A MODEL FOR PROFILING THE PSYCHOEDUCATIONAL DIMENSIONS OF PRESCHOOL CHILDREN FROM SUBPOPULATIONS OF THE DISADVANTAGED

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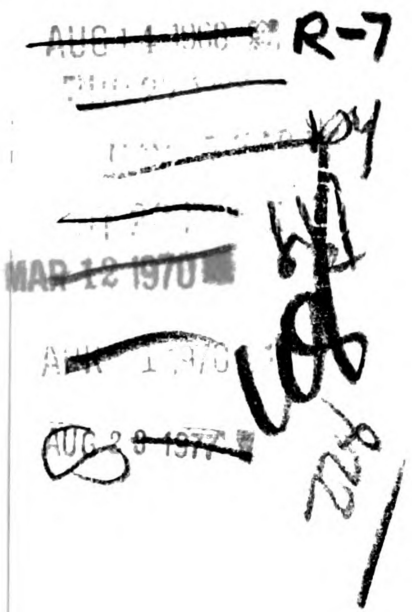
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ABSTRACT

A MODEL FOR PROFILING THE PSYCHOEDUCATIONAL DIMENSIONS OF PRESCHOOL CHILDREN FROM SUBPOPULATIONS OF THE DISADVANTAGED

by Sueann Robinson Ambron

To be effective compensatory education programs must be tailored to the educational strengths and weaknesses of various subpopulations of the disadvantaged. Currently, this information is not available for the groups among the disadvantaged. The focus of this thesis, therefore, was to develop a descriptive model, which could be implemented to determine the differential educational abilities of subpopulations of the disadvantaged, based on pertinent research in education, psychology, sociology and child development.

The model was divided into three major parts: subpopulations of the disadvantaged, psychoeducational dimensions of the children, and process variables in the home. The subpopulations were identified and defined as cultural group, rural or urban locale, geographic area, social class, and sex. More specifically, the cultural groups included were Negro, Mexican American, Puerto

Rican, American Indian, and white American. The geographic areas were determined for particular cultural groups: North and South for Negroes, Southwest and Middle West for the Mexican Americans, Mainland and Island for Puerto Ricans, and Appalachian and non-Appalachian for the white Americans. Social class was defined in terms of upper-lower and lower-lower class. The subpopulations were combined in a matrix to define a theoretical sample. Psychoeducational dimensions (aspects of children's behavior which influence school learning and are affected by the environment) were identified and defined as general intelligence, language skill, conceptual ability, perceptual ability, motivation, and self concept. These dimensions would be profiled for the defined subpopulations of disadvantaged children.

Since the early environment of the child is a crucial molder of patterned behavior, it follows that a logical extension of the profiled psychoeducational dimensions was to examine those dynamic factors in the family that might influence these behaviors. Tentative process variables in the home are discussed as elements of the third part of the model.

To implement the model, instruments must be identified or developed to measure the psychoeducational dimensions of the child and the process variables in the home. The Appendix includes

suggestions for instruments as a beginning for solving the measurement problems of the model.

Finally, the model has numerous applications for research on dimensions of children's behavior that influence school learning and are shaped to some extent by the environment. The model covers a wide range of environments and child behaviors, but selected aspects can be studied independently. Information gathered on the basis of the model will not only be important for compensatory and general education programs, but will add to the knowledge of environment-behavior relationships which pertains to the development of all social groups. Thus, the model will contribute to both applied and basic research.

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CHAPTER I

INTRODUCTION TO THE PROBLEM

The question of what disadvantaged children need in compensatory education programs has been armchaired at many levels, but specific empirically based answers for the variety of children in the disadvantaged population are not available. New programs could be designed and those in existence vastly improved if this behavioral information were systematically obtained. The immensity of the task precludes it as a master's study; however, as a preliminary step a model will be developed for examining behaviors that influence school learning for subpopulations of disadvantaged children.

Since organized patterns of behavior reflect the interaction between the organism and the environment, the approach to the study of human behavior used in this paper is to investigate the influence of distinct facets of the environment on behavior. Encounters with the environment are especially critical molders and determinants of patterned behavior in young children (Gordon, 1966). The environment of the young child centers in the home where the family acts as the primary agent of socialization imparting the child with the skills,

knowledge, attitudes, values, and motives current in the group (Sewell, 1963). The process of socialization is vividly described by Parsons (1953) as follows: the child is like a pebble thrown by the fact of birth into a social pond. The effects of this event are at first concentrated at the point of entrance, but as he grows up, his changing place in society resembles successively widening waves radiating from his initial place in the family of orientation. Thus, what the child learns in the early years in the home will affect future learning. Therefore, to understand behavior patterns of young children which affect school learning, behavior must be examined in the context of the environment.

Contemporary events such as the civil rights demonstrations, school desegregation, and urban riots have directed public attention to the segment of the population from an environment of poverty. The government has responded with programs designed to help the poor, including Head Start, a compensatory education program for disadvantaged preschool children. Although evidence of the success of the Head Start program has been limited, well planned and taught compensatory education can be a positive effort toward aiding disadvantaged children who need background for school. To facilitate the education of disadvantaged children the Report of the National Advisory Commission on Civil Disorders recommended the

extension of quality childhood education to every disadvantaged child in the country as well as year round compensatory education, improved teaching, and expanded research (Kerner, 1968, p. 26).

The disadvantaged referred to are a heterogeneous group of economically deprived children who are handicapped relative to other children in the task of growing up to lead competent, satisfying lives in an industrial urban democratic society (Havighurst, 1966). The physical, social, and psychological scars of deprivation are glaringly evident in schools where these children have learning disabilities including reading and language difficulties which often result in failure, dropout and life adjustment problems. This is a grim prognosis by any educational standard.

In the past three years, since Head Start began, research on the disadvantaged has mushroomed, resulting in new classroom approaches and materials, but a gap remains in the information; we still do not know enough about disadvantaged children. The research on the disadvantaged tends to make the mistake of generalizing about a population that is infinitely variable. Middle class-lower class comparisons were helpful in the beginning, but for effective compensatory education programs more definitive studies are needed. Gordon (1965) commented that "there is probably no typically socially disadvantaged child but instead a wide variety of such children with

widely varying characteristics. To describe them and plan for them as a group is hence in error, differential psychology is as important here as in any other area [p. 385]." The recognition of differences can lead to techniques for measurement and tailoring programs responsive to individual needs (Deutsch, 1967). This discussion underlies the need for specific information about the differential school learning abilities of children from various disadvantaged groups.

The focus of this paper is the development of a model for profiling psychoeducational dimensions for subpopulations of disadvantaged preschool children. The model is based on social science research relating to the disadvantaged and rational consideration of the variables. The three main parts of the model are subpopulations of the disadvantaged, psychoeducational dimensions of the child, and process variables of the home. Each of these will be considered in separate chapters followed by an integration of the model, and hypotheses about the relationships among the variables. Problems involved in testing disadvantaged children and suggestions for instruments to measure the variables of the model are outlined in the Appendix. The definitions, assumptions, objectives, and limitations needed to build the model on a coherent foundation are stated below.

Definitions

Subpopulations

A division of the population of disadvantaged children on the basis of one or more of the following categories: (a) cultural group, (b) rural or urban locale, (c) geographic area, (d) social class, and (e) sex.

Psychoeducational dimensions

The following aspects of children's behavior which influence school learning and have been shown through research to be affected by the environment: (a) general intelligence, (b) language skill, (c) conceptual ability, (d) perceptual ability, (e) motivation, and (f) self concept.

Process variables

Aspects of the home (family) which are directly related to the development of specific psychoeducational dimensions of the child.

Assumptions

The model to be developed is based on the premise that these statements are true.

1. Disadvantaged children are a heterogeneous population.

2. The major subpopulations of the disadvantaged can be identified.
3. The psychoeducational dimensions of the model can be defined in operational terms.
4. Process variables in the home that relate directly to operational definitions of the psychoeducational dimensions can be identified.

Objectives

1. To review the literature related to the disadvantaged for the following purposes: (a) to identify and define subpopulations of the disadvantaged, (b) to identify and define measurable psychoeducational dimensions of the child, (c) to suggest process variables in the home.
2. To construct a model indicating the subpopulations of the disadvantaged, the psychoeducational dimensions of the child, and tentative process variables in the home.
3. To draw hypotheses about the relationships among the subpopulations, psychoeducational dimensions, and process variables.
4. To suggest instruments to be used to measure the variables.

Limitations

1. General definitions are indicated in this paper for the psychoeducational dimensions of the model because operational definitions are often in reference to a specific measuring instrument.
2. The model elements include those aspects which were considered most critical to understanding the differential abilities of disadvantaged children, but do not include all the subpopulations, psychoeducational dimensions or process variables.
3. The model was developed for use with the lower class where the disadvantaged are concentrated; however, this does not imply that the disadvantaged are limited to the lower class or that all lower class children are disadvantaged.

CHAPTER II

THE IDENTIFICATION OF SUBPOPULATIONS

In this chapter the disadvantaged population is discussed in terms of subpopulations significant for the model being developed. Before proceeding with a consideration of these subpopulations, general demographic characteristics of the disadvantaged will be reviewed.

The disadvantaged are economically and socially at the lowest level of American society. Though concentrated in the cities, they can be found throughout the country and include a disproportionate number of people from various cultural minority groups. In the cities the disadvantaged have been confronted with life in an industrial, urban society for which they were not prepared. Mainly from rural backgrounds, they lack education and job skills, and are often discriminated against in employment and housing. Among the disadvantaged cultural groups that are moving to urban areas in substantial numbers are: Negroes from the rural South, whites from southern mountains and Puerto Ricans from the islands. These groups have predominantly migrated to northern industrial cities.

Mexican Americans are moving to urban areas of the West and Middle West, and American Indians are slowly migrating from the reservations to the cities of the West in search of a better life. In rural areas the disadvantaged are from among the same cultural groups and suffer much of the same privation, but here poverty and its effects on people are less obvious to both the disadvantaged and the advantaged American. The rural disadvantaged are not directly in day by day contact with the stresses of the alien cultural mainstream, and affluent America is not faced by the rural poor on the way to work or threatened by riots on the gravel roads of Kentucky (Havighurst, 1966; Harrington, 1962).

The disadvantaged are usually defined, in economic terms, as members of families who have an income of $3,000 or less per year. Although this figure does not take into account individual variations such as families of more than four, income other than money, and the difference in the cost of living between rural and urban areas, it is frequently cited as an income level indicator of the poor in the United States and was the basis for the 1960 census delination of poverty. Using $3,000 as the cutoff point, the Bureau of Census reported that 9.3 of the 47 million families in this country lived in poverty (Witmer, 1966). According to the more recently developed Social Security Administration basic poverty index, which

varies depending on the family size, composition, farm or nonfarm residence, and proportion of income required for food, (although comparable to $3,000 income index), there were in 1964 between 34 million to 50 million poor Americans. This includes 15 million children under 18 or between 21% and 31% of the nation's children (Orshansky, 1966). It has been projected that by 1970 one out of two public school chidren in the major cities of the United States will be disadvantaged (Riessman, 1962). The 1960 census figures on income are reported for both race and residence and indicate subpopulations of this group. The proportion of nonwhite families that were poor (47%) was more than three times the proportion of white families that were poor (14%). In actual numbers, however, there were three million poor white families compared to one million poor nonwhite families. Residence is broken down into rural and urban as well as Southern and non-Southern. Of the rural population, 26% are poor as compared to 11% of those living in urban areas. The number in each circumstance is about two million. In terms of geographic area, 30% of the families in the South are living in poverty as compared to 11% of the families living in the rest of the country. Again in this case the actual figures are about two million in each region (Witmer, 1966).

These figures along with the preceding discussion demonstrate the magnitude of the problem of poverty in this country and

generally who the disadvantaged are and where they live. Obviously the disadvantaged population can be divided into subpopulations along many dimensions. For the purpose of developing a model to profile behaviors affecting learning of children from subpopulations of the disadvantaged, a matrix of the most salient subpopulation variables has been devised (see Figure 1). The dimensions that define the universe of the matrix are cultural group, rural or urban locale, geographic area, social class, and sex. Each subset or cell defines a theoretical unit of the population of the disadvantaged. In reality there may be empty cells in which a nonsignificant number of children fit, but the vast majority of cells describe significant groups among the disadvantaged. When the model is implemented, the children will be identified according to the subpopulation variables defined by the cells of the subpopulation matrix. Behavior variables affecting learning will be measured on the children and profiled for the subpopulations. As a final phase the profiled results will be related to factors in the home and family.

In the remainder of this chapter the subpopulation dimensions of cultural group, rural or urban locale, geographic area, social class, and sex will be defined and discussed with respect to their inclusion in the subpopulation matrix.

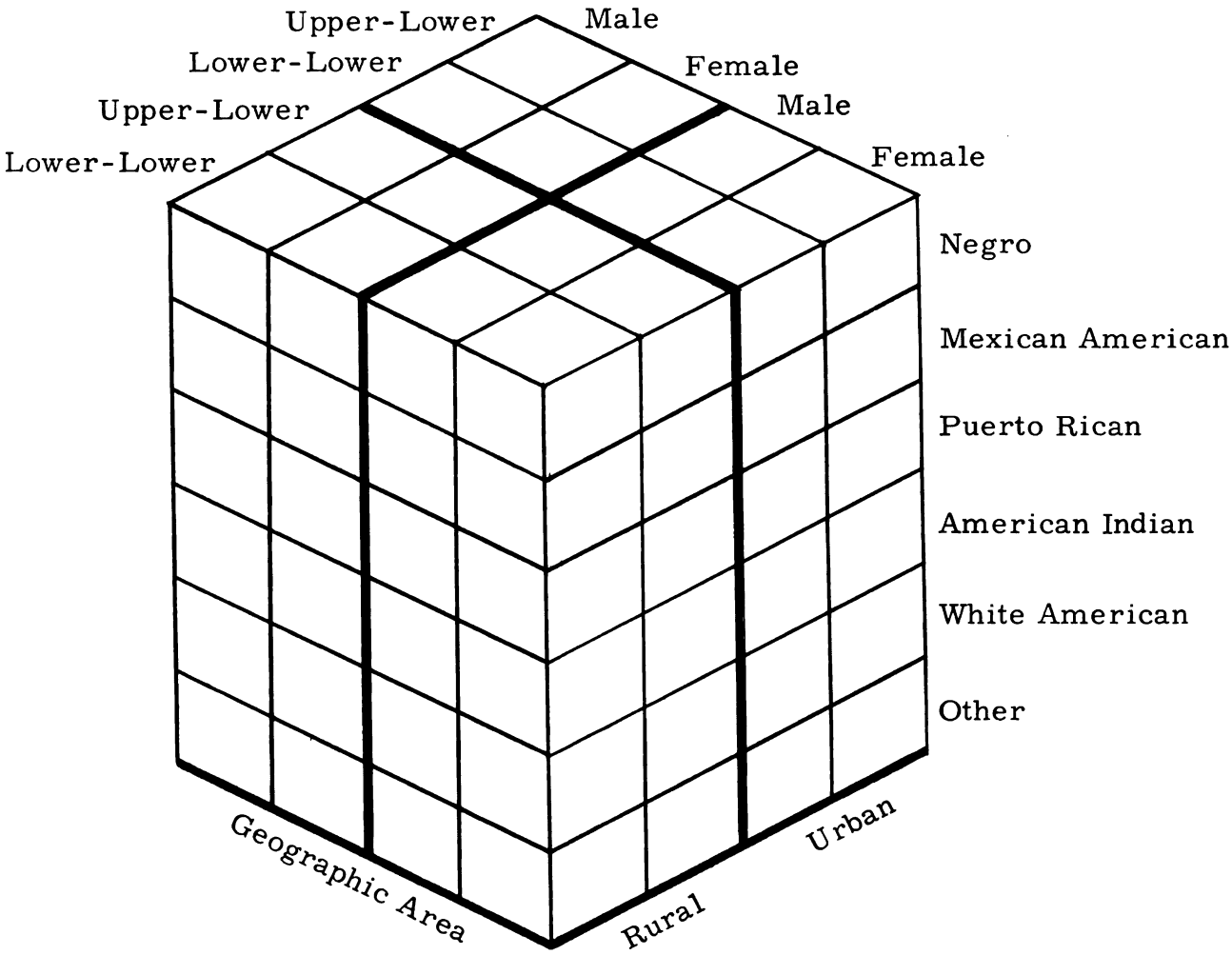

Figure 1. -- Subpopulation Matrix

Cultural Group

The major cultural groups of the disadvantaged have been identified as Negro, Mexican American, Puerto Rican, American Indian and white American. Though fewer in number, members from other cultures such as Oriental, Polynesians and Eskimos are also among the disadvantaged. Cultural group membership is defined as a "collection of people considered both by themselves and by other people to have in common one or more of the following characteristics: (a) religion, (b) racial origin (determined by identifiable physical characteristics), (c) national origin, or (d) language or cultural traditions [Harding, Prohansky & Chein, 1954, p. 1022]." Some features of the cultural heritage of the Negro, Mexican American, Puerto Rican, and American Indian conflict with the dominant American culture, making adjustment and acculturation difficult.

The cultural roots of Negroes were destroyed and a foreign culture forced upon them when they were brought to the United States as slaves. Slave status resulted in degradation of self esteem and the deliberate destruction of the family unit. Within this system the Negro male role was diminished while the female role was enhanced. Emancipation supposedly freed the slaves, but freed to what--a society where they have been relegated to subordinate status (Gans, 1965; Kardiner, 1966). Although most American Negro families

today are headed by men, the proportion of families with female heads is much greater among Negroes than among whites at all income levels, and has been rising in recent years. "Among families with incomes under $3,000 in 1966, the proportion with female heads was 42% for Negroes but only 23% for whites [Kerner, 1968, p. 261]." As one could anticipate, the disadvantaged Negro family has been described as an unstable matriarchy adapting to conditions imposed by society (Bernard, 1966).

The Mexican Americans in the United States come from a traditional, isolated, agrarian (patron-peon) economy. In the patron-peon system, much like the lord and vassal relationship of the Middle Ages, the peon labors on the farm in return for the patron assuming the responsibility for the physical, political, and economic welfare of the peon and his family. This pattern is rapidly dissolving and the Mexican Americans are having to move to find work, but the underlying cultural values remain. The people are present oriented, dislike personal competition, and rarely take the initiative in a problem situation. In searching for complete economic and political security they tend to be blindly loyal to leaders with whom they identify (Knowlton, 1966). The cohesive patriarchial family including a number of godparents and other nonblood relatives must be abandoned when the Mexican Americans move to cities or to seasonal crop farms

in search of work. Not only is language a barrier, but because of the father's lack of skill he often is unable to get a job in the city. The wife, however, can usually find work. With the wife working and the father unemployed, there are drastic role changes. Living in a new culture thus causes considerable stress in the family (Valdez, N.D.).

The Puerto Ricans come from an agricultural background similar to the Mexican Americans; however, in addition to a shift from a rural to an urban society and language difficulties, they are burdened with differences in racial identity. The codification of racial criteria in social structure of Latin America differs considerably from that in the United States. Among the Puerto Ricans, racial characteristics range from completely caucasoid to completely Negroid. No Puerto Rican is unaware of his position based on the color of his skin, but in Puerto Rico intermingling of people of different color and racial characteristics is common. In the United States the social structure concerning race is split into a black and white dichotomy, while in Puerto Rico it is divided into three categories: black, intermediate, and white. The large number of Puerto Ricans in the intermediate group resent the Americans' assumptions about racial identity. This is among sources of real conflict for Puerto Ricans who come to the United States (Bonilla, 1966).

The social character and values of American Indian societies fostered the preservation of the status quo and the belief in external supernatural forces determining one's fate. An Indian family, even today, accumulating substantially more wealth than other members of the tribe is considered greedy. Tribal sharing and generosity have laid the foundation for a socialist society lacking entrepreneurial incentives. Aspects of the cultural traditions among the American Indians, therefore, make it difficult for them to function in American society (Spindler, 1966).

Rural or Urban Locale

Rural or urban locale was included in the model because many of the disadvantaged have rural backgrounds and significant differences in school learning skills (discussed in Chapter III) are related to living in rural or urban locales. Urban is defined as persons living in a place of 2,500 inhabitants or more incorporated as cities, towns, boroughs, and villages or in diversely settled urban fringe around cities of 50,000 or more. The remainder of the population is classified as rural. The dichotomous definition of locale does not adequately describe the reality of a continuum between rural and urban, but the simplification was necessary for the model.

Geographic Area

Geographic area is defined as a particular area of the country that would be significant for various cultural groups. Geographic areas for the major cultural groups of the disadvantaged might include: North and South for the Negroes, Southwest and Middle West for the Mexican Americans, Mainland and Island for the Puerto Ricans, and Appalachian and non-Appalachian for the white Americans. The American Indians present a unique problem with respect to geographic area which depends on the tribes selected for the study.

Social Class

Although social class has been investigated for years, no generally accepted definition or measurement has been developed. The various interpretations include a way of life, power over resources and people, reputation and esteem or a combination of objective properties including occupation, education, and residence (Barber, 1957). Hoffman and Lippitt (1960) reviewed the various concepts of social class: Marx (1909) described it as man's relationship to the means of production (occupation), Veblen (1918) considered consumption patterns the main indicator of social class, Warner and Lunt (1941) defined social class in reference to other people's judgment of the family's prestige and esteem, and Center

(1949) suggested that an individual's self-judgment defined social class. Hollinshead and Redlich (1958) modified an objective scale which was based on family properties developed by Warner, Meeker, and Eells (1949). Hollinshead's Index of Social Position used a weighted criteria of occupation of family head (weighted 9), residence (weighted 6), and education of family head (weighted 5) to identify five social class categories. Regardless of the social class index used, it may need to be further developed on the lower end of the scale since the model is focused on lower class.

The typological distinction has been made in the model between upper-lower and lower-lower class. This division of the lower class has been found in every major community study reflecting differences in "material well being, occupational, and educational opportunities, degree of personal and family stability, self and community perceptions, and integration with the larger society [Keller, 1966, p. 8]." The lower-lower class has been characterized as suspicious, distrustful, uncertain of the future, and concerned with immediate gratification (Keller, 1966). Children from the lower-lower class have been described as having difficulty forming words, quietly obedient, poorly nourished, and completely lacking confidence in their ability to master a problem (Pavenstedt, 1965). The upper-lower class in contrast are semi-skilled or skilled

workers with modest means who are described as hardworking, tax-paying, and family oriented. The ideal is high school graduation, but the norm is dropping out of school at sixteen. More secure economically than the lower-lower class, the upper-lower class are less secure morally or psychologically due to the pervasive anxiety about status and respectability among its members (Keller, 1966). Upper-lower class children have more contact with both the mother and father, and the children tend to be more verbal than lower-lower class children (Pavenstedt, 1965).

The split between upper-lower and lower-lower class characteristics is not to deny lower class commonalities. The following is a modification of Keller's (1966) characteristics of lower class life: (a) low community status and have to purchase on credit, (b) their economic potential is highest in youth, (c) they live in less desirable neighborhoods in adequate dwellings, (d) little participation in formal organizations, (e) high proportion of disadvantaged in cultural minority groups.

Sex Differences

The sex of the child is included in the subpopulation matrix of the model because male and female roles in the lower class are more clearly distinguished than in the middle class (Kagan, 1964a). Also, sex differences have been demonstrated in school learning

skills such as arithmetic reasoning, spacial orientation, perceptual speed, accuracy, memory, numerical computation, and verbal fluency (Anastasi, 1958).

CHAPTER III

THE IDENTIFICATION OF PSYCHOEDUCATIONAL DIMENSIONS

Selected on the basis of their significance for influencing school learning and being shaped by the environment, the psychoeducational dimensions have been identified as general intelligence, language skill, conceptual ability, perceptual ability, motivation, and self concept. According to the model these dimensions will be measured and profiled for subpopulations of the disadvantaged. To justify the selection of these psychoeducational dimensions each one will be defined and examined with reference to relevant research. The research cited, in particular, refers to the variable as it relates to school learning or aspects of the subpopulation matrix.

General Intelligence

General intelligence is the most comprehensive of the psychoeducational dimensions of the model. As it is used in the model, intelligence is a multifactor construct derived from a set of measurement operations to designate levels of mental functioning (Ausubel, 1958). The early intelligence tests developed by Binet

were designed to predict the success or failure of French school children. Through improvements in the psychometrics of intelligence testing, the measures of intelligence used today are fairly satisfactory predictors of school achievement for most school children (Tirton, 1949). (Because of the long standing interest among psychologists and educators in the measurement of intelligence, there is substantially more research available on general intelligence than the five other psychoeducational dimensions of the model.)

The development of general intelligence is a complicated process and recently many of the established tenets are being re-examined. In the provocative book Intelligence and Experience, Hunt (1961) rejected the old assumptions of fixed intelligence and predetermined development as he suggested they had provided a faulty framework for the measurement of intelligence for over half a century. He emphasized the crucial role of early experience and purported that going up the phylogenic scale the importance of the early environment increases. The differential experiences of a cultural group, rural or urban locale, social class, and sex, as outlined in the subpopulation matrix, can have profound effects on children's intelligence as indicated in the research literature.

A good introduction to the effects of membership in a particular cultural group on intelligence is Lesser, Fifer, and Clark's

(1965) comprehensive study of mental abilities of children from different social class and cultural groups. In their study 320 first grade children from Jewish, Negro, Puerto Rican, and Chinese backgrounds were divided into middle and lower class groups based on the occupation and education of the head of the household and the type of dwelling. The results suggested that ethnic group membership produced differences in both the absolute level of each mental ability (including verbal ability, reasoning, numerical facility, and space conceptualization) and the patterns among these abilities. Social class and ethnicity interact to affect the absolute level of each mental ability, but not the pattern among these abilities. Their findings suggested that Jewish children were superior in verbal ability and Negro children were relatively inferior on spatial and numerical tasks and average on verbal ability. The Puerto Ricans were weakest of the four on verbal quality. The Chinese children were the best on spatial conceptualization ability. This study has been replicated in Boston with duplicate results for ethnic groups comparable to the original New York sample (Stodolsky & Lesser, 1967). Thus, various cultural groups (ethnic groups) foster the development of different patterns of mental abilities. Differences in performance on intelligence measures will be reviewed in more detail for the cultural groups of the disadvantaged: Negro, Mexican

American, Puerto Rican, American Indian, and Oriental. (Oriental children, while proportionally small in number among the disadvantaged groups, are of interest because of their nonoxidental background.)

Two generalizations can be made about the performance of Negro children on intelligence tests. Negro children score lower than white children and as the Negro child gets older his measured intelligence decreases. Deutsch and Brown (1964) examined the scores of 543 urban school children stratified by race, social class, and grade level on the Lorge-Thorndike intelligence test. He found that Negro children scored lower than white children regardless of social class. As a result of the cumulative effects of deprivation, the trend of the low IQ's for Negro children intensified over time. Other researchers have also found this phenomena among Negro children; in a study of 1800 Negro elementary school children, there was a negative correlation between age and IQ: at five years old the mean IQ was 86, while at thirteen the mean IQ was 65 (Kennedy, VanDeRiet & White, 1963). Osborne (1960), in a longitudinal study of racial differences and school achievement, found similar results. There was two years difference in mental ability at grade six and four years difference at grade 10 between white and Negro children. Finally, fitting into the developmental picture, the intelligence

difference between Negro and white infants was shown to be less than when the children grow older (Dregor & Miles, 1960).

An appropriate question to raise at this point is why is there a difference between Negro and white children in intelligence test performance? A number of researchers have attempted to provide tenable answers. Klineberg (1963), in an analysis of the problem, reaffirmed the position that scientific evidence does not support genetic differences between Negro and white children as the primary cause of the Negro child's inferior test performance. Though heredity provides a basis, the evidence points in the direction of the environment. Two ways in which the environment of the Negro child can lower his measured intelligence have been suggested: (a) "it can act to deter his actual intellectual development by presenting him with such a constricted encounter with the world that his innate potential is barely tapped," and (b) "it can act to mask his actual functioning intelligence in the test situation by not preparing him culturally and motivationally for such a middle class task [Pettigrew, 1964, p. 23]."

Mexican American children, along with Puerto Ricans, and Orientals, often learn English as a second language. As might be expected, they perform poorly on verbal items. Information from a recent descriptive report of Head Start children's performance on

the Stanford-Binet indicated that children in the rural south or from non-English speaking groups (Mexican Americans, Puerto Ricans, and Indians) did less well than other disadvantaged subpopulation children (Cline, 1968). In one of the few studies specifically on the intelligence of Mexican American children, Jensen (1961) found that lower IQ Anglo-American children were poorer learners than their Mexican American counterparts. Intelligence test predicted learning ability (immediate recall, serial learning, and paired-association learning of familiar and abstract objects) quite well in the Anglo-American group, but not among the Mexican American children.

Anastasi has been a leader in research on the intelligence of Puerto Rican children. In a study of the effects of bilingualism upon intelligence test performance, Anastasi and deJesus (1953) reported 176 Puerto Rican children as a group to have fallen considerably below the test norms on Cattell Culture Free Intelligence Test, even though the test was administered in both English and Spanish. Drawing on the results of this study, Anastasi and Cordova (1953) began another project based on the assumptions that linguistic bifurcation (learning one language from the school situation and another from the home and community), and poor emotional adjustment to the school caused by being submerged into an exclusively

English speaking environment at a time when the child knows almost no English, may account for the inferior test performance in both English and Spanish. In this investigation, 50 Puerto Rican preschool children were measured on language development and the Goodenough Draw-A-Man IQ Test. The findings indicated that the Puerto Rican children did not differ significantly from Negro and white children studied earlier on the Draw-A-Man IQ Test (Anastasi & D'Angelo, 1952), and they excelled both white and Negro groups in mean sentence length and maturity of sentence structure. These findings are not, however, supported by Lesser, Fifer, and Clark (1965) who found Puerto Rican children weak in verbal ability.

Generalizing research results to Indian children has many of the pitfalls of broad statements about characteristics of disadvantaged children. There are wide variations in the cultural patterns of different tribes ranging from the Hopi of the Southwest to the Seminole of Florida. Studies on the intelligence of Indian children are, therefore, reported for specific tribes. The Indian (Sioux, Hopi, Zuni, Zia, Navaho, and Papago) children's performance on the Goodenough Draw-A-Man Test parallels that of the Puerto Rican and Negro children indicating no inferiority to white norms. It has also been demonstrated on the Goodenough Draw-A-Man Test that boys do significantly better than girls; this was partially accounted

for by the fact that graphic art is traditionally a masculine interest among the Indians (Dennis, 1942; Havighurst, Gunther & Pratt, 1946). Klineberg (1927) in a study of 120 Yakima Indian children and 110 white children on the Pinter-Patterson series found a "qualitative" rather than a "quantitative" difference in the behavior of the two groups. The white children were quicker but the Indian children made less errors. Though speed is a salient characteristic of American life, it has not penetrated the cultural patterns of many rural groups including rural Indians.

Studies of the mental abilities of Japanese and Chinese American children have shown that they do less well on the verbal parts of intelligence tests as a result of bilingualism, but they excel in acuity of visual perception, recall, spatial relation, and in spatial conceptualization. This to some degree has been attributed to cultural patterns among oriental groups stressing art and handicrafts (Darsie, 1926; Lesser, Fifer & Clark, 1965).

From the research on rural and urban intelligence differences in children, three ideas draw substantial support: (a) rural children tend to have lower measured intelligence scores, especially on tests which require speed and have many verbal items, (b) the more isolated the rural child, the lower his intelligence score will be, and (c) the intelligence test score does not necessarily reflect the rural child's learning ability.

Comparatively lower scores, especially on group intelligence tests, have characterized the performances of rural children (Lehman, 1959). Taking a closer look at the problem, Sherman (1965) used a battery of nine tests including the Stanford-Binet, Goodenough's Draw-A-Man Test, Knox Cube Test, and the Pinter Cunningham Primary Mental Test and found the more isolated the community from which rural children were drawn, the lower the scores on the intelligence tests. He also noted that the children's scores were somewhat higher on tests when the tempo was the slowest. In addition, Shepard's (1942) study of non-verbal abilities of matched rural and urban children showed that rural children were superior in mechanical ability while the urban children scored highest on verbal ability and tests requiring speed. The author concluded that "the environmental milieu [sic] in which a child is reared may influence the development of certain skills, abilities, and fields of knowledge most significant and valuable for those living in that specific geographic or source area [p. 458]." Lower intelligence test performance of rural children is not an immutable situation. Boger (1952) studied the effects of perceptual training on the intelligence test scores of rural elementary school children. He concluded that the extent of improvement on the intelligence test scores as a result of training indicates that scores from intelligence tests are

not representative of rural children's actual ability. Furthermore, Wheeler's (1932, 1942) studies of 3,252 East Tennessee mountain children indicated a promising trend that through the improvement of the economic, social, and educational status of the mountain area between 1930 and 1940, an average IQ gain of 10 points resulted among the school children. As a final note, Anastasi (1958) on the basis of a review of research suggested that the rural-urban test performance gap is shrinking. This change may partly be the result of population shifts and partly from major improvements in rural living. The specific factors may be the gradual disappearance of farms and the replacement of farm laborers by machinery, as well as by the substantial increase in facilities for education, communication, and transportation available to the rural population.

The intelligence test scores of lower class children have been established by many researchers (John, 1963; Jones, 1954) as lower than those of middle class children. On the average the test score difference is about twenty points regardless of the social class index used. Recently, however, there have been some pertinent findings (Deutsch & Brown, 1964; Wilner, Rider, & Oppel, 1963) about lower class and its effect on intelligence. The cumulative deficit hypothesis and the relationship between intelligence and learning ability emphasize the profound effect of verbal learning on

intelligence in lower class children. Under conditions of environmental deprivation, as often exist in the lower class, the child's measured intelligence declines over time. This trend in intellectual ability has been used to support the cumulative deficit hypothesis. Children from disadvantaged homes who had low IQ scores in first grade had lower IQ scores when they were retested in fifth grade. They had missed the basic learning skills, particularly verbal skill, which were necessary for transition from one learning level to the next, and instead of cumulative learning they suffered with a cumulative deficit. Jensen (1962) took a closer look at the differences in learning ability among slow learners five to ten years old in different socio-economic and cultural groups. He found that in "culturally nondeprived children, there is a good correlation between learning ability and IQ, measured by standard tests. In culturally deprived children, IQ tells little about learning ability of the non-verbally mediated variety. Deprived children seem to be 'normal' in learning ability, but have failed to learn the verbal mediators that facilitate school learning [p. 15]." Jensen's findings, concerning the learning ability of lower class children not being reflected in an intelligence test, corresponded to his findings on Mexican American children (1961) and Boger's (1952) conclusions about the intelligence performance of rural children referred to previously.

Sex differences in mental abilities, with the exception of verbal fluence favored in girls, are less evident at the younger age levels. It seems reasonable that the differences that appear later are for the most part culturally determined (Ausubel, 1958).

In summary, the subpopulations interactively impinge on the development of children's mental abilities. Though there are commonalities, each cultural group which has a semblance of a homogeneous life style fosters the development of specific mental qualities. Rural locale and lower class tend to be associated with lower test scores, particularly on verbal subtests and tests requiring speed. If the performance of a lower class child on an intelligence measure was poor in first grade, then it is very likely that the child's measured intelligence will be even lower on future retests. Because of the obvious influence of the environment and relationship to school learning, intelligence (mental abilities) has been included as a psychoeducational dimension in the model.

Language Skill

Language skill and learning ability, as discussed in the previous section, are closely related in the young child. For example, measures of intelligence designed to predict learning ability are highly correlated with their verbal subtests. Language skill, however, is more than that measured on the verbal section of

an intelligence test. As used in the model, language skill is a socially conditioned set of communication variables such as phonetic structure, syntactic structure, vocabulary, and complexity. In addition, it should be recognized that there is both a covert and overt dimension to language, and that perceptual and conceptual abilities as well as intelligence are reflected in language skill.

Learning one language in the family and another at school is a problem faced by many disadvantaged children from non-English speaking cultural groups (Mexican American, Puerto Rican, and Indian). This linguistic bifurcation among the disadvantaged tends to have a negative influence on the child's skill in both languages.

Lower class children have been described as having various kinds of language related problems. Deutsch (1964) postulated that children from a noisy environment were directed and sustained speech stimulation are rare would be deficient in the recognition of speech sounds and would have difficulty in skills which required auditory discrimination such as reading. Her findings indicated that lower class children were poor readers and also had poor auditory discrimination. Language development and use have a universal sequence: listening, speaking, reading, and writing (Newton, 1964). Therefore, aware of the deficiency caused by poor auditory skill in the foundation of language development, the number of communication

difficulties among lower class children is not unexpected. Milner (1951) investigated the background of Negro children who scored low on a reading readiness test. These children were predominantly from lower class homes where there were few books and little interaction between parents and children. Lower class children use fewer words, nonstandard English, and short, less complex sentences. Figurel (1964) found, for instance, the vocabulary of the disadvantaged child is significantly less than that of the middle class child and that the disadvantaged often use nonstandard English. Thomas (1962) investigated the sentence development and vocabulary usage of lower class children and found that lower class children use fewer words in sentences and failed 20% to 50% of the vocabulary from five word lists recommended for the primary grades.

The relationship between language and conceptual ability in lower class children has been investigated by many researchers. Bernstein (1964) identified the quality of the language used in the home with social class. He identified two linguistic codes, restricted and elaborated. Restricted codes are simple, short, condensed, and lack specificity, while elaborated codes are grammatically more complex and pertain to a particular situation. The middle class child is able to use both forms, but the lower class child is generally limited to restricted codes. For the disadvantaged child this means

that he is isolated linguistically and perhaps conceptually from the cultural mainstream. Delay in the acquisition of certain formal language forms (elaborated code) make it difficult for children to move from concrete to abstract thought (Ausubel, 1964). Deutsch (1965), studying the relationship between socio-economic status, race, grade level and language variables, found deficiencies based on race and class for measures of abstract and categorical use of language as distinguished from denotative and labeling. (Supporting the cumulative deficit hypothesis, language deficits indentified at first grade were more serious at fifth grade.) Assuming that children test their notions about words primarily through interaction with more mature speakers, John and Goldstein (1964) suggested that the amount of interaction varies from one social class to another and that the shift from labeling to categorizing also varies with the social class. The results of their study indicated that lower class children had a limited scope of verbal interaction in the home, were deficient in language development, and were impeded in their ability to categorize in terms of explicit statements of concepts.

From the studies on language skill reviewed in this section, it is evident that various language deficiencies constitute major learning disabilities among disadvantaged children and that measures of language skill must be included in the profile of psychoeducational dimensions of the model.

Conceptual Ability

Conceptual ability is a broad term referring to skill in organizing and reducing the ambiguity and imprecision of the environment impinging on the senses. The individual acquires concepts through a complexed learning process which is reciprocal between the individual and the environment (Sigel, 1964). "Environmental sensations stimulate the person," described Sigel, "and various sensations eventually become intensified, named, and organized. Through his increased ability to discriminate and to generalize he develops schemata. In so doing, the individual becomes increasingly emancipated from the perceptual and sensory aspects of the environment and is able to approach it in a conceptual way [1964, p. 211]."

The ability to use concepts by thinking of problems in terms of symbols and classes is seen by Bruner as the initial step in efficient learning, followed by searching for a solution, taking the initiative to solve the problem, and persisting when the problem is difficult (1966). It is also apparent that conceptual thinking is required for such basic school learning tasks as generalizing, transferring learning, and reading. Obviously, conceptual ability is an essential psychoeducational dimension to include in the profile and the specific aspects of conceptual ability might be level of abstraction and cognitive style.

Level of differentiation and abstraction refer to gross differences in the development of concepts. Cognitive style is a term which refers to the "stable individual performances in mode of perceptual organization and conceptual categorization of the external environment [Kagan, Moss, & Sigel, 1963, p. 74]." Level of abstraction, although important, does not account for the cognitive variation of children at the same age with similar IQ's, according to Kagan and others (1963). In addition, the concepts a child acquires are affected by the predisposition he shows to attend to particular features of the environment (Harlow, 1959). It is presumed that this predisposition of cognitive style will influence the kind of content a child will employ in evolving his concepts (Kagan, Moss, & Sigel, 1963).

Kagan (1964b) has explored the cognitive implications of impulsive cognitive style in lower class children. He suggested that reflective cognitive style is necessary for analytical thinking. The child must reflect on alternatives and analyze visual stimuli (delay discrimination) to function analytically. The impairments of disadvantaged children may arise from the lack of opportunities to develop reflective attitudes. In empirical studies Kagan (1965, 1966b) has demonstrated that impulsivity in contrast to reflectivity is associated with errors in reading and inductive reasoning tasks.

The ability to transform the concrete to symbolic terms is basic for conceptual thought. Disadvantaged children, because of a tendency to think in concrete terms, have a limited ability to make accurate generalizations from specifics and in transferring knowledge from one situation to another (Gordon, 1964). Also, differences have been found in the level of abstractness of cognitive style. Lower class children categorized pictures on the basis of concrete functional relationships while middle class children classified objects on the basis of abstracted common physical attributes. Even more significant was that lower class children were less able to classify the pictures of objects than the actual objects. The authors concluded that the lower class children had not yet acquired adequate representation of familiar objects (Sigel, Anderson, & Shapiro, 1966).

The significance of aspects of conceptual ability for school learning and the difficulty of disadvantaged children to use the more abstract, reflective conceptual modes supports the inclusion of conceptual ability in the model.

Perceptual Ability

Perception refers to the relationship between man and his environment and is conceptually between the sensations of classical

psycho-physics and cognitive processes which are often under the rubric of concept development (Gould & Kolb, 1964). Perceptual ability is a term indicating the degree of skill necessary to assign meaning to various previously undefined sensory experiences. Sense experiences included in the model under perceptual ability depend on the scope of the project, but from the research reviewed on the disadvantaged, auditory, visual, tactile, and kinesthetic abilities should be measured.

The implications of perceptual ability for learning are clearly indicated by many researchers. Katz's (1967) findings indicated that inadequate auditory and visual discrimination are significantly associated with reading retardation. Deutsch (1964) found that lower class children were inattentive to auditory stimuli and were, consequently, poor in auditory discrimination and reading skill. (This study is commented on in the language skill section.) Poor auditory discrimination has also been associated with negative effects on articulation (Christine, 1964).

As with language skill and conceptual ability, comparable data on perceptual ability is lacking for children from disadvantaged cultural groups. Recent investigations indicated that there are significant differences among the disadvantaged cultural groups in visual perception (Dennis, 1968), and that children from various cultural backgrounds have characteristic stimulus preference (Spellman, 1968).

The research available on lower class children reveals that a lack of sensory stimulation when the children are capable of responding (Jenson, 1966) rather than physical defects of eyes, ears, or brain, is responsible for many perceptual problems (Deutsch, 1963). Lack of stimulus familiarity among lower class children was found to affect visual discrimination (Covington, 1962; Katz, 1967) and may account for the fact that disadvantaged children had not acquired adequate representations of familiar objects to classify consistently the pictures of objects and the objects themselves (Sigel, Anderson, & Shapiro, 1966). Reissman (1963) suggested that disadvantaged children are less handicapped in visual perception than auditory perception, and that they are superior in perceptual ability related to physical activity.

Finally, the inclusion of perceptual ability as a psychoeducational dimension of the model was based on research specifying the importance of auditory and visual perceptual ability for learning and often indicating perceptual deficiencies for disadvantaged children.

Motivation

There is among psychologists a perpetual debate about the role of motivation in learning. The positions vary on a continuum from a belief that no learning whatsoever takes place without

motivation to an almost complete denial that motivation is a significant variable in learning (Ausubel, 1958, p. 573). Currently, there is mounting support for the importance of motivation as an indispensable condition for learning. Motivation is necessary not only for learning (Sears, 1966) but also in determining the kind and amount of learning that takes place (Hayes, 1962).

Though the potential for motivation may be innate, its direction and intensity appear to be learned within the environment and determined by social and psychological models and values existing in the home (Ballif, 1967). Motivation is the energizing of activity to fulfill needs. Kagan (1966a) identified broad classes of needs that motivate the child's learning academic skills: (a) the desire for nurturance, praise, and recognition, (b) the desire to increase his perceived similarity to a model individual, and (c) the desire for competence and self worth (p. 34).

In terms of the model for profiling psychoeducational dimensions of children, two aspects of motivation should be included, achievement motivation and incentives for school tasks. Achievement motivation is the need for achieving in situations which involve standards of excellence, namely school. Important information would also be obtained if incentives that effectively motivate various groups of disadvantaged children were identified.

Some significant studies have been conducted on achievement motivation, incentives for achievement, and motivation characteristics of lower class children. Rosen (1956) found that achievement motivation was rare among lower class children and went on to investigate the origins of achievement motivation in the context of the family (discussed in Chapter V). Research on incentives has indicated that lower class children learn better with material incentives such as money and candy than nonmaterial incentives when compared to middle class children (Klugman, 1944; Terrel, 1959). Ausubel (1963) suggested that the use of intrinsic motivation for learning, based retroactively on achievement, as more valid and longer lasting than extrinsic motivation (incentives) for disadvantaged children. Disadvantaged children have typically been characterized by their teachers as lacking motivation for school tasks (Keller, 1966). According to Ballif (1967), disadvantaged children have little curiosity or interest and react without any indication of an inner commitment or comprehension. They express devaluation attitudes toward achievement, lack interest in accomplishment and have no discernible drive toward goals or completion of tasks. This deficiency of motivation to achieve is further complicated by motives to achieve goals which are inappropriate and inconsistent with successful achievement in school.

In summary, motivation is seen by this writer and others as crucial for learning. Disadvantaged children, however, have frequently been characterized as lacking motivation for school learning and responding best to material incentives for motivation. With differential environments influencing the development of motivation in subpopulations of the disadvantaged, it is likely that general statements about the motivation of disadvantaged children are grossly inaccurate. Motivation has been added to the model as a psychoeducational dimension.

Self Concept

The child develops a self concept through personal and social experiences. Initially from people in the home, and later from teachers and others in society, the child develops an image of the kind of person he is. The self concept is defined as "an organized configuration of the perceptions of the self which are admissible to an awareness. It is composed of such elements as the perceptions of one's characteristics and abilities, the percepts of the self in relation to others and to the environment [Rogers, 1951, p. 136]."

Self concept has been identified as one of the psychoeducational dimensions to be included in the model because the way a child feels about himself has a significant effect on his behavior. Jersild

(1952) goes so far as to state that man's basic need is for an adequate self. This need includes both a desire to enhance the self concept and preserve the consistency of the self. Thus, "the child toward whom the predominant attitude of significant persons has been one of hostility, disapproval, and dissatisfaction will tend to view the world in similar terms. He will have difficulty in seeing or learning anything better, and although he may not openly express self-depreciatory attitudes he has a depreciatory attitude toward others and toward himself [Jersild, 1960, p. 9]." The child with a poor self concept is less able to cope with his environment. He is less curious, more anxious and tends to have difficulty making adequate adjustments to social situations. An unfavorable self concept is related to low aspirations and academic failures (Hill & Sarason, 1966; Edwards & Webster, 1963). Hawks expressed the view that "education has failed, regardless of the amount of knowledge imparted when the selves of pupils are inadequate, defensive, and characterized by general feelings of incompetence in what matters to them [1967, p. 197]."

Disadvantaged children have been described by many investigators as having poor self concepts (Deutsch, 1965; Kvaraceus, 1965; Sutton, 1960). The vast majority of the research on the self concept of disadvantaged children has been done on Negro children.

In the lower class Negro family, girls are often preferred to boys and lighter skinned children to darker skinned children. The problems of establishing sex role identity in the lower class Negro family, where female head families are not uncommon, probably contributes to the poor self concept of many Negro males. Identifying with a race begins when children become aware of racial differences, usually between three and seven years old (Stevenson & Stewart, 1958). The Negro child soon learns that "skin color is important, that white is desired (and) dark to be regretted [Landreth & Johnson, 1953, p. 78]." In doll play and peer choice studies the negative connotations of identifying with the Negro race are evident. In doll play studies, for example, Negro preschoolers resist identifying with their own group (Clark & Clark, 1958), and Negro children frequently choose white rather than Negro playmates and assign negative roles to children of their own race (Stevenson & Stewart, 1958). It is apparent that Negro children are often confused in regarding their feelings about themselves and their group. Allport (1954) poignantly explained the poor self concept of many Negroes by reversing the referent: "what would happen to your own personality if you heard it said over and over again that you were lazy, a simple child of nature, expected to steal and had inferior blood. Suppose this opinion were forced on you by the majority of your fellow

citizens. And suppose nothing that you could do would change this opinion--because you happen to have black skin [p. 142]." Some of what has been said about the self concept of the Negro disadvantaged child applies to other cultural groups among the disadvantaged, but, definitive information for various subpopulations is not available.

Finally, from the research cited, self concept evidently influences behavior; an unfavorable self concept has been related to academic failures, and disadvantaged children (with research emphasis on the Negro child) have often been described as having negative self concepts. Self concept, consequently, has been included as a psychoeducational dimension in the model.

CHAPTER IV

THE IDENTIFICATION OF PROCESS VARIABLES

The fundamental influence of the home on the psychoeducational dimensions of the model was alluded to in the previous chapter. This relationship will be elaborated in a review of research relating factors of the home specifically to the development of intelligence, language skill, conceptual ability, and motivation. Aspects of the home (family) which are directly related to the development of the psychoeducational dimensions of the model are process variables. Process variables in the home are dynamic mediators between the environment and the child. Tentative process variables have been suggested at the end of this chapter.

Related Research

Emphasizing the significance of the early environment for the development of intelligence, language skill, and conceptual ability, Hunt (1964) defined cultural deprivation as a "failure to provide an opportunity for infants and young children to have the experiences required for adequate development of those semi-

autonomous central processes demanded for acquiring skill in the use of linguistic and mathematical symbols and for analysis of causal relationships [p. 201]." Bloom (1964) interpreted data from one thousand longitudinal studies in an attempt to identify and explain stability of physical characteristics, intelligence, achievement, interests, attitudes, and personality at various ages and to determine the conditions under which the stability can be modified. Among his general findings, supporting Hunt's statement, was the tremendous importance of the early environment. The home environment had its greatest effect on a characteristic, such as intelligence, during its most rapid period of growth. He specifically cited three factors of the environment that affect the development of general intelligence: (a) "the stimulation provided in the environment for verbal development," (b) "the extent to which affection and reward are related to verbal reasoning accomplishments," and (c) "the encouragement of active interaction with problems, exploration of the environment, and the learning of new skills [p. 190]." Influenced by Bloom's work, Wolf (1964) attempted to identify and measure the environmental process variables related to intelligence. Specifically he studies the relationship of parental influence on the intelligence test performance of 60 fifth graders. A scale was devised from the aspects of the home hypothesized to be most

relevant to general intelligence items. The correlation of the total score (summation of the scale scores) and the child's IQ was +.76. The significance of this correlation is obvious when compared to a correlation of +.40 or less between intelligence and such variables as social status, parent's occupation, or parent's education. The best relationships between the parent's influence and the child's IQ performance were found for (a) the parent's intellectual expectations for the child, (b) the amount of information the mother had about the child's intellectual development, (c) the opportunities provided for enlarging vocabulary, (d) the extent to which parents created situations for learning in the home, and (e) the extent of assistance given in learning situations related to school and nonschool activities.

Other researchers have stressed the nature of the family as significant in determining the intelligence measured on the child. Horton (1962) studied the background of 76 three year old Negro children split into the above average and below average groups on the Merrill Palmer Scale of Mental Tests. He found that the children in the lower group came from families where one-half the parents had less than an eighth grade education, no father had above a semi-skilled job, and there were less stable marriages and a larger number of siblings than in the high scoring group. The absence of a father in the home, according to Deutsch's (1964) study, adversely

influenced the intelligence level of the children. He hypothesized that this adverse effect was not so much the mere absence of the father as the diminuation of organized family activity.

Sufficient interaction between adult and child is necessary for normal language development. The adult acts as a language model as well as socially motivating the child and giving him feedback on his initial mimicry of speech. McCarthy (1961) stressed the relationship between the amount and kind of contact the child has with his mother and the verbal skills of the child. In the disadvantaged family, however, there is less parent-child interaction and less mother-child interaction than in middle class families (Walter, Conner & Zunich, 1964).

The quality of the mother-child interaction is among the factors identified as significantly influencing school learning (Strom, 1966). Hess, Shipman and Brophy (1967) analyzed the data gathered from mother-child interactions in which the mothers taught their children various tasks or cooperatively performed tasks such as copying a model figure on an Etch-A-Sketch, where the mother operated one dial while the child operated the other. He concluded that the superior teaching ability of middle class mothers contributed to their child's success and thereby made the situation a positive experience for the child. Lower class mothers, in contrast,

often lacked specificity in their directions tending to retard learning and increase failure experiences, further destroying the child's task motivation.

Paralleling Brophy's observations in an experimental situation, this writer has seen similar circumstances operating in Head Start classes. One incident consisted of a visiting mother attempting to teach her child to write her name. Laying the paper before the child and handing her the pencil, the mother watched as the child tried to copy the model, TINA, written on the paper. The child struggled with the task as the mother gave vague directions and no demonstration of how to form the letters. Jerkingly pushing the pencil with a pained expression on her face, the child appeared exasperated by the task. Finally, she dropped the pencil and walked away. What had Tina learned about writing?

In a study of mother's language style and the conceptual ability of their preschool children, the mother's tendency to use abstract language was a better predictor of the child's abstract functioning on a cognitive task than either the mother's verbal IQ or the child's own IQ (Olim, Hess, & Shipman, 1965). Aware of the influence of mother-child interaction on the conceptual ability of the child, Hess and Shipman (1965) wanted to answer the question: "what is cultural deprivation and how does it act to shape and depress

resources of the human mind [p. 870] ?" They proposed that social systems and family structure shape communication and language shapes cognitive style and problem solving. To test this, the researchers observed lower class Negro mother teaching their four year old children contrived cognitive tasks. The results suggested, "the meaning of deprivation is a deprivation of meaning--a cognitive environment in which behavior is controlled by status rule rather than by attention to the individual characteristics of a specific situation and one in which behavior is not mediated by verbal cues or by teaching that relates events to one another and to the future. This environment produces a child who relates to authority rather than to rationale, is not reflective in his behavior and for whom the consequences of an act are largely considered in terms of immediate punishment or reward rather than future effects and long range goals [p. 885]."

Rosen and D'Andrade (1959) investigated the origins of achievement motivation in the context of the family and social class. In an experimental task which gave the parents an opportunity to interact with the child he found that parents provide both achievement training and independence training. A cyclical effect was identified for parents' influence on achievement motivation, beginning with parents imposing a standard of excellence and ending with parents

giving the child greater autonomy as a result of improved performance.

Function in the Model

The apparent significance of process variables is indicated by the preceding discussion of research. In the model, the psychoeducational dimensions (intelligence, language skill, conceptual ability, perceptual ability, motivation, and self concept) will be profiled for children from subpopulations of the disadvantaged, revealing a cross sectional view of children's performance. The model as it has been developed with two parts, subpopulations and psychoeducational dimensions, will be void of sources of information explaining variation among the subpopulations on the profiled psychoeducational dimensions except in general demographic terms. The profile patterns, for example, of the Puerto Rican children may differ from that of the Mexican American children, but at this point the model provides no way to determine why or how this pattern developed. Reflecting on the cross sectional nature of the psychoeducational profile, it is evident that there are, in addition, longitudinal, and process (mediating) dimensions. For instance, the child's language skill has developed over time and has been affected by a variety of external factors such as the amount and quality of verbal stimulation in the home. The situation can be visualized as an inverted pyramid

whose lower point represents conception while the top line indicates adolescence (see Figure 2).

The profile of psychoeducational variables proposed in this paper is a cross sectional slice of the pyramid. If the psychoeducational dimensions were profiled at different age levels, denoted by the dotted lines, a longitudinal indicator of how they developed would be added. Finally, information on aspects of the home that influence particular psychoeducational variables (process variables), indicated by the double tipped arrows, complete the picture with information about why a subpopulation group has a particular profile pattern.

The most efficacious approach to analyzing the process variables in the home will utilize extreme differences on the psychoeducational dimensions. Once the data is collected and profiled for children from subpopulations of the disadvantaged, high and low performances on the psychoeducational dimensions can be identified. Then, combinations of process variables in the home which would influence particular psychoeducational dimensions could be examined for their effects on the high or low performance groups. This information when gathered and analyzed could help explain the behavior of children from subpopulations of the disadvantaged.

A brief description of disadvantaged families will serve as background for identifying some of the process variables. Disadvantaged families often live in crowded dilapidated dwellings where order

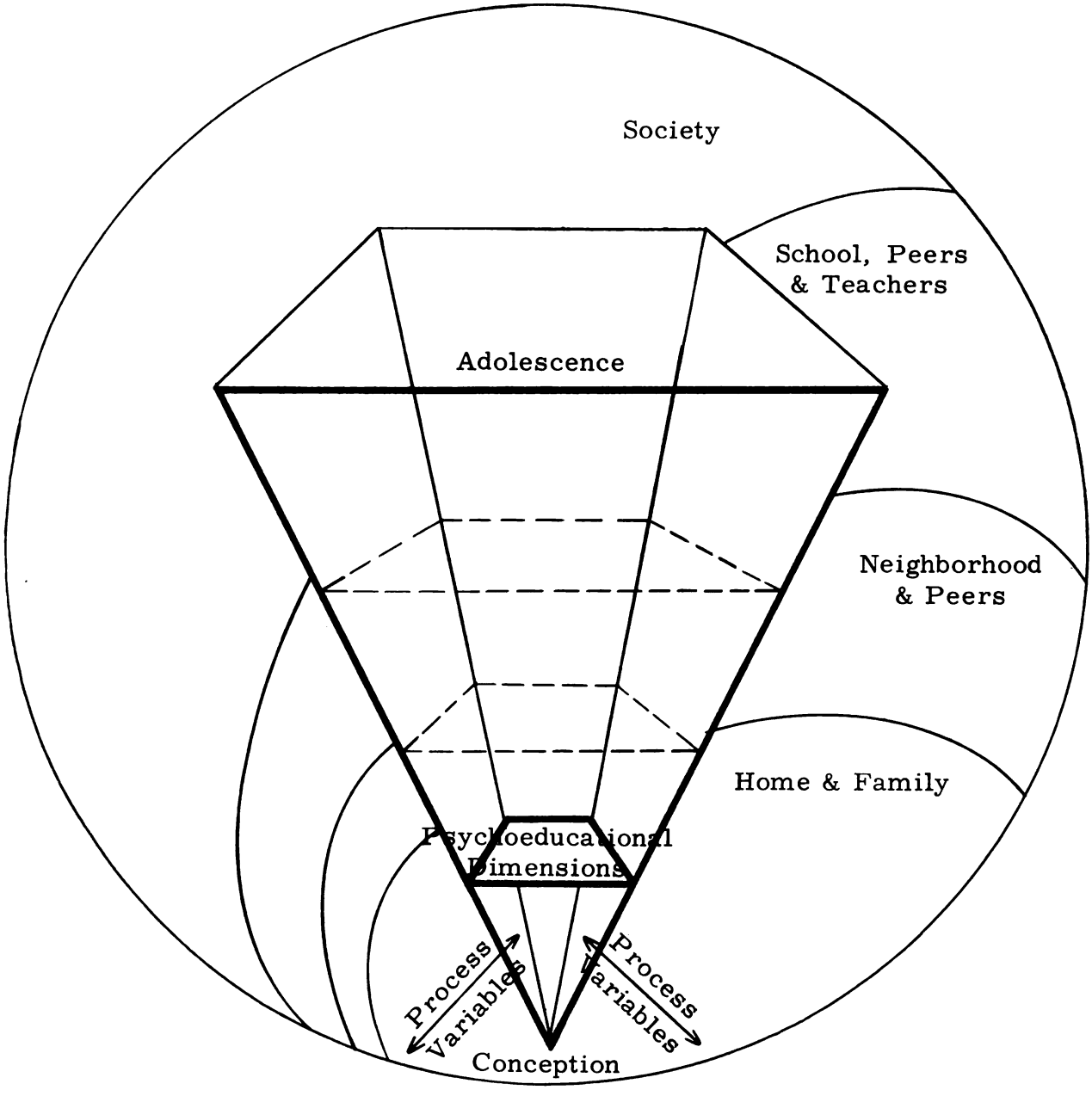

Figure 2. -- Environmental Schema

and routine are lacking. These families tend to be unstable and the father's absence temporarily or permanently is not uncommon. The child rearing practices have been described as adult-centered rather than child-centered, physical rather than psychological (parents control outer behavior), rules are mechanically enforced, and care tends to be custodial (emphasis on external appearance rather than total mental or physical health) (Keller, 1966, p. 73). There is, however, wide variation among the disadvantaged families reflecting environmental and nonenvironmental differences. Generally, the disadvantaged family in its current form "cannot educate its children, cure their ills, provide them with jobs, or effectively control their behavior [Keller, 1966, p. 5]."

Helpful in identifying process variables in the home to be included in the model, Deutsch (1965) outlined the major dimensions through which the home environment of the disadvantaged child is likely to operate in an inhibiting manner: (a) social structure of the family, (b) communication, (c) economic circumstances, (d) educational history of the family members, (e) child rearing practices, (f) dominance and passivity patterns, (g) sex and race determinants, (h) activity structure of the home, (i) quality of interaction between adults and children, and (j) behavior expectations in terms of both immediate behavior and long range educational and general goal aspirations (p. 79).

Identification of Process Variables

Factors in the home that stand out in the research as affecting the development of school learning skills are identified as tentative process variables in the model. (The process variables actually measured in the homes of children from subpopulations of the disadvantaged will be directly related to operational definitions of the psychoeducational dimensions.) The goals and values of a family are frequently reflected in child rearing practices and reinforcement patterns which are means of socializing the child into the group. The child rearing practices, usually including training in feeding and weaning, elimination, sex, aggression, and dependency, are closely allied with reinforcement patterns. Reinforcement patterns are the behaviors of the child which are rewarded or punished. The parents' expectations of their children in terms of both education and a career will also influence the reinforcement patterns. The quality of the language used in the home, especially in mother-child interaction, has been emphasized in the literature as particularly important for the development of psychoeducational dimensions (intelligence, language skill, and conceptual ability). The physical qualities of the disadvantaged child's home and family can also have a profound effect on the development of the psychoeducational dimensions of the child. Family composition, for example, the age, sex, and ordinal

position, and the roles they have with reference to the disadvantaged child could be significant. The stability of the family members and mobility of the family should also be considered. Finally, the physical surroundings in terms of the type of dwelling, upkeep, size, and neighborhood could be included as among process variables in the home.

CHAPTER V

THE INTEGRATION AND IMPLEMENTATION OF THE MODEL

The behavioral model is divided into three major sections, subpopulations of the disadvantaged, psychoeducational dimensions of the child, and process variables in the home. In the previous chapters, the sections of the model were outlined: subpopulations as cultural group, rural or urban locale, geographic area, social class, and sex; psychoeducational dimensions as intelligence, language skill, conceptual ability, perceptual ability, motivation, and self concept; and, process variables as child rearing practices, reinforcement patterns, parental expectations, language patterns, family composition, stability, mobility, and the physical surroundings of the home. This chapter will consider the complete model as developed in the paper, integrating the elements of the major parts, building some hypotheses about the variables, and discussing the implementation of the model.

To integrate the sections into a cohesive operational model the functions of the subpopulations, psychoeducational dimensions,

and process variables must be related. (The model is illustrated in Figure 3.) The subpopulation matrix defines the sample of children for whom the psychoeducational dimensions will be measured and profiled. When the performances of various groups are profiled, the extremes of each psychoeducational dimension will be examined in terms of process variables in the home. Hypotheses indicating relationships among the variables are stated between the subpopulations and the psychoeducational dimensions, and between the psychoeducational dimensions and process variables.

Hypotheses

Relationships between subpopulations of the disadvantaged and the profiled psychoeducational dimensions of the children:

1. Members of a given cultural group will have similar psychoeducational profile patterns.
2. Members of various cultural groups will have significantly different psychoeducational profile patterns.
3. Mexican American, Puerto Rican, or other disadvantaged bilingual children will perform less well on language skill tasks in either Spanish or English than children from the other cultural groups.

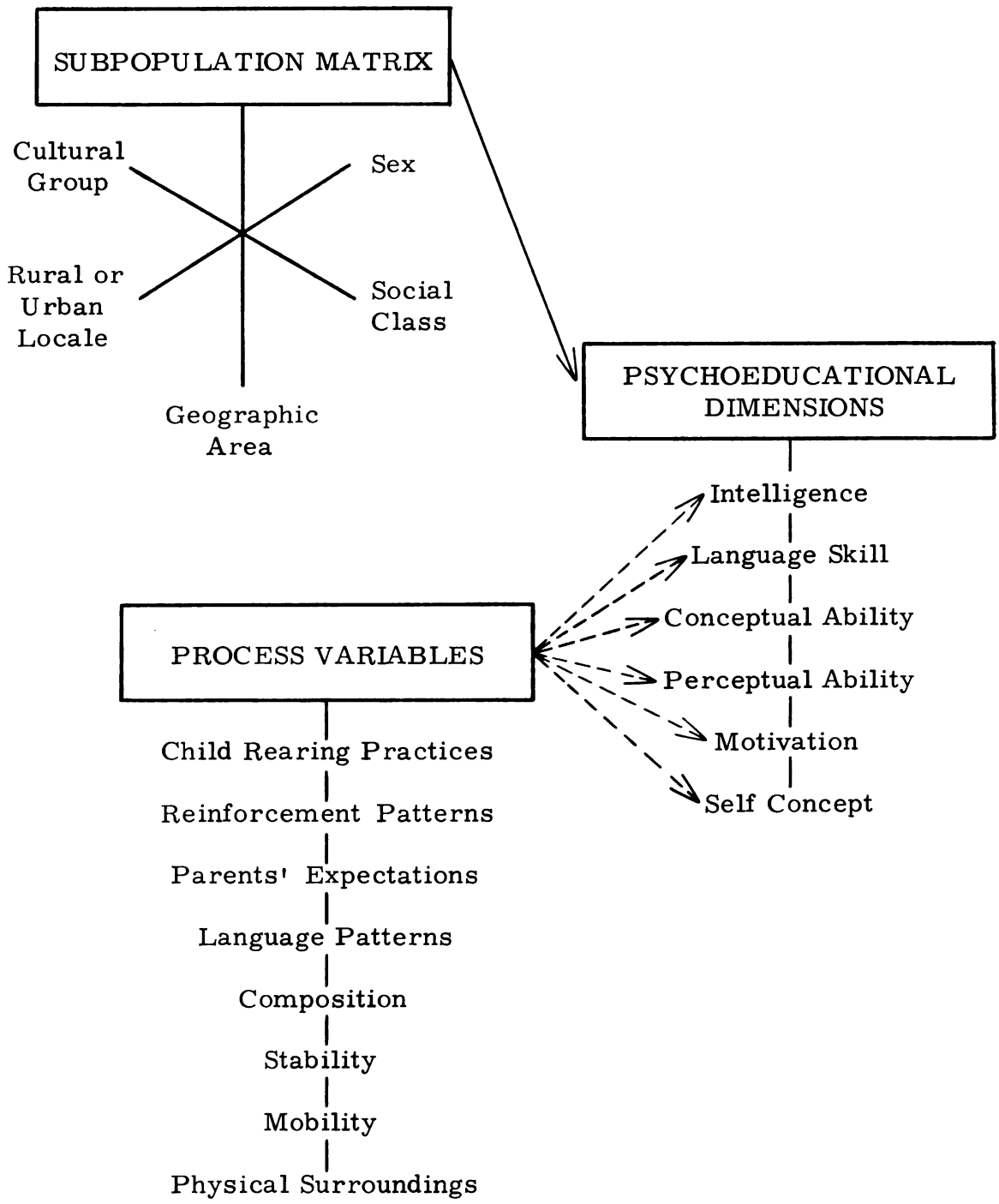

Figure 3. -- Behavioral Model

4. Children from urban locales will perform better on intelligence, language skill, and conceptual ability measures than children from rural areas.
5. A lower level of performance on the psychoeducational dimensions will be associated with the geographic area of origin.
6. Children from the upper-lower class will perform better on the psychoeducational dimensions than children from the lower-lower class.
7. Lower-lower class children with very poor performances on the self concept and motivation tasks will perform poorly on the intelligence, language skill, conceptual ability, and perceptual ability tasks.
8. Children from the upper-lower class will perform significantly better on achievement motivation measures than children from the lower-lower class.
9. Negro females will have a better self concept than Negro males.
10. Children of the less preferred sex from a lower-lower class family, living in a rural part of the area of origin, will perform less well than other subpopulation combinations on the psychoeducational dimensions.

Relationships between profiled psychoeducational dimensions of the children and process variables in the home:

1. Children's high or low intelligence (mental abilities) performance will reflect reinforcement patterns in the home.
2. Children who are high on the overall intelligence measures come from more mobile families than children who are low on the intelligence measures.
3. Children who perform well on language skill come from homes where there is a higher quality and quantity of verbal exchange in English among family members than children who perform poorly on language skill.
4. Children who use the more abstract conceptual modes come from homes where elaborated codes are more common language patterns than children who use concrete conceptual modes.
5. Children who use reflective cognitive styles come from homes where there is more routine in the family activities than children who use impulsive cognitive styles.
6. Children who have a positive self concept come from homes where child rearing practices more frequently encourage independence than children with negative self concepts.

7. Children who have good perceptual ability come from homes which are less crowded with lower noise levels than children who have poor perceptual ability.
8. Children who are high on achievement motivation come from families with higher educational expectations and more reinforcement for school activities than children who are low on achievement motivation.
9. Children who have a positive self concept come from families with higher expectations and more reinforcement for a positive self concept than children who have a negative self concept.
10. Children with a positive self concept come from complete families more frequently than children with a negative self concept.

As presented in this paper, the model is comprehensive but flexible. The parts of the model include variables most pertinent to understand the behavior of the diverse population of disadvantaged children. Researchers using the model can select those aspects from each of the three parts that would fit into the scope and objectives of their project. For example, sex differences in the language skill of lower class children could be examined and related to factors in the home, or the differential effects of cultural group membership of

lower class children as related to conceptual and perceptual ability could be investigated without relating the results to process variables in the home. Conceivably, other variables could also be added to the model.

The major obstacles anticipated in implementing the model are sample selection and measurement. It is one thing to construct a subpopulation matrix defining the desired sample; it is quite another task to find the children for the sample. Cooperative lower-lower class families may be difficult to find. In addition, children from the various cultural groups should be at about the same level of acculturation. The selection and development of instruments to measure the psychoeducational dimensions and the process variables in the home is an arduous assignment. The model is designed for disadvantaged preschool children who frequently lack testing know-how and require age-appropriate instruments. Suggestions for instruments presented in the Appendix represent a beginning. The problems, however, of sample selection and measurement, though crucial, are not insurmountable.

Conclusion

In conclusion, it does not seem to be too presumptuous to state that the model has numerous implications for research on dimensions of children's behavior that are influenced by the

environment and that influence school learning. The model covers a wide range of environments and child behaviors, but selected aspects can be studied independently. The direct application of information gathered on the basis of the model could result in innovations in compensatory education programs, with administrators and teachers made aware of behavioral outcomes related to conditions in the home environments of disadvantaged children.

APPENDIX

MEASUREMENT

Germane to the consideration of instruments to measure the psychoeducational dimensions of children are factors involved in testing and interpreting test results for children from subpopulations of the disadvantaged. Test performance may reflect not only the ability of the child on the dimension being tested but also the nature of the examiner, the test, and other skills the child possesses. The rapport established by the examiner as well as the examiner's sex and race may influence the child's performance. The amount of verbal saturation, speed, and cultural bias of the test, in addition to the child's lack of test taking skill and motivation, can distort the test results of disadvantaged children. Interpreting test results from studies on disadvantaged children, Fishman and others (Deutsch, Kogan, North & Whitman, 1964) have observed that a test that differentiates between the advantaged and disadvantaged does not mean that it is invalid. "Culturally unfair tests may be valid predictors of culturally unfair but nevertheless highly important criteria [p. 138]." The test, however, can be culturally biased and unrelated to criterion ability.

The difficulty of finding instruments to measure the psychoeducational dimensions of the model for disadvantaged children from ages four to six indicates the dearth of adequate psychological measures for preschool children. In addition to the research on various psychoeducational dimensions of the model, three primary sources were used to find assessment instruments: Tests in Print (Buros, 1961), The Mental Measurement Yearbook (Buros, 1959, 1965), and a compendium of unpublished measures of child behavior (Johnson & Bommarito, 1968). To apply the psychoeducational dimensions, the instruments must be adaptable for measuring disadvantaged preschool children on one or more dimensions of the model.

Measures of Psychoeducational Dimensions

General Intelligence (Mental Abilities)

> Lesser, G. S., Fifer, G., & Clark, D. H. Mental abilities of children from different social-class and cultural groups. Monographs of the Society for Research in Child Development, 1965, 30 (4, Whole No. 102).

The Hunter College Aptitude Scale for Gifted Children (Davis, 1960), designed for children from four to five and one-half, was adapted to identify mental abilities patterns in children from six to seven and one-half from different social class and cultural groups. The mental abilities tested were verbal ability, reasoning, number facility, and space conceptualization.

Wechsler, D. Manual for the Wechsler Preschool and Primary Scale of Intelligence. New York: The Psychological Corporation, 1967.

The Wechsler Preschool and Primary Scale of Intelligence, developed for children from four to six years old, has verbal and performance subtests. The verbal subtests are information, vocabulary, arithmetic, similarities, comprehension and sentences. The performance subtests are the animal houses, picture completion, mazes, geometric design, and block design.

Language Skill and Conceptual Ability

Deutsch, M. The role of social class in language development and cognition. American Journal of Orthopsychiatry, 1965, 35, 78-88.

In attempting to specify language and cognitive areas that are most influenced by an unfavorable environment, Deutsch used many measures of verbal and conceptual ability (Verbal Identification Test, Concept Sorting Test, Concept Formation Test, Verbal Fluency Test, Word Association Test, and Cloze Test) which are relevant to the psychoeducational aspects of the model.

Sigel, I. E., & Perry, C. Psycholinguistic diversity among "culturally deprived" children. American Journal of Orthopsychiatry, 1968, 38, 122-126.

"The Illinois Test of Psycholinguistics (ITPA) is an instrument designed to measure the various aspects of language utilization in children from ages three through nine. . . . This test has been

widely used with retardates and 'culturally deprived' populations, [and] . . . it is valued as an important diagnostic test for the lower class child [p. 123]."

Conceptual Ability

Banta, T. J. Tests for the evaluation of early childhood education: The Cincinnati Autonomy Test Battery (CATB). Unpublished paper, University of Cincinnati, 1967.

The Cincinnati Autonomy Test Battery (CATB) is designed to tap the self-regulating behavior that facilitates effective problem solving or autonomy in preschool children. The CATB purports to measure curiosity, exploratory behavior, persistence, resistance to distraction, control of impulse, reflectivity, analytic perceptual processes, and innovative behavior.

Sigel, I. E., Anderson, L. M., & Shapiro, H. Categorization behavior of lower and middle-class Negro preschool children: differences in dealing with representation of familiar objects. Journal of Negro Education, 1966. Pp. 218-299.

The Sigel Sorting Tasks assess cognitive style and consist of twelve life size familiar objects classified into four groups: kitchen things, smoking things, toys, and writing things. Three modes of categorization have been identified: descriptive, relational, and categorical-inferential. The tasks have been used with preschool disadvantaged children. (Sigel and McBane [1967] discussed the

psychological significance of each mode of categorization in reference to disadvantaged children.)

Perceptual Ability

Deutsch, C. P. Auditory discrimination and learning: social factors. Merrill-Palmer Quarterly, 1964, 10, 277-296.

The Wepman Auditory Discrimination Test was designed for children from ages five to eight, and it has been used successfully with disadvantaged children.

Gotts, E. E. A perceptual component of visual-analytic skills. In E. G. Willerman, V. S. Newton, & D. E. Bussis (Eds.), A Digest of the Research Activities of Regional Evaluation and Research Centers for Project Head Start. Washington: Office of Economic Opportunity, 1968, p. 4.

The Visual-Analytic Skill Test (VAST) is being developed by Gotts to measure form perception accuracy in preschool children.

Stern, C. An instrument to measure auditory discrimination in young children. In E. G. Willerman, V. S. Newton, & D. E. Bussis (Eds.), A Digest of the Research Activities of Regional Evaluation and Research Centers for Project Head Start. Washington: Office of Economic Opportunity, 1968, p. 5.

The Children's Auditory Discrimination Inventory (CADI) is designed to test auditory discrimination in preschool children using thirty-eight pairs of pictures rather than the traditional method of classifying pairs of auditory stimuli as either same or different.

Stern, C., & Lombard, A. An instrument for measuring visual discrimination in young children. In E. G. Willerman, V. S. Newton, & D. E. Bussis (Eds.), A Digest of the Research Activities of Regional Evaluation and Research Centers for Project Head Start. Washington: Office of Economic Opportunity, 1968, p. 6.

"The Visual Discrimination Inventory (VDI) is concerned with the assessment of children's ability to discriminate visual stimuli [p. 6]." Instead of requiring a child to make the usual written response, the VDI requires the child to indicate his ability to use forms by making simple selection responses.

Motivation

Ballif, B. L. Exploration of motivation to achieve in preschool children. Annual Report, 1966-67, University of Hawaii Head Start Evaluation and Research Center, Office of Economic Opportunity.

Ballif has developed an imaginative procedure to measure motivation to achieve in preschool children. The instrument is presented in story form with semi-structured situations involving imaginary figures. Dichotomous alternative responses for each situation are designed to measure response patterns hypothesized to be components of motivation to achieve.

Self Concept

Brown, B. The assessment of self concept among four year old Negro and white children: a comparative study

using the Brown-IDS self concept referents test. Paper presented at the meeting of the Eastern Psychological Association, New York City, April, 1966.

The Brown-IDS Self Concept Referent Test is designed to minimize two prominent difficulties of assessing the self concept of children younger than five: (a) the limited ability of young children to verbalize complex self feelings and perceptions, and (b) a tendency to alter perceptions of self as a function of various physical and interpersonal forces that vary daily. The examiner uses a picture of the child to focus the child's attention and then asks a series of questions in the form of bipolar adjectives about the child. (This instrument has some serious defects such as children giving the socially accepted responses or consistently choosing the second adjective.)

Wattenberg, W. W., & Clifford, C. Relation of self-concept to beginning achievement in reading. Child Development, 1964, 35, 461-467.

To measure the self concept of kindergarten children, the researchers made tape recordings of children while they drew a picture of their families and responded to incomplete sentences. "Typescripts were prepared from [the] tape recordings. Two independent raters divided the recordings into thought units. The thought units were classified as to whether or not they constituted self-references. The self-references were further classified as to

whether they dealt with competence, personal worth, or some other issue. Those which dealt with competence and personal worth were further rated as to whether they were positive, negative, or neutral [p. 463]." The procedure was, unfortunately, very slow and costly.

Measure of Process Variables

Wolf, R. The measurement of environments. In A. Anastasi (Ed.), Testing Problems in Perspective. Washington, D. C.: American Council on Education, 1966. Pp. 491-503.

A single physical environment, according to Wolf, is made up of a number of sub-environments and each sub-environment is operating to influence the development of specific characteristics. Therefore, identify those aspects of the total environment that are hypothesized to be related to the development of specific characteristics. Define the elements of pertinent sub-environments in operational terms and measure them. Summarize the environmental data and relate it to measures of the characteristic on the child. This is one approach to measuring process variables in the home.

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