify across the various conceptualizations. Among others, including a self-other differentiation, it is proposed here that the development of sympathetic

ability in children can be usefully conceptualized as a cognitive phenomena that is governed by processes described by Piaget (1952). The decline of egocentrism and increased ability to decenter that occur during preschool and elementary years appear to be precursors to empathic ability.

A cognitive perspective therefore, may provide a theoretical framework for the multiple selection of independent and dependent variables which are related theoretically to empathy. In this fashion, a developmental approach could be applied for assessing empathy over time as a function of multiple factors. It was from within this cognitive-oriented framework that the Borke Empathy Scale was selected for assessing changes in preschoolers empathic abilities.

The Borke test consists of two parts. In Part I, the children are first shown drawings of four faces depicting the emotional responses of "happy", "sad", "afraid", and "angry", which they are asked to identify. The children are then told stories in which another child might easily be perceived as feeling happy, sad, afraid or angry (eating a favorite snack, losing a toy, being forced to go to bed at night, etc.). Each story is accompanied by a picture of a child with a blank face engaged in the described activity. Following the presentation of each story, the examiner again names the emotion represented by each of the four faces, and asks the child to complete the picture by selecting the face that best shows how the child in the story felt.

In Part II, the children are presented with eight additional stories in which they are described as behaving toward another child in ways that might make the other preschooler feel happy, sad, afraid, or angry (eg., sharing candy, refusing to play, pushing him off a bike, etc.).

This time the child is shown the faces and asked to point to the one which best indicates how the other child felt in the situation. Part II is thought to control for situational setting effects on children's responses.

This test was selected for several reasons. First, it appeared the most valid in measuring the ability of a preschooler to predict or relate to another person's feelings when observing that individual. This decision is based on the face validity of the test, as well as literature reviews assessing the relative strength of various empathy scales (Hoffman, 1977). Second, the Borke empathy scale appears reliable via its widespread use and application. Helene Borke has employed the test several times within the American Chinese culture (Borke, 1971; Borke and Su, 1972; Borke, 1972; Borke, 1973). Third, this measure was selected in part due to its "goodness of fit" with the intentions of the present study. The scale was designed specifically for preschoolers, which is the target population for the investigation. While many other empathy scales exist, few are designed with subjects this young in mind. At best this measure should be viewed as an assessment of children's perceptions of appropriate emotions for specific situational contexts. As such it is ideally viewed as a cognitive-perceptual measure of empathy.

The Piaget and Inhelder Role-taking Measure, commonly referred to as "the three mountains test", was designed to measure the ability of a child to distinguish another's viewpoint from his own. In its original form, the child is shown a scale model of three mountains and tested for his ability to represent the appearance of the mountains from positions

other than his own (e.g., the child sits facing the mountains and is asked to select from a series of photographs the one that depicts what the mountains looks like to a doll sitting on the opposite side of the mountains). The ability of the child to perform this task correlates with the level of the child's egocentrism or perspectivism. As such, this measure is well suited for the present study, for as Piaget (1952) indicate, the ability to take the view of others (role-taking) is a function of a decline in the child's egocentric thinking.

There are other factors, however, which also influenced the decision to employ the three mountains test. First, the test was designed specifically for the young child. Children respond simply by pointing to the appropriate visual representation, thus eliminating confounding processes of cross-model responses. Second, it has enjoyed extensive use and application, by many different researchers, since its conception. In fact, this measure has been utilized in a variety of research situations. For example, in one study the representation of simple objects (e.g., a needle, a disk, etc.) were viewed in different perspectives. Another study had subjects predict the various shapes that an objects' shadow would assume when the object was placed in different spatial orientations. Still another involved the rotation and development of various solids (e.g., the subject is asked to present what a cylinder or a cone would look like if it were unrolled and spread out flat). The fact that others have employed the three mountains test, with various situationally determined alterations, and obtained consistent data, testifies to its predictive validity and general reliability.

The Preprimary Auditory Screening Test (PPAST) was designed to assess: (1) auditory discrimination, (2) auditory figure-ground, (3) auditory memory, and (4) auditory sequencing. These are the four parameters of auditory processing used in communication. Each process is systematically assessed allowing 4 subtests and a total score. This is a four minute test administered individually, during which time the child is required to point to a visual representation of the auditory stimulus.

This test was selected, in part, because of its wide-spread use as an auditory screening test for Head Start children and for California State pre-schools. Although a strong indicator of the test's worth, this is not the sole criteria the selection was based upon. The PPAST, like the previous two measures, was designed specifically for kindergarten age children. Unlike many listening skill tests which rely upon verbal reports of auditory stimuli, the PPAST requires the child to point to visual representation of the auditory stimuli, thus, eliminating the auditory-verbal process transition and boosting reliability. Further, validity and reliability concerns were prominent during the measurement's conception. Test development procedures included measurement of the difficulty level of each item and correlation of each item with every other item and the subtest total. Reliability was estimated by coefficient alpha, while construct validity was determined by inter-correlation of each subtest with every other and with the total test.

The Parental Perception Measures were three questions administered to parents as a parental assessment of children's empathy, role-taking and listening abilities. These questions were exploratory in nature

and were devised as an additional means to assess pre-school effects. Parents were asked to rate their child on one Likert type scale for each social skill. Items were written mainly from face validity. These questions were:

1) In measuring interpersonal awareness (on the following 5 point scale) how empathic (i.e., the ability to understand another's feelings) do you see your child?

NOT EMPATHIC		AVERAGE		HIGHLY EMPATHIC
1	2	3	4	5

2) A good listener must possess several skills, including the ability to follow directions, discriminate between speaker and background noise, and remember what has been said. On a five point scale, how do you see your child's listening ability?

LITTLE ABILITY		AVERAGE		MUCH ABILITY
1	2	3	4	5

3) Sometimes the perspective of a parent clashes with the viewpoint of a child, e.g., in household chores and duties. When differences occur, how well does your child understand the other person's perspective?

NOT AT ALL		SOMEWHAT		COMPLETELY
1	2	3	4	5

Procedure

This study employed a Solomon Four-Group design, using exposure to curriculum of the child development laboratories for one quarter as the independent variable (treatment). (Figure 1) Measurements were obtained on previously constructed instruments for each of the three social skills; empathy, role-taking, and listening as well as those pertaining to parental perceptions. The Utah State Child Development Laboratories were chosen; 1) because they afforded excellent opportunity for interaction with and observation of the students as well as teachers, 2) because they appear consistent with many preschool programs found in universities throughout the United States, and 3) because of availability and convenience.

During the first week of winter quarter (1978), the Borke Empathy Scale (1973), Piaget and Inhelder Role-Taking Measure (1956), and the Preprimary Auditory Screening Test were individually administered to each new student. Similarly, each child in the control group, those waiting for admittance into the labs, were also administered the above tests during the same time interval. As previously indicated, a one quarter pre-school lab experience served as the treatment variable.

The three social skill measures were again individually administered during the final week of the quarter to both experimental and control groups. Groups 4 and 5 (see Figure 1) were only tested at the posttest data collection point.

<u>Groups</u>	<u>n</u>	<u>Pretest</u>	<u>Treatment</u>	<u>Post-test</u>
1	11	0	x	0
2	7	0	x	0
3	14	0		0
4	5		x	0
5	4			0
Total	41			

Figure 1: Solomon Four Group Design with Randomization.

Note: The dotted lines between groups 1 and 2 are included to remind the reader that subjects are collapsed into one group when classroom effects are not of immediate interest but the focus is upon general educational treatment influences.

CHAPTER IV

RESULTS

General Research Design

The major purpose of this investigation was to assess the potential effects of preschool education on indices of social competency. In specific, it was proposed that preschool educational effects would be observed on measures of empathy, role-taking and listening skills. To accomplish this task a Solomon Four Group Experimental Design was utilized to test preschool effects on these social competency indices. This design, which is viewed as one of the more powerful techniques for controlling various confounding factors related to internal and external validity (Campbell and Stanley, 1963, Table 1, p. 8), offers the particular strengths of controlling for pretesting and maturational effects while likewise offering increased generalizability due to numerous experimental and control group comparisons.

Figure 1 summarizes the design and its various experimental and control groups. Groups 1 and 2 were the pretest-posttest experimental groups in this study. While the typical Solomon design uses only one pretest posttest experimental group, two groups were identified in this investigation since children were drawn from two preschool labs taught by different head teachers. It should be noted that for certain analyses these two groups are treated as separate experimental groups to test for possible classroom effects, while for other analyses these two groups

are collapsed when classroom effects are not of immediate concern. Group 3 is a pretest posttest control group which primarily controls for possible maturational effects. Group 4 is an additional experimental group (posttest only) which can also be used to assess for possible pretest effects. While Group 5 is typically referred to as a posttest only control group and can be used to further investigate pretest effects.

A secondary purpose of this investigation was to study parental perceptions of children's developmental changes in social competency as a function of preschool education effects. Further, we wished to investigate the validity of parental perceptions with children's actual behavior. Therefore, for the first four groups outlined in Figure 1, parents were contacted at the close of the study and were asked to evaluate their child on empathy, role-taking and listening measures. Thus a comparison of the four groups was completed for each of the parental responses to assess possible educational effects on parent's perceptions of children's social competency. And a correlation between parental perceptions and children's post-test scores were completed to assess congruence between perception and behavior.

Experimental Data Analysis

Intraindividual Change

A basic objective in the study of human development is the investigation of intraindividual change. Kessen (1960) has delineated the classic paradigm for the study of development. The formula $C_T = f(A)$ implies that the changes in a response (behavior) is a function of age, i.e., behavior is related to specific time-change functions. Therefore, these data were examined for empirical evidence that empathy, role-taking

and listening are age-related behaviors. Two general techniques are used in assessing change, the cross-sectional and longitudinal methodologies. In the present investigation short-term longitudinal data were gathered.

To assess intraindividual change, children in the laboratory experience and the appropriate control group sample were compared on pretest and posttest scores for empathy, role-taking and listening skills. Standard T-tests were completed on each dependent measure. A comparison of pretest and posttest scores for the preschool laboratory experience (see Table 1) indicated listening and empathy skills increased with age. However, no significant role-taking changes were observed. In comparison, for the pretest posttest control group (see Table 2) only empathy showed a significant developmental trend with age. Further, both role-taking and listening skills increased with age, but not appreciably ($p < .10$).

TABLE 1
Pre-Post Test Differences for Groups 1 and 2 Combined

Dependent Variable	Pre-Test		Post-Test		T-Value	P-Value
	\bar{x}	S.D.	\bar{x}	S.D.		
Role-Taking	1.00	.594	1.12	.167	-0.09	.381
Listening	11.55	3.65	13.77	4.27	-2.20	.042
Empathy	10.33	2.80	12.72	2.32	-3.53	.003

TABLE 2
Pre-Post Test Differences for Group 3

Dependent Variable	Pre-Test		Post-Test		T-Value	P-Value
	\bar{x}	S.D.	\bar{x}	S.D.		
Role-Taking	1.14	.949	1.64	1.08	-1.20	.251
Listening	11.50	5.14	12.85	3.67	-1.20	.250
Empathy	9.57	2.50	11.85	2.44	-2.72	.018

Collectively these data might suggest that given listening skills were observed to change with age for the experimental but not control group sample, such skills are likely to be influenced by educational (environmental) effects. However, given empathy development was observed for both groups, one may conclude that maturational factors are involved.

Preschooling Influences on Social Competency

The previous analyses related to intraindividual change suggests that certain social competency indices may be more readily influenced by educational experiences than others. While the study of intraindividual change is important, one must recognize such study is merely descriptive in nature. As Baltes and Schaie (1973) have repeatedly remarked ... "time, like chronological age, is a nonpsychological variable whose theoretical meaning must always be deduced from further research aimed at the systematic explication of behavior changes in terms of the antecedents and processes that occur over time" (p. 361). Therefore, the Solomon four group design was utilized in this investigation in

an attempt to identify educational contributions to intraindividual change in empathy, role-taking and listening skill behaviors.

Eliminating pretest and experimenter influences. Pretest posttest comparisons are often plagued with the confounding factor of pretesting influences on posttest scores (Campbell and Stanley, 1963). One inherent advantage of a Solomon group design is its ability to assess and control for such confounding possibilities. A comparison of Group 3 and 5 and a comparison of 1, 2 and 4 (see Figure 1) allow the researcher to assess for potential pretesting influences. To accomplish this task a one-way analysis of variance was computed for each of the three dependent measures posttest scores. As summarized in Table 3, neither role-taking nor empathy measures reached significance; however, posttest scores for the listening skill total measure was significant beyond chance ($p < .04$).

TABLE 3
Comparison of Post-Test Score Differences

Group #	Role-Taking		Listening		Empathy	
	\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.
1	1.272	.646	11.81	4.12	12.54	2.65
2	1.00	.816	16.85	2.34	13.00	1.82
3	1.64	1.08	12.85	3.67	11.85	2.44
4	1.00	.00	15.50	3.41	12.00	1.82
5	1.60	.894	12.00	3.74	12.00	2.34
F-Ratio	< 1.00		2.73		< 1.00	
P-Value	.427		.043		.755	

Individual comparisons, using Tukey's A test for simple effects, revealed groups 1 and 2 differed significantly, but did not differ from the remaining control group comparisons. These data suggests that pretest effects were not operative, but rather, differential classroom effects are likely in the study of preschool influences on listening skill development. Therefore, pretesting effects, as a confounding factor, were eliminated as a possible influence in this investigation.

Experimenter effects were also controlled for by keeping the experimenter consistent with the group tested between pre-and posttest measures. Further, one experimenter handled both experimental groups, while another covered the control groups.

Equivalent groups. Although preschool subjects were randomly placed in each of the three child development labs (Groups 1, 2 and 4) by the administrative staff of the program, and children were drawn randomly by the experimenter for participation with further randomization used in defining the control groups (Groups 3 and 5), a test of the effectiveness of this procedures was completed. A one-way analysis of variance was computed for each pretest measure on empathy, role-taking and listening for Groups 1, 2 and 3; where pretest scores were obtained as part of the larger Solomon four group design. These comparisons are summarized in Table 4.

TABLE 4
Post-Test Score Differences for Groups 1, 2 and 3

Group #	Role-Taking		Listening		Empathy	
	\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.
1	1.00	.632	10.54	4.10	9.18	2.52
2	1.00	.577	13.28	1.97	12.14	2.34
3	1.14	.949	11.50	5.14	9.57	2.50
F-Ratio	<1.00		<1.00		3.42	
P-Value	.877		.406		.046	

No significant difference between the groups pretest scores were observed for role-taking and listening. For the empathy measure, however, Group 2 was observed to be significantly higher in empathic abilities than Groups 1 and 3. Therefore, one may conclude that randomization was relatively effective in defining equivalent groups with the noted exception of the differences on the empathy measure. Given this final conclusion related to empathy score differences, the investigator chose to control for possible pretest group differences in assessing for preschool effects on social competency indices.

Educational influences on social competency development? The major purpose of this investigation was to assess the potential effects of preschool education on three indices of social competency. It was hypothesized that preschool educational influences would be observed on empathy, role-taking and listening skills. Due to potential pretest differences between Groups 1, 2 and 3, analyses of covariance were completed to control for potential pretest effects on posttest measures.

Therefore, three separate analyses of covariance were completed on the three dependent measures using a Sex x Treatment factorial with pretest scores as covariates. These data are summarized in Table 5.

TABLE 5

Analysis of Variance on Post Test Measures by Groups 1, 2 and 3

Dependent Variable	Gender		Treatment		2-Way Interaction	
	F-Value	P-Value	F-Value	P-Value	F-Value	P-Value
Role-Taking	.718	.405	1.195	.319	.648	.532
Empathy	.824	.373	3.227	.057	.236	.792
Listening	.130	.722	.322	.728	.166	.848

No significant main effect for sex, treatment or interaction effect was observed for role-taking or empathy measures. However, a significant main effect for listening skill behavior was observed for three treatment groups. Group 2 (Mean = 16.86) was significantly higher on its posttest measure than Groups 1 (Mean = 11.83) and 3 (Mean = 12.86). These results suggest not only that educational experience can influence listening skill development, but differences in classroom experience can have dramatic effects on patterns of development over time.

Given the total listening skill score consisted of four subscale measures, additional analyses were completed to identify which, if any, subscales were affected by educational experience. Table 6 summarizes a comparison of the 3 groups on the four subscale measures.

TABLE 6

Analysis of Variance on Listening Subscales by Groups 1, 2 and 3

Dependent Variable	<u>Gender</u>		<u>Treatment</u>		<u>2-Way Interaction</u>	
	F-Value	P-Value	F-Value	P-Value	F-Value	P-Value
Subscale 1	.413	.526	1.09	.350	.171	.844
Subscale 2	1.27	.269	2.71	.086	.318	.730
Subscale 3	4.09	.054	5.34	.012	1.81	.183
Subscale 4	.184	.672	7.95	.002	1.02	.373

The primary results of these computations suggest that memory and auditory sequencing are likely to be the major listening skills influenced by preschool educational experiences. Once again, Group 2 scored significantly higher than Groups 1 and 3 on both memory and auditory sequencing measures. These findings are consistent with the results of the total listening skills score described above.

Parental Perception Data Analysis

A secondary purpose of this investigation was to study parental perceptions of their children's developmental changes in social competency as a function of preschool education effects; and to investigate the validity of such perceptions with children's actual behaviors. Parents' perceptions of their children's empathy, role-taking and listening skills were not correlated with the children's actual behavior (see Table 7).

TABLE 7

Parental Perception Measures with Children's Post Test Scores

Dependent Variable	Parent's Percep. of Empathy		Parent's Percep. of Listening		Parent's Percep. of Role-Taking	
	\bar{r}	P-Value	\bar{r}	P-Value	\bar{r}	P-Value
Role-Taking	.299	.128	.094	.277	.103	.260
Listening	-.085	.298	.012	.468	-.286	.035
Empathy	.168	.146	.130	.208	-.041	.399

Further, a one-way anova indicated there were no significant differences between groups for parental ratings (see Table 8).

TABLE 8

Analysis of Variance on Parent's Perceptions

Group #	Parent's Perceptions of Empathy		Parent's Perceptions of Listening		Parent's Perceptions of Role-Taking	
	\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.
1	3.63	.809	3.72	1.00	3.45	.522
2	3.28	.488	3.57	.786	2.85	.378
3	3.78	1.121	3.92	1.071	3.42	.851
4	3.80	1.303	3.80	1.09	3.80	.477
F-Ratio	<1.0		<1.0		2.30	
P-Value	.712		.887		.095	

As such, these data seem to question the validity of parents ability to assess their children's empathy, listening, and role-taking skills; or the utility of using parents as judges of preschool effects on their children's social competency development.

Summary of Findings

Developmental changes over time were observed for empathy and listening skills, but were not observed on the role-taking measure. Some evidence was presented to suggest that empathy may be primarily influenced by maturational effects, while listening skill development may be primarily influenced by preschool education experiences. In particular, memory and auditory sequencing were found to be highly influenced by preschool influences. However, there were clear classroom differences, which indicate that either the individual teacher or classroom curriculum has specific influences which were not directly explored in this investigation. Parental perceptions were neither correlated with children's actual skills, nor were they differentially influenced by the child's preschool history.

CHAPTER V

DISCUSSION

The primary goal of this study was to investigate the potential effects of preschool intervention on social competency development. Specifically, the study was undertaken to assess the effects of a preschool intervention program on children's empathy, role-taking and listening skills. A secondary purpose of this investigation was to study parental perceptions of children's developmental changes in social competence as a function of preschool experience.

Social Skill and the Preschool Experience

As some recent investigations have suggested, preschool intervention programs may have a significant effect upon cognitive, social and emotional development in children (Zigler, 1979); McClelland, 1973; Deutsch, 1975). Popular support for this notion may be seen in the present widespread surge in preschool education programs.

However, few investigations have been completed with appropriate control group comparisons to eliminate factors associated with pretest-ing or maturational confounds. This study provides some empirical evidence which supports the notion that preschools can have an effect upon the young child's development of certain social competency behaviors. While role-taking and empathy did not demonstrate significant increases as a function of the preschool experience, upward trends were

present. Listening skills, however, were seen to increase significantly as a function of the classroom experience. Hence, social competencies such as listening skills, (and perhaps empathy and role-taking) may be improved through exposure to certain types of learning experiences.

Listening

Listening has been defined as the ability to communicate with another by attending to their verbal cues. Unlike empathy and role-taking, few studies have investigated the relationships between listening skills and behavioral correlates. Further, specific conditions effecting the acquisition of listening skills has received little attention. The few studies available on the subject, however, seem to indicate; 1) the importance of listening in relation to social competency, and 2) the importance learning experiences have on listening skill development. Oden and Asher (1977) found that listening skills were not only associated with friendship and sociometric status, but that specific coaching techniques for social skills produces significant gains on sociometric measures. Similarly, Childres (1970) and Maccoby and Konrad (1966) also found that listening skills may be improved with instructions.

Data presented in the present study (see Table 1) appear to support this notion. After controlling for possible pre-testing effects and group composition differences, significant increases were found between pretest and posttest listening score measures on two subscales. These results indicate that certain classroom activities and experiences accelerate the development of at least two listening skills, specifically, auditory discrimination and auditory figure-ground.

Hence, these results seem consistent with recent investigations that maintain listening, like empathy and role-taking, is a skill that can be influenced by educational experiences. The implications of these findings for pre-school educators seem to emphasize the importance of including social skill development techniques in classroom curriculum.

Empathy

Empathy was defined as the ability to predict or relate to another person's feelings when observing that individual. Recent studies have indicated the important nature of empathic abilities in relation to social competence and behaviors. Gottman and Rasmussen (1975) indicate popular children had higher scores on empathy measures and a greater incidence of peer interaction. Similarly, Borke (1971) maintains, "Empathy is increasingly being recognized as one of the primary processes underlying human interaction and communication" (p. 263). One manifestation from the growing interest in empathy is the development of numerous empathy measurement instruments. A brief look at the literature indicates a wide variety of instruments designed to assess empathic abilities are available (Rothenberg, 1970; Feshbach and Roe, 1968; Hogan, 1968; Borke, 1971).

Although interest in empathy research is great, and much work is currently underway to devise and refine instrumentation, there is a paucity of information concerning etiological factors of empathy development. In a review of selected effects of schooling on the development of psychosocial maturity, Adams, Shea and Kecerguis (1978) maintain, "Very little is known about the factors that facilitate its (empathy) development. In our search of educational and child development

research over the last decade we were unable to locate a single schooling effect study on the development of empathic behavior" (p. 267).

The present investigation confronted the task of assessing pre-school effects on empathy development. Results indicate exposure to a preschool experience did not change students' empathy skills. While there was a significant increase from pretest to posttest scores (see Tables 1 and 2), this difference was attributed to maturational and education factors.

This data seems to indicate two possibilities. First, empathy skills development are a maturation-bound phenomena. That is, regardless of one's background and experiences, empathy skills develop as a function of age. As an individual matures, this ability to relate to another person's feelings increases. As such, this hypothesis would maintain physiological constituents are the factors that facilitate empathy development.

Second, factors which effect empathy development are as abundant in a non-preschool environment as they are in the classroom. Tables 1 and 2 show significant increases in both experimental and control groups empathy scores. This indicates that whatever the facilitating factors Ss in the preschool were exposed to, they were also present in the environment of Ss in the control groups. Essentially, etiological factors concerning empathy development are those encountered in every-day experiences. In lieu of present research, however, the investigator would speculate that those factors are imbedded in interpersonal interactions encountered during every-day experiences. That through interacting with people, an individual practices these skills required for empathic behavior and hence, improves.

While the first hypothesis is quite parsimonious and hence attractive, I feel the second more adequately takes into account existing literature and better explains the results of the present study.

Role-Taking

Role-taking was defined as the ability to adopt a viewpoint other than one's own or "perspectivism" (Hollos and Cowan, 1973, p. 63). Recent investigations correlate one's role-taking skills with a number of social competencies including leadership (Bell and Hall, 1954), sociometric status (Rose and Frank, 1956), and social adjustment (Chandler, 1972; Feffer, 1970; Oden and Asher, 1977).

Unlike empathy and listening, however, the literature contains several studies which investigate specific factors that influence role-taking development. Deutsch (1933), Hollos and Cowan (1973), and West (1974) maintain early social experiences with peers may set the foundation for accelerated development in role-taking skills. Other studies, centering more on curriculum strategies and techniques, demonstrate that remedial role-training through the use of drama and video filming (Chandler and Fox, 1966) can also be effective in improving children's role-taking skills. Of further interest to the present investigation is Rubin and Maioni's contentions (1975) that the ability to take the view of others (role-taking) is a function of a decline in the child's egocentric thinking.

Results of this study indicated no significant difference between pre-and posttest scores on the role-taking measure occurred due to exposure to the preschool experience. Frankly, these data are puzzling. While the preschool curriculum did not employ video filming; drama,

role-switching, social interaction and exchange of perspectives were frequent. In lieu of current literature, one would expect to have seen some significant change in role-taking scores.

One possible explanation concerning the failure of role-taking to reach significance centers on Rubin and Maioni's contention that the ability to take the view of others is a function of a decline in the child's egocentric thinking. To think in a non-egocentric manner presupposes cognitive decentering. Decentering, in turn, is a developmental phenomena requiring enough maturation to permit concrete operational thought (Piaget, 1952). The present results may imply Ss were not old enough to permit perceptual role-taking activities. This would explain the ineffectiveness of the preschool experience in facilitating role-taking skill development. Regardless of the curriculum strategies employed, if Ss have not matured to a level which permits concrete operational thought, and hence, cognitive decentering, no increases in role-taking skills can be expected. Hence, the results of the present investigation concerning role-taking scores may be seen as consistent with present stage theorists.

Classroom Differences: Teacher Effects

Educational based literature indicates that various curricula have differing effects upon social skill development. Mueller and Brenner (1977) carried out a study which investigated the origin of social skills and interaction among play-group toddlers. The authors concluded that curricula incorporating peer interactions produce larger increases in the area of coordinated social behaviors than those which do not. Similarly, Oden and Asher (1977) completed a study designed to

test the effect that a one week coaching treatment of several social skills had on sociometrically isolated nine and ten year olds. Their results demonstrated that by including social skill competency instructions into existing curriculum, those skills effecting peer-interactions may be improved. Similarly, Chandler (1973) demonstrated that by including dramatic role-play situations into classroom activities, the role-taking skills of students could be improved.

Current literature indicates however, that in addition to curriculum variables, teachers and teaching style also differentially effect social skill development. In outlining preschool effects on school achievement and social skills for instance, the Perry Pre-School project (1977) emphasized the importance of environmental enrichment with teacher involvement and interaction for increasing school achievement and social skills. Other investigations emphasizing the importance of teachers and teaching styles on cognitive and social skill development are found throughout the literature, (Chandler, 1972; Oden and Asher, 1977; Deutsch, 1970; Dewey, 1902; Tavis, 1976).

Hence, these studies indicate not only that social skills are grounded in childhood and classroom experiences, but that different types of experiences have varying effects on their development. Results of the present study may be seen as consistent with this notion. These data indicates there was a significant improvement between the pre-and posttest listening scores for the two treatment groups, (see Table 1). After breaking the listening measure down into its four subscales and comparing these posttest measures for groups one and two, some interesting data emerged (see Table 9).

TABLE 9

One-Way Analysis on Mean Differences for Listening Post Test Subscales

Dependent Variable Group	Discrimination		Figure-Ground		Memory		Sequencing	
	\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.
1	4.09	1.22	3.54	1.43	2.36	1.43	1.81	.981
2	5.28	.755	4.00	.577	4.42	.786	3.42	1.27
3	5.00	.877	3.14	.77	3.57	1.78	1.14	1.16
4	4.60	.894	3.40	.54	2.40	1.94	1.60	1.14
F-Ratio	2.70		1.233		3.18		6.44	
P-Value	.061		.313		.036		.0015	

Experimental Group two displayed consistently higher posttest scores than experimental Group one on all listening subscales. After considering the fact that no significant differences existed in pretest listening scores between the two groups (see Table 10), it can be concluded there must have been some differential curriculum and/or teacher effects in operation.

TABLE 10

T-Test Between Groups 1 and 2 for Three Social Competency Measures

Test Period	Dependent Variable	Group 1		Group 2		F-Value	P-Value
		\bar{x}	S.D.	\bar{x}	S.D.		
Pre	Role-Taking	.857	.378	.750	.775	4.20	.661
	Listening	8.42	5.62	8.87	6.09	1.18	.836
	Empathy	8.42	3.91	7.93	5.53	2.0	.811
Post	Role-Taking	1.14	.690	1.31	.793	1.32	.613
	Listening	13.71	4.27	13.25	4.23	1.02	.814
	Empathy	12.14	2.41	12.75	2.29	1.10	.584

Upon examination, both teacher and curriculum differences were found between the two experimental groups.

Curriculum Differences

Generally, the two experimental groups were exposed to similar lab experiences with respect to curriculum. Both groups had one topic presented at the beginning of the week which was broken down into daily activities. The topics closely resembled one another and were at times identical. The major difference between curriculums were the daily activities and not the general topics.

Group one's subjects were exposed to many activity-oriented programs which stressed involvement, peer interaction, and participation. Activities were loosely organized so as to facilitate maximum participation and spontaneity. Similarly, material was less structured than in group two and left much room for extemporaneous presentations and revisions.

The notion that differences in posttest listening scores for the two experimental groups may be a function of curriculum and teacher differences, is consistent with current literature on listening skill behavior. Maccob and Konrad (1966) investigated age trends in selective listening skills of elementary school age children. While they found specific age-related trends, (that the number of correct responses increased with age, while the number of intrusive errors decreased with age) their results also indicated that listening performance was improved through exposing Ss to blocks of trials. That is, Ss performance on listening tasks improved with practice. Similar conclusions were reached by Childers (1970) in a study which sought to assess the extent to which listening skills could be enhanced as the result of a systematic effort toward that objective. He concludes, "Listening ability is a modifiable skill which is less a function of intelligence and more a function of learning" (p. 3).

Parental Perceptions: A Failure in Confirmation

Parental measures were devised to investigate how accurately parents perceived their children's social skills. Further, these data were used to evaluate the potential effects of preschool education on parental perceptions of children's development of role-taking, empathy, and listening skills. As previously indicated, the responses on these measures were neither correlated with the child's actual behavior, nor with the history of preschool experiences. These findings suggest several possible conclusions.

First, parents are not good judges of their children's social skills. Second, parents perceptions may be valid assessments and the

standardized measures employed in the present study are not. Third, parents may be valid judges of their children's social skills, but because of inadequate instruments, were not able to accurately respond (Peery and Toney, 1979).

Retrospectively, the second possibility appears quite unlikely. The three standardized measures were chosen in part because of their internal and external validity, as well as reliability factors. The third possibility, however, holds promise especially if one maintains parents are valid judges of their children's social skills. Briefly, parents may have accurate perceptions but due to an inadequate base from which they had to respond on the three measures, were unable to make accurate evaluations. That is, if a standard of comparison were presented for each question, parents could standardize their perceptions in relation to that controlling factor.

Implications for Future Research

An extensive body of literature now exists which documents the rationale, strengths, and desirability for field evaluations (Bennet and Lumsdaine, 1975; Caine and Hollister, 1972, Campbell, 1969; Stanley, 1972). In addition, and partly as a function of actual experiences in field experiments, some of the more practical problems in carrying through evaluative research are beginning to appear (Anderson, 1976; Cook and Campbell, 1975). Some of these problems include attrition, maintaining treatment conditions without contaminating the controls, methodological issues, and political and ethical conditions. In addition, Rossi (1972) maintains the major problem facing evaluative research concerns defining the criteria of evaluation. The author supports Rossi's

contention by agreeing that precise and accurate knowledge of the relevant variables are essential for any investigation.

In all cases, the basic assumption of evaluative research is that the program itself, its goals, and the criteria for its success are sufficiently well defined so as to allow an appropriate research plan to be designed. This notion has important ramifications for evaluative studies within the social sciences, especially when dealing with preschool and remedial training programs. Program goals are often complex and usually not clearly specified in advance. Often there is no consensus on even what the goals are (as in the Westinghouse evaluation report on Head Start; see Appendix I). This in turn, may lead to results being discussed on the grounds that the evaluation was inappropriate in the first place. Hence, it appears that the starting point of any evaluation study concerns the conceptual and operational specification of major relevant variables.

An additional implication concerns multivariate assessments. Zigler (1970) maintains that for preschool evaluation studies to prove useful, a multitude of variables must be scrutinized, including social motivational, emotional and cognitive factors. The present investigation supports this notion by showing some social skills are effected by preschool experiences. While evaluative studies need be somewhat program specific, that is, directed at assessing the criteria that warrants success for that particular program, they should do so with as broad a range as feasible. As such, a more complete conceptualization concerning program effects may be attained.

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APPENDIX

APPENDIX I

THE IMPACT OF HEAD START

An Evaluation of the Effects of Head Start
On Children's Cognitive and Affective Development

WESTINGHOUSE LEARNING CORPORATION--OHIO UNIVERSITY

JUNE, 1969

EXECUTIVE SUMMARY

This report presents the results of a study on the impact of Head Start carried out for the Office of Economic Opportunity from June 1968 through May 1969 by Westinghouse Learning Corporation and Ohio University.

The study attempted in a relatively short period of time to provide an answer to a limited question concerning Head Start's impact; namely: Taking the program as a whole as it has operated to date, to what degree has it had psychological and intellectual impact on children that has persisted into the primary grades?

The very real limitation of our study should be established at once. The study did not address the question Head Start's medical or nutritional impact. It did not measure the effect of Head Start on the stability of family life. It did not assess the impact of Head Start on the total community, on the schools, or on the morale and attitudes of the children while they were in the program. The study is therefore a limited and partial evaluation, but one based on solid, useful, and responsible research.

We were not asked to answer all the questions that might have been asked. Those that we did ask (and answer), however, were the right questions to ask first. This is an ex post facto study; we therefore did not have the opportunity to observe the Head Start classrooms whose output we measured, nor could we attempt to ascertain various kinds of secondary social or mental health benefits.

The basic question posed by the study was:

To what extent are the children now in the first, second, and third grades who attended Head Start programs different in their intellectual and social-personal development from comparable children who did not attend?

To answer this question, a sample of one hundred and four Head Start centers across the country was chosen. A sample of children from these centers who had gone on to the first, second, and third grades in local area schools and a matched sample of control children from the same grades and schools who had not attended Head Start were administered a series of tests covering various aspects of cognitive and affective development (listed below). The parent of both the former Head Start enrollees and the control children were interviewed and a broad range of attitudinal, social, and economic data was collected. Directors or other officials of all the centers were interviewed and information was collected on various characteristics of the current local Head Start programs. The primary grade teachers rated both groups of children on achievement motivation and supplied a description of the intellectual and emotional environment of their elementary schools.

Analyses of comparative performances on the assessment measures of all children in the study were conducted for each selected center area. Findings were combined, then, into the total national sample

(called the overall analysis) and into the total national sample (called the overall analysis) and into three major subgroupings of centers formerly attended by the Head Start children, the latter being classified by geographic region, city size, and racial/ethnic composition. All the findings were also related to the type of program attended, i.e., summer or full-year program.

The major findings of the study are:

1. In the overall analysis for the Metropolitan Readiness Tests (MRT), a generalized measure of learning readiness containing subtests on word meaning, listening, matching, alphabet, numbers, and copying, the Head Start children who had attended full-year programs and who were beginning grade one were superior to the controls by a small but statistically significant margin on both "Total Readiness" and the "Listening" subscore. However, the Head Start children who had attended summer programs did not score significantly higher than the controls. (This particular cognitive measure was used in grade one because it does not require the ability to read.)
2. In the overall analysis for the Stanford Achievement Test (SAT), a general measure of children's academic achievement, containing subtests on word reading, paragraph meaning, spelling, arithmetic, and so on, used to measure achievement at grades two and three, the Head Start children from both the summer and the full-year programs did not score significantly higher than the controls at the grade two level. While the children from the summer programs failed to score higher than the controls at grade three, an adequate evaluation of the effect of the full-year program at this grade level was limited by the small number of programs.
3. In the overall analysis for the Illinois Test of Psycholinguistic Abilities (ITPA), a measure of language development containing separate tests on auditory and vocal reception, auditory and visual memory, auditory-vocal association, visual-motor association, etc., the Head Start children did not score significantly higher than the controls at any of the three grade levels for the summer programs. In the case of the full-year programs, two isolated differences in favor of Head Start were found at grade two for two subtests of the ITPA, namely, "Visual Sequential Memory" and "Manual Expression."
4. In the overall analysis for the Children's Self-Concept Index (CSCI), a projective measure of the degree to which the child has a positive self-concept, the Head Start children from both the summer and the full-year programs did not score significantly higher than the controls at any of the three grade levels.
5. In the overall analysis for the Classroom Behavior Inventory (CBI), a teacher rating assessment of the children's desire for achievement in school, the Head Start children from both the summer and the full-year programs did not score significantly higher than the controls at any of the three grade levels.

6. In the overall analysis for the Children's Attitudinal Range Indicator (CARI), a picture-story projective measure of the child's attitudes toward school, home, peers, and society, the Head Start children from the full-year programs did not score significantly higher than the controls at any of the three grade levels. One isolated positive difference for summer programs was found on the "Home" attitude subtest at grade one.

7. The above findings pertain to the total national sample. As mentioned previously, additional analyses were made for three subgroups of the national sample: geographic regions, city-size groups, and racial/ethnic composition categories. Analysis of the summer programs by subgroups revealed few differences where Head Start children scored higher than their controls. Analysis of the full-year programs by the same subgroupings revealed a number of statistically significant differences in which, on some measures (mostly subtests of cognitive measures) and at one or another grade level, the Head Start children scored higher than their controls. There were consistent favorable patterns for certain subgroups: where centers were in the Southeastern geographic region, in core cities, or of mainly Negro composition. Even though the magnitudes of most of these differences were small, they were statistically significant and indicated that the program evidently had had some limited effect with children who had attended one or another of these types of full-year centers.

8. Apart from any comparison with control groups, the scores of Head Start children on cognitive measures fall consistently below the national norms of standardized tests. While the former Head Start enrollees approach the national level on school readiness (measured by the MRI at first grade), their relative standing is considerably less favorable for the tests of language development and scholastic achievement. On the SAI they trail about six-tenths of a year at second grade and close to a full year at grade three. They lag from seven to nine months and eight to eleven months respectively on the IIPA at first and second grades.

9. Parents of Head Start children expressed strong approval of the program and its effect on their children. They reported substantial participation in the activities of the centers. Parents of full-year enrollees tended to be slightly better educated but with a slightly lower income than parents of summer enrollees; summer programs enrolled a larger proportion of white children.

Viewed in broad perspective, the major conclusions of the study

are:

1. Summer programs appear to be ineffective in producing any gains in cognitive and affective development that persist into the early elementary grades.

2. Full-year programs appear to be ineffective as measured by the tests of affective development used in the study, but are marginally effective in producing gains in

cognitive development that could be detected in grades one, two, and three. Programs appeared to be of greater effectiveness for certain subgroups of centers, notably in mainly Negro centers, in scattered programs in the central cities, and in Southeastern centers.

3. Head Start children, whether from summer or from full-year programs, still appear to be considerably below national norms for the standardized tests of language development and scholastic achievement, while performance on school readiness at grade one approaches the national norm.

4. Parents of Head Start enrollees voiced strong approval of the program and its influence on their children. They reported substantial participation in the activities of the centers.

An analysis of covariance random replications model was used for the main analysis of the data obtained in this study. This statistical procedure was cross-checked by both a non-parametric analysis (with appropriate matchings) and an analysis of covariance with individuals rather than centers as the basic unit. Overall results with all procedures were similar.

In sum, the Head Start children can not be said to be appreciably different from their peers in the elementary grades who did not attend Head Start in most aspects of cognitive and affective development measured in this study, with the exception of the slight but nonetheless significant superiority of full-year Head Start children on certain measures of cognitive development.

A variety of interpretations of the data are possible. Our measures were taken after children had been out of Head Start from one to three years, in order to detect persisting effects. It is conceivable that the program does have a significant impact on the children but the effect is matched by other experiences, that it is contravened by the generally impoverished environment to which the disadvantaged child returns after he leaves the Head Start program, or that it is an intellectual spurt that the first grade itself produces in the non-Head Start child. Or it is possible that the Head Start program has a significant impact on the children who attended, but that the presence of these improved children in the classroom has raised the level of the whole class to the point where there are no longer statistically reliable differences between the Head Start and non-Head Start children. A further possibility exists that Head Start has been of considerable impact where adequately implemented, but lack of more positive findings reflects poor implementation of the program. Or it is possible that Head Start has been effective only with certain types of pupils, and so on.

In any case, the study indicates that Head Start as it is presently constituted has not provided widespread significant cognitive and affective gains which are supported, reinforced, or maintained in conventional education programs in the primary grades. However, in view of the mixed results from the full-year findings, the impact on the parents, the obvious values of the medical and nutritional aspects of the program, and the critical need for remediating the effects of poverty on disadvantaged children, we make the following recommendations:

1. Summer programs should be phased out as early as feasible and converted into full-year or extended-year programs.

2. Full-year programs should be continued, but every effort should be made to make them more effective. Some specific suggestions are:

a. Making them a part of an intervention strategy of longer duration, perhaps extending downward toward infancy and upward into the primary grades.

b. Varying teaching strategies with the characteristics of the children.

c. Concentrating on the remediation of specific deficiencies as suggested by the study, e.g., language deficiencies, deficiencies in spelling or arithmetic.

d. Training of parents to become more effective teachers of their children.

3. In view of the limited state of knowledge about what would constitute a more effective program, some of the full-year programs should be set up as experimental programs (strategically placed on a regional basis), to permit the implementation of new procedures and techniques and provide for an adequate assessment of results. Innovations which prove to be successful could then be instituted on a large scale within the structure of present full-year programs. Within the experimental context, such innovations as longer periods of intervention or total family intervention might be tried.

4. Regardless of where and how it is articulated into the structure of the federal government, the agency attempting the dual research and teaching missions presently assigned Head Start should be granted the focal identity and organizational unity necessary to such complex and critical experimental programs. Their basis of funding should take cognizance of both the social significance of these missions and the present state-of-the-art of programs attempting to carry them out.

In conclusion, although this study indicates that full-year Head Start appears to be a more effective compensatory education program than summer Head Start, its benefits cannot be described as satisfactory. Therefore we strongly recommend that large-scale efforts and substantial resources continue to be devoted to the search for finding more effective programs, procedures, and techniques for remediating the effects of poverty on disadvantage children.

APPENDIX II

INFORMATION: OPERATION HEAD START

I. PURPOSE: "To Make A Difference"

Head Start makes a difference in the lives of its children. Through the children and their future contribution to people, Head Start will make a difference in the life of a nation and a world. Head Start has the opportunity to "make a difference" in the health, well being, intellectual and cultural progress of the world.

Fundamentally, Head Start is People! Its contribution is to low-income families. It exists to serve the needs of families, to extend the reach of a child to lift up the heart of families. The purpose of Head Start is to make a difference in and to children and adults and to the quality of life in our society.

II. GOALS: Total Development of the Child

- A. Improving the child's health.
 - 1. physical exams
 - 2. dental checks
 - 3. immunization
 - 4. good nutritional program
- B. Improving child's social and emotional development.
 - 1. developing self-confidence
 - 2. encouraging self-expression
 - 3. development of self-discipline
 - 4. extending and developing curiosity
- C. Improving and expanding child's ability to speak clearly, think, and reason.
 - 1. listen to the child
 - 2. teach terminology
- D. Helping the child get more and varied experiences.
 - 1. field trips
 - 2. introduce new foods
 - 3. introduce games, rhymes and manipulative toys
- E. Helping the child to feel success and erase feelings of frustration and failure.
 - 1. use of positive reinforcement in the total program
 - 2. give opportunities for the child succeed
- F. To change the family attitude toward society and work toward involving them in the community.
 - 1. providing psychological services to parents to ease family problems

2. working directly with parents in informal social settings
 3. providing the opportunity for parents to work in policy-making groups
 4. encouraging parents to become involved in other groups
- G. Help families achieve highest degree of independence they are capable of achieving.
1. giving opportunity for parents to receive education and training
 2. building of positive self-image

III. PARTICIPANTS:

- A. Pre-kindergarten -- four years old or older (four years of age before October 31)
- B. OEO Guidelines
- C. Children referred by courts, welfare, agencies, schools, are selected first.
- D. No child is discriminated against because of religion, ethnic origin, or sex or capability.

V. PROGRAM:

- A. Activities (daily activities include the following):
 1. Development toward acceptance and concern for each other and respect for each person and his ideas.
 2. Opportunity for freedom of ideas in play. Activities are not all teacher dominated.
 3. Development of curiosity and exploration.
 4. Flexibility in program to provide opportunity for spontaneous response to the children.
 5. Use of large and small muscle equipment suitable for pre-school children.
 6. Field trips
 7. The arts (music, literature, dance, etc.) are included in some form in the program.
 8. Listening to the child with interest.
 9. Making figures of authority figures: policemen, firemen, etc.
 10. Part of each day is spent in positive reinforcement of good health habits and health education.
 11. Activities designed to help prepare children to enter the public school system.
 12. Activities designed to foster intellectual development.

VI. RESIDENT PARTICIPATION:

- A. Function and Responsibilities of Policy Groups
 1. To determine and recommend the manner in which the money allocated in the budget for parents activities will be spent.

2. To act as the voice for parents in Head Start program.
3. Determine the needs in Head Start and assist in the planning process in making application for a Head Start program.
4. To assist in the selection of a Head Start Director and her staff.
5. To evaluate the present program and determine its effectiveness.
6. To assist in recruiting other families into Head Start and act as a catalyst in mobilizing community resources.
7. To represent the Head Start program as delegates to other programs or organizations.
8. To assist in keeping morale and enthusiasm up.

VII. VOLUNTEER PARTICIPATION:

- A. Utah State University
 1. Psychologist
 2. Social Workers
 3. Child Development
 4. Special Education
 5. Consultants
- B. Private Citizens and Private Groups
 1. Money
 2. Goods
 3. Time (classroom)
- C. Head Start Parents
 1. Time in classroom
- D. Speech and Hearing Specialist

VIII. HOW DOES HEAD START RELATE AND COORDINATE WITH OTHER POVERTY PROGRAMS!

- A. Head Start and other poverty programs are working for the same goals.
- B. Many of the same people are involved.
- C. Head Start is one of several programs funded through the grantee agency; Bear River Community Action Agency. All CAP staff work closely together in solving problems of poverty and are knowledgeable about several programs.
- D. The Head Start center is used as a meeting place for several low-income groups.
- E. Head Start serves as a training site for Mainstream enrollees.