

High Educational Expectations and Low Achievement: Stability of Educational Goals Across Adolescence

JERRY TRUSTY
Texas A&M University-Commerce

ABSTRACT Data from the National Education Longitudinal Study of 1988 were used to investigate variables that predicted stability of adolescents' postsecondary educational expectations from Grade 8 to 2 years after high school. The study included students who had early expectations for at least a bachelor's degree as well as 8th-grade reading or mathematics test scores that were below the median. All participants had high early expectations and comparatively low early achievement. Six years later, approximately 76% of the participants still had high expectations, whereas 24% of them no longer expected to earn a bachelor's degree. Results provide support for the addition of variables to the social cognitive model of educational achievement when predicting long-term educational expectations and attainment.

Economic success for young people in the U.S. workforce increasingly depends on high levels of academic educational attainment. From the 1970s to the 1990s, the earnings gap between those who have 4-year college degrees and those who do not has widened substantially (Snyder & Shafer, 1996). Rasinski, Ingels, Rock, Pollack, and Wu (1993) investigated the advice that fathers, mothers, counselors, and teachers gave to high school students regarding college attendance. They found that all of those adults were much more likely in 1990 than in 1980 to advise students to attend college. The trend was evident across socioeconomic classes, racial groups, regions of the country, and achievement test score quartiles. For example, in the lowest test quartile, 26.1% of high school sophomores in 1980 reported that counselors advised them to attend college, whereas 56.4% in 1990 reported that counselors advised them to attend college. In the second quartile, 26.5% of high school sophomores reported that teachers advised them to attend college, as compared with 60.7% in 1990. In other words, those persons most important to students' educational and career development are increasingly encouraging students toward postsecondary academics.

Seeking a college degree is not appropriate for every student. Also, many economically lucrative careers do not

require college degrees, and educational attainment does not necessarily produce economic return (Ayalon & Yuchtman-Yarr, 1989). However, the economic consequences of not obtaining a college degree seem to be greater today and may likely be greater in the future if trends persist.

In an examination of National Education Longitudinal Study of 1988 (NELS:88) base-year data, Hafner, Ingels, Schneider, and Stevenson (1990) reported that U.S. eighth graders had high occupational aspirations and high educational expectations. However, many students with high aspirations and expectations did not indicate plans for college preparatory course work in high school. For example, approximately 75% of eighth graders expected to finish college, but less than 30% of them indicated plans to enter a college-preparatory program in high school. That fact suggests that many students may not be preparing to meet their goals and that their early aspirations and expectations are unrealistically high. That is, goals and behavior seem inconsistent.

Mickelson (1990) explored the attitude/achievement paradox for Black and low-socioeconomic status (SES) students. The paradox is that Black and low-SES students have positive attitudes and beliefs about education, but low achievement. Mickelson posited that this discrepancy exists because global attitudes about schooling are abstract and adhere to some subjective positive ideology of American education. Concrete attitudes about education, in contrast, are objective and adhere to material realities. When concrete attitudes about education are assessed, the attitude/achievement discrepancy disappears. Therefore, positive attitudes and high expectations of low-achieving minority and low-SES students may arise from abstract ideology, especially with regard to students' early expectations. Also, for low-SES students, unrealistic educational expectations may be caused by pressure from parents or friends or by students overestimating their own abilities (Agnew & Jones, 1988). According to Farrell, Sapp, John-

Address correspondence to Jerry Trusty, Department of Counseling, Texas A&M University-Commerce, Commerce, TX 75429-3011.

son, and Pollard (1994), minority adolescents appear more likely than majority adolescents to have unrealistic assessments of their own ability. Also, holding to high expectations may preserve self-esteem (Agnew & Jones).

In the present study, I used NELS:88 longitudinal data (National Education Longitudinal Study: 1988–94: Data files and electronic code book system, 1996). I examined the effects of several variables on late adolescents' (2 years post-high school) educational expectations. All participants included in the study had early (eighth grade) expectations of obtaining at least a bachelor's degree from college. Also, all participants had scored below the median on at least one eighth-grade reading or mathematics test. Therefore, achievement was comparatively low in at least one area of reading or mathematics and early expectations were high. Participants' educational expectations were again assessed 6 years later, when they were 2 years beyond high school. If participants still had expectations of a bachelor's degree at this later time, students' expectations were stable (consistently high) across adolescence; if participants' later expectations were for less than a bachelor's degree, expectations were lowered.

Earlier studies (Hanson, 1994; Trusty & Harris, 1999) examined lowered expectations for students with high early educational expectations and high early educational achievement. Hanson termed this condition lost talent. That is, relatively high early achievement is lost. The present study examined a condition not studied previously, namely, students who had high early educational expectations and comparatively low early achievement in at least one area of reading or mathematics.

The purpose of this study was to examine the longitudinal effects of the following groups of variables on stable/lowered expectations for this select group of students: (a) demographic/environmental, (b) early achievement, (c) parents' expectations for their children, (d) students' personal resources, and (e) parents' and students' high school behavior. Knowledge of the relative effects of those variables could guide theory and practice regarding long-term educational development.

The theoretical basis for this study was the social cognitive causal model developed by Bandura, Barbaranelli, Caprara, and Pastorelli (1996). Bandura's social cognitive models have been used extensively to study educational development (N. K. Bowen & Bowen, 1998; Zimmerman & Bandura, 1994) and career development (Betz & Vuyten, 1997; Lent, Brown, & Hackett, 1994). Bandura et al. used this model to study academic achievement in 11- to 14-year-old youth. The model is comprehensive in that it includes socioeconomic, family, peer, and self-perception variables. The causal sequence is as follows: SES positively influences parents' aspirations for their children as well as parents' efficacy to influence their children's academic competency. The effects of SES on achievement are mainly indirect. Parents' aspirations and efficacy, in turn, influence their children's academic self-efficacy. Children's efficacy

perceptions then influence their educational aspirations. Children's efficacy and aspirations affect educational achievement both directly and indirectly through positive peer relationships that insulate children from negative school behavior and depression.

Background Literature

There is support in the literature for many of the relationships described in the Bandura et al. (1996) model. Researchers have consistently found relatively strong relationships between parents' educational expectations/aspirations for their children and children's expectations/aspirations (Hanson, 1994; Hossler & Stage, 1992; Smith, 1991; P. M. Wilson & Wilson, 1992). Trusty (1998) found that mothers' and fathers' expectations, assessed when their children were high school seniors, were strongly related to their children's expectations 2 years later.

Family and socioeconomic variables are part of the educational and occupational status attainment model (Sewell, Haller, & Portes, 1969); in many ways, the Bandura et al. (1996) model is consistent with this social psychological model. In the status attainment model, SES, students' early academic performance, and significant others (parents, teachers, friends) influence students' postsecondary educational aspirations. Those aspirations lead to educational attainment (college-level achievement), which leads to occupational attainment (Hanson, 1994; Sewell et al., 1969). Students' self-efficacy and causal attributions are generally not included in the status attainment model. However, researchers have found that those self-perception variables are related to academic achievement (Grolnick, Ryan, & Deci, 1991; Klein & Keller, 1990; Schutz, 1997) and educational aspirations (Farmer, 1985; Hanson, 1994).

The Bandura et al. (1996) model was used in a correlational, nonlongitudinal study. The application of the model in the present study differs somewhat because I studied educational development longitudinally and because other pertinent variables are identified in the literature. Research supporting the inclusion of the variables is presented in the following paragraphs.

I included eighth-grade reading and mathematics scores as predictor variables. The inclusion of the variables allows one to study the comparative effects of types of early achievement. Hanson (1994) found that low reading scores predicted lowered educational expectations for male students who were above-average achievers. Several other studies (Ayalon & Yuchtman-Yarr, 1989; Farmer, 1985; Hossler & Stage, 1992; Smith, 1991; Wong, 1990) have used high school grades or test scores to predict educational expectations; most of these studies used global measures of achievement, not particular areas of achievement. Findings regarding the influences of early achievement on expectations reveal a moderate positive relationship.

Racial group membership and gender seem to influence educational expectations and attainment. Findings regard-

ing racial groups are inconsistent (cf. Crowley & Shapiro, 1982; Hanson, 1994; Hauser & Anderson, 1991; Trusty & Harris, 1999). However, the two most recent large-scale studies of lowered expectations for high achievers (Hanson, 1994; Trusty & Harris) revealed that Whites were more likely to have lowered expectations than were members of minority groups. Hanson and Trusty and Harris found that the process leading to lowered educational expectations was different for female and male students. Hanson reported that lowered expectations for female students, as compared with male students, were affected more by family variables. Trusty and Harris, in contrast, found that effects of demographic and family variables were stronger for male students than for female students. In a comprehensive study of career aspirations, Farmer (1985) reported that race had direct and indirect effects on career aspirations, whereas gender had indirect effects. Farmer found that minority students had higher career aspirations than White students did. Many of the variables included in the Bandura et al. (1996) model are present in the Farmer model.

Farmer (1985) found that the support of students' teachers had direct and indirect positive effects on career aspirations. Mahoney and Merritt (1993) examined students' use of teachers and counselors for educational and career planning; their findings are somewhat contrary to those of Farmer. Mahoney and Merritt reported that students who used the services of counselors and teachers were slightly less likely to perceive that they would reach their educational goals. Students' satisfaction with help they received from counselors was not associated with positive or negative perceptions about their goals. The authors surmised that counselors and teachers may influence students to become more realistic about their educational goals; therefore, students who used these services may have been less confident about reaching goals when those goals were unrealistic.

Bandura et al. (1996) had a perspective contrary to the findings of Mahoney and Merritt (1993). That is, according to Bandura et al., students with high self-efficacy should be more likely to seek help from counselors and teachers. Therefore, students who seek help should have higher aspirations and higher levels of academic achievement. Trusty and Harris (1999), while studying stable/lowered educational expectations for students with high early achievement, found no significant relationship between students' degree of contact with counselors or teachers and students' stable/lowered expectations.

Downey (1995) reported that the presence of cultural and economic resources (one being a computer) in the home dampened the negative effects of nontraditional family composition on achievement. Trusty and Harris (1999), in a study of students with high achievement and high expectations, found that students with a computer in the home were more likely to have stable expectations; but this effect was not significant.

Researchers have reported that parents' involvement in their adolescents' educational development influences the

children's long-term educational expectations and achievement. Trusty and Harris (1999) found that parents' attendance at high school extracurricular activities was associated with stable educational expectations for adolescents who had high early expectations and high early achievement. Also, Trusty (1996) reported that higher levels of parents' involvement in their adolescents' educational and career development were associated with adolescents' positive perceptions of the future regarding education and career.

Method

Participants

The NELS:88 study was conducted by the National Center for Education Statistics (NCES). Participants were in Grade 8 in 1988, Grade 12 in 1992, and 2 years beyond high school in 1994. Data for the present study came from the 1988 Base-year Student Questionnaire, the 1992 Second Follow-up Parent Questionnaire, and the 1994 Third Follow-up Student Questionnaire. Several steps were necessary to obtain the analysis subsample. In the 1988 to 1994 panel sample, there were 12,623 participants with Grade 8 reading and mathematics test scores. Of those, 8,314 (66%) expected to complete at least a bachelor's degree (i.e., high expectations). Of that group, 3,899 (47%) had at least one score on the two 8th-grade tests that was below the median (i.e., low achievement). Of those 3,899 participants, 890 finished high school out of sequence and were therefore missing data on pertinent variables and were excluded. Of the remaining 3,009 participants, 1,522 were female and 1,487 were male. The final analysis subsample was comprised of 1,201 females and 1,064 males. Therefore, there was some concern about nonresponse bias.

There was more nonresponse on the 1992 Second Follow-up Parent Questionnaire than on student questionnaires. Those participants with missing data on the parent questionnaire were of somewhat lower SES; Hispanics, Blacks, and Native Americans had more missing data than Whites or Asian/Pacific Islanders. To check for evidence of nonresponse bias, listwise and pairwise correlation matrices were compared for females and males. Sizes of correlation coefficients were similar across the two matrices for females and across the two matrices for males. Cases were weighted by the relative 1988 to 1994 panel sample weight (National Education Longitudinal Study, 1996). The weighting procedure corrected for oversampling of particular minority groups and for nonresponse bias.

In NELS:88, schools were sampled first, followed by students within the schools. The complex sampling design produces smaller sample variances than would be expected in the population or in a simple random sample from the population. Therefore, probabilities produced by statistical tests may be spuriously small. However, when regression statistics are used, the design effects are weaker. Also, design effects weaken when analyses are performed on subgroups

such as females and males and participants with high early expectations and low achievement (Ingels et al., 1994).

Variables and Data Analysis

Variables not specified by the Bandura et al. (1996) model but used in the present study were gender, racial group membership, availability of a computer in the home, early reading and mathematics achievement, help seeking from counselors and teachers, and parents' attendance at school activities. Two variables included in the Bandura et al. model were not available in NELS:88 data. Those were parents' efficacy to influence their students' achievement and students' levels of depression.

The dependent variable that I used was from the Third Follow-up Student Questionnaire administered in 1994 when participants were 2 years beyond high school (National Education Longitudinal Study, 1996). This variable was coded 0 (*expectation of less than a bachelor's degree*) and 1 (*expectation of a bachelor's or higher degree*). Trusty (1998) found support for the accuracy and validity of late adolescents' reports of their educational expectations on this NELS:88 item. Because all students in this sample in 1988 (eighth grade) expected at least a bachelor's degree, the dependent variable indicated stable/high or lowered expectations over the 6-year period.

When a multivariate analysis involves a dichotomous dependent variable, as in this study, logistic regression is the appropriate form of analysis (Agresti, 1990). Although linear models such as least squares regression accommodate dichotomous predictor variables, they are not well suited to analyses involving a dichotomous dependent variable (Menard, 1995). Logistic regression is similar to discriminant analysis using a dichotomous dependent variable. Like discriminant analysis equations, logistic regression equations reveal relative effects of independent variables on membership in one of two categories of a dependent variable. However, independent variables with nominal and ordinal scaling are not readily accommodated in discriminant analysis; linearity and normality assumptions are more stringent for discriminant analysis. Also, logistic regression presents results in terms of odds; therefore, interpretation of logistic regression is more straightforward than for discriminant analysis.

Because Hanson (1994) and Trusty and Harris (1999) revealed that many of the effects on stable/lowered educational expectations were conditional upon gender, I performed separate logistic regression analyses for female and male students. The order of variable entry into logistic regression equations (described in the following paragraphs) was consistent with temporal sequence and with the Bandura et al. (1996) and Farmer (1985) models. Demographic/environmental variables were SES (expressed in *z* scores), race/ethnicity (five categories), and the availability of a computer in the home. Deviation contrasts were used for the race/ethnicity variable. That is, each racial/ethnic

group was compared with all races taken together. The availability of a computer in the home was coded 1 (*do not have*) and 2 (*have*). Those variables were from base-year questionnaires and first were entered as a block into the logistic regression equations for female and male students. NCES developed the reading and mathematics tests; for my analyses, scores were converted to *z* scores. The tests were administered when students were in the eighth grade. The variables were next entered as blocks.

Fathers' and mothers' educational expectations for their children were students' perceptions of their parents' expectations and were from the Base-year Student Questionnaire (eighth grade). They were coded 0 if expectations were for less than a bachelor's degree and 1 if expectations were for a bachelor's or higher degree. A response of *do not know* on parents' expectations was also coded 0. The variables were next entered into the logistic regression equations as blocks.

Personal resources variables were from the Base-year Student Questionnaire and included help-seeking behavior, self-efficacy for postsecondary educational achievement, and locus of control. Help seeking from counselors and help seeking from teachers variables were developed through factor analysis by Trusty and Harris (1999). Each scale is comprised of three NELS:88 Base-year Student Questionnaire (eighth-grade) items. Counselor contact items and teacher contact items are parallel. The items quantify the extent to which eighth graders talked to counselors and teachers about (a) planning for high school, (b) various high school programs, and (c) course selection for high school. Scores range from 3 to 7; higher scores indicate more help-seeking behavior. Self-efficacy was derived from one item from the Base-year Student Questionnaire that assessed the extent to which students were sure that they would continue their education past high school. Scores range from 1 to 4; higher scores indicate a stronger self-efficacy. Locus of control is a composite scale developed by NCES; scores are expressed in *z* scores. Higher scores represent a more internal locus of control. The four personal resources variables were next entered as blocks into equations for females and males.

Parents' and students' behavior variables were from the Second Follow-up Parent Questionnaire, administered to parents when their children were seniors. Parents' attendance at school activities included four ordinal categories: 1 (*never*), 2 (*rarely*), 3 (*sometimes*), and 4 (*frequently*). That variable quantifies how frequently parents attended school activities and events of an extracurricular nature. I used two variables that indicated students' high school behavior. The first variable assessed whether the student had been suspended from school. The second variable was parents' judgments of whether their child had behavior problems at school. Both variables were coded 0 if the student had not been suspended or was not judged to have behavior problems and 1 if there was at least one suspension or perception that the child had behavior problems. The variables were entered into equations as blocks.

Results

On the dichotomous dependent variable—stable or lowered expectations—24% of the females and 23% of the males had lowered expectations. Most adolescents, therefore, had stable expectations, even though participants had low achievement on one or more of their eighth-grade achievement tests, reading and mathematics. Although the guiding model (i.e., Bandura et al., 1996) specified no interactions between or among variables, I investigated several possible two-way interactions and found none that contributed substantially to the logistic regression equations described below. Because of low numbers of participants in some racial-group categories, I did not explore interactions involving the race variable.

Results of the logistic regression model for females and the model for males are presented in Table 1. The *Bs* are the logistic regression coefficients. Negative *Bs* reveal a negative or inverse relationship, whereas positive *Bs* indicate a

positive relationship. For example, SES was positively related to stable expectations and being suspended from school was negatively related to stable expectations. The odds in the last columns for females and males (Table 1) are more straightforward in interpretation than the *Bs* (log odds). An odds of 1 is equivalent to a log odds of 0. An odds of 1 and a log odds of 0 signify no relation of the independent variable to the dependent variable. The odds are the probability that an event will happen divided by the probability that the event will not happen (Norusis, 1994). The odds for females on SES is 1.62 (see Table 1). That finding means that for every one standard deviation increase in SES (SES was quantified in *z* scores), the odds that female participants would have stable as opposed to lowered expectations increased by 62%, while accounting for the effects of all variables in the equation. For males, a one-standard deviation increase in SES resulted in the odds of stable expectations more than doubling, net of the effects of other variables.

Table 1.—Logistic Regression Models Predicting Stable or Lowered Educational Expectations for Females and Males

Predictor	Females (<i>n</i> = 1,201)					Males (<i>n</i> = 1,064)				
	<i>B</i>	<i>SE</i>	<i>R</i>	Odds	<i>p</i>	<i>B</i>	<i>SE</i>	<i>R</i>	Odds	<i>p</i>
Demographic/environmental variables (Grade 8)										
SES	.48	.13	.11	1.62	.00	.73	.13	.18	2.07	.00
Racial group			.09		.00			.10		.00
Asian/Pacific Islander	1.02	.64	.02	2.77	.11	.71	.47	.02	2.03	.13
Hispanic	-.33	.29	.00	.72	.26	.96	.37	.07	2.60	.01
Black	-.09	.27	.00	.91	.72	.41	.33	.00	1.51	.21
White	-.83	.24	-.10	.43	.00	-.04	.30	.00	.96	.89
Native American ^a	.24			1.27		-2.03			.13	
Computer available	.05	.17	.00	1.05	.76	.81	.18	.14	2.24	.00
Achievement variables (Grade 8)										
Reading	.19	.11	.02	1.20	.10	.18	.12	.02	1.20	.14
Mathematics	.56	.15	.10	1.75	.00	.65	.14	.14	1.92	.00
Parents' expectations variables (Grade 8)										
Father	-.01	.26	.00	.99	.97	-.83	.28	-.08	.44	.00
Mother	.59	.28	.05	1.81	.04	.99	.30	.09	2.69	.00
Personal resources variables (Grade 8)										
Help seeking										
Counselors	.10	.06	.01	1.10	.14	.23	.07	.09	1.26	.00
Teachers	.01	.06	.00	1.01	.88	.06	.07	.00	1.06	.40
Self-efficacy	.46	.17	.07	1.58	.01	.34	.17	.04	1.40	.04
Locus of control	.26	.14	.04	1.30	.06	.17	.14	.00	1.19	.23
Parent/student behavior variables (high school)										
Attend school activities	.21	.07	.08	1.24	.00	.22	.07	.09	1.24	.00
Suspended	-.75	.27	-.07	.47	.01	-.84	.22	-.11	.43	.00
Behavior problem	-.40	.33	.00	.67	.22	.02	.28	.00	1.02	.93

Note. All statistics are with all variables in the logistic regression equations. For females, Nagelkerke R^2 for demographic/environmental variables was .066; with early achievement added, $R^2 = .106$; with parents' expectations added, $R^2 = .117$; with personal resources added, $R^2 = .144$; and with parent/student behavior added, $R^2 = .176$. For males, Nagelkerke R^2 for demographic/environmental variables was .130; with early achievement added, $R^2 = .174$; with parents' expectations added, $R^2 = .186$; with personal resources added, $R^2 = .209$; and with parent/student behavior added, $R^2 = .241$.

^aThe Native American category was the comparison category. The coefficient was calculated as the negative sum of the coefficients of the other racial groups.

Regarding the categorical racial group variable, the interpretation of the odds is somewhat different. That is, the odds for a particular racial group reflect how the odds of stable/lowered expectations for that racial group compares with the odds for all racial groups taken together. Table 1 shows that Asian/Pacific Islander females were most likely to have stable expectations, whereas White females were least likely to have stable expectations, accounting for all variables in the equation. Native American females compared favorably; Black females were slightly less likely than all racial groups to have stable expectations; and Hispanic females were 72% as likely as all racial groups to have stable expectations. For males, Hispanic, Asian/Pacific Islander, and Black males were most likely to have stable expectations, as compared with all races taken together. Native Americans were least likely to have stable expectations and Whites were slightly less likely than all other races to have stable expectations. There were small numbers of Native Americans in the analysis sample; therefore, these results are more subject to chance error.

The availability of a computer in the home was not related to stable/lowered expectations for females, given all variables in the equation. For eighth-grade males, however, those who had a computer in the home were more than twice as likely to have stable expectations than not, net of the effects of SES and all other variables in the equation. Demographic/environmental variables alone accounted for 6.6% of the variability in stable/lowered expectations for females, whereas they accounted for 13% of the variability in stable/lowered expectations for males.

Eighth-grade mathematics achievement, but not reading achievement, was predictive of stable expectations for females and males, while controlling for all other variables. A one standard deviation increase in eighth-grade mathematics scores resulted in a 75% increase in the odds of stable expectations for females and a 92% increase in the odds for males. Reading and mathematics achievement accounted for an additional 4% of variability in stable/lowered expectations for females and an additional 4.4% for males, above and beyond that accounted for by demographic/environmental variables.

For females, mothers' early expectations, but not fathers' expectations, were significantly related to stable expectations. If mothers' expectations for their daughters were for at least a bachelor's degree, daughters were 81% more likely to have stable expectations, net of the effects of all other variables. If mothers' expectations for their sons were for at least a bachelor's degree, sons were 2.69 times more likely to have stable expectations. For sons, the coefficient for fathers' expectations was negative and significant. The bivariate relationship between fathers' expectations and stable/lowered expectations, however, was positive. Because of a strong relationship between mothers' and fathers' expectations for their children and the relatively strong relationship between mothers' and their sons' expectations, mothers' expectations dominated the relationship

between fathers' expectations and males' stable/lowered expectations. Therefore, the negative relationship of fathers' expectations to stable expectations should not be interpreted literally. Parents' expectations explained only 1.1% of the variability in stable/lowered expectations for females and only 1.2% for males, above and beyond that explained by demographic/environmental variables and by early achievement.

For females, help seeking from counselors was associated with stable expectations, but this effect was not significant. For males, help seeking from counselors had significant and positive effects on stable expectations. A one-degree increase on this 5-point scale resulted in a 26% increase in the odds of stable expectations. Self-efficacy had significant positive effects for both females and males. A one-degree increase on this 4-point scale produced a 58% increase for females and a 40% increase for males in the odds of having stable expectations.

Locus of control was positively associated with stable expectations, but these results were not significant for females or males. Personal resources variables, taken together, explained an additional 2.7% of variability in the female analysis and 2.3% in the male analysis.

Regarding parents' and students' behavior while students were in high school, parents' attendance at extracurricular school activities was significantly related to stable expectations for both females and males. A one-degree increase in parents' attendance at school activities was associated with a 24% increase in the odds of stable expectations for both females and males, net of the effects of all variables in the equations. Being suspended from school predicted lowered expectations. Females who were suspended were 47% as likely as those not suspended to have stable expectations. Males who were suspended were 43% as likely as those not suspended to have stable expectations. Stated in the inverse, females and males who had been suspended were more than twice as likely to have lowered expectations. Parents' perceptions of behavior problems were not significantly predictive of stable/lowered expectations. In the female and male analyses, parents' and students' high school behavior explained an additional 3.2% of variability in stable/lowered expectations above and beyond the effects of all other variables. All variables in the analysis for females explained 17.6% of the variability in stable/lowered expectations. All variables in the analysis for males explained 24.1% of the variability in stable/lowered expectations.

Because values of the logistic regression coefficients (B_s) and corresponding odds depend heavily on the scaling of predictor variables, these statistics are not useful for comparing the effects of single variables relative to the effects of other variables. The R_s (see Table 1) are more useful for that purpose (Norusis, 1994). The R_s reflect the relationship of the particular variable to the dependent variable while taking into account the effects of all other variables in the equations. In comparing single variables in the analysis for females, SES, eighth-grade mathematics test scores, racial

group membership, parents' attendance at school activities, suspensions from school, and early self-efficacy had the strongest effects. In the analysis for males, SES, eighth-grade mathematics scores, availability of a computer in the home, suspensions from school, racial group membership, mothers' expectations, and help seeking from counselors had the strongest effects.

Discussion and Implications

Effects of independent variables on stable/lowered expectations differed for females and males; that is consistent with earlier research on adolescents with high achievement and high expectations (Hanson, 1994; Trusty & Harris, 1999). Effects of independent variables were generally stronger for males than for females. That finding is consistent with previous research that follows the status attainment model (Hanson). For example, marriage seems to dampen effects for females more than for males (McClelland, 1990).

Variables that had statistically significant effects on stable/lowered expectations for both females and males were (a) SES, (b) racial group membership, (c) early mathematics achievement, (d) mothers' expectations for their children, (e) self-efficacy, (f) parents' attendance at their children's high school extracurricular activities, and (g) suspensions from school. All significant effects for females also were significant for males. Significant effects present for males but not for females were (a) availability of a computer in the home when students were in the eighth grade and (b) eighth-grade help seeking from school counselors. Those gender differences in the presence and strength of effects constitute gender-based interactions. Effects of fathers' expectations were significant in the analysis for males, but this effect was dominated by the effects of mothers' expectations and was therefore not a genuine effect.

According to Bandura (1977, 1989), self-efficacy should be the predominant force in shaping future behavior. Self-efficacy for postsecondary educational achievement was a significant predictor of stable expectations for females and males in the present study. However, effects were not particularly strong. The effects of self-efficacy in the present study may have been diluted because of the design. That is, all participants had early goals of achieving at least a bachelor's degree. Goals are related to self-efficacy (Bandura, 1989), and because all participants had high early educational goals, the effects of self-efficacy may have been limited. Also, I examined the effects of early (eighth-grade) self-efficacy across a 6-year period. Perhaps self-efficacy and other predictors are not as potent longitudinally. In addition, my means of quantifying self-efficacy was not as comprehensive as that of Bandura et al. (1996) and therefore may not have been as reliable. For example, my measure of self-efficacy assessed the level of confidence that students had in continuing their education past high school. Some eighth graders may have planned to continue their education, but not specifically for a bachelor's degree.

Other components of the Bandura et al. (1996) model are supported by results of the present study. As specified in the Bandura et al. model, I found that socioeconomic, familial, self-perception, and behavioral variables were predictive of educational expectations and implied long-term educational attainment. Contrary to the Bandura et al. model, I found relatively strong direct effects of SES for both females and males. Parents' expectations for their children, resources in the home, efficacy perceptions, locus of control, parents' behavior, and adolescents' behavior did not account for the SES/expectations relationship. It seems logical that SES may have more influence on postsecondary achievement than on middle school or high school achievement—as studied by Bandura et al.—because more social and economic resources are required for postsecondary achievement.

In predicting the stability of educational expectations for the high expectations/low achievement group of adolescents, the addition of several variables to the Bandura et al. (1996) model is warranted. The processes related to long-term educational expectations and implied educational attainment seem to differ for genders (i.e., gender interactions). Also, it seems that racial group membership should be considered. However, because of low numbers of participants in some racial groups in this study, effects may have been inflated. Finally, results imply that early mathematics achievement, help seeking from counselors, and parents' supportive behavior in high school should be added to a longitudinal model. Although Bandura et al. did not include help-seeking behavior in their model, Bandura's theory supports the existence of a relationship between help seeking from significant adults and academic achievement.

With regard to racial group membership, Asian/Pacific Islander adolescents, Hispanic males, Black males, and Native American females tended to have comparatively stable expectations. Native American males, White females, and Hispanic females were likely to have lowered expectations. Findings with regard to Native Americans may be spurious because of low numbers in the analysis sample. Black females and White males were about average as compared with all races. If White males are compared to the three largest minority groups in the United States (Blacks, Hispanics, Asian/Pacific Islanders), they do not compare favorably.

The result that Whites are more likely to have lowered expectations—while controlling for SES effects—is consistent with earlier studies of Hanson (1994) and Trusty and Harris (1999). Those authors used national data and examined stable/lowered expectations for adolescents who had high early expectations and above-average scores in both reading and mathematics, that is, high expectations and high achievement. The three studies, taken together, are contrary to Mickelson's (1990) premise and conclusions regarding racial groups and educational attitudes and achievement. It appears that adolescents from minority groups who had high early expectations and low achievement are more likely—as compared with similar White ado-

lescents—to have stable expectations, net of the effects of SES, family variables, achievement, behavior problems, and self-perception variables. Crowley and Shapiro (1982) concluded that minority-group individuals and families may perceive educational attainment as the primary means for social mobility. On the other hand, it seems that lower SES White adolescents with low mathematics achievement, low levels of familial support, negative self-perceptions, and negative school behavior are more vulnerable to lowered educational expectations and social immobility. Perhaps White individuals are more likely to have unrealistically high early expectations. Native American males also may be likely to have unrealistic early expectations; but, because of small numbers of Native Americans in the analysis sample, this finding may be spurious. Further study is needed to explore reasons for this consistent but unexpected finding.

The availability of a computer in the home was associated with stable high expectations for males. That relationship was present net of the effects of SES and other family-related variables. The availability of a computer may represent a commitment by parents to their children's educational futures. It may also represent a positive parental attitude toward knowledge and learning. Also, it is possible that computers aid children in their educational development. The finding that availability of a computer was significant for males and not for females is intriguing. Perhaps males use computers more than females for educational development, or perhaps positive parental attitudes toward learning affect sons more than daughters. Trusty and Harris (1999) found that parents' personal involvement in their children's education had much stronger effects on educational expectations for sons than for daughters. Further study is needed to clarify this Gender \times Computer Availability interaction.

For both females and males, eighth-grade mathematics achievement was a comparatively strong predictor of stable expectations across the 6-year period studied. Reading achievement, on the other hand, was not a significant predictor. Therefore, if an eighth grader has low achievement in either reading or mathematics, it seems more detrimental to the student's long-term educational development if that low achievement is in mathematics. Perhaps the lack of mathematics skills serves to block postsecondary educational achievement for many students.

That finding conveys implications for school curriculum development and restructuring. Also, it seems that when counselors and teachers advise students, they should make students and parents aware that mathematics achievement could help ensure long-term educational attainment. That advice appears more critical in light of the trend that counselors, teachers, and parents are increasingly advising low-achieving students to attend college (Rasinski et al., 1993).

Consistent with the Bandura et al. (1996) model, parents' educational expectations for their children were related to long-term expectations and implied long-term educational attainment. However, in my study, the effects of parents' expectations were weaker than those found by

Bandura et al. in their nonlongitudinal study. Those effects may weaken over time.

Mothers' expectations for their eighth-grade children, but not fathers' expectations, were associated with stable expectations across adolescence. The finding that mothers' expectations influenced children's expectations more than fathers' expectations is consistent with the findings of Smith (1991) and Wilson and Wilson (1992). Trusty (1998), however, found that mothers' and fathers' expectations—assessed when children were high school seniors—equally influenced their children's later expectations, even though more adolescents lived with their mothers than with their fathers. In the present study, eighth graders who did not know parents' expectations were categorized with those who did not have high expectations. Eighth graders knew mothers' expectations more frequently than they knew fathers' expectations, and this could have created error in the fathers' expectations variable and thereby affected results. However, early (eighth-grade) expectations of mothers may be more influential, and expectations of fathers may become more influential later in children's educational development. Also, mothers' expectations may have a stronger influence when their children's academic achievement is lower. Further study is needed to clarify those relationships.

Students' help-seeking behavior was not a component of the Bandura et al. (1996) model. However, it is consistent with their perspective. I found that the more frequently eighth-grade males contacted counselors, the more likely their expectations were to remain stable across adolescence. That relationship was significant beyond the effects of demographic/environmental variables, early educational achievement, and other effects. My findings, therefore, support the Bandura et al. perspective, but do not uphold the Mahoney and Merritt (1993) view that students who have contact with counselors appear less dedicated to their educational goals.

According to Lee and Ekstrom (1987), counseling services are not equally available to high school students. They found that low-SES and minority students had limited access to counselors. Because I controlled for those variables in the present study, the relationship I found appears to be genuine. It seems probable, however, that students' help-seeking behavior and the help that they received from counselors could contribute to stable expectations. In other words, is it students' attitudes and persistence in seeking help or the benefits of counselor contact that lead to stable expectations? The prior explanation is most consistent with social cognitive theory. However, if it is students' attitudes and persistence that account for the relationship, it seems that contact with teachers would also have been related to stable expectations. Perhaps seeking help from counselors represents a higher degree of assertiveness on the part of students, or maybe the help and encouragement received from counselors accounts for a portion of the relationship. A third possibility is that contact with counselors—more

than with teachers—reflects high levels of students' engagement with the school and with learning. In any case, it seems important that counselors and teachers are accessible to students for educational planning. Also, counselors and other education professionals have the ability to promote students' help-seeking behavior and their engagement with the school.

Self-efficacy for long-term educational achievement was significant in both female and male models. The other self-perception variable, locus of control, was nonsignificant, but approached significance for females. Trusty and Harris (1999) found a locus of control effect for females only. Perhaps self-perceptions are more important for females' long-term educational expectations and attainment. However, for males, the comparatively stronger effects of other variables (SES, mathematics achievement, help seeking) could have diluted the effects of locus of control. The other variables were correlated with locus of control for both females and males.

Parents' attendance at extracurricular school activities was related to stable expectations. That variable was reported by parents when their children were in the 12th grade, and it seems to represent parents' efforts at socializing their children into the larger school environment. It appears noteworthy that that variable was related to stable expectations while controlling for SES, parents' expectations, and early achievement. The result implies that parents' behavior, above and beyond their expectations for their children and beyond family resources, affects adolescents through the high school years.

The comparative strength of the effects of familial variables (attendance at school activities, availability of a computer, mothers' expectations) on stability of expectations carries implications for school counselors and other education professionals. That is, counselors and educators have the ability to facilitate parents in supporting and encouraging their children's long-term educational development. It seems that school restructuring should include a heavy focus on parents' roles in their children's educational development. School personnel should realize that parents serve as continual resources for their children's development, whereas schools and educators are more temporary in their influences. Results from my study support the perspective that schools should help parents to help their children, that is, a parent empowerment perspective driven by parents' and students' needs rather than by educators' needs (Mannan & Blackwell, 1992).

Adolescents' negative school behavior, indicated by school suspensions, was associated with lowered expectations. That finding is consistent with the Bandura et al. (1996) model. That is, students who exhibit problem behaviors are usually disengaged from academic activities. My study revealed that behavior problems seem to carry consequences beyond high school. Although the negative effect of school suspensions was slightly stronger for males, the strength of the effect for females seems significant consid-

ering that many fewer females than males had experienced school suspensions. The more subjective measure of adolescents' behavior problems (parents' judgments of their children's school behavior) was not related to stable/low-ered expectations.

Overall, findings were fairly consistent with a social cognitive model (Bandura et al., 1996) of academic achievement. However, some inadequacies of that model were identified. Future research on long-term educational attainment should include the variables found herein. Further research is also needed to clarify the effects of student/counselor contact and availability of a computer on long-term educational expectations and attainment. Considering differences between models for females and males, we propose that further research is needed to characterize and clarify those processes for genders.

REFERENCES

- Agnew, R., & Jones, D. H. (1988). Adapting to deprivation: An examination of inflated educational expectations. *The Sociological Quarterly*, 29, 315-337.
- Agresti, A. (1990). *Categorical data analysis*. New York: Wiley.
- Ayalon, H., & Yuchtman-Yarr, E. (1989). Educational opportunities and occupational aspirations: A two dimensional approach. *Sociology of Education*, 62, 208-219.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84, 191-215.
- Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist*, 44, 1175-1184.
- Bandura, A., Barbaranelli, C., Capara, G. V., & Pastorelli, C. (1996). Multifaceted impact of self-efficacy beliefs on academic functioning. *Child Development*, 67, 1206-1222.
- Betz, N. E., & Voyten, K. K. (1997). Efficacy and outcome expectations influence career exploration and decidedness. *Career Development Quarterly*, 46, 179-189.
- Bowen, N. K., & Bowen, G. L. (1998). The mediating role of educational meaning in the relationship between home academic culture and academic performance. *Family Relations*, 47, 45-51.
- Crowley, J. E., & Shapiro, D. (1982). Aspirations and expectations of youth in the United States. *Youth & Society*, 13, 391-422.
- Downey, D. B. (1995). Understanding academic achievement among children in stephouseholds: The role of parental resources, sex of stepparent, and sex of child. *Social Forces*, 73, 875-894.
- Farmer, H. S. (1985). Model of career and achievement motivation for women and men. *Journal of Counseling Psychology*, 32, 363-390.
- Farrell, W. C., Jr., Sapp, M., Johnson, J. H. Jr., & Pollard, D. S. (1994). Assessing college aspirations among at-risk high school students: A principal component analysis. *The High School Journal*, 77, 294-303.
- Grolnick, W. S., Ryan, R. M., & Deci, E. L. (1991). Inner resources for school achievement: Motivational mediators of children's perceptions of their parents. *Journal of Educational Psychology*, 83, 508-517.
- Hafner, A., Ingels, S., Schneider, B., & Stevenson, D. (1990). *A profile of the American eighth grader: NELS:88 student descriptive summary*. (NCES Publication No. 90-458). Washington, DC: U.S. Government Printing Office.
- Hanson, S. L. (1994). Lost talent: Unrealized educational aspirations and expectations among U.S. youths. *Sociology of Education*, 67, 159-183.
- Hauser, R. M., & Anderson, D. K. (1991). Post-high school plans and aspirations of black and white high school seniors: 1976-86. *Sociology of Education*, 64, 263-277.
- Hossler, D., & Stage, F. K. (1992). Family and high school experience influences on the postsecondary educational plans of ninth-grade students. *American Educational Research Journal*, 29, 425-451.
- Ingels, S. J., Dowd, K. L., Baldrige, J. D., Stipe, J. L., Bartot, V. H., & Frankel, M. R. (1994). *Second follow-up: Student component data file user's manual*. (NCES Publication No. NCES 94-374). Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement.

- Klein, J. D., & Keller, J. M. (1990). Influence of student ability, locus of control, and type of instructional control on performance and confidence. *The Journal of Educational Research*, 83, 140-146.
- Lee, V. E., & Ekstrom, R. B. (1987). Student access to guidance counseling in high school. *American Educational Research Journal*, 24, 287-310.
- Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, 45, 79-122.
- Mahoney, J. S. Jr., & Merritt, S. R. (1993). Educational hopes of black and white high school seniors in Virginia. *The Journal of Educational Research*, 87, 31-38.
- Mannan, G., & Blackwell, J. (1992). Parent involvement: Barriers and opportunities. *The Urban Review*, 24, 219-226.
- McClelland, K. (1990). Cumulative disadvantage among the highly ambitious. *Sociology of Education*, 63, 102-121.
- Menard, S. (1995). *Applied logistic regression analysis*. Thousand Oaks, CA: Sage.
- Mickelson, R. A. (1990). The attitude-achievement paradox among black adolescents. *Sociology of Education*, 63, 44-61.
- National Education Longitudinal Study: 1988-94: Data files and electronic code book system [CD-ROM data files and documentation]. (1996). Washington, DC: National Center for Education Statistics [Producer and Distributor].
- Norusis, M. J. (1994). *SPSS advanced statistics 6.1*. Chicago: SPSS Inc.
- Rasinski, K. A., Ingels, S. J., Rock, D. A., Pollack, J. M., & Wu, S. (1993). *America's high school sophomores: A ten year comparison* (NCES Publication No. 93-087). Washington, DC: U.S. Government Printing Office.
- Schutz, P. A. L. (1997). Educational goals, strategies use and the academic performance of high school students. *The High School Journal*, 80, 193-201.
- Sewell, W. H., Haller, A. O., & Portes, A. (1969). The educational and early occupational attainment process. *American Sociological Review*, 34, 82-92.
- Smith, T. E. (1991). Agreement of adolescent educational expectations with perceived maternal and paternal educational goals. *Youth & Society*, 23, 155-174.
- Snyder, T., & Shafer, L. (1996). *Youth indicators 1996: Trends in the well-being of American youth* (NCES Publication No. 96-027). Washington, DC: U.S. Government Printing Office.
- Trusty, J. (1996). Relationship of parental involvement in teens' career development to teens' attitudes, perceptions, and behavior. *Journal of Research and Development in Education*, 30, 63-69.
- Trusty, J. (1998). Family influences on educational expectations of late adolescents. *The Journal of Educational Research*, 91, 260-270.
- Trusty, J., & Harris, M. B. C. (1999). Lost talent: Predictors of the stability of educational expectations across adolescence. *Journal of Adolescent Research*, 14, 359-382.
- Wilson, P. M., & Wilson, J. R. (1992). Environmental influences on adolescent educational aspirations. *Youth & Society*, 24, 52-70.
- Wong, M. G. (1990). The education of White, Chinese, Filipino, and Japanese students: A look at High School and Beyond. *Sociological Perspectives*, 33, 355-374.
- Zimmerman, B. J., & Bandura, A. (1994). Impact of self-regulatory influences on writing course attainment. *American Educational Research Journal*, 31, 845-862.

POLICE CHIEFS PRODUCE GUIDE IN RESPONSE TO SCHOOL VIOLENCE

Acknowledging the recent incidents of school violence, the International Association of Chiefs of Police, the National Sheriffs' Association, and elements of the Department of Defense, Department of the Treasury, and Department of Justice have worked together to produce the new *Guide for Preventing and Responding to School Violence*.

Distribution of the document to sheriffs and police chiefs across the United States has just been completed. It has also been sent to the 500 students, parents, teachers, administrators, medical professionals, and recognized experts who either participated in the 15 focus groups held in urban, suburban, and rural communities or who reviewed the document for publication.

The guide includes an encouraging message of hope, along with the roles that each element of a community can play to both prevent and respond to school violence. The guide is available on the Internet at [HTTP://WWW.THEIACP.ORG](http://WWW.THEIACP.ORG). Further information is available from Michael Shanahan (E-mail: shanahan@u.washington.edu).