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Exploring Adaptive Behavior in Preschool Children

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EXPLORING
ADAPTIVE BEHAVIOR
IN PRESCHOOL CHILDREN

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EXPLORING

ADAPTIVE BEHAVIOR

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EXPLORING ADAPTIVE BEHAVIOR IN PRESCHOOL CHILDREN

Elaine M. Michewicz December 1982 Pages 36

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The purpose of this exploratory study was to investigate factors related to adaptive behavior or nonacademic behavior and the ability to function in everyday life situations. Preschool children and their mothers served as subjects for the investigation. The Wechsler Preschool and Primary Scale of Intelligence (Wechsler, 1967), the Nowicki - Strickland Internal-External Locus of Control Scale for Children (Nowicki and Strickland, 1973), and the Circles and Unusual Uses Tests (Torrance, 1966a) were administered to twenty-five kindergarten children. In conjunction, the Adaptive Behavior Inventory for Children from The System of Multicultural Pluralistic Assessment by Mercer and Lewis (1977), which is a structured interview, was administered to each child's mother since she is the person most familiar with outside of school functioning. The data were analyzed using a multiple regression analysis in order to find the variable or set of variables that best related to adaptive behavior. It was hypothesized that the child possessing a high level of adaptive behavior would be internally controlled and highly creative. It was also hypothesized that no significant difference between the genders would be found and that no relationship to intelligence would exist. The

adaptive behavior factor was viewed as a separate and independent measure which is needed to comprehensively assess a child's functioning. Results supported adaptive behavior being an independent factor since no significant correlation was found with intelligence. A trend appeared between adaptive behavior and locus of control, with the internal child possessing a higher level of adaptive behavior. More research is needed to support the importance of adaptive behavior in the preschool child.

CHAPTER I

Introduction

Until recently, adaptive behavior or one's functioning in society has received little theoretical attention, especially where the preschool child was concerned. The literature does not contain a clear model of influential factors which relate to a child's adaptive behavior. Variables that may constitute and enrich the development of adaptive behavior or those that may hinder a child's functioning have not yet been established. It was the purpose of this study to investigate variables possibly related to adaptive behavior in preschool children. Factors were chosen from a set of constructs which are used in daily activities and would seem likely to have a relationship to adaptive behavior.

> Adaptive behavior measures permit us to ascertain if a child's general adaptive skills are similar to those of other children of the same age and enable the child to function effectively within his/her cultural or environmental setting. The primary consideration is the degree to which the referred child's out-of-school behaviors are similar to his/her in-school behaviors.
> (Oakland, 1977, page 105)

Measures of adaptive behavior may supply us with an adaptive topography of a child's functioning. Mercer's (1979) Adaptive Behavior Inventory for Children (ABIC) takes the following child-related behaviors into consideration: family, community, peer relations, non-academic school roles, earner/consumer, and self maintenance. Three characteristics of these role specific adaptive behaviors were "1) the child's ability to negotiate entry to a specific social system, 2) to occupy a status in that social system, and 3) to play the role associated with that status in a manner acceptable to other persons in that system" (page 87).

The present study followed the model prepared by Mercer to tap adaptive functioning. The variables used to explore possible relationships of adaptive behavior or a child's functioning were locus of control, elaboration, flexibility and gender. Furthermore, intelligence and adaptive behavior were studied to help establish their independence. The above named factors have not previously been investigated in relation to adaptive behavior and the results of this thesis may provide useful information to both teachers and parents.

In a review of measures of child functioning, Coulter (1980) found adaptive behavior had gained prominence among school psychologists because of its inclusion in the definition of mental retardation and also the trend toward requiring some estimate of adaptive behavior in any

comprehensive assessment. Traditional measures of child functioning have been criticized for looking at the child only in an academic setting. Other factors, however, are gaining increased attention. One of these factors, adaptive behavior, gives a socioecological perspective as opposed to an intellectual or academic perspective. A socioecological perspective focuses on individual behavior and the norms for that behavior within an individual's own cultural setting, thereby eliminating the problem of bias. Adaptive behavior for the preschool child is limited mainly to the family and neighborhood. It is the mother who is expert here, for she has watched her child grow and develop in the these areas.

Measurement of adaptive behavior may identify sources of disabling processes which will be useful in planning future interventions and making appropriate educational placements. Educational placements, however, have traditionally been made on the basis of intelligence. A number of different theories and views have been associated with the term intelligence, ranging from "abstract thinking" to the processes of assimilation and accommodation (Sattler, 1974). It appeared that each theorist expressed his own, different view about the nature of intelligence. Wechsler's approach to intelligence has been widely accepted. "Wechsler defined intelligence as the aggregate or global capacity of the individual to act purposefully, to think rationally and to deal effectively with his environment." He focused

on the global nature of intelligence (Sattler, 1974, page 9).

Measures of intelligence have been one of the most frequently used methods in assessing cognitive processes, informational achievements, and motivational factors. The IQ score used in isolation may have been used to inappropriately label children. Frequently, assessments have been used to establish eligibility for special services, to create homogeneous groups, to identify a diagnostic label or to place a child in a slow-learning group. Many times, these practices have been antagonistic (Oakland, 1977).

Coulter (1980) suggested that a growing awareness of adaptive behavior may lead to a trend toward delabeling children previously labeled under discriminatory or outdated procedures. Both intelligence and adaptive behavior measures may be necessary in every evaluation, but available research has yielded mixed results. For example, Rothenberg (1970) found the younger child's nonverbal IQ score related to social sensitivity and interpersonal competence. As the child matured, the verbal IQ score became more important. Goulet and Barclay (1963) found the Vineland Social Maturity Scale useful in giving a reasonable estimate of mental age in cases where the Stanford-Binet could not be administered. The position taken in this study, like that of Goulet and Barclay, is that a similar factor is being measured which may involve some overlapping factors.

Locus of control or internal/external control was

examined in relation to adaptive behavior. Locus of control was used to measure a child's perceived source of control. An internal child feels that he or she controls their own life and events around them, whereas the external child feels they have little influence on the outcome of events. Loo (1979) viewed locus of control as a multidimensional structure with a significant relationship to social desirability. He recommended that researchers using locus of control should also include the results of a social desirability scale to evaluate the effects. Loo pointed out that more attention could be given to the multidimensional nature of locus of control and the many phenomena related to locus of control. Since internally controlled children see themselves as having greater control, it was hypothesized that a positive relationship would exist between an internally controlled child and adaptive behavior.

Family development researchers at Utah State University found parental attitudes significant in the growth of creativity (Gerard and Miller, 1980). The researchers found that creative children have parents who "1) treat them with respect, 2) have confidence in their abilities, 3) give them responsibility with freedom, and 4) expect them to do well" (page 15). This environment would appear to foster the development of adaptive behavior as well as promote the growth of creativity. But not all children have parents who promote these attitudes. The type of home and classroom atmosphere that promotes

creativity would also seem to promote self-reliance or other characteristics measured by an adaptive behavior scale. It therefore seems likely that highly creative children would score high on the adaptive behavior factor.

A number of different subtests and measures of creativity are available, each one measuring a different factor of creativity. Perhaps the most extensive work in the area of creativity has been conducted by E. Paul Torrance. Torrance's work has been based upon the theory of Guilford, who proposed four important factors involved in the creative process:

1) fluency - or a variety of different hypotheses
2) flexibility - or a number of different approaches
3) originality - or new and bold ideas
4) elaboration - or adding detail or developing an idea (Torrance, 1970a).

The findings of Torrance can be contrasted with Ward (1968) in the area of creativity where the preschool child is concerned. Ward measured creativity in a group of children aged four to eight years old. Using Wallach and Kagan's creativity test, he concluded that no unitary creativity dimension would be found in preschool children.

Elaboration and flexibility were the two factors of creativity used in the present study to investigate relationships to adaptive behavior. They were chosen due to ease of test administration, considering the age of subjects used in the study.

Another relationship investigated was that of gender or differences between males and females. Mercer (1979) concluded that gender differences in performance on the ABIC were negligible. Specific social roles played by girls and boys may differ, but also tend to offset one another when combined in a scaled score. In accordance with Mercer's findings, it was hypothesized that there would be no significant difference in adaptive behavior for males and females.

Gender, flexibility, elaboration and locus of control were the factors studied to find the extent of their relationship to adaptive behavior. Intelligence was studied to investigate its independence from adaptive behavior. Adaptive behavior has slowly been gaining importance as an independent and separate measure; and according to the logic of Mercer (1979) and Coulter (1980), it has become a necessary factor in measuring child functioning.

CHAPTER II

Literature Review

Few studies have investigated adaptive behavior of the preschool child and possible factors relating to that construct. Research in the area of school performance is abundant, but this does not hold true where adaptive behavior or functioning outside of school is concerned, and certainly not so with the preschool aged child. Factors which have not previously been studied in relation to adaptive behavior are intelligence, locus of control, elaboration, flexibility and gender. The above named factors will be explored in an attempt to establish their relationship to adaptive behavior in the preschool aged child. If a profile of the preschooler possessing a high level of adaptive behavior evolves, the identifying characteristics may provide useful information to parents and teachers.

A recent measure of adaptive behavior which has gained considerable acceptance is the Adaptive Behavior Inventory for Children (ABIC). This inventory was developed by Mercer and Lewis (1977) as part of their System of Multicultural Pluralistic Assessment (SOMPA). Mercer (1979) conceptualized adaptive behavior as "achieving an adaptive fit in social systems through the

development of interpersonal ties and the acquistion of specific skills required to fulfill the task functions associated with particular roles" (page 93). The working definition of a child possessing adaptive behavior would be the ability to perform social roles appropriate for children the same age and sex in a manner that meets the expectations set in the social system in which the child participates.

Assessment of the mentally handicapped, for example, differentiating between a "six hour retardate" and a truly mentally handicapped individual may prove to be an area that will be influenced by the construct of adaptive behavior. In a study from a decade ago, Clausen (1972) viewed adaptive behavior as an ill-defined, elusive concept, which added confusion regarding the condition of the mentally retarded. The American Association of Mental Deficiency defines mental retardation with an emphasis on adaptive behavior as opposed to psychometric status. "Mental retardation refers to subaverage general intellectual functioning which originates during the developmental period and is associated with impairment in adaptive behavior" (Clausen, 1972, page 51). This position was reinforced by the definition of mental retardation found in the Diagnostic and Statistical Manual of Mental Disorders (DSM III). One of the diagnostic criteria listed for mental retardation was "concurrent deficits or impairments in adaptive behavior, taking the person's age into consideration" (Williams, 1980, page 40).

At the time of Clausen's study, there were no adequate measures of adaptive behavior available. Recently, the existence of well developed measures of adaptive behavior has been viewed as an asset, especially by school psychologists. The prominence of adaptive behavior has grown due to its being included in the definition of mental retardation and also to the trend toward requiring some estimate of adaptive behavior in any comprehensive assessment (Coulter, 1980). The growing prominence of adaptive behavior has been a huge step considering the past criticisms that it was impractical, time consuming, unreliable and irrelevant. Coulter provided some common misconceptions about adaptive behavior as follows:

> 1) It is a misconception that adaptive behavior measures should be directly relevant and correlate with academic school performance....
>
> 2) It is a misconception that adaptive behavior information can be obtained from teachers....they have little knowledge of outside of school performance....
>
> 3) One should not have to convert the data to academic programming....
>
> 4) Adaptive behavior is not similar to intelligence and there is no single factor to be measured (page 68).

Many tests and measures have been criticized as being racially and/or culturally biased. Mercer (1977) has attempted to develop an unbiased approach to measurement through the use of the SOMPA. As the ABIC, which is part of the SOMPA, becomes readily available, there may be an increased sensitivity to effects of adaptive behavior in declassification or delabeling of students previously labeled under discriminatory or outdated procedures. Multidimensional assessments as required in federal legislation, for example Public Law 94-142, may be facilitated by adaptive behavior due to it's importance as an out-of-school measure (Coulter and Morrow, 1978).

While adaptive behavior has only recently gained prominence, creativity has received considerable attention over the past twenty years. Torrance (1966a), one of the leaders in creativity research, defined creativity as

> A process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmonies, and so on: identifying the difficulty; searching for solutions, making guesses, or formulating hypotheses about the deficiencies; testing and retesting these hypotheses and possibly modifying and retesting them; and finally communicating the results. (page 6)

A high level of certain abilities may increase an

individual's chances for creative behavior. These abilities have been designated as elaboration, flexibility, fluency, and originality.

Guilford (1968) conceptualized the creative personality to possess activities such as inventing, designing, contriving, composing and planning. Individuals who exhibit these behaviors to a marked degree may be recognized as being creative. Guilford viewed creative thinking and problem solving as the same phenomenon. Problem solving includes something new or novel, and therefore it involves creative thinking. Given this, a theory that focuses upon one must certainly focus upon the other.

Eyal and Lindgren (1977) found creativity positively and significantly related to intelligence, however, only verbal intelligence. The Basic Word Vocabulary Test, a verbal test of mental ability, and House-Tree-Person drawings were scored for intelligence. The House-Tree-Person test was then rated for creativity for the sixty-five elementary school children who participated in the study. Creativity and intelligence were significantly related, but only for females. There were no significant results found for males. In Kogan's (1974) review of the literature on creativity, the same findings were evident for females. He pointed out that girls have been rewarded for affiliation and interpersonal behaviors with a heavy emphasis on verbal interaction. Thus, the high verbal IQ and creativity relationship.

As previously stated, Torrance (1966a) designated elaboration, flexibility, fluency and originality as the four abilities involved in creativity. Crockenberg (1972) reviewed Torrance's creativity measure and it's relationship to IQ. An investigation of validity revealed low correlations between the factors of flexibility, fluency, originality and the factor of elaboration. This low correlation between elaboration and the other three measures was also supported by Long and Henderson (1964) and Cicirelli (1964). It seemed likely that elaboration may be measuring a different factor or component than what is measured by the other three. Guilford viewed elaboration as divergent thinking with ideas being freely generated. According to Guilford, elaboration occurs when one builds upon and develops a point, but does not shift to a new idea (Dunkin and Biddle, 1974)

Parents, teachers and child psychologists have noted children beginning to sacrifice creativity, specifically elaboration, for socialization training. Torrance (1970b) has successfully experimented with materials and procedures to facilitate learning and growth, while increasing socialization skills and also the ability to elaborate.

While elaboration was found to have a low correlation with the other three creativity factors, flexibility correlated highly with it's fellow creativity measures (Crockenberg, 1972). Iscoe and Pierce-Jones (1964) tested divergent thinking with an unusual uses test very

similar to Torrance's test for flexibility. In studying differences between Black and White children, the former were found to have obtained scores higher in ideational fluency or the number of responses produced. This high score was not carried over into the flexibility activity, or number of different categories and uses. White children were found to score higher on a measure of IQ, but Black children were superior in fluency. Iscoe and Pierce-Jones (1964) conceptualized divergent thinking as a combination of "ideational fluency and ideational flexibility" (page 787). Guilford (1959) included divergent thinking in the five major groups of intellectual abilities: cognition, memory, evaluation, convergent and divergent thinking. Guilford stressed that the unique feature of divergent thinking was the variety of responses produced. This was similar to the views of Iscoe and Pierce-Jones.

The locus of control factor was investigated in order to determine if a relationship exists between a child's level of adaptive behavior and internal or external locus of control. The following studies have suggested the internally controlled child to be more intelligent and to possess socially valued behaviors. Kanoy et. al. (1980) tested sixty-three grade school children, using the Intellectual Achievement Responsibility Questionaire as a measure of locus of control. The Intellectual Achievement Responsibility Questionaire was also used in Messner's (1972) study of seventy-eight

grade school children. Consistent and positive results were obtained in both studies. High achievers had a significantly higher internal locus of control and higher school grades were also attained by those students found to be internally oriented.

Milgram and Milgram (1976) found the internal child to have positive coping behaviors. Over 400 grade school students were tested, utilizing the Tennessee Self-Concept Scale and a measure of locus of control. They stated that "children who are effective problem solvers become aware that their own efforts appropriately applied lead to desirable outcomes and thereby develop a more internal locus of control" (page 193). Similarly, Rabinowitz (1978) observed the internally controlled child to be able to attain socially valued outcomes. While testing different socioeconomic classes, locus of control scores displayed a linear relationship indicating higher socioeconomic level to be positively related to internal control. Rabinowitz supported Rotter's theory that "expectancies or estimates of the probability that a particular behavior will lead to a given goal are directly influenced by realistically available rewards and constraints" (page 1344).

Locus of control in disadvantaged children was investigated by Stephens and Delys (1973). Head Start classes were tested with Stephens-Delys Reinforcement Contingency Interview, a free response questionaire measuring locus of control. Disadvantaged children were

discovered to be external by preschool age. Teacher behavior in open and traditional classrooms was also assessed by Stephens and Delys (1973), but conclusions were not clear as to what specific aspects of teacher behavior enhanced internal control. It did appear that the open classroom was more conducive in developing internal control in children.

DeCharms (1976) studied perceived control and goal setting in traditional inner-city schools using motivation enhancement to encourage personal motives and greater efforts from the students. His conception of personal motivation involved the idea that the opposite of being pushed like a "pawn" is to originate one's own actions. To deCharms, the Origin (one who originates his own actions) is in control over a situation and his behavior, in other words, internally controlled. This three year longitudinal study consisted of training programs for teachers and students in order to stimulate motivation in an effective manner. The results reliably reflected the effects of motivation training on the experimental group of children, while no change was evident in the control group.

Summary

A summary of the literature leads one to conclude that adaptive behavior has evolved from an elusive concept to a prominent construct included in the definition of mental retardation. Research is needed in the area of adaptive behavior to investigate it's relationship to other

factors, and to support it's value as an out-of-school measure necessary in comprehensive assessments. This study investigated the factors of intelligence, locus of control, elaboration, flexibility and gender in relation to adaptive behavior.

Statement of the Problem

This exploratory study of adaptive behavior in the preschool child investigated a variety of factors and their relationship to the adaptive behavior construct. Other theoretical relationships may exist, but the factors of intelligence, locus of control, elaboration, flexibility and gender have not been researched to determine their relationship to, or independence of child functioning or adaptive behavior.

It was hypothesized that

1) No significant relationship would exist between intelligence and adaptive behavior.

2) A significant relationship would exist between internal locus of control and adaptive behavior.

3) A positive significant relationship would exist between elaboration and adaptive behavior.

4) A positive significant relationship would exist between flexibility and adaptive behavior.

5) No significant difference would exist between the genders (male and female) in adaptive behavior.

CHAPTER III

Method

Subject

The sample for this study was 25 preschool children attending Jones-Jaggers Center for Child Learning and Study in Bowling Green, Kentucky. Of these kindergarten students, 10 were male and 15 female. The children ranged in age from 66 months to 77 months. The mean age was 71 months. The scholastic environment was considered to be that of an open classroom.

Instrumentation

The Wechsler Preschool and Primary Scale of Intelligence (WPPSI), the Preschool and Primary Internal-External Control Scale (PPNS-IE), the Circles Test used to assess elaboration and the Unusual Uses Test for purposes of assessing flexibility were administered to each subject. Both the Circles Test and the Unusual Uses Test are subtests of Torrance Test of Creative Thinking (TTCT). The Adaptive Behavior Inventory for Children (ABIC) was administered to the mother of each child for purposes of assessing levels of adaptive behavior for each child.

WPPSI The WPPSI was administered to the kindergarten students under standard instructions as outlined in the WPPSI Manual (Wechsler, 1967). The WPPSI was designed especially for four to six year olds to be

systematically appraised through an appropriate test battery. The WPPSI has been divided into Verbal and Performance subtests with administration of these intermixed so as to hold the interest of young children. Full Scale IQ's are based on raw scores converted into scaled scores. Wechsler's standardization of the WPPSI was on a sample of 100 girls and 100 boys in each of six age groups, ranging by half-years from four to six and one-half. Geographic region, urban-rural residence, color (white/nonwhite), and father's occupation were equally represented in the 1,200 sample population. Wechsler found the IQ mean to be 100 and a standard deviation of 15. The present study used the full scale IQ and obtained a mean of 122.20 and a standard deviation of 11.17 (see Appendix C).

PPNS-IE The PPNS-IE (Nowicki and Strickland, 1973) was administered as a measure of locus of control. This instrument utilizes cartoon drawing presentations depicting two children facing each other. One child asks a question, which is presented in a cartoon bubble over his/her head. The other child must respond with the words "yes" or "no," which are presented in a cartoon bubble above his/her head. This method of presentation increased the childs attention and required a simple "yes" or "no" response, which was recorded by the examiner. A separate form of the PPNS-IE was available for each gender, as this construction was more personal. Nowicki and Strickland's standardization sample for the PPNS-IE consisted of 120 males and 120 females, ranging in age from five to eight years. All

but the highest socioeconomic level was represented in the randomly chosen subjects from Gwinnett County, Georgia. Sample means and standard deviations for the PPNS-IE were 13.31 and 2.25 respectively. The present study found a mean of 13.44 and a standard deviation of 2.83 (see Appendix C).

Circles Test The Circles Test (Torrance, 1966a) was used as a measure of elaboration. This figural test was administered to the kindergarten class as a group test (see Appendix A). The Circles Test consists of 12 circles in which the child was to draw as complete a picture as possible and then title each one. Torrance's (1966b) standardization sample consisted of 588 students from kindergarten through the twelfth grade in the Minnesota area. He found a mean of 42.96, a standard deviation of 15.26 and a correlation of .85 with the figural battery. The present study found a mean of 15.04 and a standard deviation of 6.13 (see Appendix C).

Unusual Uses Test The Unusual Uses Test (Torrance, 1966a) was used to measure flexibility. Due to the age of the children in this study, this test was verbally administered with the examiner recording responses. Each child was asked individually to name as many unusual uses of a cardboard box as he/she could think of (see Appendix B). Torrance's (1966b) standardization group consisted of 500 first through twelfth graders in the Minnesota area. He found a mean of 24.90, a standard deviation of 10.04 and

a correlation with the verbal battery of .87. This investigation found a mean of 6.64 and a standard deviation of 3.37 (see Appendix C).

ABIC The ABIC was administered to the mother of each child as a measure of adaptive behavior or nonacademic behavior and the ability to function in everyday life situations. The questionaire was administered in the home, as this is the environment most comfortable to the mother and also that in which the child demonstrates a large majority of activity. This structured interview was a part of the social system model of the System of Multicultural Pluralistic Assessment (Mercer and Lewis, 1977). Age appropriate questions measured the child's role performance in relation to family, community, peer relations, nonacademic school roles, earner/consumer and self-maintenance. Standardization was achieved in the California Public School System with ages ranging from five to 11 years. A total of 2,085 Blacks, Hispanics and White children was representative of the public school children in California. A single set of norms existed for the ABIC, since it was designed as an unbiased measure. All cultural, socioeconomic, ethnic, racial, and gender bias was removed. Mercer found reliabilities for the ABIC Average Scaled Score were all .95 or above. The present study found a mean of 45.04 and a standard deviation of 7.86 (see Appendix C).

Procedure

All subjects followed the same procedure. The WPPSI was administered by colleagues in a graduate psychology program. Mothers of the subjects were contacted by telephone and appointments were made for the examiner to go into the home to administer the ABIC at a convenient time. This questionaire was especially developed for the mother, as she is the principle caretaker of the child and was familiar with the child's functioning at home and in the neighborhood. The Circles Test (see Appendix A for directions) was administered to the preschoolers as a group in their classroom. The Unusual Uses Test (see Appendix B for directions) was administered individually, as was the PPNS-IE.

Data Analysis

The data obtained in this study were analyzed using the Statistical Package for the Social Sciences (Nie et. al., 1975) with a multiple regression. The independent variables were IQ, locus of control, elaboration, flexibility and gender with adaptive behavior being the dependent variable. A correlation matrix was formed for the above six factors, with the significance level placed at .05. The regression analysis was performed to find the variable or set of variables that best related to adaptive behavior.

CHAPTER IV

Results

The purpose of this study was to explore adaptive behavior and factors that may relate to that construct in the preschool aged child. Intelligence, locus of control, elaboration, flexibility and gender were investigated in conjunction with adaptive behavior.

A multiple regression was used to analyze the data. The resulting correlation matrix may be found in Table 1.

TABLE 1

CORRELATION MATRIX OF ADAPTIVE BEHAVIOR AND OTHER VARIABLES IN THE PRESCHOOL AGED CHILD

	ADAPT	IQ	LOC	ELAB	FLEX	GENDER
ADAPT	1.000	-.069	-.272	.034	.022	.197
IQ		1.000	.004	.418	.199	-.015
LOC			1.000	-.104	-.258	.106
ELAB				1.000	.245	-.236
FLEX					1.000	-.381
GENDER						1.000

With 23 degrees of freedom and the significance level placed at .05, a correlation would have to fall in the

range of ±.406 in order to be significant. The correlation between IQ and elaboration was found to be positively significant. There was also a high correlation between gender and flexibility, although it was not significant. As hypothesized, there was no significant correlation between intelligence and adaptive behavior. A negative correlation between locus of control and adaptive behavior was obtained. The instrument used for scoring locus of control indicated high scores as externals. Thus, this negative correlation points toward internals possessing a higher level of adaptive behavior than externals. This is in agreement with the hypothesis, although the correlation is not a significant one. The hypothesis that a positive significant relationship would exist between elaboration and adaptive behavior was not supported. Nor was there a positive, significant relationship between flexibility and adaptive behavior. There was no significant correlation found between gender and adaptive behavior. Therefore, the hypothesis of no significant difference between the genders in adaptive behavior was supported.

Percentage of variance accounted for by each independent variable and combinations of variables is presented in Table 2. All possible combinations are not presented due to the F-levels being insufficient for computation.

TABLE 2

PERCENTAGE OF VARIANCE FOR EACH INDEPENDENT VARIABLE AND VARIOUS COMBINATIONS OF VARIABLES IN RELATION TO ADAPTIVE BEHAVIOR

IQ	= 0.5%
LOC	= 7.4%
ELAB	= 0.1%
FLEX	= 0.1%
GENDER	= 3.9%
LOC & GENDER	=12.6%
LOC & FLEX	= 7.9%
LOC & GENDER & IQ	=13.0%
LOC & FLEX & IQ	= 8.2%
LOC & GENDER & IQ & ELAB	=13.9%
LOC & FLEX & IQ & ELAB	= 8.4%
LOC & GENDER & IQ & ELAB & FLEX	=14.0%

Of the single factors, locus of control accounted for the largest percentage of the variance at 7.4%. When combined with the factors gender, IQ, and elaboration, 13.9% of the variance was accounted for. The combination of factors which accounted for the largest percentage of variance was locus of control, gender, IQ, elaboration, and flexibility at 14%.

CHAPTER V

Discussion

The purpose of this study was to investigate factors relating to adaptive behavior for the preschool aged child. The finding of no significant correlation between adaptive behavior and intelligence was important. It supports the independence and separate nature of the two factors. Measures of intelligence have been one of the most commonly used methods of assessment. But, criticism of intelligence testing as biased is also common. These standardized tests measuring ability to form concepts, solve problems, acquire information, reason, and perform other intellectual operations used to rate an individual have perhaps, at times, been unfairly used. This is especially true where labeling, or classification, of children is concerned. It would be questionable to assess a child who is culturally disadvantaged with a test that has been standardized on a middle and upper class population. Social norms present an essential element when evaluating behavior. A child's functioning should be evaluated within his or her own social norm. Mercer (1977) has made an attempt to deal with this issue by developing the SOMPA.

Children are multidimensional and possess a number of different, independent characteristics. Loo (1979) viewed locus of control as a multidimensional factor and stressed

the importance of using a social desirability scale in order to evaluate total effects. It was hypothesized that adaptive behavior and locus of control would be significantly correlated. Although the obtained correlation was not significant, this hypothesis was partially supported in that locus of control, both as a single factor and in combination with the factors of gender, IQ, elaboration and flexibility accounted for the largest percentage of variance in the study. This indicated a trend toward the internal child possessing a higher level of adaptive behavior than the externally controlled child. Milgram and Milgram (1976) and Rabinowitz (1978) found similar results for the child possessing an internal locus of control.

The lack of a positive significant relationship between adaptive behavior and both elaboration and flexibility was unexpected. Torrance's (1966a) definition of creativity would seem to include abilities needed to function in society. Also, the environment of the classroom was open, therefore providing the opportunity to display creative talents and to learn socially adaptive skills. One explanation for the lack of correlation between the creativity measures (elaboration and flexibility) and adaptive behavior could simply be that the sample tested in this study was not a very creative group of preschool children. The mean score of 15.04 for elaboration and 6.64 for flexibility found in this investigation both fall well below the means found in Torrance's standardization

group at 42.96 for elaboration and 24.90 for flexibility. Another possible explanation for the nonsignificant correlation between the creativity measures and adaptive behavior could be that creativity was not being tapped, but rather something similar to intelligence could have been measured. This conclusion was supported with the significant correlation found between IQ and elaboration. It must also be remembered that due to the age of the sample, the Unusual Uses Test was verbally administered.

No significant difference was found between males and females in level of adaptive behavior. Although different social roles may be performed by the genders, the end result is a balanced effect. This supported the hypothesis of no difference between the genders and was consistent with Mercer's (1977) findings.

There were limitations in this study, as is usually the case in small sample research. This investigation of factors relating to adaptive behavior involved a small population (N=25), with all subjects attending the same class at the same school. Furthermore, the mean IQ of the subjects in this sample was in the superior range with the mean IQ = 122. A larger, more diverse group of subjects from all socioeconomic, racial and cultural backgrounds presenting a random sample would be an improvement for future research.

Another limiting factor of this study was that with the exception of the WPPSI, all tests were administered

by one examiner. The WPPSI was administered by fellow students in a graduate psychology program. Bias may be present, in that each examiner possesses his/her own style of administration, scoring and interpretation. Using the same examiner for all subjects would provide a more consistent and unbiased study. Another limitation might have been the IQ test used in this study. There are other measures available for children in this age group. The McCarthy Scales of Childrens Abilities measures a wider variety of motor tasks and problem skills. It is therefore recommended that future research in this area include other IQ tests.

A longitudinal study to determine whether those students displaying highly adaptive behavior in kindergarten still possess those skills throughout elementary grades and on into high school and their adult lives would be an area of interest for future studies.

A unique aspect of this investigation was the opportunity to administer a newly developed measure, the ABIC, which enables one to observe home and family atmosphere. Valuable information is being obtained from the mother of each subject without the typical anxiety associated with psychological measures. The responses produced in a relaxed environment would certainly seem to be more accurate than those produced under tension. Research utilizing the ABIC as a measure of adaptive behavior is recommended in hopes that it will grow as an important factor to be considered in any comprehensive assessment.

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APPENDICES

APPENDIX A

Circle Test Directions

In ten minutes see how many objects or pictures you can make from the circles on these two pages. The circles should be the main part of whatever you make. With pencil or crayon add lines to the circles to complete your picture. You can place marks inside the circles, outside the circles, or both inside and outside the circles - whatever you want to in order to make your picture. Try to think of things that no one else will think of. Make as many different pictures or objects as you can and put as many ideas as you can in each one. Make them tell as complete and as interesting a story as you can.

Timed: 10 minutes

APPENDIX B

Unusual Uses Directions

Most people throw their empty cardboard boxes away, but they have thousands of interesting and unusual uses. Tell me as many of these interesting and unusual uses as you can think of. Do not limit yourself to any one size of box. You may use as many boxes as you like. Do not limit yourself to the uses you have seen or heard about; think about as many possible new uses as you can.

Timed: 10 minutes

APPENDIX C

Raw Data

ID#	IQ	LOC	ELAB	FLEX	ADAPT	SEX
1	102	14	8	6	37	F
2	129	13	18	11	35	F
3	125	12	18	5	50	F
4	141	13	17	12	41	F
5	132	13	17	10	45	F
6	125	12	12	7	32	F
7	131	14	21	12	44	F
8	134	12	19	10	43	F
9	96	12	9	6	35	F
10	125	13	18	5	45	F
11	124	8	24	9	56	F
12	116	16	12	1	53	F
13	110	15	13	8	43	F
14	108	14	16	6	54	F
15	137	17	21	7	44	F
16	119	17	22	10	55	M
17	125	17	10	4	45	M
18	114	12	12	8	42	M
19	131	17	14	3	28	M
20	136	15	11	2	46	M
21	113	18	20	2	41	M
22	116	8	7	10	59	M
23	115	15	2	7	53	M
24	124	11	7	1	52	M
25	127	8	28	4	48	M