A TEST OF THREE SOCIOLOGICAL EXPLANATIONS OF HIGH SCHOOL COMPLETION

Occasional Research Paper, no. 4
October, 1999

Edward B. Reeves, Chair
Department of Sociology, Social Work, and Criminology
Morehead State University
Morehead, Kentucky

and

Edward F. Breschel
Department of Sociology, Social Work, and Criminology
Morehead State University
Morehead, Kentucky

Executive Summary

Data from the National Education Longitudinal Study of 1988-1994 are analyzed with logistic regression to test three sociological explanations of high school completion. The first explanation, derived from meritocracy theory, holds that educational credentials are won by academically deserving students. Thus, students who demonstrate better cognitive skills and make better grades are more likely to receive a high school diploma. The second explanation, derived from social reproduction theory, hypothesizes that high school graduation depends on the resources within the student's family, such as family income and parent's education level. Students from more advantaged families are more likely to graduate. The third explanation, taken from social bond theory, proposes that social attachments, commitments, and time involvement related to school activities bind the student to normative expectations of the school and increase the probability of graduation. Social attachments that alienate the students from school have the opposite effect. The results of the analyses find unequivocal support for the social reproduction and social bond explanations. Meritocracy theory garners no support. Practical implications of the findings are discussed.

<u>Introduction</u>

A high school diploma is practically the *sine qua non* for the opportunity to receive higher educational credentials and compete for better occupational prospects (Collins, 1979). Although the large majority of American youth complete high school, the minority who do not experience life-long economic and social disadvantages. Because of the stakes involved, a large research literature attempts to explain and remedy this problem (Rossi & Montgomery, 1994). This literature is marked by extensive lists of "risk factors" that correlate with high school noncompletion and alternatively "resources" in the family, peer group, school, and community which offset the risks and increase the likelihood of graduation.

As useful as this literature is for pinpointing factors associated with high school completion and noncompletion, it is often devoid of theoretical concerns. The purpose of this study is to use high school completion as an empirical issue for testing three sociological theories. Researchers have discovered a number of factors to have an influence on high school graduation. Many of these factors are included in this study as control variables. Moreover, the study examined how variables connected with each of three theoretical perspectives alter the odds of high school graduation. Each theoretical perspective offers an explanation for why some youths receive a high school diploma while others do not. Of course, these theories are in themselves insufficient as explanations of high school completion. It is assumed that the complete explanation of this phenomenon would have to be complex, requiring consideration of a broad array of factors, including quite possibly factors that are not normally within the purview of sociologists. It is also not anticipated that the sociological explanations are mutually

exclusive, despite the tendency of the advocates of a particular theory to argue as if it did

exclude the others. The advantage of the multiple logistic regression models employed

in this study is that they provide information to decide not only if each explanation is

supported but if more that one explanation operates independently. The multiple logistic

regression results will also permit an estimate of the relative strength of each

explanatory factor for which statistical significance has been found.

Overview of Three Sociological Theories of Educational Attainment

Two of the three sociological explanations of high school completion which

will be tested are derive from social selection theories- -i.e., how schools select people

for positions in the occupational (or class) structure. The third explanation results

from a special application of social bond theory to educational outcomes.

<u>Meritocracy Theory</u>

The first of three theories to be tested can be termed meritocracy theory. An

achievement-oriented society, such as the United States, has a strong interest in

ensuring that educational credentials are. won by youth who have shown merit (Davis

& Moore, 1945; Parsons, 1959). Following the meritocratic perspective, it is expected

that academically stronger students are more likely to receive educational diplomas than

weaker students at every level of educational attainment. Brint (1998) claims empirical

support for this idea when he states, "Grades and test scores are the best single

predictors of educational attainment (measured by number of years of schooling or

highest degree level)" (p. 187). However, Brint also recognizes that social background

has both direct and indirect effects: "Family background helps to predict test scores, and

it also has a modest direct effect on how much schooling a persons is likely to receive

regardless of

the person's test scores" (pp.187-8). Nevertheless, the thrust of meritocracy theory hold that educational credentials will be disproportionately received by the students who have demonstrated greater cognitive skills. Although high schools do not test cognitive skills as stringently as postsecondary education, they play a fundamental role by weeding out students with the lowest aptitude and skills. Thus, high school begins a screening process that influence a person's future educational and occupational opportunities. Following the argument of meritocracy theory leads to the first hypothesis:

> Hypothesis 1: The higher a student's grades and/or standardized test scores, the great the odds of graduation from high school.

Social Reproduction Theory

Social reproduction theory provides the next explanation of high school completion. This perspective embraces both Marxian (Bowles & Gintis, 1976) and Weberian (Collins, 1979) variants. Both variants stress that privileged groups and strata within society benefit from the gatekeeping and legitimizing function of educational credentials which ensure greater opportunities for advantaged children when compared with children from less privileged backgrounds. The Marcian position is that economic class is reproduced through the education process whereas the Weberian position is broader claiming that the children of culturally advantaged and politically influential groups (and not only children of the upper economic class) benefit disproportionately from greater educational opportunity. Research predicated on the social reproduction thesis has stressed the importance to a student's educational success of having resources that are more available in higher income families, especially when the parents themselves are well educated (Aschaffenburg & Maas, 1997; Goldthore, 1996; Ishida, Muller, & Ridge, 1995; Jencks et al., 1972; Lareau, 1987). The upshot of social reproduction theory

is that educational credentials have a greater likelihood of being received by students from more advantaged family backgrounds. The long-term consequence is that social class and status are reproduced across the generations. This perspective leads to the formulation of the following hypotheses:

> Hypothesis 2:The higher a student's socioeconomic status (as measured by family income and parent's highest education level), the greater the odds of graduation from high school.

Social Bond Theory

Social bond theory provides the third explanation of high school completion. This theory was originally put forward to explain individual deviance and conformity (Hirschi, 1969). Since then it has been applied to different institutional settings, including religion (Stark & Bainbridge, 1996) and education (Berends, 1995; Finn, 1989, 1993; McNeal, 1995). The essence of social bond theory is that a person's conformity

with prevailing norms depends on social attachments, commitments, and time involvements. Thus, attachments to conventional others, commitments to accepted activities, and high levels of involvement in these activities are each factors that encourage a person to conform with prevailing expectations of behavior. Conversely, when conventional attachments, commitments, and involvement are weak, the person has no compelling interest in conformity and is more likely to violate prevailing expectations regarding his or her conduct. Moreover, close attachments to unconventional others increase the likelihood of norm violation. In educational research this perspective has been offered as an explanation for why students drop out of secondary and postsecondary schooling. In particular, it is argued that students engaged in school-sponsored extracurricular activities experience a stronger bond with the school, its norms and goals,

and thus are at less risk of dropping out. Additionally, students with social ties involving

particular groups, activities or organizations within the school, besides being influenced

by the school's norms and goals, may be more likely to graduate just by virtue of the

school attendance necessary for participation in these groups and activities. Alternatively,

social bonds which draw the student away from an identification with the school, such as

having close friends who have already dropped out, increase the likelihood that the

student will also drop out. The social bond perspective yields two related hypotheses:

> Hypothesis 3a:The greater a student's commitment to and
> involvement in school-sponsored extracurricular activities, the greater
> the odds of graduating from high school.

> Hypothesis 3b:The more a student is attached to peers who have
> already dropped out, the lower the odds of completing high school
> herself or himself.

Data and Method

The data used to test these hypotheses were taken from the National Education

Longitudinal Study (NELS) of 1988-94. This study initially surveyed about 25,000

eighth grade students in 1988. Follow-up interviews were performed at two-year intervals

until 1994. Thus, in addition to the Spring of 1988 base-year data, follow-up data were

collected in 1990, 1992, and 1994. The size the original sample was reduced to for the

follow-ups so that if one wished to make use of the longitudinal properties of this

database, less than 15,000 cases are available. In the analysis presented here, the sample

ranged from 12,226 to 12,870 cases.

Use of the NELS database for statistical analysis requires attention to two sources

of error. First, Hispanic and Asian students were over sampled in the survey. Second, the

two-stage sampling design (first, schools were selected; then, students were selected

within each school) poses a problem for variance estimation and significance testing.

The statistical models developed for this study contain corrections for both of these

sources of error. The first source of error was corrected by including racial categories as

dummy variables in the logistic regression models. To correct the second source of error,

a conservative criterion was selected for significance tests using the Wald statistic. The

chosen criterion is stated thusly: if Wald > 16.0 and df = 1, then p < .05. This criterion

for significance testing is consistent with adjusting the standard error of the logit

coefficient by the square root of the average design effect (i.e., with multiplying the

standard error by 2). The adjustment changes the Wald statistic criterion for significance

from 4.0 to 16.0, with one degree of freedom.

<u>Variables</u>

Descriptive statistics for the variables used in this study are displayed in TABLE

1. The dependent variable is dichotomous and indicated if the student had graduated

from high school at the third follow-up (Spring, 1994). Since students who graduated

"on time" received their diplomas in Spring 1992, this measure offers a leeway of nearly

two years to students whose graduation was delayed for any reason, such as childbirth or

financial exigency.

Four variables represented the perspective of the meritocracy theory. All four

variables measure the student's academic achievement and cognitive skills during the

base year (1988). The variables are: grades (with missing values recoded to the mean)

and three standardized test scores for reading, math, and science.

Two predictor variables were used to test the social reproduction theory: base year family income (with missing values recoded to the mean) and parent's highest education level at the first follow-up (with missing values recoded to the mode).

Social bond theory was represented by three predictor variables from the first follow-up. First, commitment to school-related activities was measured by a simple count of the number of extracurricular memberships in school-sponsored activities (missing values recoded to zero). Bivariate correlational analysis had confirmed that each of these memberships was positively and significantly, associated with high school graduation. A second variable, time spent each week in extracurricular activities (missing values recorded to zero), provided a measure of student involvement with school-sponsored activities. Finally, the respondent's indication of having close friends who had dropped out of school was chosen to measure social attachments that would negatively affect the probability of graduation (missing values not recoded).

The remaining variables used in the analysis served as controls. These control variables were of two major types: First, personal characteristics of students were selected which the literature (e.g., Astone & McLanahan, 1991; McNeal, 1997; Rossi & Montgomery, 1994; Teachman, Paasch, & Carver, 1996) suggested were influential on high school graduation. These personal characteristics included: gender, race, family structure, student's working at a job, and student ever held back a grade. Second, school characteristics were selected, which, again based on the literature (e.g., Coleman, 1990; Greenburg & Teixeira, 1995; Holland & Andre, 1987; Rossi & Montgomery, 1994), conceivably would confound the tests. The school characteristic variables were as follows: public vs. private, total enrollment, percent of students who dropped out, rural and urban schools (contrasting with suburban schools).

Five logistic regression models were fitted to test the four hypotheses. The first

model contained only the control variables. One of the sets of test variables were added to

each of the next three models. The fifth model contained all control and test variables.

Results

TABLE 2 shows the results of the logistic regression analyses. In logistic

regression it is appropriate to interpret the effect of each predictor variable using the odds

ratio, provided that the variable is either a dummy or interval scale. The interpretation of

ordinal predictors using the odds ratio is problematic; however, unless the ordinal scale is

unpacked as a series of discrete dummy variables. For this reason, and also to facilitate a

comparison of the strengths of the different predictors within each model, an estimate of

the effect size was noted, the partial correlation coefficient (R). The respective strengths

of the predictors were judged by comparing their partial correlation coefficients in each

of the models. For each effect, significance was determined with the Wald statistic. As

noted previously, a significant effect in the present study was indicated by a Wald

statistic greater that 16.0, with one degree of freedom.

Beginning with the controls-only model (Model 1), five of the eighteen control

variables were significant. The strongest of these variables was held back a grade, which

reduced the odds of graduation by 67 percent. A mother-only family, public school,

percent dropouts, and urban school were also found to reduce the odds of graduation in

this model. The Cox & Snell R^2 for Model 1 indicated that 5.8 percent of the variation in

high school graduation is explained by the variables in the model.

When the meritocracy variables were added (Model 2), neither grades nor any of

the three standardized test scores significantly altered the probability of high school

completion, and the proportional reduction in error remained unchanged. Thus, no support was found for Hypothesis 1, with one possible exception. The variable indicating whether the student had been held back a grade consistently indicated that being held back reduced likelihood of graduation in all of the models examined. Although this variable may be interpreted as a rather crude indicator of academic ability, one would expect that if its effects on graduation odds were largely due to academic ability, this effect would appear more strongly in the other variables that seem better indicators of academic or cognitive ability. However, academic ability as measured by grades and test scores had no significant effect on completion of high school nor did it significantly reduce error in the model.

In contrast with this result, when the social reproduction variables were added (Model 3), the Model L^2 increased significantly and R^2 increased from 0.058 to 0.077, a nearly 2 percent gain in predicting the outcome variable. Looking at the social reproduction variables individually, family income and parents' highest education level each were highly significant. From the partial correlation is was determined that parents' education level had a 74 percent greater effect on high school graduation than did family income. These results strongly confirmed Hypothesis 2.

The addition of the social bond variables produced an even more striking effect on the probability of high school completion (Model 4). L^2 was even larger in this model than in Model 3 as was R^2, which indicated a near doubling of the explained variation - - 10.4 percent compared to 5.8 percent. Each of the three social bond variables was found to be significant. As hypothesized, the number of school-sponsored extracurricular memberships and the time spent in school-sponsored extracurricular activities positively influenced the likelihood of high school graduation, whereas having close friends who

had dropped out was a negative influence. Increasing extracurricular memberships by one improved the odds of graduation by 11 percent. Time spent in extracurricular activity had a greater effect. However, this effect was not easily interpreted using the odds ratio as the scale was ordinal. The partial correlation coefficients indicated that time spent had 117 percent greater than did the number of memberships. But the negative effect of having close friends who had dropped out was strongest of the three. In absolute terms the effect of this variable was 200 percent greater than the effect of the number of memberships, and 38 percent greater than the effect of the time spent in extracurricular activities. These results unequivocally supported Hypothesis 3a and Hypothesis 3b.

The general trend indicated by the analysis was that graduation odds were largely the result of social rather than academic factors. Professional educators tend to focus on what should be done with academics, curriculum, teaching methods and styles, and how schools are administered, all things over which professionals in education might be expected to have some control. While it is to suggest that these factors are unimportant in other ways, their influence over the likelihood of high school completion would appear to be slight at best.

Model 5 displays the results of entering all variables in the logistic regression equation. These results bore out the fact that social reproduction and social bonds affect high school completion independently of each other. Also, the effect of social bonds appeared stronger than the effect of social reproduction. By unpacking several of the variables in Model 5 it was possible to further elaborate the effects of several of the independent variables that were ordinal scales.

TABLE 3 displays the odds ratios for these elaborated upon ordinal predictors of high school graduation. In general, the relationships between high school graduation and the ordinal categories of parent's highest education level, time spent per week in extracurricular activities, and in having close friends who have dropped out of high school, were monotonic. A student whose parents were college graduates was 2.3 times as likely to graduate than a student whose parents had not finished high school. For students whose parents had a Ph.D. or M.D., the likelihood of graduation was 4.6 times greater than if the parents were not high school graduates. A student who spent only 1-4 hours per week in school sponsored extracurricular was 2 times more likely to graduate than a student who spent no time in such activities, and this comparative advantage has doubled for students who spent 10-19 hours. However, spending 20 or more hours per week in extracurricular activities decreased the odds of graduation somewhat, although the odds remained 2.6 times greater than if the student had spent no time at all. Compared with students who haven't any close friends who have dropped out of high school, having some friends who were dropouts reduced the odds of graduation by 59 percent. When most or all of a student's friends have dropped out the comparative odds of graduating decrease still more. In this case, the student had a 75 percent greater probability of dropping out than if he or she had no close friends who were dropouts.

Looking over the logistic regression results, other notable trends emerged with the initial set of control variables. While being held back a grade and enrollment in a public rather than a private school were significant in all models, several other variables were significant in some models but not in others. A number of parenting situations were included in the model using dummy variables. The two-parent family was used as the baseline for these comparisons. Being raised by a single mother significantly reduced

odds of high school completion. However, this indicator was not significant when parent's education and income were included. Apparently a large part of the effect of single motherhood on children's graduation is due to socioeconomic status. Several of the other parenting situations were also associated with reduced odds of graduation similar to whose associated with single mother families. These may have failed to achieve statistical significance as their numbers in the sample were generally smaller.

Two other indicators were significantly associated with reduced odds of high school completion in the first model: attending an urban school, and attending a school that had a higher percentage of dropouts. In each case, the effects of these indicators on graduation became non-significant when either the SES or the social bond variables were added to the model. It would seem that high SES or strong social ties to the school may insulate students from the reduced graduation odds associated with urban and high dropout schools. Conversely, it is plausible that in urban and high-dropout schools one is more likely to have social ties with others who have already dropped out of school. Perhaps this explains the higher dropout rates associated with those conditions.

Finally, student employment, a factor found to influence completion of high school in other studies, is interesting for its lack of significant effects here. In an analyses of the "High School and Beyond" data, McNeal (1995) found that a part time job while in high school increased the odds of graduation unless the student was working a large number of hours per week, in which case the odds of high school completion were reduced. The preliminary analyses of this study (not shown), which examined having at least one episode of dropping out rather than high school graduation as an outcome, found similar effects for high school employment. While the results of this investigation are still preliminary, they may indicate that working long hours may delay graduation,

but that those forced to drop out due to work requirements often return for their high school diplomas.

Conclusions

The test of the three sociological explanations of high school graduation has lent unqualified support to the social reproduction and social bond theories, but has yielded no support for meritocracy theory. It is possible that in choosing the meritocracy variables from the base year of NELS, these effects were too far removed from the graduation date to register the hypothesized results. But, in fact, this is not much of a consideration. In an analysis (not shown) 10th grade standardized test scores were substituted for the 8th grade scores and the results obtained were essentially the same. The 8th grade scores were used in this study because using the 10th grade scores drastically reduces the sample size. The conclusion drawn is that academic merit simply does not increase the likelihood of obtaining a high school diploma. Such a conclusion will be surprising and unpalatable to many. Educators and the general public alike consider the association between merit and educational attainment to be close. In contrast, the results of this study suggest strongly that high school completion is conditioned by socioeconomic background and social ties to the school.

Although basic concerns from the outset were to test sociological theories, the results of this study have practical implications. One perspective currently popular among educators for reducing high school dropout is to have at risk students become more "engaged" with school. Although involvement in extracurricular activities is seen as one aspect of school engagement, proponents such as Finn (1993; see also, Rossi & Montgomery, 1994) place the emphasis on making the classroom and course work more

congenial to students at risk so that they will perform better academically and stay in school. This approach is not supported by this study and ignores the lesson of Coleman's (1959) early research which showed that high school kids dislike academic competition because it is individualizing. On the other hand, Coleman found that high school students greatly prize sports and other collective school activities where individual effort is seen to benefit the group. The results of this study coupled with Coleman's results strongly suggest that greater attention could be placed on getting students involved in extracurricular activities early in their high school careers. Such a strategy would improve the likelihood of high school completion and would offset the disadvantages of family background that are harder to ameliorate, such as deficiencies in the family's income and parent's educational level. A more radical approach, of course, would be to advocate measures to raise the economic status of poor and working class families, which would likely, along with many other effects, raise the graduation rates in these categories.

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Table 1. Descriptive Statistics for Variables Used in the Study (N = 12,226).

Variable	Minimum	Maximum	Mean	Std. Dev.
Completed high school (f3)	0	1	0.89	--
Female (f1)	0	1	0.52	--
Black (f1)	0	1	.10	--
Hispanic (f1)	0	1	.13	--
Asian/Pacific Islander (f1)	0	1	.06	--
American Indian/Native Alaskan (f1)	0	1	.01	--
Mother & stepfather (by)	0	1	.09	--
Father & stepmother (by)	0	1	.02	--
Mother/female guardian only (by)	0	1	.13	--
Father/male guardian only (by)	0	1	.02	--
Two guardians (by)	0	1	.01	--
Hours student worked (f1)	0	5	1.27	1.45
Hours student worked squared (f1)	0	25	3.71	5.9
Student held back (f1)	0	1	.13	--
Public school (f1)	0	1	.87	--
School enrollment (f1)	1	9	4.70	2.40
Percent dropouts (f1)	0	100	7.16	9.64
Rural school (f1)	0	1	.33	--
Urban school (f1)	0	1	.27	--
Student's grades (by)	0.5	4.00	2.90	0.71
Reading std. test score (by)	31.75	70.55	50.15	9.25
Math std. test score (by)	34.09	77.20	50.17	9.29
Science std. test score (by)	31.67	80.14	49.94	9.29
Family income (by)	1	15	9.83	2.37
Parents' highest education (f1)	1	6	3.07	1.22
Extracurricular memberships (f1)	0	18	2.29	2.06
Time spent in extracurr. activities (f1)	0	5	1.47	1.47
Close friends dropped out (f1)	0	3	0.27	0.49

Note: From The National Educational Longitudinal Study of 1988-94: by = base year
(1988); f1 = first follow-up (1990); f3 = third follow-up (1994).

Table 2. Results of the Logistic Regression Analysis: Predictors of High School Graduation.

Variable	Odds ratio	Wald	R	Odds ratio	Wald	R	Odds ratio	Wald	R
		1		Model 2			3		
Female	1.09	2.3	.01	1.09	2.3	.01	1.14	5.1	.02
Black	.90	1.4	.00	.87	1.9	.00	.89	1.6	.00
Hispanic	.96	.2	.00	.95	.4	.00	.93	.6	.00
Asian	1.15	1.2	.00	1.12	1.5	.00	1.12	.9	.00
Amer. Indian	.90	.1	.00	.89	.2	.00	.87	.2	.00
M & SF	.74	9.9	-.03	.73	10.0	-.03	.76	7.6	-.02
F & SM	.51	14.9	-.04	.51	14.9	-.04	.48*	16.9	-.04
Mother only	.55*	63.7	-.08	.55*	63.3	-.08	.79	7.7	-.03
Father only	.54	10.1	-.03	.54	10.2	-.03	.57	8.0	-.03
Two guardians	.42	13.9	-.04	.42	13.9	-.04	.58	5.4	-.02
Hours worked	1.09	2.5	.11	1.09	2.5	.01	1.07	1.4	.00
(Hours worked)^2	.95	13.3	-.04	.95	13.3	-.04	.96	10.1	-.03
Held back	.33*	275.3	-.17	.33*	275.5	-.17	.39*	189.6	-.14
Public school	.20*	17.2	-.09	.20*	70.8	-.09	.31*	36.3	-.06
Total enrollment	.95	11.6	-.03	.95	11.6	-.03	.94	14.8	-.04
dropouts	.99*	3.6.8	-.06	.99*	37.0	-.06	.99	15.3	-.04
Rural school	.77	12.3	-.03	.77	12.1	-.03	.90	2.0	.00
Urban school	.70*	22.1	-.05	.70*	22.2	-.05	.79	9.1	-.03
Grades		--		1.01	.0	.00		--	
Reading test		--		1.01	2.0	.00		--	
Math test		--		.99	1.3	.00		--	
Science test		--		1.00	.6	.00		--	
Family income		--			--		1.10*	43.0	.07
Parents' education		--			--		1.41*	126.3	.12
Extracurr. memberships		--			--			--	
Time spent in activities		--			--			--	
Friends dropped out		--			--			--	
N		12,870		12,870			12,870		
-2LL		8298		8295.1			8038.9		
Model ^{L2} (df)		767.54 (18)		770.87 (22)			1026.99 (20)		
Cox & Snell R^2		0		.058			.077		

*p < .05 (corrected for design error)

Table 2. Results of the Logistic Regression Analysis: Predictors of High School Graduation (cont.).

		Model				
		4			5	
Variable	Odds ratio	Wald	R	Odds ratio	Wald	R
Female	1.12	2.9	.01	1.16	5.5	.02
Black	0.89	1.3	.00	.87	1.7	.00
Hispanic	.96	.2	.00	.93	.5	.00
Asian	1.19	1.5	.00	1.20	1.6	.00
Amer. Indian	0.91	.1	.00	.87	.2	.00
M & SF	0.81	3.8	-.02	.82	3.4	-.01
F & SM	0.58	7.7	-.03	.56	8.8	-.03
Mother only	.62*	33.2	-.06	.81	5.5	-.02
Father only	0.55	8.0	-.03	.57	7.3	-.03
Two guardians	0.47	8.7	-.03	.57	4.9	-.02
Hours worked	1.02	.1	.00	1.01	.0	.00
(Hours worked)^2	0.97	4.7	-0.02	0.97	4.1	-.02
Held back	.41 *	149.7	-.14	.44*	118.5	-.12
Public school	.24*	48.4	-.08	.31*	31.0	-.06
Total enrollment	.99	.7	-.00	.98	2.0	.00
dropouts	.99	12.1	-.04	.99	5.7	-.02
Rural school	.79	8.3	-.03	.89	2.1	.00
Urban school	.77	9.2	-.03	.84	4.3	-.02
Grades		--		1.00	.0	.00
Reading test		--		1.01	1.6	.00
Math test		--		.99	1.3	.00
Science test		--		1.00	.3	.00
Family income		--		1.07*	21.0	.05
Parents' education		--		1.26*	46.1	.07
Extracur. memberships	1.11*	28.1	.06	1.09*	21.4	.05
Time spent in activities	1.43*	139.6	.13	1.40*	122.4	.12
Friends dropped out	.43*	254.8	-.18	.46*	210.9	-.16
N		12226			12,226	
-2LL		6969.59			6867.49	
Model ^{L2} (df)		1339.66	(21)		1441.74	(27)
Cox & Snell ^{R2}		0.104			.111	

*p < .05 (corrected for design error)

Table 3. Odds Ratios for Selected Ordinal
Predictors of High School Graduation
(N = 12,226).

Variable	Odds Ratio
Parents' highest education	
Did not finish high school	1.00
High school grad or GED	1.27
HS grad, less than 4-year college degree	1.27
College graduate	2.30*
M.A. or equivalent	3.54*
Ph.D., M.D., other	4.61
Time spent per week in extracurricular activities	
None	1.00
Less than one hour	1.47*
1-4 hours	2.02*
5-9 hours	2.72*
10-19 hours	4.03
20 or more hours	2.61
Close friends have dropped out of high school	
None of them	1.00[a]
Some of them	.41
Most or all of them	.25*

[d]Reference category.
-p < .10; *p < .05 (corrected for design error)