

THE USE OF A MODEL OF SELF-EXPECTATION, ESTIMATED
LEARNING POTENTIAL, AND SOCIOCULTURAL
BACKGROUND IN THE PREDICTION OF
ACADEMIC ACHIEVEMENT

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The Use of a Model of Self-Expectation, Estimated
Learning Potential, and Sociocultural
Background in the Prediction of
Academic Achievement

Several factors have been identified which may influence academic achievement. Ability as measured by IQ tests has been shown to be highly related to school achievement, (Butcher, 1968; Sattler, 1974), and the expectancies that teachers and parents have for school children significantly influence their level of achievement (Rosenthal & Jacobson, 1964; Finn, 1972). Sociocultural background variables also have a significant impact on level of achievement (Marjoribanks, 1979). Combinational models of these factors have been useful in predicting academic achievement of children; however, more efficient models may be developed which can account for more of the variability in academic achievement.

Researchers have found support for a hypothesis that different racial groups have different levels of intelligence, (Shuey, 1966; Vernon, 1969). Intelligence, however, is a culturally defined characteristic; what is "intelligent behavior" in one culture may not be "intelligent

behavior" in another culture. In speaking of the cultural characteristics of intelligence, Vernon (1969) said:

We must try to discard the idea that intelligence is a kind of universal faculty, a trait which is the same (apart from variations in amount) in all cultural groups. Clearly it develops differently in different physical and cultural environments. It should be regarded as a name for all the various cognitive skills which are developed in, and valued by the group (p. 10).

In western civilization intelligence refers mainly to grouping relations and symbolic thinking. These skills permeate to some extent all the abilities necessary for success in school, work, and scoring well on achievement and IQ tests.

If intelligence truly is a phenomenon which is bound to cultural values, then the standards and measures developed by one culture can never validly be used to measure the "intelligence" of members of another culture. Tests developed by and normed on majority culture persons are presently being used to assess minority children and make placement decisions in the schools. Because of this misuse of tests, minority children are over-represented in special education programs and under-represented in programs for the gifted (Mercer, 1971).

IQ tests have been found to be very good predictors of academic achievement (Butcher, 1968; Vernon, 1969).

Information concerning a child's ability to profit from school can be obtained from intelligence tests (Sattler, 1974). This is due to the fact that IQ tests tend to measure the same types of skills which are necessary to do well on academic achievement tests (Mercer, 1977). The same skills which are necessary to do well on academic tests are likely to be the same skills valued by the culture for which the tests were designed.

Efforts have been made to develop tests of ability and intelligence which are culturally free or fair (Cattell, 1959). These tests tend to be nonverbal, and measure skills which are considered to be culture free. Problems arise, however, because many of the skills which have been considered culture free are actually culture bound (Lesser, 1976; Wesman, 1968; Williams, 1975).

Nonverbal tests usually depend upon the ability to reason logically. Logical reasoning is an ability tied to middle class ways of thinking, i.e., to "analytic" ways of thinking (Cohen, 1969). The analytic, versus the relational, way of thinking requires a person to have the ability to abstract salient information from a stimulus or a situation, to have a stimulus-centered orientation to reality, and to have the ability to focus on specific parts. Many cultures, including the Black cultures, tend to favor

"relational" ways of thinking (Ramirez & Price-Williams, 1974). Relational thinkers tend to favor a descriptive mode of abstraction, a self-centered orientation to reality, and a focus on the global characteristics of a stimulus. Therefore, nonverbal tests are just as biased, if not more so (Cole & Hunter, 1971), than verbal tests of intelligence. In fact, many "culture fair" tests have been found to be biased against Black disadvantaged children (Costello & Dickey, 1970; Higgins & Sivers, 1958; Willard, 1968).

Another problem involved in the use of "culture free" tests is the effect of the testing situation on the minority child. Majority culture children approach the test situation with different attitudes and expectations than do minority children. This may have a biasing influence on test outcome (Bersoff, 1973; MacKay, 1974).

Another technique for assessing ability which has recently been developed utilizes part of the System of Multicultural Pluralistic Assessment, commonly called the SOMPA (Mercer, 1977). This technique involves the administration of the Wechsler Intelligence Scale for Children--Revised (WISC-R) and a set of Sociocultural Scales. Rather than use the normative data which are provided with the WISC-R, the SOMPA attempts to compare the child with

persons who have had (1) similar opportunities to learn the test materials, (2) similar reinforcement for learning the test materials, (3) similar experience in taking tests, (4) similar level of anxiety and emotional state related to test taking, and (5) similar levels of sensory motor and physical ability. The child's placement in a particular normative group is based on information from the Socio-cultural Scales. The resultant score is called an Estimated Learning Potential (ELP). The ELP is an approximation of what the child's IQ might have been given the same opportunities and experiences as a majority culture child (Mercer, 1977).

The SOMPA provides a much more "culturally equitable" indication of intelligence than other intelligence tests. That is, the mean and standard deviation of the ELP are similar to those for the IQ. There are, however, still some major problems associated with the ELP. The normative sample for the SOMPA consisted of minority culture subjects who were residents of Southern California. Even when local norms are established, the ELP may still be a measure of the minority child's ability in skills valued by the majority culture rather than those valued by the minority culture. In fact, the correlation between ELP is still

moderate although not as high as the relationship between the IQ and school achievement.

Authors have found that certain sociocultural characteristics are fairly good predictors of academic achievement (Bradley, Caldwell, & Eldardo, 1977). Sociocultural characteristics are often included as factors in prediction models of expected educational achievement (Hauser, 1971; Kerckhoff & Huff, 1974). Hauser (1971) found that sociocultural factors such as father's occupation, father's education, and number of siblings in addition to intelligence accounted for 31.3 to 34.0 percent of the variance in the academic achievement test scores of white public secondary school students. Other studies have found similar results for other populations of students (Bradley, Caldwell, and Eldardo, 1977; Dave, 1963; Evans & Anderson, 1973; Kellaghan, 1977; Marjoribanks, 1979).

The specific sociocultural factors used in studies to predict academic achievement vary considerably, but they all tend to be at least moderately good in their predictive value. The sociocultural factors chosen by Mercer (1977) for inclusion in the SOMPA demonstrated significant correlations with IQ scores ($p < .01$). Sociocultural factors appear to have a significant impact on school functioning.

Mercer (1977) assumes that achievement tests and intelligence tests measure learned behavior. She feels that

children from different ethnic groups have not had "equal exposure to the white core culture nor have they been equally motivated to participate in that culture" (p. 129) and, therefore, can not be expected to do equally well on the tests which measure core culture values. The difference in sociocultural factors reflect a difference in opportunity to participate in the cultural structures which enhance achievement as measured by tests.

Environmental variables also influence the affective characteristics associated with academic achievement (Rosen, 1961; Strodtbeck, 1958; Williams, 1970). One of the most important affective characteristics which influence academic achievement appears to be expectation of academic success (Marjoribanks, 1979).

Many studies indicate that the expectation of academic success is an important factor in the prediction of academic success (Irwin, 1953; Jessor & Readio, 1957). There appears to be three major sources of expectation relating to academic achievement. One of these major sources is that of teacher expectation. Many studies have been done concerning the effect of teacher expectations on academic success (Cornbleth, David, & Button, 1974; Good, 1970; Rosenthal & Jacobson, 1968; Tyo, 1972), and some studies have shown only weak or nonexistent relationships (Elashoff & Snow, 1971).

The great variability in findings may be due to the large number of factors involved in this kind of research.

The typical teacher expectancy study involved giving false information to teachers concerning the expected academic success of randomly selected children and then later measuring IQ or achievement to see if there were any differential effects. The idea being that a random sample of children would have varying levels of actual academic ability spread fairly evenly, so that any increases in their scores, when compared to a control group, could be attributed to the expectancy variable. Some of the factors involved in expectancy studies which may influence outcome are: (A) controlled and unknown teacher differences; (B) scope of the study; and (C) success of the experimental manipulation (Brophy & Good, 1970). Research has shown that experienced teachers are less likely to be affected by the expectancies than inexperienced teachers (Kehle, Bramble, & Mason, 1974). Short term studies are more likely to result in significant results than long term studies (Brophy & Good, 1970), and that the status and credibility of the person initially giving the false information affects the believability of that information (Fleming & Anttonen, 1971; Wilkins & Glock, 1973).

Because of the many problems associated with artificially created expectancies, it is difficult to determine what the dynamics of teacher expectancies are and how they influence achievement. In order to study these dynamics, Brophy and Good (1970) observed the effects of naturally formed expectation on student-teacher interactions. They asked several first grade teachers to rank their students according to expected achievement. The results showed that "teachers were more likely to stay with highly ranked students after they failed to answer an initial question (by repeating the question, giving a clue, or asking another question)" (p. 277). Brophy and Good also found that teachers waited significantly longer for responses from "top" students thus giving "bottom" students less time to respond. Brophy and Good (1970) have identified a sequence of behaviors which may be the mechanism by which teacher expectancies affect the child:

1. The teacher forms differential expectations for student performance;
2. He then begins to treat children differently in accordance with his differential expectations;
3. The children respond differentially to the teacher because they are being treated differently by him;
4. In responding to the teacher, each child tends to exhibit behavior which compliments and reinforces the teacher's particular expectations for him;
5. As a result, the general academic performance of some children will be enhanced while that of others will be depressed, with changes being in the direction of teacher expectations;

6. These effects will show up in the achievement tests given at the end of the year, providing support for the 'self-fulfilling prophecy' notion. (pp. 365-366)

This sequence demonstrates one way in which a child is affected by teacher expectancies. Another way that teacher expectancies affect children is by official certification of achievement, i.e., grades. Teacher expectations effect both learning itself and the evaluation of this learning. Certification of learning, which is usually in the form of report cards and grade records, becomes a source of expectancies for future teachers, for parents, and for the child himself. Certification of achievement, therefore, forms part of an expectancy loop which may serve to perpetuate the expectancies.

Another major source of expectancy is that of the parents. The influences of parental expectancies on academic achievement are not as direct as teacher expectancies. The teacher has an opportunity to interact with the child in the academic learning environment and thus directly influences learning. The parent's direct influence on academic learning is restricted to time spent with the child during homework. The parent's expectations, however, do have a great influence on the child's self-perception and development of self-expectancies (Kandel, 1969; Weiss, 1969; Woelfel & Haller, 1971).

The third, and probably the most important, source of expectancy is the child's self-expectations for academic achievement. Thomas (1931) stated that "if men define . . . situations as real, they are real in their consequences" (p. 175). This statement is a good description of self-expectation. Kagan and Moss (1967) report correlations of greater than .70 between children's expectation for failure in problem situations and withdrawal from the situation. Jackson (1968) observed that a significant amount of psychological withdrawal on the part of elementary school students was a function of failure expectations. Several correlational studies identified strong relationships between expectation measures and academic achievement (Brookover, Paterson, & Thomas, 1962; Shaw, Edson, & Bell, 1960). Self-expectation more than any other previously discussed expectation is probably most responsible for academic achievement.

The development of self-expectation is dependent on several factors. One model proposed by Braun (1976) suggested that background factors, i.e., ethnic background, provides input for the teacher who then forms an expectation of the child. The teacher expectation causes differential teacher interactions to occur, i.e., grouping, prompting, feedback, reinforcement, which then provide input for the

child who forms a self-expectation. The child then produces academic work according to self-expectations and this provides further input for the teacher and confirms the expectations. This model ignores any effects the parents may have and is, therefore, inadequate.

The model of self-expectation formation which was proposed by Finn (1972) accounts for parental input. This model is similar to Braun's except that it includes the influence of peer expectation, parental expectation, and teacher expectation. One advantage of Finn's model over Braun's model is that it included a direct influence of the teacher through grades and classroom interaction. A disadvantage of Finn's model is that peer expectation is included as an input. Peer expectation has been shown to be an insignificant source because of the great overlap between peer expectation and parental expectation (Proshausky & Newton, 1968).

The factors mentioned earlier (sociocultural background and ability) also influence self-expectation (Cooper, 1975; Marjoribanks, 1977). The child's self-expectations may be affected in an indirect manner by sociocultural background through the teacher's reaction to the child's race or ethnicity (Braun, 1976; Kehle, 1974). Ability level influences self-expectation both directly and indirectly.

A child's expectations for future academic success may be directly influenced by his perception of past success (Alexander & Eckland, 1975; Sewell & Hauser, 1976). Indirectly, a child's self-expectation may be affected by the teacher's perception of the child's ability (Marjoribanks, 1978).

It appears that a model for predicting academic achievement might include a measure of ability, a measure of sociocultural background, and a measure of self-expectation. A model which includes these three factors will account for a significant amount of the variance in academic achievement.

The purposes of this study are: (A) to test the model of self-expectancy of academic success pictured in Figure 1; and (B) to test a model for predicting academic achievement which uses Estimated Learning Potential, sociocultural background, and self-expectation for academic success as the predictor variables and Iowa Test of Basic Skill scores as the criterion variable.

Method

Subjects

The subjects consisted of 20 male and 20 female first, second, and third grade Black students enrolled in the

Denton Public Schools. The subjects included a random sample of the children to whom the Wechsler Intelligence Scale for Children--Revised, the Teacher Questionnaire, the Sociocultural Scales of the System of Multicultural Pluralistic Assessment, and the Iowa Test of Basic Skills were administered.

Tests and Measures

Estimated Learning Potential (ELP) was used as the measure of ability for use in an academic achievement prediction model. The ELP provides a "basis for inferring a child's probable potential for future learning based on the amount of past learning when the child's opportunity to become familiar with the kinds of material in the WISC-R has been taken into account" (Mercer, 1977, p. 137). The ELP has multiple normal distributions, one for each sociocultural group which can be identified with the Sociocultural Scales. The Wechsler Intelligence Scale for Children--Revised (WISC-R) IQ scores are used with multiple regression equations to determine the norms for each sociocultural group. The ELP has a mean and standard deviation of 100 and 15, respectively, for each sociocultural group.

The Wechsler Intelligence Scale for Children--Revised (WISC-R) IQ scores were used to determine the ELPs. The

intelligence tests were administered to the potential subjects during the previous school year.

The Sociocultural Scales of the SOMPA serve as descriptors of the sociocultural setting in which the subject is reared. The raw scores of the Sociocultural Scales are used in the regression equation to determine which set of pluralistic norms are to be used to ascertain a subject's ELP.

Nine sociocultural factors have been identified and are included in the Sociocultural Scales. These are: family size, parent-child relationship, marital status, occupation of head of household, source of income, sense of efficacy, community participation, anglicization, and urbanization. These nine factors are included in four scales: the Family Size Scale, the Family Structure Scale, the Socioeconomic Status Scale, and the Urban Acculturation Scale (see Appendix A). The average of the scaled scores from the Sociocultural Scales was used as the sociocultural background factor in the academic achievement prediction model. The Sociocultural Scale scores were obtained from testing done during the previous school year.

Expectation is defined by the 1969 version of Webster's New Standard Dictionary as an "act or state of looking forward to an event." The measurement of expectation is

problematical in that it is difficult to determine the validity of a "test" of "forward looking." The expectation scales used in many of the studies reviewed were based on content validity. The validity was based on a definition of expectation that implies that a person's expectations are what the person says they are (Marjoribanks, 1979).

The parent expectation and self-expectation for academic success questionnaires used in this study were derived from Brook, Whiteman, Lukoff & Gordon (1979) and Marjoribanks (1979). (See Appendix B & C). The first questions of the questionnaires are scored according to the amount of education required for the expected type of occupation. If the occupation required no education then the score would be 0; an occupation which requires some high school is scored 1; occupations requiring high school graduation are scored 2; some college experience required for a job would be scored 3; jobs requiring a college degree are scored 4; and, professional occupations requiring advanced degrees are scored 5. The rest of the questions are scored by circling the appropriate numbers on the questionnaire. The higher the school, the higher the score, then the higher the level of self-expectation.

A random sample of 15 subjects were selected and re-administered the parent expectation and self-expectation

questionnaires. The time between test and retest varied between two months and one week. Test-retest reliability coefficients of .53 and .62 were obtained for the parent expectation and self-expectation questionnaires, respectively. The retest scores tended to be 3.78 points higher, on the average, than the original questionnaire scores.

The measure of teacher expectations consisted of two parts, a competency rating and year end academic grades. The competency rating was obtained from Mercer's (1977) Teacher Questionnaire, which measures teacher perceptions of student roles. The questionnaire is in the form of a semantic differential and has three scales: A Social Conformity scale, Competence scale, and Sociability scale. The scales yield standard scores (mean 50; standard deviation 15) which may be used to compare the subject to other's of similar ethnic background. The congruence between student behavior and teacher expectation is lower for Black students than for White students, however, the competency rating is a fairly good measure of teachers' expectation for future academic success (Mercer, 1977). The Teacher Questionnaires were administered during the school year.

Scholastic grades tend to be good indicators of teachers' expectations for the future academic achievement of

their students (Braun, 1976). Academic grades are also one of the major ways that expectation for success is communicated to parents and to students (Finn, 1979). Year end academic grades were included along with competency ratings in determining teacher expectations. The grades were obtained from subjects' scholastic files and were averaged based on a four point scale where 0 denotes the worst possible grade and 4 denotes the best. They were then converted to standard scores with a mean of 50 and a standard deviation of 15. The standardized grade scores were then averaged with the scaled scores from the Competency scale of the Teacher Questionnaire. The result served as the measure of teacher expectation for subjects' academic success.

The dependent variable consisted of the composite scores from the Iowa Test of Basic Skills (ITBS). The ITBS is administered yearly to all Denton Public Schools students and the scores were obtained from their scholastic files.

Procedures

The WISC-R scores, Sociocultural Scale scores, year-end academic grades, Teacher Questionnaire scores, and Iowa Test of Basic Skills scores were obtained from the subjects'

school files. The self-expectancy and parent expectancy questionnaires were administered by the researcher.

A path analysis technique was used to analyze the model of self-expectation shown in Figure 1 (Appendix F). Path analysis is a statistical method which uses linear regression analyses with standardized variables in a formally complete, closed system. This method allows the researcher to make plausible interpretations of the relationship between variables in a model illustrating cause and effect.

The model pictured in Figure 1 has five factors which directly or indirectly influence self-expectation. A review of the literature revealed that level of ability and sociocultural background influence a child's self-expectation through their effect on the expectation of the teacher. The teacher's expectations, on the other hand, directly influence parent expectations as well as self-expectations. Parent expectations also directly influence the child's self-expectations. There may be other unknown influences which will have an effect on the child's self-expectations as well. The direct and indirect influences involved will be analyzed by decomposition of the correlations.

Ability as indicated by the ELP, Sociocultural background as indicated by the mean scaled score of the

Sociocultural Scales, and Self-expectation as developed by the path analysis model of self-expectation were used to develop a model for predicting academic achievement as measured by composite ITBS scores. Figure 2 (Appendix F) illustrates the academic achievement prediction model.

Results

Multiple correlation coefficients were computed with sociocultural background and level of ability as the predictors and teacher expectation as the criterion (Table 1). A significant amount of the variance in teacher expectation ($p < .05$) was explained by the inclusion of both predictor variables in the model.

A Spearman correlation was computed between teacher expectation and parent expectation (Table 2). Teacher expectation accounted for a significant proportion of the variance ($p < .01$) in parent expectation. Self-expectation was regressed on parent expectation, level of ability, and teacher expectation in a multiple regression prediction model. Parent expectation accounted for a significant proportion of the variance in self-expectation (Table 3). Level of ability and teacher expectation were able to explain a significant amount of the variance in self-expectation when used in simple linear models (Table 4)

but were unable to make a significant impact within the multiple regression model.

The Beta weights derived from the multiple regression equations, as well as from a Pearson correlation obtained between teacher expectation and parent expectation, were used to determine the path coefficients in the path analysis model pictured in Figure 1.

Figure 3 shows the path analysis model complete with path coefficients (P) and error terms (E). The path coefficients represent the amount of causal influence on the criterion variables. The error terms represent the latent influence which various unknown factors have on the criterion variables.

The decomposition of the path coefficients are shown in Table 6. The direct and indirect influences of all the predictor variables account for 30 percent of the variance in self-expectation.

Sociocultural background, level of ability, and self-expectation were included as the predictor variable in a multiple regression model for predicting academic achievement (Table 5). Sociocultural background and level of ability accounted for a significant amount of the variance in academic achievement. By itself, in a linear equation, self-expectation was significantly related to academic

achievement ($p < .01$). However, self-expectation did not explain a significant amount of the variance beyond that explained by sociocultural background and level of ability. These factors were able to account for 39 percent of the variance in academic achievement.

Discussion

The first hypothesis of this study stated that 35 percent of the variance in self-expectation would be explained by the indirect and direct influences of the factors included in a path analysis model of self-expectation development. The factors included in this model were sociocultural background, level of ability, teacher expectation, and parent expectation. Only 30 percent of the variance in self-expectation was accounted for by the model; therefore, the first hypothesis was not supported.

The second hypothesis stated that a multiple regression model using a combination of sociocultural background, level of ability, and self-expectation of academic success would explain at least 50 percent of the variance in academic achievement scores. The model succeeded in accounting for only 39 percent of the variance, therefore, the second hypothesis was not supported.

The path diagram pictured in Figure 3 shows that of all the factors included in the model parent expectation of

academic achievement had the greatest influence on self-expectation of academic achievement. The next greatest influence on self-expectation influenced self-expectation directly (P_{13}) and indirectly ($P_{25}P_{12}$), whereas, the parent expectation had only an indirect influence (P_{13}). P_{23} is quite high (.329) which supports the notion that teachers influence parental expectation through the certification of learning process (through grades and report cards). The small Beta weight associated with the direct path (P_{13}) does not support the direct effects of teacher expectations proposed in previous studies.

Level of ability as indicated by the Estimated Learning Potential primarily had a direct influence on self-expectation of academic achievement ($P_{15} = .166$) but very little indirect effect. As found in previous studies, sociocultural background had a great deal of influence on teacher expectation of academic success (Beta = .486). Sociocultural background, however, did not greatly effect the measure of self-expectation (Beta = .073).

The error term (E), which represents the latent effects of all other unknown and uncontrolled variables on self-expectation, accounted for 70 percent of the variance in self-expectation. Thus, the factors included in the path model accounted for a substantial proportion of the variance

in self-expectation. However, the model was not as efficient as models used in previous studies. In part, the inefficiencies may have been due to the low reliability of the self-expectation questionnaire used in this study.

Each of the factors included in the model for predicting academic achievement had significant Pearson product moment correlations with the criterion measure. In a stepwise multiple regression model, however, only sociocultural background and level of ability contributed significantly to the predictive value of the model. The lack of predictive value in the measure of self-expectation may be due to its low level of reliability and its questionable validity.

The review of literature had shown that there are basically three factors related to academic achievement. First, some level of ability to do the academic work is necessary for success in scholastic activities. Second, some levels of organization, structure, and opportunity to utilize these organizations and structures are necessary for successful academic functioning. Finally, some level of internal drive or motivation is needed for academic achievement. The three variables utilized in this study were an attempt to operationalize each of these main factors. The Estimated Learning Potential served as the

measure of ability, the Sociocultural Scales of the System of Multicultural Pluralistic Assessment served as the measure of opportunity to utilize the cultural structures and organizations which enhance academic achievement, and the self-expectation scale was an attempt to measure the motivation to do well academically. The significance of their predictive value within the multiple regression model indicated that Estimated Learning Potential and Sociocultural Scale scores are useful measures for predicting academic achievement. It appears, however, that other facets of motivation need to be utilized in the regression model in order for this factor to make a significant contribution to the prediction of academic achievement.

The measure of self-expectation used in the model might have achieved a higher level of predictive value if a larger number of subjects had been used in the study. The overall predictive value of the model might have been improved if the school functioning level (which is approximated by the IQ score) had been used instead of the estimated learning potential. In fact, an analysis of the data using IQ instead of ELP indicated that 45 percent of the variance in academic achievement can be explained, versus 39 percent when the ELP was used.

A scale designed to measure the expectation for academic success needs to be developed which has a high degree of reliability and validity. There are no self-expectation for academic success scales available which have demonstrated reliability and validity.

It is possible that a well designed scale which demonstrates sufficient levels of reliability and validity may be able to explain a large portion of the variance which is due to varying levels of motivation. The Pearson correlation between self-expectation and academic achievement was sufficiently high in the present study to warrant an endeavor to develop a self-expectation for academic achievement scale for use in future studies of the effects of this phenomenon on academic achievement.

APPENDIX A

SOCIOCULTURAL SCALES

Family Size Scale

Questions	Score
1. a. How many full brothers and sisters does ____ have? ____ brothers and sisters	a. ____
b. How many persons live in the household, including ____ and yourself? ____ persons	b. ____
a + b	____ x 1 = ____
Family Size Scale TOTAL	____

Family Structure Scale

- Questions
2. What relation are you to ____?
____ biological mother
____ biological father
____ other (specify: ____)
 3. What relation are you to the head of the household?
____ spouse (wife or husband)
____ respondent is head of household
____ other (specify: ____)
 4. What is ____'s relation to the head of the household?
____ biological son or daughter
____ other (specify: ____)

Family Structure Scale--Continued

Use answers to questions 2-4 to
answer a-e below

Score

a. Is respondent biological mother
or father of child? 0 no 1 yes a. _____

b. Is child biological son or
daughter of head of household?
0 no 1 yes b. _____

Parent-Child Relationship
Factor a + b

_____ x 3 = _____

c. Is mother or mother substitute
living with spouse? 0 no 1 yes c. _____

d. Is head of household male?
0 no 1 yes d. _____

e. Does child live with both bio-
logical parents? 0 no 1 yes e. _____

Marital Status Factor c + d + e

_____ x 4 = _____

Family Structure Scale TOTAL

Socioeconomic Status Scale

Questions

5. Does the head of the household help
support the family by working?

_____ no _____ yes (if yes, ask:)

Would you please describe the kind
of work he/she does?

6. What is the chief source of income
for the family?

_____ wages of head of household

_____ other (specify: _____)

7. Does the family have any other
sources of income?

_____ no

_____ (specify: _____)

Socioeconomic Status Scale--Continued

Use answers to questions 5-7 to answer
a-c below

Score

- a. Do wages earned by head of household provide most of family income?

0 no 1 yes

a. _____

- b. Occupation of head of household?

b. _____

- c. Does family depend on public funds for support?

0 family supported entirely by public funds

1 family supported in part by public funds

2 family receives no support from public funds

c. _____

a + b + c _____ x 1 = _____

Socioeconomic Status Scale TOTAL

Urban Acculturation Scale

Questions

8. Now I'm going to read three statements to you. After each statement, please tell me whether you agree or disagree with what it says.

- a. Here is the first statement:

When people are born, the success or failure that they are going to have is already determined, so they might as well accept it.

Do you agree or disagree with this?

0 agree

1 disagree

a. _____

Urban Acculturation Scale--Continued

- b. Here is the second statement:
 Nowadays a person has to live
 pretty much for today and let
 tomorrow take care of itself:

Do you agree or disagree with
 this?

0 agree

1 disagree

b. _____

- c. Here is the last statement:
 Planning only makes a person
 unhappy since plans hardly
 ever work out.

Do you agree or disagree with
 this?

0 agree

1 disagree

c. _____

Sense of Efficacy Factor $a + b + c$ _____ $\times 2 =$ _____

9. a. Some people belong to many organi-
 zations while others do not.
 About how often do you go to
 PTA or other meetings or
 special events at _____'s
 school?

2 a few times a month

1 a few times a year

0 never

a. _____

- b. About how often do you go to
 the meetings of a church or
 religious group?

2 a few times a month

1 a few times a year

0 never

b. _____

Urban Acculturation Scale--Continued

- c. About how often do you go to the meetings of neighborhood improvement or community action groups, not counting church or religious groups?

2 a few times a month
1 a few times a year
0 never

c. _____

- d. About how often do you go to the get-togethers of social groups where people meet because they enjoy doing things together, not counting church or religious groups?

2 a few times a month
1 a few times a year
0 never

d. _____

Community Participation

Factor a + b + c + d

_____ x 2 = _____

Column 1 Subtotal

10. a. What was the highest grade in school that you (mother or mother substitute) completed?

_____ grade

a. _____

- b. What was the highest grade in school completed by the head of the household?

_____ grade

b. _____

- c. Where did you (mother or mother substitute) spend most of your childhood?

_____ City or Town
 _____ State or Foreign
 _____ Country

Urban Acculturation Scale--Continued

_____ Moved constantly (if place
is unfamiliar, ask:)

How large a place was that?

c. _____

- d. Where did the head of the
household spend most of his/
her childhood?

_____ City or Town
_____ State or Foreign
_____ Country

_____ Moved constantly (if place
is unfamiliar, ask:

How large a place was that?

d. _____

- e. (Rating of respondent's
English usage)

Anglicization Factor $a + b + c + d + e$ _____ $\times 6 =$ _____

11. a. (Population of place where
mother or mother substitute
spent childhood--from #10c)

a. _____

- b. (Population of place where
head of household spent
childhood from #10d)

b. _____

Urbanization Factor $a + b$ _____ $\times 1 =$ _____

Column 2 Subtotal _____

Column 1 Subtotal _____

Urban Acculturation Scale TOTAL _____

APPENDIX B

Parent Expectation Questionnaire

1. What kind of work do you think (name of child) might do when he/she grows up? _____
2. Do you think that (name of child) is smarter than most children (2), as smart as (1), or less smart than most children (3)?
3. Do you think that (name of child) will go on to college some day? yes (1) no (0)
4. Do you think that (name of child's brothers and sisters are less smart (0), about the same (1), or smarter than he/she is (2)?
5. Does (name of child) like school? yes (1) no (0)

Total _____

APPENDIX C

Self-Expectation Questionnaire

1. What are you going to be when you grow up? _____
 2. What are you going to do when you finish high school?
 - A. Get a job (0)
 - B. Get married (0)
 - C. Go to college (1)
 - D. Join the military service (0)
 3. Do you think that you are smarter than most other children (2), as smart as (1), or less smart than most other children (0)?
 4. What kind of grades do you think you will make on your next report card?
 - A. Poor (0)
 - B. Fair (1)
 - C. Good (2)
 - D. Excellent (3)
 5. Are you less smart than your brothers and sisters (0), smarter (2), or about the same (1)?
 6. Do you like school? yes (1) no (0)
 7. Which is more important to you?
 - A. Having many friends (0)
 - B. Making good grades (1)
 - C. Obeying your parents (0)
- Total _____

APPENDIX D

TEACHER QUESTIONNAIRE

Student's Name _____

Please describe the student whose name appears above this paragraph by checking the line which best describes him/her. If you found him/her much like the characteristic at one end of the set of lines, check the line near the characteristic. If you think he/she falls between the two characteristics, check the line toward the middle. We want your first impression, your immediate feeling about this student and the characteristic.

							SC	C	S
1. Extroverted	_____	_____	_____	_____	_____	Introverted			
2. Cruel	_____	_____	_____	_____	_____	Kind			
3. Dull-minded	_____	_____	_____	_____	_____	Intelligent			
4. Unsociable	_____	_____	_____	_____	_____	Sociable			
5. Slow	_____	_____	_____	_____	_____	Quick			
6. Obedient	_____	_____	_____	_____	_____	Disobedient			
7. Prone to anger	_____	_____	_____	_____	_____	Not prone to anger			
8. Cold	_____	_____	_____	_____	_____	Warm			
9. Colorful	_____	_____	_____	_____	_____	Colorless			
10. Easy to discipline	_____	_____	_____	_____	_____	Difficult to discipline			
11. Obstructive	_____	_____	_____	_____	_____	Cooperative			
12. Able to concentrate	_____	_____	_____	_____	_____	Subject to distraction			
13. Disorganized	_____	_____	_____	_____	_____	Organized			
14. Good memory	_____	_____	_____	_____	_____	Poor memory			
15. Patient	_____	_____	_____	_____	_____	Impatient			
16. Persevering	_____	_____	_____	_____	_____	Quitting			
17. Aloof	_____	_____	_____	_____	_____	Friendly			
18. Cheerful	_____	_____	_____	_____	_____	Morose			
TOTAL									
						SC	C	S	

APPENDIX E

Consent and Release Form

The purpose of this study is to determine the efficiency of several variables in the prediction of academic achievement. Parent, student, and teacher expectations for academic success, sociocultural background, and learning potential will be used to predict the scores achieved on standardized achievement tests.

Information needed for this study includes IQ scores obtained from the Wechsler Intelligence Scale for Children--Revised, achievement test scores obtained from the Iowa Test of Basic Skills, academic grades for the school year 1980-81, sociocultural background information obtained from a set of Sociocultural Scales, and information concerning expectation of academic success to be obtained through an interview with the parents and the child.

Please sign the form below which gives consent for your child to participate in the study and releases the scores from the Wechsler Intelligence Scale for Children--Revised, scores from the Sociocultural Scales, Teacher Questionnaire scores, Iowa Test of Basic Skills scores, and year end academic grades for use in this study. You have a right to refuse to sign the consent form. No negative consequences will result upon refusal to participate.

I give my permission for _____
to participate in the study described above. I also release the information mentioned above for use in this study. I understand that the data will be used in a thesis submitted by William Boyd in partial fulfillment of the requirements for a Master of Arts degree in school psychology. The study has been described to me, and I know that I have the right to refuse to allow my child to participate.

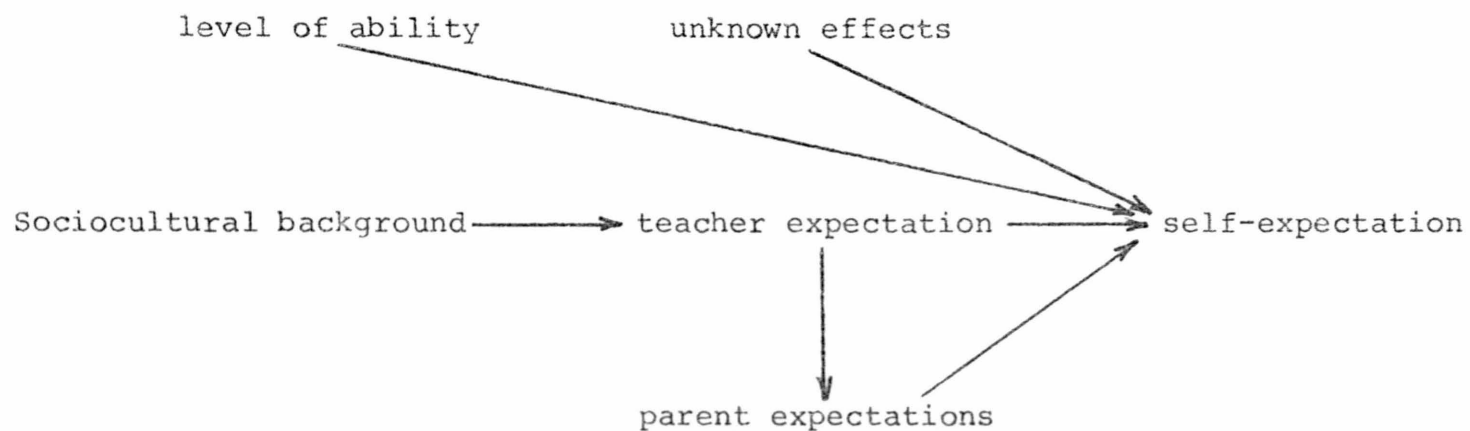
William Boyd, Graduate Student

Signature of Parent

Date

APPENDIX F

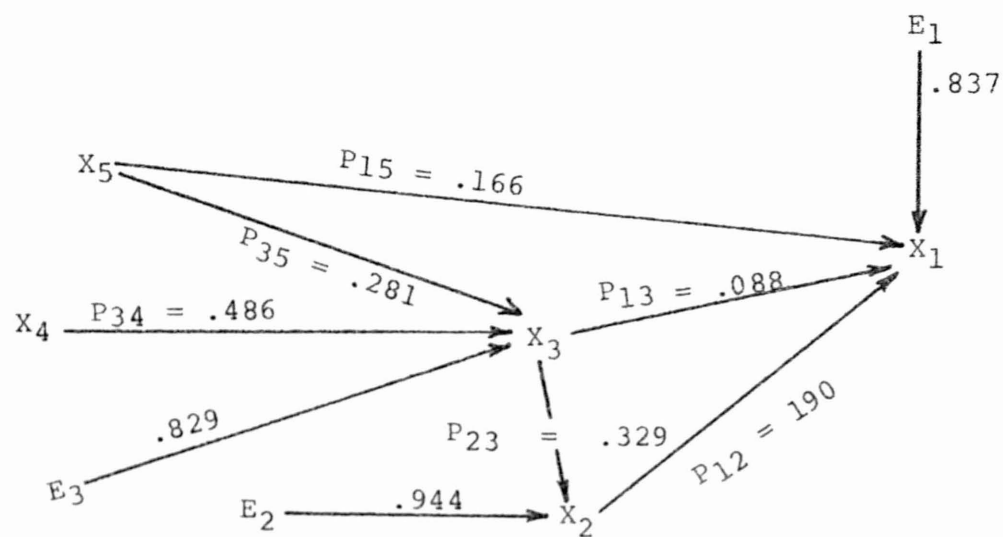
Figure 1. A Path Analysis Model of the Development of Self-Expectation for Academic Achievement.



Predictor Variable	Iowa Test of Basic Skills	
	R	Percentage of Variance Accounted for
Ability (Estimated Learning Potential)		
Sociocultural		
Self-Expectation		
Total		

Figure 2. Model for prediction of academic achievement

Figure 3. Path Analysis Model of Self-Expectation with Path. Coefficients and Error Terms.



X_1 = Academic achievement; X_2 = Parent expectation;

X_3 = Teacher Expectation; X_4 = Sociocultural background;

X_5 = Level of Ability; E = Error Terms

APPENDIX G

Table 1
Sociocultural Background and Level of Ability
as Predictors of Teacher Expectation

Variable	B	Beta	Standard Error B	<u>F</u>
Sociocultural Background	.659	.486	.192	9.662*
Level of Ability	.281	.281	.139	4.080*
(Constant)	.105			
<hr/>				
Note: Multiple R		.559		
R square		.312		
Adjusted <u>R</u> square		.275		
Degrees of Freedom		2, 37		

*p<.05

Table 2
 Pearson Correlation between Teacher Expectation
 and Parent Expectation

	Parent Expectation	
	r_s	r_s^2
Teacher Expectation	.328*	.108

* $p < .01$

Table 3
 Parent Expectation, Level of Ability, and
 Teacher Expectation in a Multiple
 Regression Model for Predicting
 Self-Expectation

Variable	B	Beta	Standard Error B	<u>F</u>
Parent Expectation	.627	.489	.190	10.819*
Level of Ability	.262	.116	.034	.595
Teacher Expectation	.199	.088	.036	.307
(Constant)	.623			
<hr/>				
Note: Multiple <u>R</u>		.547		
<u>R</u> square		.299		
Adjusted <u>R</u> square		.240		
Standard Error		2.526		
Degrees of Freedom		3, 36		

* $p < .05$

Table 4
Pearson Correlations Among the Criterion Factors
and the Predictor Factors

	Teacher Expectation	Parent Expectation	Self- Expectation	Level of Ability	Sociocultural Background	Academic
Teacher Expectation	1.000					
Parent Expectation	.329*	1.000				
Self- Expectation	.292	.520**	1.000			
Level of Ability	.364*	.016	.156	1.000		
Sociocultural Background	.486**	.360*	.545**	.193	1.000	
Academic Achievement	.498**	.273	.393**	.433**	.516**	1.000

*p<.05

**p<.01

Table 5
Sociocultural Scale, Self-Expectation, and
Level of Ability as Predictors of
Academic Achievement

Variable	B	Beta	Standard Error B	F
Sociocultural Background	.741	.378	.306	5.862*
Self-Expectation	.491	.340	.192	6.560*
Level of Ability	.859	.134	.995	0.746
(Constant)	-.513			

Note: Multiple <u>R</u>	.688
<u>R</u> square	.394
Adjusted <u>R</u> square	.344
Standard Error	15.072
Degrees of Freedom	3, 36

*p<.05

Table 6
Decomposition of the Correlations

Path From	Causal		Total
	Direct	Indirect	
X_5 to X_2	None	$P_{35}P_{23}$.092
X_5 to X_3	P_{35}	None	.281
X_4 to X_3	P_{34}	None	.486
X_4 to X_2	None	$P_{34}P_{23}$.160
X_3 to X_2	P_{23}	None	.329
X_5 to X_1	P_{15}	$(P_{34}P_{13}) + (P_{35}P_{23}P_{21})$.116
X_4 to X_1	None	$(P_{34}P_{13}) + (P_{34}P_{23}P_{12})$.073
X_2 to X_1	P_{12}	None	.190
X_3 to X_1	P_{13}	$(P_{23}P_{12})$.151

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