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I am submitting herewith a dissertation written by Gwynetta Faye Draper entitled "Social, Cognitive and Academic Factors Associated With High School Seniors' Educational Expectations." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Education.

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**SOCIAL, COGNITIVE AND ACADEMIC FACTORS
ASSOCIATED WITH
HIGH SCHOOL SENIORS' EDUCATIONAL EXPECTATIONS**

A Dissertation
Presented for the
Doctor of Philosophy
Degree
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Gwynetta F. Draper
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DEDICATION

This dissertation is dedicated to Erik and Benjamin, who daily remind me to watch the caterpillars and play a little baseball. I love you, guys.

And to the memory of my mother, my first teacher.

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ABSTRACT

Prior research on students' educational expectations has generated an extensive list of factors that influence these expectations. Strong support exists for the parental involvement component as a major factor in shaping students' expectations. One major aspect of parent involvement is parent expectation. Prior research indicates that both parent expectation and parent expectation as perceived by the student are highly correlated with student expectations. However, some students report expectations that are either higher or lower than their parents' expectations for them (real and perceived). Little is known as to what variables might account for these discrepancies between student and parent expectations.

This study explored the strengths of the relationships between various social, cognitive and economic variables and students' educational expectations when students' expectations deviated from their perceptions of parental expectation. Multivariate analyses of variance, analyses of variance and mean difference tests were used to assess these relationships. The relationships were differentially assessed at different levels of student expectation.

Dependent variables included five factors identified from a factor analysis of student questionnaire items (friends values, friends' plans, school behaviors, class preparation, and homework time) and five variables (socioeconomic status, grade point average, a standardized test score composite on reading and math, locus of control, and self concept). Two independent variables were used: student expectation level and

expectation discrepancy (the difference between student and perceived parent expectations nested within student expectation). Participants in this study were 10,321 students from schools across the nation who completed the National Education Longitudinal Study (NELS) Second Follow-up Student Questionnaire.

It was hypothesized that reported locus of control and friends' values and plans would be significantly different at different levels of student expectation and expectation discrepancy nested within student expectation. In fact, only four variables were identified as being significantly related to this two-factor nested model. Variables with significant strengths of association, as measured by an R^2 of .10 or greater, were socioeconomic quartile, time spent on homework out of school, friends' with plans for a full-time job after high school, and friends' with plans to attend a four year college.

The findings indicate that **socioeconomic quartile** is positively related to student expectation. That is, as expectation level went up so did reported socioeconomic status. SES was related to expectation discrepancy within student expectation only for those students with four year college or post-graduate expectations. Students with high educational expectations whose parents had lower expectations reported lower SES than did students with high expectations whose parents had high expectations.

Students with expectations of a four year college degree or post-graduate degree reported more **time spent on homework out of school** than did students with expectations of less than a four-year degree. There were no significant differences among

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any expectation groups below four-year college degree. That is, students who did not expect to graduate from high school reported similar time spent on homework out of school as students who expected to obtain a two-year college degree.

The number of **friends' with plans for a full-time job after high school** was inversely related to student educational expectation. Typically, students with higher educational expectation reported fewer friends with plans for full-time work after high school than did students with lower expectations. Likewise, students with plans to attend a four-year college reported more **friends' with plans to attend a four year college** than did students with lower expectations. Educational discrepancy was related to friends' work and educational plans only at the higher expectation levels. Students with high expectations that were discrepant from their parents' expectations reported more friends with plans to work full time and fewer friends with high educational expectations than did those students who had high expectations and whose parents had similarly high expectations for them.

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1. Introduction

The purpose of this study was to re-examine social, cognitive and academic factors that are related to the educational expectations of high school seniors. A review of the literature was conducted to identify factors that have been shown to be related to educational expectations.

Prior research on high school students' expectations for future academic attainment has explored a variety of factors that are correlated with these expectations. These factors include *parental expectations for child's academic attainment* (Griggs, 1992; Henry, Hare, Phelps, Raftery, & Franklin, 1992; Odell, 1988; Pennsylvania Association of Colleges and Universities, 1984; Shepard, 1992; Shoffner & Kenkel, 1986; Stage & Hossler, 1988; Zimmerman, Bandura, and Martinez-Pons, 1992); *parental involvement in education* (Finn, 1993; Henry et al., 1992; Maehr, 1982; Shoffner & Kenkel, 1986; Stage & Hossler, 1988; Williams, 1971); *parental level of educational attainment* (Henry et al., 1992; Shepard, 1992; Shoffner & Kenkel, 1986; Stage & Hossler, 1988); *socioeconomic status* (Burbridge, 1991; Henry et al., 1992; Pennsylvania Association of Colleges and Universities, 1984); *religious-moral emphasis in the family and family cohesiveness* (Wood, 1988); *peer attitudes, values, and goals* (Cohen, 1983; Ide, Parkerson, Haertel, & Walberg, 1981; Maehr, 1982; Williams, 1971); *teacher and school characteristics* (Griggs, 1992; Henry et al., 1992; Maehr, 1982; Pennsylvania Association of Colleges and Universities, 1984; Williams, 1971); *locus of control* (Griggs, 1992); *self-concept or self-*

efficacy (Griggs, 1992; Schunk, 1994; Zimmerman et al., 1992); *grade point average* (Pennsylvania Association of Colleges and Universities, 1984; Shepard, 1992); and *extra-curricular activities* (Henry et al., 1992).

Support for parental expectations as the major contributor to students' educational expectations is considerable (Griggs, 1992; Odell, 1988; Pennsylvania Association of Colleges and Universities, 1984; Stage & Hossler, 1988; Williams, 1971). In addition, it has been shown that students' perceptions of parental expectations plays an equal or even stronger role in students' expectations than actual parental expectations (Ingels, 1990).

Current efforts to involve parents in students' educational activities are numerous. Financial assets and personnel are directed at this goal at all levels of education from Head Start programs to government policy (National Education Goals Report, 1991; Maehr, 1982), from PTA funding and programming to colleges and universities wooing of parents of prospective students. It is indisputable that parent involvement in formal education, as well as informal education, and parents' implicit and explicit high expectations increase students' respect and desire for pursuing educational endeavors.

Research on means of increasing parental involvement, motivation, and articulation of expectations is commendable and necessary, but other influences on students' educational aspirations, particularly for those students whose parents have minimal educational expectations for them, are also important to address. Significantly strong relationships between identified social, cognitive and academic factors and student educational

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expectations when the student differs from parent expectation might suggest that changes in the school environment can influence student expectations for education beyond high school.

In contrast to other studies, this study took into consideration the fact that some students plan for qualitatively higher or lower educational achievement levels than their parents' expectations for them as perceived by the student. In such cases, it may be useful to analyze the strength of the relationship between various factors and students' expectations when student expectation differs from perceived parent expectation. Findings will be of value to educators (principals, teachers, school counselors, and school psychologists) and educational policy-makers who are faced with the tasks of developing habits of lifelong learning in students who come to the system from home environments with relatively low educational expectations.

2. Conceptual Framework for the Study

Psychology evolved from philosophies about human nature and the desire to explain, predict, control and change behavior. Learning theories serve as tools for describing, understanding and explaining behavior. However, due to the complex nature of human behavior no one theory appears to be all encompassing. Therefore, any given learning theory serves as a model for describing and explaining only a portion of behavior. Various models account for different aspects of behavior. Models of human learning and behavior include developmental, social, neurological, cognitive, behavioristic, humanistic, and psychoanalytic approaches. This research was based on multiple models of human behavior with emphasis on cognitions and social contexts; namely social cognitive theories of Bandura, Weiner, and Rotter, as well as Bronfenbrenner's ecological systems theory.

Social Cognitive Models

Cognitivism is concerned with how individuals gain knowledge about their world, and how they use that knowledge to guide decisions and affect behavior (Gagne, Yekovich, & Yekovich, 1993). Cognitivists take into consideration mental activities such as thinking, judging, and making decisions that occur prior to an individual's overt behavior.

Attribution Theory

Attribution theory explains achievement behavior and motivation in the context of how or to what individuals ascribe responsibility for given outcomes. (Achievement behavior is distinguished from performance in that performance refers to actual behavior and/or

outcomes on specific tasks, whereas achievement, in this context, is a more global construct referring to opportunities sought or taken advantage of.) Weiner (1979) postulated four main categories of causal attributions: effort, ability, luck, and task ease/difficulty which vary on three dimensions: locus, stability, and controllability.

A fourth possible dimension discussed by Weiner (1979) is globality as postulated by Abramson, Seligman, and Teasdale in a 1978 study. Globality refers to the generalizability of attributional styles in a given context to other contexts. For instance, a person might be described as having a fairly stable attributional style: isolated situations notwithstanding.

<u>Causal Attributions</u>	<u>Locus</u>	<u>Stability</u>	<u>Control</u>
Effort	Internal	Unstable	Controllable
Ability	Internal	Stable	Uncontrollable
Luck	External	Unstable	Uncontrollable
Task Ease/Difficulty	External	Stable	Uncontrollable

Locus of Control

Individuals differ in their beliefs regarding control of outcomes (Rotter, 1966). Rotter termed this belief system "locus of control." Internal locus of control refers to the belief that outcomes are dependent on one's behavior, or that, to a large extent one is in control of events. The belief that outcomes are independent of behavior is referred to as external locus of control. Rotter proposed that individuals with an internal locus of control are likely to seek more opportunities and are more likely to persist in difficult tasks than are

those with an external locus of control. Individuals with an external locus of control may invest less effort and would perhaps be more inclined to depression and learned helplessness as a result of their perceived lack of self-determination.

Social Learning Theory

According to Albert Bandura (1986) humans learn through both direct experiences and vicarious experiences (observational learning). Observational learning asserts that individuals learn by watching a model. However, vicariously learned behavior is not necessarily exhibited, rather interactions between social, emotional, and cognitive factors influence personal behavior when the individual is faced with similar situations as observed with the model. Observational learning and subsequent behavior involves active interpretation of the model, events, and consequences of the model's behavior.

Bandura (1977) introduced the concept of reciprocal determinism or the idea that an individual's interactions with the environment change the environment and the "new" environment influences the individual's subsequent behaviors. Reciprocal determinism is compatible with the contextual, interactive and dynamic theory of ecological systems as proposed by Bronfenbrenner (LeFrancois, 1993) and described later in this document.

A third postulate of social learning theory is perceived self-efficacy, or a person's perception of his/her abilities to perform as needed in order to achieve success in a desired goal. In order to function effectively, individuals must have both competence and self-efficacy. Various factors in addition to absolute skills interact to formulate self-

perceptions. Bandura (1986) proposed that individuals form perceptions or judgments of their capabilities based on various characteristics of performance, social interaction, comparison and feedback, external criteria, personal traits, etc.

High self-efficacy is an adaptive characteristic that is positively related to achievement and achievement striving. According to this theory persons with low self-efficacy tend to avoid tasks perceived as challenging in order to avoid failure. Verification research on self-efficacy includes studies by Schunk (1982a, 1982b, 1984, 1987, 1990), Schunk & Rice (1988), Schunk & Swartz (1991) and Zimmerman, Bandura, and Martinez-Pons (1992).

Ecological Systems Theory

Bronfenbrenner's ecological systems theory (cited in LeFrancois, 1993) is a mixed model that acknowledges the dynamic property of individual/environment interaction and firmly places the individual within a social context. The individual brings personal characteristics, such as age, sex, race, appearance, and handicapping conditions to the social context. These characteristics influence and change the individual's interactions with the environment.

Bronfenbrenner proposes four levels of context: 1) the microsystem includes the individual in immediate, face-to-face interactions; 2) the mesosystem consists of interactions of between two microsystems (e.g., school and parents); 3) the exosystem includes interactions between a system that includes the child (e.g., school) and a broader

system that does not include the child (e.g., legislature); and 4) the macrosystem is the combination of all other systems and defines the culture (beliefs, values, customs, religions, etc.) of the child's environment. Even though the third, exosystem, includes a system that does not directly interact with the child, the decisions and behaviors of that system may greatly influence the child indirectly (for instance, education and welfare legislation). Ecological systems theory is broad based and allows for synthesis of multiple factors that influence human behavior. Likewise, the complexity of human behavior is apparent in the complexity of the theory.

Multiple Models Approach

This research is founded in multiple models of human behavior, namely social cognitive models along with acknowledgment of the immediate social systems in which the participants are placed (home and school), which is the microsystem as proposed by ecological systems theory. Factors in this study included personal characteristics, such as socioeconomic status, in accord with ecological systems theory; self-report of personal behaviors in the school context, also in accord with ecological systems theory and reciprocal determinism; parent and peer characteristics (observational learning); internal beliefs and values (locus of control and self-concept or self-efficacy from social cognitive models); and past performance (grade point average, standardized test scores). All of these factors are presumed to influence internal beliefs, values and future plans (Bandura,

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1986; Schunk, 1994; and Zimmerman, et al., 1992). These factors are consistent with the theories outlined above.

3. Research Question and Hypotheses

This research explored the following question: Given a set of measurements of social, cognitive and academic factors, are there significant differences in the dependent variables between a) students whose educational expectations are similar to their perceptions of their parents' expectations, b) students whose educational expectations are lower than their perceptions of their parents' expectations, and c) students whose educational expectations are higher than their perceptions of their parents' expectations? The dependent variables include respondent's behaviors at school, preparation for class, homework time, friends' values and future plans, respondent's locus of control, self-concept, socioeconomic status, grade point average, and standardized test scores.

Friends' values and behaviors, as well as respondents' cognitive factors (locus of control and self-concept) may gain prominence as factors that relate to educational expectations for students who differ from perceived parental expectations. That is, students' who have higher educational expectations than they think their parents have for them were expected to have higher scores on the internal locus of control measure and a higher self-concept than those students who have equal educational expectations but whose expectations are also equal to or below their parents' expectations. Likewise, students with higher expectations than their perceived parent expectations were expected to report that their friends have similarly high expectations. It was assumed that these differences would be evident at all levels of student expectation.

4. Methods

Information on data procedures, collection, coding, and data file input are available in the Second Follow-up: Student Component Data File User's Manual (Ingels, Dowd, Baldrige, Stipe, Bartot, & Frankel, 1994). This source was used as the reference for sample selection, data collection procedures and instrumentation.

Sample

Subjects for this study were obtained from the National Education Study of 1988 (NELS:88). The NELS:88 study is "a major longitudinal effort designed to provide trend data about critical transitions experienced by students as they leave elementary school and progress through high school and into post-secondary institutions or the work force" (Ingels et al., 1994, p. 5). Data collection began in 1988 with an 8th grade cohort of 24,599 students from 1,035 of the approximately 39,000 schools across the nation.

Information on school characteristics was obtained from Quality Education Data, Inc. and Westat, Inc. In general, schools were selected with probabilities proportional to their estimated eighth grade enrollment; however, some schools were over-sampled for "policy relevant groups" (African American, Hispanic students). Characteristics used for stratification purposes were school type (urban, suburban, and rural), racial/ethnic make-up, and public versus private schools.

The original sample was obtained by a two stage stratified sample design. In order to ensure that contextual data would be available (transcripts, standardized scores,

attendance, etc.), NELS researchers selected schools as the first stage unit. Students within schools made up the second stage unit. Students with "overwhelming physical, mental, or linguistic barriers to participation" (Ingels et al., 1994, p. 32) were excluded from the sample. Students who were able to complete a Spanish version of the questionnaire were included in the study. Follow-up samples (1990, sophomores and 1992, seniors) provide data on the longitudinal cohort (students from the original and subsequent samples) and a representative sample of students enrolled in the target grade at the time of data collection.

For each wave of data collection freshening was used to ensure that a valid probability cohort sample was obtained for analysis. That is, each eligible student would have a fixed and determined probability of selection. This was accomplished by using previously selected students as starting points and working systematically through school enrollments to randomly select newly qualified seniors. Freshened students were enrolled during the current year of data collection but had not been enrolled in the cohort grade in the prior data collection stage (e.g., foreign transfer students, grade repeaters, and grade advancers).

The freshening process allowed NELS researchers to gain data on a representative cohort for each data collection year in addition to the longitudinal cohort. A small bias may have been introduced if newly eligible students were attending a school that did not have an 8th grade in 1988 and thus were not included in the original sampling procedures.

Cohort sampling was also aided by revisiting students who were deemed ineligible in the original or first follow-up data collections and including them in the second follow-up if they were eligible.

The second follow-up sample (NELS:88 1992 senior cohort) included all students from the first follow-up sample, freshened 12th grade sample, and students redetermined to be currently eligible who were excluded in the original and/or first follow-up samples.

The NELS:88 1992 senior cohort (those enrolled in 12th grade at the time of administration of the questionnaire) includes 16,114 students from 1,326 schools. Student questionnaires were completed by 91% of those targeted for the second follow-up. School data are available from 97% of those schools targeted for follow-up data. The 1992 senior cohort demographics are as follows: 50.1% female and 49.9% male; 70.2% White, 11.8% Hispanic, 9.3% Black, 7.3% Asian, Pacific Islander, 0.9% American Indian; and 0.5% did not complete race data. The distribution for the SES quartiles included 16.6% in the first quartile, 22.1% in the second quartile, 25.3% in the third quartile, and 36.5% in the fourth quartile. Data for SES was missing on 0.1% of the questionnaires.

The sample for this study will consist of 12th grade students who completed the questionnaire items for the various factors selected for analysis and for whom grade point average and test scores are available. Of those sampled 53% female and 47% are male; 73% White, 11% Hispanic, 8% Black, 7% Asian, Pacific Islander, 1% American Indian; and <1% did not complete race data. Participants in the SES first quartile are 16%, 22%

in the second quartile, 26% in the third quartile, and 35% in the fourth quartile. One percent of the respondents did not complete SES data. Students with missing data on any variable were deleted from the study.

Data Collection and Instrumentation

The NELS:88 study includes data from student questionnaires, school administrators (including transcripts, attendance records, and standardized test scores), teacher questionnaires, and parent questionnaires.

This study utilized cohort data from the NELS:88 Second Follow-up Student Questionnaire and data made available from school records (grade point average and standardized test scores). Second follow-up data were collected in the Spring of 1992 (with a small number of cases being collected through Fall, 1992) from then currently enrolled high school seniors at an on-campus or off-campus session. A small number of students could not attend and data were collected via telephone. Students who completed the questionnaire via telephone interviews (8.2% of total cohort sample) were deleted from the study due to missing test data.

The questionnaire items selected for this study are in Appendix A. They include perceived parental educational expectation level (#42), student educational expectation level (#43), personal school behaviors (#9, 24, and 25), friends' values and plans (#68 and 69), a composite score on locus of control (#66 b,c,f,g,k,m), a composite score on self-

concept (#66 a,d,e,h,i,j,l), socioeconomic status, grade point average, and a composite standardized test score on math and reading.

Socioeconomic status (SES) was determined by combining responses to several questions. The composite SES score was created from the parent questionnaire data when available and the student questionnaire if the parent's was not available. The composite score includes data on father's educational level, mother's educational level, father's occupation, mother's occupation, and family income from the parent questionnaire.

If the parent questionnaire was unavailable, student data on parent's educational and occupational levels and presence of household items (e.g., books, computers, microwaves, televisions, and stereos) were used. SES composite scores were divided into quartiles.

The standardized test score was a composite for overall measures of cognitive ability derived from standardized reading and math tests developed by the Educational Testing Service for the NELS:88 study. The test mean was 50 with a standard deviation of 10.

Reading and math scores were equally weighted in computing the composite score.

Psychometric properties of the cognitive tests are provided in the *Psychometric Report for the NELS:88 Base Year Test Battery* (Rock & Pollack, 1991).

5. Data Analysis

An exploratory analysis was conducted to identify typical responses on questions that distinguish among students who have equal, higher, and lower educational expectations than they think their parents have for them. This particular study is distinct from the prior literature on student expectations and correlated factors in that the difference between student expectation and parent expectation is nested within student expectation levels and used as an independent variable. Previous studies used student expectation as the independent variable and parent expectation and various other factors as dependent variables. The nested approach permits a study of previously identified factors within a framework of the combined effect of student and parent expectations. All analyses were conducted using SAS Institute, Inc., SAS/STAT Software, Version 6 Edition, on a Personal Computer (1987).

The independent variables for this study were student educational expectation (SE) and expectation discrepancy (ED) nested within SE. The ten levels of educational expectation were the same for student expectation and perceived parental expectation (PE). Table 1 shows the expectation levels and the number and percent of students at each level. As can be seen in the table a large majority (91%) of the sampled students expected to acquire, at the least, a degree from a vocational, trade or business school.

Table 1. Expectation Level and N for personal student expectation (SE)

Level	Expectation	N	% of Sample
1	Less than high school graduation	15	<1%
2	High school graduation only	400	4%
3	Less than two years of vocational, trade or bus. school	169	2%
4	Two years or more of vocational, trade or business school	306	3%
5	A degree from a vocational, trade or business school	541	5%
6	Less than two years of college	132	1%
7	Two or more years of college (including two-year degree)	1067	10%
8	Finish college (four- or five-year degree)	3746	36%
9	Master's degree or equivalent	2128	21%
10	Ph.D., M.D., or other professional degree	1817	18%

Seventy-five percent of the sample expected to receive a four-year or higher degree.

Thirty-nine percent of the sample expected to obtain professional level degrees.

Within each level of student expectation, expectation discrepancies were calculated by subtracting PE from SE and then grouping the discrepancies into five categories of a) higher expectation than parents ($SE - PE = 2, 3, 4, 5, 6, 7, 8, \text{ or } 9$), b) slightly higher expectations than parents ($SE - PE = 1$), c) equal expectations as parents ($SE - PE = 0$), d) slightly lower expectations than parents ($SE - PE = -1$), and e) lower expectations than parents ($SE - PE = -2, -3, -4, -5, -6, -7, -8, -9$). Five categories of discrepancy were chosen based on a preliminary analysis which seemed to indicate that there was an approximately normal distribution across these categories. The number of cases within each discrepancy group were a) for discrepancies 2 through 9 $n = 487$, b) for a discrepancy of 1 $n = 787$, c) for discrepancy of zero $n = 7287$, d) for a discrepancy of -1 $n = 984$, and e) for discrepancies -2 through -9 $n = 776$. Using a nested design resulted in 44 levels of expectation discrepancy within SE as shown in Figure 1. Each of the smaller cells in the figure indicates the source of means within the cell. For instance, Cell 1.1 consists of means from SE level 1, ED group 1 (students who do not expect to graduate from high school and this expectation is lower than their perceived parents' expectation). Likewise, Cell 8.3 includes students with SE level 8 (4-year college degree) and ED group 3 (parents' expectations are equal to students).

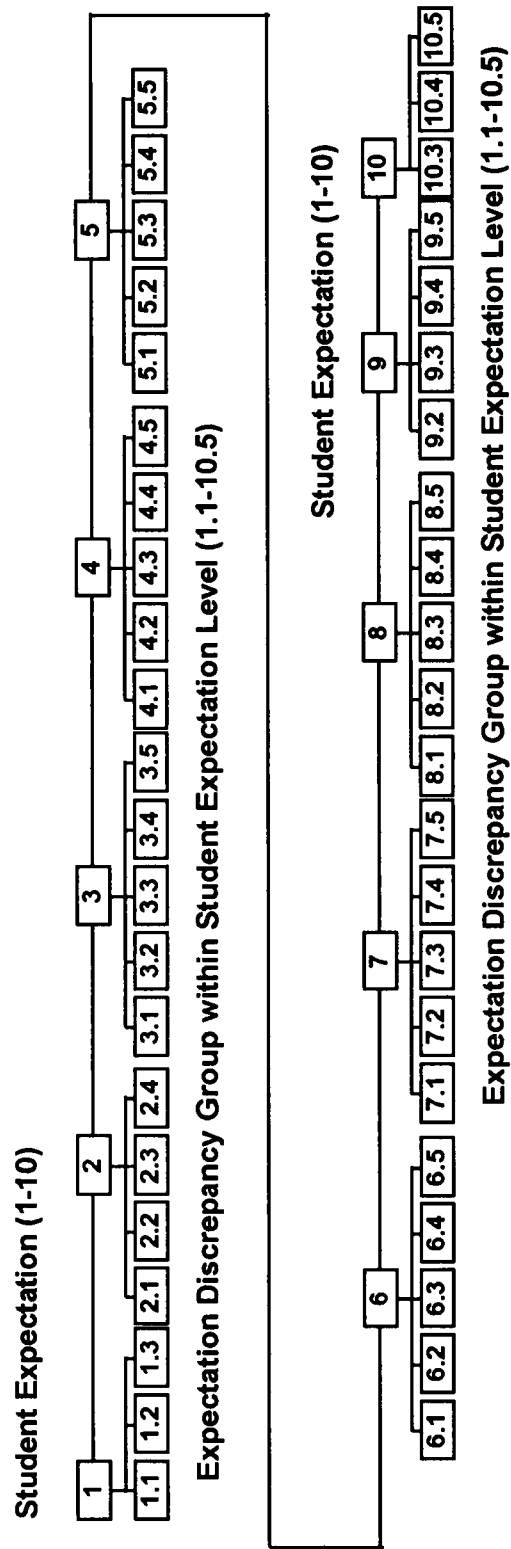


Figure 1. Illustration of nested design, after Kirk (1995) and Winer (1971).

Expectation Discrepancy Group Values:

- ED 1: SE - PE = -2, -3, -4, -5, -6, -7, -8, -9
- ED 2: SE - PE = -1
- ED 3: SE - PE = 0
- ED 4: SE - PE = 1
- ED 5: SE - PE = 2, 3, 4, 5, 6, 7, 8, 9

Table 2 shows the N for expectation discrepancy group within each student expectation level. The majority of students responding to the survey report expectations equivalent to their perceived parent expectations ($n = 7,287$ or 71%) or only one discrepancy point difference ($n = 1,771$ or 17%). Those with SE - PE discrepancies larger than one included 1,263 (12%) of the sample respondents.

The rationale for not using a fully crossed factorial design, which would analyze the main effects of SE and ED groups as well as the interaction effects, was based on the nature of the data and the interpretive power of the results. A fully crossed design would combine data for all students within an ED group regardless of the students' expectation levels. As can be seen in Figure 1 all levels of ED groups do not exist for all levels of SE. SE groups 1, 2, 9, and 10 do not have five levels of ED, as do the other SE levels, due to the discrepancy formula. It was unclear to this researcher how this nuance would affect the interpretations of the main effect for ED group, particularly for ED groups 1 and 5 which are not included in four of the ten SE levels.

"The nested effects are generated in the same way as crossed effects." (SAS Institute, 1987, p. 581) The major difference in the results of the two analyses is that in the nested design the main effect for ED group does not appear. Although the major focus of this study was to consider ED, it was the opinion of this researcher that the overall ED group effect was less meaningful, and more difficult to interpret, than ED group within the various SE levels. That is, differences between expectations of parents and students were

Table 2. N for Expectation Discrepancy Group Within Student Expectation Level

SE level	SE - PE	N	SE level	SE - PE	N
1	1	7	8	1	172
1	2	6	8	2	302
1	3	2	8	3	3110
2	1	160	8	4	81
2	2	19	8	5	81
2	3	218	9	2	200
2	4	3	9	3	1387
3	1	62	9	4	484
3	2	16	9	5	57
3	3	68	10	3	1442
3	4	19	10	4	153
3	5	4	10	5	222
4	1	109			
4	2	31			
4	3	123			
4	4	13			
4	5	30			
5	1	121			
5	2	11			
5	3	347			
5	4	18			
5	5	44			
6	1	58			
6	2	26			
6	3	37			
6	4	3			
6	5	8			
7	1	87			
7	2	373			
7	3	553			
7	4	13			
7	5	41			

more meaningful when observed at individual student expectation levels. In effect it was the interaction between SE and ED that was ultimately of interest.

Although not required for statistical analysis purposes, the five SE - PE groups were nested within student expectation level based on an assumption that a difference of x (where $x = \text{SE} - \text{PE}$) was not equivalent at different student expectation levels. The assumption is that the effect of the expectation discrepancy will be in part due to the student's educational expectation level. Therefore, the nesting design was used to aid interpretation of effects rather than as a means of fitting the data to the analysis. The interval between $\text{SE} - \text{PE} = 1$ at SE level 3 cannot be assumed to be equivalent to an $\text{SE} - \text{PE} = 1$ at SE level 8. In other words, a difference of +3 may be qualitatively different for a student planning to graduate from college versus a student who expects to attend trade school for two or more years.

Dependent variables consisted of specific questionnaire items with the student as respondent and student demographic data (see Appendix A). The number of variables for analysis were reduced via factor analysis with varimax rotation, which forced an orthogonal pattern (uncorrelated factors).

A multivariate analyses of variance (MANOVA) was used to determine overall significance. However, the large sample size complicated interpretation of significant findings. In order to pinpoint the most important relationships from among the dependent variables strength of association (as measured by R^2) was used. R^2 provides a measure of

the variation in the dependent variable accounted for by the model and was calculated as the ratio of the sum of squares for the model divided by the sum of squares for the corrected total (SAS Institute, 1987, p. 614).

In the second stage of analysis only those variables with practical significance, determined by the strength of association, were submitted to analyses of variance (ANOVA) to clarify the typical response profile of students within the various nested expectation discrepancy groups. Variables with significant differences as determined by the ANOVA were then submitted to pairwise contrasts using the Tukey-Kramer test. According to Kirk (1995), the Tukey-Kramer is the preferred procedure for multiple pairwise comparisons as it “controls the type I error at less than alpha and has the highest power of available procedures” (p. 146). Further, the Tukey-Kramer procedure is appropriate for unequal sample sizes. Tukey-Kramer pairwise comparisons were also recommended by the authors of the SAS Institute, SAS/STAT Guide (1987) in order to best control the maximum experimentwise error rate which could result from multiple comparisons. Likewise, the authors of SAS/STAT Guide state that, “The Tukey-Kramer method is more powerful than Bonferroni, Sidak, or Scheffe methods for pairwise comparisons.” (p. 594)

6. Results

Factor Analysis

The number of variables for analysis were initially reduced via factor analysis with varimax rotation, forcing an orthogonal pattern (uncorrelated factors). Seventeen questionnaire items resulted in five orthogonal factors: Friends' Values, Friends' Plans, School Behaviors, Class Preparation, and Homework Time. Factor loadings are shown in Table 3.

Factor 1 (Friends' Values) consisted of responses to questions regarding friends' attitudes about school related issues. Specifically participants were asked: Among your close friends, how important is it to them that they:

- a. Attend classes regularly?
- b. Study?
- d. Get good grades?
- f. Finish high school?
- h. Continue their education?

Participants were instructed to chose one of the following responses: Not at all important, Somewhat important, or Very important. The five questions loaded between .72 and .82 on Factor 1 and no more than .27 on any other factor.

Factor 2 (Friends' Plans) consisted of respondents beliefs about their friends' educational plans. Participants were asked: How many of your friends:

Table 3. Factor Loadings

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Late for school	-0.03711	0.00851	0.76679	-0.10726	-0.03496
Cut, skipped classes	-0.11797	0.05813	0.74397	-0.13318	-0.07096
Missed a day of school	-0.04143	0.14596	0.67063	0.01860	0.00621
Trouble for not following school rules	-0.18526	0.08055	0.55395	-0.24341	-0.01407
Pencil, paper to class	0.09995	-0.07071	-0.07645	0.82267	0.05469
Books to class	0.06533	-0.03195	-0.11142	0.82625	0.02202
Homework done	0.05734	-0.00149	-0.16311	0.66003	0.07277
Homework time in school	0.02423	0.07640	-0.03282	0.00159	0.85530
Homework time out of school	0.09488	-0.21317	-0.06052	0.16079	0.78329
Friends': Attend classes regularly	0.76764	-0.06365	-0.20288	0.09494	0.05023
Friends': Study	0.77688	-0.08262	-0.13285	0.10590	0.13085
Friends': Get good grades	0.82259	-0.02934	-0.07490	0.07266	0.04644
Friends': Finish high school	0.72171	-0.09544	-0.01896	0.03139	-0.05722
Friends': Continue education	0.75039	-0.26838	-0.02159	0.00846	0.00920
Friends': Dropped out of school	-0.17935	0.59227	0.23366	0.00632	0.01597
Friends': No college plans	-0.12043	0.64000	0.05500	-0.05214	0.01025
Friends': Plan work full-time	-0.05330	0.77899	0.04654	-0.02608	-0.03226
Friends': Plan 2-year college	0.06300	0.62650	-0.02723	-0.01822	-0.03543
Friends': Plan 4-year college or Univ.	0.31253	-0.61098	-0.08935	0.03600	0.11162

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- a. Dropped out of school without graduating?
- b. Have no plans to go to college?
- c. Plan to have a regular full-time job after high school?
- d. Plan to attend a two-year community college or technical school?
- e. Plan to attend a four-year college or university?

Responses included: None of them, A few of them, Some of them, Most of them, and All of them. The questions loaded on Factor 2 from .59 to .77 and no more than .31 on any other factor.

Factor 3 (School Behaviors) related to selected respondent behaviors at school.

Students were asked: How many times did the following things happen to you in the first semester or term of the current school year? (Never, 1-2 times, 3-6 times, 7-9 times, 10-15 times, Over 15 times).

- a. I was late for school.
- b. I cut or skipped classes.
- c. I missed a day of school.
- d. I got in trouble for not following school rules.

The questions loaded from .55 to .77 on Factor 3 and no more than .24 on any other factor.

Factor 4 (Class Preparation) consisted of questions regarding respondents' preparedness for classes. That is, How often do you come to class WITHOUT these things? (Usually, Often, Seldom, Never).

- a. Pencil or paper
- b. Books
- c. Your homework done

The questions loaded on Factor 4 from .66 to .83 and no more than .21 on any other factor.

Factor 5 (Homework Time) consisted of participants' responses to a question regarding total time spent on homework per week both in and out of school. Participants chose from the following choices: None, Less than 1 hour, 1-3 hours, 4-6 hours, 7-9 hours, 10-12 hours, 13-15 hours, 16-20 hours, Over 20 hours. The questions loaded from .78 to .85 on Factor 5 and no more than .21 on any other factor.

Multivariate Analysis of Variance (MANOVA)

A MANOVA was conducted on the 10 dependent variables (Factors 1-5 and the following additional variables: socioeconomic status, grade point average, locus of control, self-concept, and the standardized test scores composite for Reading and Math) using a two factor nested model. The first factor was student educational expectation level (SE) and the second was expectation discrepancy group (ED) nested within SE.

To test for the hypothesis of no overall student expectation effect on the five identified factors and the remaining dependent variables, multivariate F approximations using Wilks' Lambda were calculated for the model. The obtained F value of 18.31_(90; 69,644) was significant at the .0001 probability level. The test for the overall effect of expectation discrepancy group nested within SE resulted in a multivariate F value of 2.27_(340; 98,721) and was significant at the .0001 probability level. The large sample size could have been

largely responsible for significant findings; therefore, practical significance was determined in the ANOVA.

A separate MANOVA was conducted for the individual questions that comprise the five factors and the remaining dependent variables in order to further explore the hypotheses of no overall effect of student expectation level and no overall effect of expectation discrepancy levels. The following Wilks-Lambda multivariate F approximations were obtained respectively: $9.81_{(216; 86,748)}$ for student expectation effect and $1.79_{(816; 201,456)}$ for overall nested effect (ED). Both were statistically significant at the .0001 level. Again, the large sample size could have been largely responsible for significant findings; therefore, practical significance was determined in the ANOVA.

Analyses of Variance

Analyses of variance (ANOVA) were conducted for each of the dependent variables using the same model as for the MANOVA {SE and ED(SE)}. All results were statistically significant; however, this may have been a result of the large sample size. Therefore, practical significance was determined using strength of association (R^2) as the key indicator requiring at least 10% of the variance to be accounted for by the model to be considered practically significant ($R^2 \geq .10$). Strengths of associations between the dependent variables and the model are shown in Table 4. Bold-face variables had significant effects. These include: 1) Factor 2 Friends' Plans (.21); 2) homework time out of school (.10); and 3) socioeconomic status (.14).

Table 4. Univariate F Values and Strength of Association (R^2) (Independent Variables: Student Expectation & Expectation Discrepancy)

Dependent variable	F (43; 10,277)*	R^2
Factor 1: Friends' Values	8.38	.04
attend class regularly	8.07	.03
study	9.66	.04
get good grades	6.72	.03
finish high school	6.89	.03
continue their education	23.78	.09
Factor 2: Friends' Plans	62.92	.21
dropped out of school	23.49	.09
no college plans	16.20	.06
full-time job after hs	38.26	.14
2-year college	22.51	.09
4-year college	75.95	.24
Factor 3: School Behaviors	4.98	.02
late for school	2.69	.01
cut or skipped class	6.69	.03
miss a day of school	7.59	.03
not follow school rules	10.05	.04
Factor 4: Class Preparation	3.86	.02
pencil or paper	5.71	.02
books	4.50	.02
completed homework	5.03	.02
Factor 5: Homework Time	9.72	.04
In school	3.22	.01
Out of school	26.23	.10
SES Quartile	39.39	.14
Locus of control	20.14	.09
Self-concept	10.51	.05
Reading, Math	11.67	.05
GPA	2.34	.01

*Pr < .0001

An analysis of the individual questions comprising each of the factors indicated that only two of the questions on Factor 2 had significant R^2 values. Thus, Factor 2 was dropped from the subsequent analyses and the two questions with significant values were explored more fully {friend's plans to work full-time after high school (.14) and friends' plans to attend a four-year college after high school (.24)}.

The obtained F values within each dependent variable for each of the independent variables are shown in Tables 5 and 6. Significant relationships were evident for each of the analyses.

Pairwise Comparisons

All of the dependent variables were subjected to Tukey-Kramer comparisons to further explore the relationship between the dependent variables and student expectation level. Tukey-Kramer tables for the dependent variables with significant R^2 are included in Table 7. Other results and tables are available in Appendix B.

Tukey-Kramer tests for SES and student expectation indicated that students with higher educational expectations are also in higher SES groups. The means were significantly different, however, only at the extremes. That is, SE levels 10, 9, and 8 were significantly different from lower expectations but not from each other. SE level 1 was significantly different from each of the levels 6 through 10 but not SE 5, 4, 3 and 2. SE levels 2 through 7 were not significantly different from each other.

Table 5. Univariate F Values for Dependent Variables with Practically Significant R^2 for Student Expectation Levels

Dependent variable	F(9; 10,277)*
Full-time job after high school	170.12
4-year college	347.46
Homework out of school	120.33
SES Quartile	52.92

*Pr < .0001

Table 6. Univariate F Values for Dependent Variables with Practically Significant R^2 for Expectation Discrepancy Nested Within Student Expectation

Dependent variable	F (34; 10,277)
Full-time job after high school	3.35
4-year college	4.08
Homework out of school	1.33
SES Quartile	5.28

*Pr < .0001

Table 7. Tukey-Kramer Pairwise Comparisons for Dependent Variables and Student Expectation Levels (highest to lowest means)

Tukey-Kramer grouping		Mean	N	SE level
SES Quartile	A	3.2763	1817	10
	A	3.2068	2128	9
	A	2.9010	3746	8
	B	2.3805	1067	7
	B	2.3333	132	6
	B	2.1701	541	5
	B	2.1340	306	4
	B	1.9800	400	2
	B	1.9704	169	3
	C	1.8000	15	1
	C			
	C			
	C			
Time Spent on Homework Out of School				
	A	4.4144	1817	10
	A	4.0620	2128	9
	C	3.4861	3746	8
	C	2.9353	1067	7
	C	2.7043	541	5
	D	2.5444	169	3
	D	2.5359	306	4
	D	2.4697	132	6
	D	2.3333	15	1
	D	2.3250	400	2
	D			
	D			
	D			

Table 7 (continued)

Tukey-Kramer grouping		Mean	N	SE level
Friends: Plan to Have a Regular Full-Time Job After High School				
	A	3.5333	15	1
	A	3.3350	400	2
B	A	3.2582	306	4
B	A	3.2130	169	3
B	A	3.1212	132	6
B	A	3.0702	541	5
B		2.83551	1067	7
	C	2.3457	3746	8
	C	2.0446	2128	9
	C	1.9351	1817	10
Friends: Plan to Attend a 4-Year College				
	A	4.0919	1817	10
	A	3.9450	2128	9
	A	3.6946	3746	8
	B	3.0281	1067	7
C	B	2.7955	132	6
C	B	2.6667	306	4
C	B	2.6377	541	5
C	D	2.4734	169	3
C	D	2.4050	400	2
	D	2.1333	15	1

*Means with the same alphabetical Tukey-Kramer grouping are not significantly different from each other.

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Comparisons of means on time spent on homework out of school at each level of student expectations yielded overlapping groups. SE level 10 was not significantly different from SE level 9 but was from SE 8. SE levels 9 and 8 were not significantly different from each other and SE 9 was different from SE levels 7 and 5 although SE 8 was not. SE levels 7 through 1 were not significantly different from each other.

Tukey-Kramer comparisons of friends' plans to work full-time after high school indicated that there is an inverse relationship between student expectations and friends' plans to work full-time after high school. Students with the highest expectations (4-year college and post-graduate degrees) have fewer friends with plans to work full-time after high school than do other expectation level groups. SE levels 10, 9 and 8 were significantly different from levels 7 through 1. SE level 7 was significantly different from level 1.

As might be predicted from the previous Tukey-Kramer findings, friends' plans to attend a four-year college are positively related to student expectations. That is, students with high educational expectations report that more of their friends also have college expectations than do students with lower than college expectations. SE levels 10, 9, and 8 were different from SE levels 7 through 1 and SE level 1 was different from SE levels 4 through 10.

Tukey Kramer pairwise comparisons were also made on each level of the nested variable (expectation discrepancy within student expectation). Those with significant

differences ($\alpha \leq .05$) for the SES variable are included in the tables in Appendix C. Only SES data were included due to the similarity of findings for each of the dependent variables and the length of the list of numbers. An analysis of these comparisons seems to indicate that differences in student expectation level is responsible for most of the significant findings and that students with higher expectations (four year college degree or post-graduate degree) are different on most of the dependent variables compared to students with lower expectations, ED group notwithstanding. However, within student expectation levels there were a few significant differences that may point to true differences between expectation discrepancy groups. These differences were apparent only at the higher end of SE. That is, there were no differences between ED groups within SE levels 1 through 7. Table 8 shows the comparisons with significant ED group differences within SE levels 8, 9 and 10.

First, a comparison of SES at each level of ED indicated that within SE level 8 (four year college degree) discrepancy groups 8.2 and 8.3 reported significantly higher means than discrepancy group 8.5. That is, students with equal or one level lower expectations than their perceived parent expectations are from higher SES groups than students with higher expectations than their perceived parent expectations. Likewise, within SE level 9 (Master's degree) students with slightly lower (9.2), equal (9.3), and slightly higher (9.4) expectations were higher on SES than students with somewhat higher (9.5) expectations

TABLE 8. Tukey-Kramer Pairwise Comparisons for Dependent Variables and Expectation Discrepancy Group Nested Within Student Expectation (Differences significant at the .05 alpha level)

SES Quartile
9.2 > 9.5
9.3 > 9.5
9.4 > 9.5
8.2 > 8.5
8.3 > 8.5
Friends: Plan to Have a Regular Full-Time Job After High School
9.5 > 9.4
9.5 > 9.3
8.5 > 8.3
8.5 > 8.2
8.1 > 8.3
Friends: Plan to Attend a 4-year College
10.3 > 10.5
8.3 > 8.5
8.3 > 8.4
8.2 > 8.5
8.2 > 8.4

than parents. There were no significant differences between ED groups within the SE 10 group (Ph.D., M.D., or other professional degree).

There were no significant differences between any ED groups within SE levels on the **homework out of school** variable. This seems to suggest that homework done out of school is related to SE more than to ED and then only at the extremes of SE.

Comparisons of ED groups within SE resulted in the following on **friends' plans to work full-time after high school**: ED 9.3 and 9.4 reported significantly fewer friends with plans to work full time after high school than did ED group 9.5. That is students with equal and slightly higher expectations than their perceived parents' expectations have more friends with plans to work after high school than do students with somewhat higher expectations than their parents. ED group 8.1 reported more friends with plans to work after high school than did ED group 8.3. ED groups 8.2 and 8.3 reported fewer friends with plans to work after high school than did ED group 8.5. This may suggest that students with somewhat higher expectations than their parents, also have higher expectations than their friends if their friends are planning to work full time after high school. There were no significant difference between ED groups on SE level 10.

Comparisons of **friends' plans to attend a four year college** resulted in the following differences: ED group 10.5 reported fewer friends with plans to attend a four year college than did ED group 10.3. That is, students with high expectations similar to their parents also had friends with plans to attend college; whereas, students with high expectations that

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were higher than their parents expectations had fewer friends with college plans. ED groups 8.2 and 8.3 reported more friends with plans to attend college than did ED groups 8.4 and 8.5. That is, students at expectation level 8 with equal and slightly lower than parent expectations were more likely to have friends with similar plans than were students at expectation level 8 with slightly higher and somewhat higher expectations than their parents. Students with higher expectations reported fewer friends who plan to attend a four year college.

7. Discussion

This study explored the differences in strengths of relationships between various social, cognitive and academic factors and students' educational expectations when students' expectations deviate from perceived parental expectations. Specifically, the analysis considered expectation discrepancies between the student and parent expectations nested within student expectations and their relationships to the following dependent variables: SES, GPA, standardized test scores, friends' values, friends' plans, behaviors at school, amount of time spent on homework, class preparation, locus of control, and self-concept.

Statistically significant differences were present among all the dependent variables for the overall model of student expectation and expectation discrepancy levels. As the large sample size may have been responsible for these findings another indicator of significance was needed. Further analyses indicated that practically significant differences, as measured by the strength of association (R^2), existed between several of the dependent variables (SES quartile, locus of control, homework time at home, friends' plans for a full-time job after high school, and friends' plans to attend a four year college) at different levels of the independent variables: student expectation and expectation discrepancy nested within student expectation.

The findings suggest that SES is related to students' expectation levels in that students with higher educational expectations were also reportedly in higher socioeconomic levels.

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These differences were only significant at the extremes of student expectations (4-year college and post-graduate; less than high school diploma). SES was unrelated to nested expectation discrepancy groups except at the four-year degree and Master's degree levels of student expectation and then particularly for those students who have somewhat higher expectations than their parents. The findings indicate that students whose four-year college or post-graduate educational plans are higher than their perceived parents' plans for them tend to come from lower SES groups. Students with equivalent high expectations that match their parents' expectations tend to come from higher SES groups.

There are several possible explanations for these findings. First, parents' expectations may be more closely related to perceived ability to afford education than are students' expectations. Second, these students may have higher ambitions than their parents' have for them due to some currently unidentified environmental influence. Third, parents may expect or hope that their children will remain in the same SES as the parent. Further research on parents' considerations regarding expectations for their children is indicated. One interesting way to investigate these possibilities would be a qualitative study of parents and children in mid- to lower-SES groups with attention to the desires and expectations of these parents and students. Are parents interested in maintaining the status-quo within their families or are they merely being practical about the possibilities for their children? Do these parents consider higher education relevant and useful? Do they have access to college information? If so, are they able to understand and guide their

children through the college entry process? Answers to these questions would aid educators at both the high school and college levels in determining how to assist these parents and students in making future plans.

SES is consistently shown to be related to student expectations. Students from higher SES typically have higher educational expectations. The question arises regarding the mediating effect of SES on other variables related to student expectation. Would this analysis have resulted in different findings if SES had been held constant? An analysis of the variables considered in this study, with SES as a covariate with student expectation, may indicate different and important considerations for educators who work with students and parents from all economic levels. Finally, although SES was related to student expectation level, it is clear from the NELS data that the majority of students have high educational expectations. Future attainment of these expectations may be mediated, in part, by either SES, parental expectation or both. Follow-up research on the NELS sample and their actual attainment of stated expectations may provide insights into these relationships.

It was hypothesized that students who have higher expectations than their perceived parental expectations would report that their friends' expectations are similar to their own. The findings suggest, however, that friends' plans after high school may be more closely related to perceived parental expectations than to the student's expectations when the student differs from parents. That is, students with 8.5, 9.5, and 10.5 SE and ED(SE)

report fewer friends at the same expectation levels than do their peers who have similar expectations but whose expectations are equal to their parents' expectations (i.e., 8.3, 9.3, 10.3). This may indicate that students who have higher expectations than their parents are likewise striving for higher educational attainment than the majority of their friends and, therefore, some other factor(s) is influencing these goals. The relationship between friends' plans and high expectations is unclear. Students with high expectations that were different from their parents also reported higher expectations than the perceived expectations of their friends. It is unclear what factors or events are present in the environment that were related to the respondents' high expectations. One limitation of this study may be related to using only structured questionnaire data from an adult/research perspective. Perhaps a more qualitative approach would result in identification of unpredicted relationships between student educational expectations and various environmental influences (e.g., entertainment and educational media, guidance programs, etc.). Future research delineating variables that are related to expectations versus factors related to actual attainment of expected education would be valuable.

It was also hypothesized that students who have higher expectations than they think their parents have for them would have higher scores on positive self-concept and a more internal locus of control than students who have similar or lower expectations than they think their parents have for them. The results of this study indicate that students with higher educational expectations indeed report higher internal locus of control and more

positive self-concept than do their peers with lower expectations. However, there were no significant differences between ED within SE groups on these variables, suggesting that a relationship does not exist between these variables and the student's agreement or discrepancy with parent expectation. Thus, students with higher expectations than their perceived parent expectations do not necessarily have a more positive self-concept, nor are they reporting a greater internal locus of control, than students who have equal educational expectations whose expectations are similar to or lower than their parents expectations. The relationship between locus of control and educational plans, as well as between self-concept and educational plans, were not practically significant.

The findings regarding locus of control and self-concept may be in part due to the global nature of the questionnaire items. For instance, students were asked about the importance of hard work versus good luck for success in general. Responses might have been different if students had been asked to respond to items specifically related to academic subjects that they were expected to take in college or to specific types of success or failure. Likewise, questions on the self-concept scale related to overall self-worth rather than the individual's perception of self as a learner. In no way should this study be considered as an assessment of programs that are directed at building students positive self-image and internal power. However, educators and researchers may want to carefully consider the outcome of vague programs that may not be directly linked to students'

competence and future success. Further study of these constructs with clear and precise links to specific competencies is warranted.

Cultural aspects of student and parental educational expectations may be of interest for further studies. Analysis of the current study for the various cultural groups included in the NELS 88 study may offer clearer understanding of differences between these groups if in fact they exist. The NELS data offer a large sample of students from various cultures. The initial sample (1988) included a representative sample of races; however, for unexplained reasons the 1992 follow-up sample was slightly below the national average for black Americans and above the national average for Hispanic and Asian/Pacific Islanders. This may have been related to oversampling of “policy relevant” groups, subsequent additions of the Hispanic questionnaire, or a variety of other undetected reasons. Any future studies utilizing the NELS data for cultural studies would need to address these issues further to clarify the generalizability of findings.

8. Limitations of Study

This study is limited in scope to the questions and responses available through the NELS 88 data base. The available questions cover a variety of areas identified through the literature review as being indicators of students' future educational expectations. However, further questioning of subjects may have revealed differences in locus of control and self-concept specifically in relation to academic ventures versus social and vocational ventures. Qualitative interview information may have added students' perceptions of influences on their future expectations as well as served to identify other variables that were not addressed in this study. Additionally, this study is limited by lack of information from students regarding the possible influence of teachers or other school personnel on their future plans.

This study focused on educational plans and does not address the issue of attainment. Seventy-five percent of the 1992 senior cohort sample indicated that they expect to acquire a 4-year college degree and 51% of those students indicated that they expect to acquire a post-graduate degree (39% of the total sample). Further analysis to determine the post high school activities of this sample is warranted and the data have recently been made available on the 1994 longitudinal sample that includes these students. Ingels (1990) suggested that many junior high school students have unrealistic plans for their future. Follow-up research on the 1992 senior cohort would ideally include qualitative information on how achievable the goals were and what obstacles were placed before

students as they attempted to reach their senior year goals. In addition to seeking a means of influencing students educational plans, educators must also consider students' needs in achieving those goals including financial and social support as well as the marketability of degrees sought. As the majority of students in the study reported high expectations, educational resources may be better focused on helping students achieve the goals they have set than on increasing expectations. Future research should focus on factors that influence success and attainment of already high expectations.

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Educational Expectations

APPENDICES

APPENDIX A

Selected Items from the NELS:88

Second Follow-Up Student Questionnaire

PERCEIVED PARENTAL EDUCATIONAL EXPECTATION

42. How far in school do you think your father and your mother want you to go? (BE SURE TO ANSWER BOTH A AND B BELOW FOR PARENTS WITH WHOM YOU LIVE OR WITH WHOM YOU HAVE REGULAR CONTACT).

IN EACH COLUMN, CIRCLE THE ONE HIGHEST NUMBER THAT APPLIES (Columns for A. Father(or male guardian) and B. Mother (or female guardian) available on questionnaire)

Less than high school graduation
High school graduation only

VOCATIONAL, TRADE, OR BUSINESS SCHOOL AFTER HIGH SCHOOL

Less than two years of school
Two years or more of school
A degree from a vocational,
trade or business school

COLLEGE PROGRAM

Less than two years of college
Two or more years of college
(including two-year degree)
Finish college
(four- or five-year degree)

GRADUATE OR PROFESSIONAL SCHOOL

Master's degree or equivalent
Ph.D., M.D., or other
professional degree

PERSONAL EDUCATIONAL EXPECTATION

43. As things stand now, how far in school do you think you will get?

Less than high school graduation
High school graduation only

VOCATIONAL, TRADE, OR BUSINESS SCHOOL AFTER HIGH SCHOOL

Less than two years of school
Two years or more of school
A degree from a vocational,
trade or business school

COLLEGE PROGRAM

Less than two years of college
Two or more years of college
(including two-year degree)
Finish college
(four- or five-year degree)

GRADUATE OR PROFESSIONAL SCHOOL

Master's degree or equivalent
Ph.D., M.D., or other
professional degree

SCHOOL BEHAVIORS

9. How many times did the following things happen to you in the first semester or term of the current school year? (Never, 1-2 times, 3-6 times, 7-9 times, 10-15 times, Over 15 times)

- a. I was late for school.
- b. I cut or skipped classes.
- c. I missed a day of school.
- d. I got in trouble for not following school rules.

CLASS PREPAREDNESS

24. How often do you come to class WITHOUT these things? (Usually, Often, Seldom, Never)

- a. Pencil or paper
- b. Books
- c. Your homework done

HOMEWORK TIME

25. In the following subjects and overall, about how much time do you spend on homework EACH WEEK, both in and out of school? (None, Less than 1 hour, 1-3 hours, 4-6 hours, 7-9 hours, 10-12 hours, 13-15 hours, Over 15 hours)

- a. Time spent on mathematics homework each week
- b. Time spent on science homework each week
- c. Time spent on English homework each week
- d. Time spent on history/social studies homework each week
- e. Time spent on all other subjects homework each week
- f. Total time spent on homework each week (None, Less than 1 hour, 1-3 hours, 4-6 hours, 7-9 hours, 10-12 hours, 13-15 hours, 16-20 hours, Over 20 hours)

FRIENDS' VALUES

68. Among your close friends, how important is it to them that they...(CIRCLE ONE ON EACH LINE) (Not at all important, Somewhat important, Very important)

- a. Attend classes regularly?
- b. Study?
- d. Get good grades?
- f. Finish high school?
- h. Continue their education?

FRIENDS' PLANS

69. How many of your friends...(CIRCLE ONE ON EACH LINE) (None of them, A few of them, Some of them, Most of them, All of them)

- a. Dropped out of school without graduating?
- b. Have no plans to go to college?
- c. Plan to have a regular full-time job after high school?
- d. Plan to attend a two-year community college or technical school?
- e. Plan to attend a four-year college or university?

LOCUS OF CONTROL

A composite score was created by standardizing items separately to a mean of zero and standard deviation of 1 and all non-missing components were averaged.

66. How do you feel about each of the following statements? (Strongly agree, Agree, Disagree, Strongly disagree)

- b. I don't have enough control over the direction my life is taking.
- c. In my life, good luck is more important than hard work for success.
- f. Every time I try to get ahead, something or somebody stops me.
- g. My plans hardly ever work out, so planning only makes me unhappy.
- k. When I make plans, I am almost certain I can make them work.
- m. Chance and luck are very important for what happens in my life.

SELF CONCEPT

A composite score was created by standardizing items separately to a mean of zero and standard deviation of 1 and all non-missing components were averaged.

66. How do you feel about each of the following statements? (Strongly agree, Agree, Disagree, Strongly disagree)

- a. I feel good about myself.
- d. I feel I am a person of worth, the equal of other people.
- e. I am able to do things as well as most other people.
- h. On the whole, I am satisfied with myself.
- i. I feel useless a times.
- j. At times, I think I am no good at all.
- l. I feel I do not have much to be proud of.

SOCIOECONOMIC STATUS

A composite score was created from parent questionnaire when available and student questionnaire if parent not available. Includes data on father's education level, mother's education level, father's occupation, mother's occupation, and family income from parent questionnaire. If parent questionnaire was unavailable, employed student data on parent's educational and occupational levels and presence of household items (e.g., books, computers, microwaves, televisions, stereos, etc.).

GPA

Cumulative grade point average for last year attended

STANDARDIZED TEST SCORES

Composite scores for overall continuous or discrete measure of cognitive ability (using standardized reading and math scores) to use as a control variable for cross-sectional analysis of data. Standardized mean of 50 and standard deviation of 10. The t-score is the equally-weighted average of the standardized reading and mathematics scores.

APPENDIX B

Tukey-Kramer Pairwise Comparisons of Dependent Variables

with non-significant R^2 and Student Expectation Levels

Tukey-Kramer Pairwise Comparisons Tests

Appendix B includes Tukey-Kramer pairwise comparisons of dependent variables and student expectation levels for dependent variables that did not have practically significant R^2 . That is, R^2 values for the following variables were less than .10.

The alphabetical codes in the first column of the tables specify the means that were/were not significantly different from each other. Means are shown in descending order. Those with the same alphabetical code are not significantly different from one another.

Grade point average was differentially related to student educational expectation only for the group of students who have no expectations of finishing high school.

GPA

Tukey-Kramer grouping	Mean	N	SE level
A	473.16	15	1
B	189.61	1817	10
B	185.16	132	6
B	182.27	400	2
B	150.43	2128	9
B	150.41	169	3
B	143.24	3746	8
B	141.24	306	4
B	140.69	1067	7
B	121.64	541	5

The means difference tests on locus of control indicate that master's and professional levels were significantly higher than all other levels except 4-year college. Less than high school degree had a significantly lower mean than all of the other SE levels.

Locus of Control

Tukey-Kramer grouping		Mean	N	SE level
	A	0.35490	1817	10
	A	.25513	2128	9
B	A	.11058	3746	8
B	C	-0.01064	1067	7
B	C	-0.02115	541	5
B	C	-0.08556	306	4
B	C	-0.12373	169	3
	C	-0.19492	132	6
	C	-0.20715	400	2
	D	-0.86600	15	1

Educational Expectations

On the self-concept variable students expecting professional degrees reported a significantly higher score than other groups. Students with expectations less than a high school diploma reported significantly lower scores on this measure.

Self-concept

Tukey-Kramer grouping			Mean	N	SE level
	A		0.26023	1817	10
B	A		0.14439	2128	9
B	A	C	0.03517	3746	8
B		C	-0.04560	541	5
B		C	-0.07222	1067	7
B		C	-0.13464	306	4
		C	-0.16207	169	3
		C	-0.19885	400	2
		C	-0.21182	132	6
		D	-0.76933	15	1

The standardized test score composite yielded significant differences only for those students with professional degree expectations (SE 10). Interestingly, the group of students who did not expect to graduate from high school had similar standardized test scores to all groups other than those with professional degree expectations.

Standardized Test Scores

Tukey-Kramer grouping			Mean	N	SE level
	A		63.959	1817	10
B	A		62.513	2128	9
B	A	C	59.846	3746	8
B	D	C	55.547	1067	7
B	D	C	55.204	15	1
	D	C	54.936	541	5
	D	C	53.653	400	2
	D	C	53.138	132	6
	D		52.424	306	4
	D		51.453	169	3

Student expectation levels were similar for students regardless of their reports of how often they were late for school with the exception of the small group of students who did not expect to graduate from high school. These students reported significantly more cases of being tardy for school

Late for School

Tukey-Kramer grouping	Mean	N	SE level
A	3.0667	15	1
B	2.0530	132	6
B	1.9500	400	2
B	1.7745	306	4
B	1.7067	1067	7
B	1.6950	541	5
B	1.6484	3746	8
B	1.6391	169	3
B	1.5817	1817	10
B	1.5644	2128	9

Likewise, self-report of the number of times a student skipped classes indicated a significant difference only for those students who did not expect to graduate from high school. Although differences were not significant the mean scores descended from lower expectations to higher expectations for each of these questions.

Cut or Skipped Classes

Tukey-Kramer grouping	Mean	N	SE level
A	3.3333	15	1
B	1.2850	400	2
B	1.23008	169	3
B	1.2222	306	4
B	1.2045	132	6
B	1.1664	541	5
B	1.0609	1067	7
B	0.8684	3746	8
B	0.7904	2128	9
B	0.7788	1817	10

Educational Expectations

Significantly more absences from school were reported by the group with no expectation to graduate from high school than other groups and in general, absences decreased with higher educational expectations although differences were not significant for groups with expectations for some college and those with graduate level expectations.

Missed a Day of School (No. of Times)

Tukey-Kramer grouping		Mean	N	SE level
	A	3.6000	15	1
	B	2.4675	400	2
	B	2.3409	132	6
	B	2.3373	169	3
C	B	2.2070	541	5
C	B	2.1732	306	4
C	B	2.0375	1067	7
C		1.8099	3746	8
C		1.8055	2128	9
C		1.7567	1817	10

On self-report of the number of instances in which the student got into trouble at school for not following the rules students who did not expect to graduate from high school reported significantly more instances than other groups.

In Trouble For Not Following School Rules

Tukey-Kramer grouping			Mean	N	SE level
	A		2.5333	1	1
	B		0.9250	2	2
C	B		0.8030	6	6
C	B	D	0.7026	4	4
C	B	D	0.6805	3	3
C	B	D	0.6673	5	5
C		D	0.5426	7	7
C		D	0.4578	8	8
		D	0.3577	10	10
		D	0.3459	9	9

Educational Expectations

Students who did not expect to graduate from high school reported significantly more instances of attending class unprepared. Other group means clustered closely together.

Tukey-Kramer grouping			Mean	N	SE level
Attended Class Without Paper or Pencil					
	A		3.50303	1817	10
	A		3.49624	2128	9
B	A		3.40336	3746	8
B	A		3.34583	1067	7
B	A		3.29205	541	5
B	A	C	3.22876	306	4
B	A	C	3.22485	169	3
B		C	3.18182	132	6
B		C	3.12250	400	2
		C	2.93333	15	1
Attended Class Without Books					
A			3.49201	2128	9
A			3.48156	1817	10
A			3.43566	3746	8
A			3.37113	1067	7
A			3.35305	541	5
A			3.29412	306	4
A			3.22750	400	2
A			3.22727	132	6
A			3.20118	169	3
B			2.73333	15	1
Attended Class Without Homework Completed					
	A		3.14034	1817	10
	A		3.10244	2128	9
B	A		3.04436	541	5
B	A		3.03737	3746	8
B	A		2.97938	1067	7
B	A		2.94083	169	3
B	A		2.89542	306	4
B			2.78030	132	6
B			2.77750	400	2
	C		2.40000	15	1

Educational Expectations

Few differences were apparent on homework time in school. Students at SE 1 (< high school degree) reported less homework in school than SE 3, 5, and 7 through 10.

Time Spent on Homework In School

Tukey-Kramer grouping		Mean	N	SE level
	A	3.6412	1817	10
	A	3.4911	2128	9
	A	3.4098	3746	8
	A	3.3314	169	3
	A	3.33008	10067	7
	A	3.2311	541	5
B	A	2.9346	306	4
B	A	2.9300	400	2
B	A	2.8030	132	6
B		2.2667	15	1

Five questions on the respondents' perception of friends' values related to school issues yielded expected results. In response to how important it is to their close friends to attend class regularly, study, get good grades, finish high school, and continue their education, the responses indicated that these issues are more important among the friends of students with high expectations and descend in importance as the respondents' expectation levels descend. The students with no expectation of graduating from high school reported significantly lower rates of friends valuing these school issues than did other students.

Friends: Important to Attend Class Regularly

Tukey-Kramer grouping		Mean	N	SE level
	A	2.58558	1817	10
	A	2.57049	2128	9
B	A	2.49706	3746	8
B	A	2.40019	1067	7
B	A	2.33987	306	4
B	A	2.33457	541	5
B		2.28788	132	6
B		2.25250	400	2
B		2.24260	169	3
	C	1.80000	15	1

Friends: Important to Study

Tukey-Kramer grouping				Mean	N	SE level
	A			2.42267	1817	10
B	A			2.35667	2128	9
B	A	C		2.27977	3746	8
B	A	C	D	2.16776	1067	7
B		C	D	2.09797	541	5
		C	D	2.07576	132	6
		C	D	2.07516	306	4
		C	D	2.02959	169	3
	E		D	1.99750	400	2
	E			1.73333	15	1

Educational Expectations

Friends: Important to Get Good Grades

Tukey-Kramer grouping		Mean	N	SE level
	A	2.53825	1817	10
B	A	2.49718	2128	9
B	A C	2.42872	3746	8
B	A C	2.37020	1067	7
B	A C	2.30719	306	4
B	A C	2.28030	132	6
B	C	2.24954	541	5
	C	2.21893	169	3
	C	2.21250	400	2
D		1.80000	15	1

Friends: Important to Finish High School

Tukey-Kramer grouping		Mean	N	SE level
	A	2.89818	1817	10
B	A	2.88064	2128	9
B	A C	2.84090	3746	8
B	A C	2.80037	1067	7
B	A C	2.76525	541	5
B	C	2.71569	306	4
B	C	2.70455	132	6
B	C	2.69231	169	3
B	C	2.67750	400	2
D		2.33333	15	1

Educational Expectations

Friends plans beyond high school are somewhat predictably related to respondents' expectations. Students who do not expect to graduate from high school report more friends who dropped out of school. Students with lower expectations report more friends with no plans to attend college. There was no consistent pattern on friends' plans to attend a 2-year college.

Friends: Important to Continue Education

Tukey-Kramer grouping	Mean	N	SE level
A	2.73088	1817	10
B A	2.69690	2128	9
B A	2.58756	3746	8
B C	2.45548	1067	7
D C	2.29390	541	5
D C	2.27451	306	4
D C E	2.24242	132	6
D F E	2.15976	169	3
F E	2.00750	400	2
F	1.93333	15	1

Friends: Dropped Out of School Without Graduating

Tukey-Kramer grouping	Mean	N	SE level
A	2.80000	15	1
B	1.92250	400	2
C B	1.77634	541	5
C B	1.75148	169	3
C B	1.74183	306	4
C B	1.73485	132	6
C D	1.57826	1067	7
D E	1.38014	3746	8
E	1.30404	2128	9
E	1.27243	1817	10

Educational Expectations

Friends: No plans to attend college

Tukey-Kramer grouping			Mean	N	SE level
	A		2.9333	15	1
B	A		2.7300	400	2
B	A		2.6036	169	3
B	A		2.5588	06	4
B	A		2.5227	132	6
B	A	C	2.4732	541	5
B		C	2.3140	1067	7
	D	C	2.0339	3746	8
	D		1.8407	2128	9
	D		1.7964	1817	10

Friends: Plan to Attend a 2-Year Community College

Tukey-Kramer grouping			Mean	N	SE level
	A		2.8913	1067	7
	A		2.8856	306	4
B	A		2.8170	541	5
B	A		2.7424	132	6
B	A		2.5740	169	3
B	C		2.4667	15	1
B	C	D	2.4175	400	2
B	C	D	2.4082	3746	8
	C	D	2.1429	2128	9
		D	2.0209	1817	10

APPENDIX C

**Tukey-Kramer Pairwise Comparisons of SES
and Expectation Discrepancy Groups Nested Within Student Expectation**

Educational Expectations

Pairwise comparisons. The bolded ED within SE Group is the mean of comparison. ED within SE Groups listed below the bolded number represent the means that *were significantly different from the comparison mean at the .05 alpha level*. It appears that differences were mainly a result of SE level rather than ED group. Therefore, only those with mean differences within a given SE level were used for this research. Refer to Results and Discussion sections.

Educational Expectations

SES QUARTILE

10.5

9.5

8.5

8.4

8.1

7.5

7.3

7.2

7.1

6.3

6.2

5.5

5.3

5.2

5.1

4.5

4.4

4.3

4.2

4.1

3.5

3.4

3.3

3.2

3.1

2.3

2.1

10.4

9.2

8.5

8.4

8.3

8.2

8.1

7.5

7.3

7.2

7.1

6.5

6.3

6.2

6.1

5.5

5.4

5.3

5.2

5.1

4.5

4.4

4.3

4.2

4.1

3.5

3.4

3.3

3.2

3.1

2.3

2.2

2.1

1.2

1.1

10.3

9.5

8.5

8.4

8.3

8.2

8.1

7.5

7.3

7.2

7.1

6.3

6.2

6.1

5.5

5.3

5.2

5.1

4.5

4.4

4.3

4.2

4.1

3.5

3.4

3.3

3.2

3.1

2.4

2.3

2.2

2.1

1.2

9.5

10.5

10.4

10.3

9.4

9.3

9.2

8.3

8.2

9.4

9.5

8.5

8.4

8.3

8.1

Educational Expectations

7.5	5.3	2.3
7.3	5.2	2.1
7.2	5.1	
7.1	4.5	
6.3	4.4	8.5
6.2	4.3	10.5
6.1	4.2	10.4
5.5	4.1	10.3
5.3	3.5	9.4
5.2	3.4	9.3
5.1	3.3	9.2
4.5	3.2	8.3
4.4	3.1	8.2
4.3	2.3	
4.2	2.2	
4.1	2.1	8.4
3.4	1.2	10.5
3.3		10.4
3.2		10.3
3.1	9.2	9.4
2.3	10.4	9.3
2.1	9.5	2.3
	8.5	
	7.5	
9.3	7.3	8.3
9.5	7.2	10.4
8.5	7.1	10.3
8.4	6.5	9.5
8.3	6.3	9.4
8.2	5.5	9.3
8.1	5.3	8.5
7.5	5.1	7.5
7.4	4.4	7.3
7.3	4.3	7.2
7.2	4.2	7.1
7.1	4.1	6.3
6.3	3.3	5.5
6.2	3.2	5.3
6.1	3.1	5.1
5.5	2.4	4.5

Educational Expectations

4.4	10.5	
4.3	10.4	
4.2	10.3	<u>7.2</u>
4.1	9.4	10.5
3.4	9.3	10.4
3.3	7.5	10.3
3.2	5.5	9.4
3.1	5.3	9.3
2.3	4.3	9.2
2.1	3.3	8.3
	2.3	8.2
	2.1	2.3
<u>8.2</u>		
10.4		
10.3	<u>7.5</u>	<u>7.1</u>
9.5	10.5	10.5
9.3	10.4	10.4
8.5	10.3	10.3
7.5	9.4	9.4
7.3	9.3	9.3
7.2	9.2	9.2
7.1	8.3	8.3
6.3	8.2	8.2
5.5	8.1	
5.3		
5.1		<u>6.5</u>
4.5	<u>7.4 (none significant at</u>	10.4
4.4	.05)	
4.3		
4.2		<u>6.4 (none significant at</u>
4.1	<u>7.3</u>	.05)
3.4	10.5	
3.3	10.4	
3.2	10.3	<u>6.3</u>
3.1	9.4	10.5
2.3	9.3	10.4
2.1	9.2	10.3
	8.3	9.4
	8.2	9.3
<u>8.1</u>	2.3	9.2

Educational Expectations

8.3	9.4	10.3
8.2	9.3	9.4
	9.2	9.3
	8.3	9.2
6.2	8.2	8.3
10.5		8.2
10.4		
10.3	5.2	
9.4	10.5	4.3
9.3	10.4	10.5
	10.3	10.4
	9.4	10.3
6.1	9.3	9.4
10.4		9.3
10.3		9.2
9.4	5.1	8.3
9.3	10.5	8.2
2.3	10.4	8.1
	10.3	
	9.4	
5.5	9.3	4.2
10.5	9.2	10.5
10.4	8.3	10.4
10.3	8.2	10.3
9.4		9.4
9.3		9.3
9.2	4.5	9.2
8.3	10.5	8.3
8.2	10.4	8.2
8.1	10.3	
	9.4	
	9.3	4.1
5.4	9.2	10.5
10.4	8.3	10.4
	8.2	10.3
		9.4
5.3		9.3
10.5	4.4	9.2
10.4	10.5	8.3
10.3	10.4	8.2

Educational Expectations

		10.4
		10.3
3.5	3.1	9.4
10.4	10.5	9.3
10.3	10.4	9.2
9.3	10.3	8.3
	9.4	8.2
	9.3	8.1
	9.2	
3.4	8.3	
10.5	8.2	1.3 (none significant at .05)
10.4		
10.3		
9.4		
9.3	2.4 (none significant at .05)	1.2
9.2		10.4
8.3		10.3
8.2		9.3
	2.3	
	10.5	
3.3	10.4	
10.5	10.3	1.1
10.4	9.4	10.4
10.3	9.3	
9.4	9.2	
9.3	8.4	
9.2	8.3	
8.3	8.2	
8.2	8.1	
8.1	7.3	
	7.2	
	6.1	
3.2	2.2	
10.5	10.4	
10.4	10.3	
10.3	9.3	
9.4		
9.3		
9.2		
8.3	2.1	
8.2	10.5	

VITA

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She is presently employed as a School Psychologist with the Lenoir City School System in Lenoir City, Tennessee and works with students from preschool through high school.