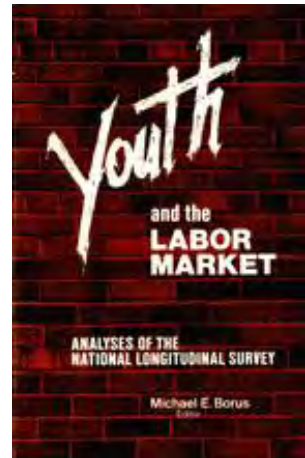W.E. UPJOHN INSTITUTE
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Choices in Education

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Chapter 4
Choices in Education

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As high school students advance through the educational system, they must make a variety of important decisions which will affect the rest of their lives. Among these decisions are (1) to drop out of school without completing the 12th grade, (2) to reenter and try to complete high school if they have dropped out, and (3) to go directly from the 12th grade on to college. Here we will study all three decisions and the factors that seem to influence these decisions. All of these decisions can radically influence the student's future occupation, earning ability, and even social class. For this reason, inequality in education today may lead to continuing inequality in the labor market for years to come. To the extent that this country sets equal opportunity in the labor market as a goal, it must first make equal quantity and quality of education a priority.

National statistics show that as a group, blacks and Hispanics complete fewer years of schooling than whites. Many government programs, such as income transfers, aid to education, and tax laws can affect the quantity and quality of schooling youth get. In order to estimate the effects of such programs, however, we must first determine whether current inequalities are due to race and ethnicity per se, or

due to other characteristics which are correlated with race and ethnicity. Such characteristics may include parental education, being in poverty, living with a single parent, and such schooling characteristics as the student-teacher ratio. Any of these characteristics, alone or in combination, can influence the number of years of schooling completed. We will examine all of these characteristics, and many more, to determine how to most effectively attack the problem of educational inequality.

The decisions to drop out or go on to college have been studied extensively elsewhere, while returning to school has received relatively little attention. This study, however, differs from previous ones by drawing on the 1979 and 1980 NLS data. These longitudinal data permit measurement of attitudes and other characteristics prior to the decision in order to predict subsequent behavior. Cross-sectional analyses cannot permit this type of prior measurement. This study also makes use of information gathered directly from the schools attended by the respondents, and thus it takes into account both the school environment variables and the individual characteristics of students, whereas most previous examinations of dropping out and going on to college have had only one or the other of these. This data set is national, permitting more general conclusions to be drawn, as opposed to many previous studies which are at the state, city or even individual school level. Fourth, school, background and attitudinal variables not previously available to researchers are contained in this very large data set. Finally, these data are also quite recent, which is important because aggregate statistics indicate an increase in dropout rates nationwide and increasing college enrollment by women and minorities which would not be reflected in earlier studies.

I. Dropping Out[1]

Between the Spring of 1979 and the Spring of 1980, approximately 820,000 youth born from 1957 to 1964 left school without completing the 12th grade.[2] They represent 5.1 percent of all young people in this age group who were enrolled below the college level. The first column of table 4.1 indicates the dropout rates during this year's period[3] for various groups of the 16,230,000 young people enrolled in Spring 1979. Substantially above average dropout rates are found for the following groups: Hispanics; youth who had a child during the year; youth from households with low parental education; youth who lived in single parent households when they were 14 years old; youth who were unemployed at the 1979 interview; youth who did not expect to go on to college; youth who could not state a curriculum; those who were dissatisfied with school and young people below grade level by two years or more.

A number of factors have been found to be related to dropping out of school.[4] Minorities and males have higher dropout rates in the aggregate data.[5] Other characteristics found to be associated with increased dropping out are: increased age (Watson 1976); lower socioeconomic status, as measured by parental education (Masters 1969, Rumberger 1981, Watson 1976) and a measure of reading material in the home (McNally 1977, Rumberger 1981); living in the South (Nam, Rhodes and Herriott 1968); living in a rural area (Conlisk 1969); living in a single parent household (Bachman, Green and Wirtanen 1971, Shaw 1979); having a larger number of siblings (Bachman, Green and Wirtanen 1971, Rumberger 1981, Shaw 1979, Watson 1976); and being non-Catholic (Nam, Rhodes and Herriott 1968). Also, Rumberger (1981) found that less knowledge of the world of work (an intelligence proxy), educational expectations, being married, living in an SMSA, and a lower local unemploy-

Table 4.1
Factors Influencing Dropping Out of School
Before Completing 12th Grade During 1979-80 (Probit Results)

Characteristic[a]	Mean Dropout Rate	Maximum Likelihood Estimate	t-value	Partial Derivative Evaluated at Means
Age		0.130	4.85**	0.009
Race				
Black	5.9	-0.345	-4.12**	-0.025
Hispanic	9.0	-0.065	-0.77	-0.005
White	4.6	--	--	--
Had Child Between Interviews				
Yes	28.0	0.832	5.80**	0.059
No	4.9	--	--	--
Father's Education				
0-11 years	9.4	0.399	3.29**	0.028
12 years	3.3	0.137	1.08	0.010
More than 12 years	1.4	--	--	--
Education not available	10.8	0.442	2.76**	0.032
Poverty Status of Family in 1978				
Above poverty	4.3	--	--	--
Below poverty	10.5	0.200	2.64**	0.014
Income not available	4.9	0.125	1.45	0.009
Mother in Home at Age 14				
Yes	4.7	--	--	--
No	14.8	0.323	2.76**	0.023

Father in Home at Age 14				
Yes	4.3	--	--	--
No	9.2	0.139	1.89 +	0.010
Frequency of Religious Attendance		-0.004	-3.94**	-0.0003
Knowledge of the World of Work Score		-0.053	-3.04**	-0.004
Intend to Work at Age 35				
Yes	4.3	-0.227	-2.63**	-0.016
No	3.6	--	--	--
Not Available	11.3	-0.017	-0.14	-0.001
Intend to Join Military				
Yes	10.5	0.241	2.31*	0.017
No	4.9	--	--	--
Intend to Marry Within 5 Years - Female				
Yes	8.2	0.180	2.24*	0.013
No	3.0	--	--	--
Intend to Marry Within 5 Years - Male				
Yes	7.8	0.212	2.52**	0.015
No	6.0	--	--	--
Residence in an SMSA				
Yes	5.2	0.127	1.78 +	0.009
No	4.8	--	--	--

Table 4.1 (continued)

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Characteristic[a]	Mean Dropout Rate	Maximum Likelihood Estimate	t-value	Partial Derivative Evaluated at Means
Employment Status at 1979 Interview				
Employed	4.4	0.013	0.17	0.001
Unemployed	9.1	0.261	3.31**	0.019
Out of labor force	4.5	--	--	--
Expects to Attend College				
Yes	1.7	-0.480	-6.39**	-0.034
No	9.4	--	--	--
High School Curriculum				
General	6.5	--	--	--
College preparatory	1.2	-0.353	-3.55**	-0.025
Vocational	5.5	-0.109	-1.25	-0.008
Curriculum not available	19.4	0.384	3.29**	0.027
School Satisfaction				
Satisfied	4.4	-0.339	-4.42**	-0.024
Unsatisfied	9.8	--	--	--
Two or More Years Behind Modal Grade				
Yes	16.8	0.286	3.56**	0.020
No	4.0	--	--	--

Student-Teacher Ratio

Less than 15	2.7	--	--	--
15	3.5	0.130	0.52	0.009
16	4.4	0.338	1.55	0.024
17	3.2	-0.014	-0.06	-0.001
18	3.3	0.258	1.35	0.018
19	5.8	0.398	2.20*	0.028
20	6.3	0.452	2.36*	0.032
21	4.3	0.392	2.18*	0.028
22	8.2	0.582	3.03**	0.042
23	6.3	0.475	2.30*	0.034
24 or more	7.7	0.530	2.99**	0.038
Not available	5.4	0.419	2.66**	0.030
Mean	5.1			
Constant		-3.676	-7.54**	-0.263
2 times log likelihood ratio		565.518		
N		5165		

UNIVERSE: Respondents age 14-21 on January 1, 1979 who were enrolled in primary or secondary school at survey date 1979 or May 1, 1979, whichever was earlier.

a. The values entering the intercept were being white, not having a child between interviews, father's educational attainment more than 12 years, family income in 1978 above poverty level, mother and father in home at age 14, not intending to work at age 35, not intending to join the military, not intending to marry within five years, living outside of an SMSA, being out of the labor market at the time of the 1979 interview, not expecting to attend college, enrolled in general high school curriculum in 1979, dissatisfied with school, not being two or more years behind grade level, and being enrolled in a school with a student/teacher ratio of less than 16.

+Significant at P = .10
*Significant at P = .05
**Significant at P = .01

ment rate (which may reflect the opportunity costs of re-
maining in school) increase the probability of dropping out.
Bachman, Green and Wirtanen (1971) and Rumberger (1981)
both found that individuals who were more internal (felt
they had control over their own affairs) had lower dropout
rates than those who felt their lives were externally controll-
ed. Finally, McNally (1977) found lower dropout rates for
those youth who were employed.

Attitudes toward school were related to the probability of
leaving in Bachman, Green and Wirtanen (1971).[6] They also
found that students behind grade level and blacks attending
segregated schools had higher probabilities of dropping out.
McNally (1977) found a positive relationship between
student-teacher ratios and dropping out for blacks and be-
tween the dropout rate and being behind grade level in
school. Curriculum might also be expected to affect dropout
rates: those students having specific goals as evidenced by
participation in vocational or college preparatory programs
might be less likely to drop out, although McNally (1977) did
not find a significant relationship when looking only at par-
ticipation in vocational education.

In addition, the NLS provides school, background and at-
titudinal variables which can be hypothesized to affect the
probability of dropping out of school and which are not con-
tained in other studies. Receipt of remedial English or
mathematics training could be expected to indicate a prob-
lem in school and consequently to be associated with higher
dropout rates among those students who have received these
services. Students in smaller schools, private schools and
those from areas where greater expenditures on education
were made from government funds were hypothesized to
have lower dropout rates because of the additional attention
and resources which would be provided to them. Those
young persons who had moved in the preceding year were
thought to be more prone to dropping out because they lack-
ed roots in their new schools. Second generation Americans

possibly lack the home support for staying in school although the pressures to "Americanize" may counteract this. Those who attend religious services more frequently were expected to stay in school. Students who do not view the labor force as their prime goal (i.e., said they would not be working at age 35), those intending to join the military, and those who are married or intend to marry within five years, all were felt to be more likely to drop out of high school. Finally, those students whose 1979 family income was below the poverty level, as defined in the Current Population Survey, can be expected to have higher dropout rates due to their greater financial need.

Findings

The dependent variable for analysis was defined as whether or not youth who were 14-22 and enrolled below the college level when interviewed in 1979 had dropped out of school without completing the 12th grade when interviewed in 1980. All of the independent variables discussed above were included in the model, using their values as of Spring 1979 unless otherwise noted. The data were run using both ordinary least squares and probit analysis and the results are presented in table 4.1.[7]

Many of the variables previously found to lead to dropping out were significant in this analysis too. Exceptions were number of siblings, parental nativity, availability of reading materials in the home at age 14, religion, extent of internality/externality, region of the country, residence in a rural area, the local unemployment rate, local government spending per student, and the degree of segregation in the school.[8]

After controlling for the other variables, it is found that black youth have an approximately 2.5 percentage point lower probability of dropping out of school.[9] Each additional year of age increases the dropout probability by about

1 percentage point and those youth who have had a child be-
tween the interviews have a dropout probability 6 percentage
points higher than those who did not. Family background is
important, in that coming from a household where the father
did not complete the 12th grade[10] increases the dropout
probability by nearly 3 percentage points. Those whose fami-
ly incomes in 1978 were below the poverty line had a 1
percentage point higher probability of dropping out of
school and those whose mothers were not in the household at
age 14 had about a 2 percentage point higher probability of
leaving school. Those youth with more regular religious at-
tendance were less likely to be dropouts. Also, youth having
less knowledge of the labor market (a partial proxy for
ability—see Parnes and Kohen 1975) had higher probabilities
of dropping out by up to 4 percentage points.

Intentions for the future are also important correlates of
dropping out of school. Those who intend to work at age 35
are about 1.5 percentage points more likely to stay in school,
as are those who do not intend to join the military. Similar
increases in the probability of remaining in school occurred
among those youth who did not intend to marry within five
years. A substantially lower dropout rate (a reduction of
nearly 3.5 percentage points) was found for those who ex-
pected to attend college. Similarly, dropout rates about 2
percentage points lower were found for students enrolled in
college preparatory curricula as opposed to general cur-
ricula, for students who were satisfied with school, and for
those who were not two or more years behind modal grade.
Students in schools with higher student-teacher ratios were
more likely to be dropouts than those in schools with
student-teacher ratios less than 15, although the relationship
was not linear. Finally, those youth who were unemployed at
the time of the 1979 interview had higher dropout rates than
those who were out of the labor force or employed.[11]

II. Dropouts Returning to School[12]

Between Spring 1979 and 1980, approximately 8 percent, or about 280,000, of the 14-22-year-olds who had dropped out of high school returned. One would hypothesize that the same variables which lead to dropping out of school would influence the decision to return to school, but that the signs on the variables would be in the opposite direction. For instance, students with high educational expectations after dropping out would be more likely to return to school.[13] Thus, the independent variables used in the analysis included all those in the equations for dropping out of school.[14] The dependent variable was whether or not nonenrolled youth age 14-22, who had not received a high school diploma or GED when interviewed in 1979, were enrolled when interviewed in 1980. Again, ordinary least squares and probit analyses were conducted.

Findings

Only a few factors influence the return to school (table 4.2). Older youth were less likely to return: each additional year of age decreased the probability by 2 percentage points. Those youth expecting to attend college were more likely to return—this increased the probability by 6 percentage points—as were never married youth, 3 points. Finally, youth living in counties where local government expenditures per student were over $975 were more likely to return than youth from schools where less was spent on the schools.

Table 4.2
Factors Influencing Returning to School by High School Dropouts
14-22 Years Old During 1979-1980 (Probit Results)

Characteristic	Mean Rate of Returning to School	Maximum Likelihood Estimate	t-value	Partial Derivative Evaluated at Means
Age		−0.290	−6.43**	−0.020
Ever Married				
Yes	2.4	−0.394	−2.26*	−0.027
No	10.6	--	--	--
Poverty Status of Family in 1978				
Above poverty	8.8	--	--	--
Below poverty	7.4	−0.223	−1.60	−0.015
Income not available	6.5	−0.236	−1.40	−0.016
Intend to Join Military				
Yes	13.6	0.135	0.75	0.009
No	7.4	--	--	--
Local Unemployment Rate				
Less than 3 percent	5.2	--	--	--
3-6 percent	8.1	0.039	0.10	0.003
6-9 percent	7.0	−0.026	−0.07	−0.002
9-12 percent	15.9	0.397	0.90	0.027
More than 12 percent	8.0	−0.495	−0.87	−0.034
Expects to Attend College				
Yes	23.0	0.894	5.55**	0.061
No	6.0	--	--	--

High School Curriculum				
General	8.2	--	--	--
College preparatory	1.1	−0.064	−0.24	0.004
Vocational	13.0	0.299	1.75	0.020
Curriculum not available	2.6	−0.662	−3.00**	−0.045
Two or More Years Behind Modal Grade				
Yes	20.4	−0.107	−0.66	−0.007
No	6.0	--	--	--
Student-Teacher Ratio				
Less than 15	11.0	--	--	--
15	8.7	−0.659	1.15	−0.045
16	2.8	−0.639	−1.50	−0.044
17	5.1	−0.716	−1.86†	−0.049
18	3.5	−0.544	−1.57	−0.037
19	14.7	−0.019	0.06	0.001
20	9.1	−0.524	−1.48	−0.036
21	6.7	−0.474	−1.37	−0.032
22	5.2	−0.608	−1.71†	−0.042
23	8.7	−0.733	−1.76†	−0.053
24 or more	9.7	−0.267	−0.85	−0.018
Not available	8.1	−0.433	−1.68†	−0.030

Table 4.2 (continued)

Characteristic	Mean Rate of Returning to School	Maximum Likelihood Estimate	t-value	Partial Derivative Evaluated at Means
Local Government Spending on Education per Student in County				
$1 - $749	3.5	--	--	--
$750 - $974	3.3	0.123	0.53	0.008
$975 - $1149	9.6	0.629	3.16**	0.043
$1150 - $1249	9.2	0.490	2.21*	0.034
$1250 or more	16.8	0.812	3.78**	0.056
Not available	8.3	0.537	1.55	0.037
Constant		4.208	4.64**	0.288
Mean	7.9			
2 times log likelihood ratio	170.585			
N	1337			

UNIVERSE: Respondents age 14-21 on January 1, 1979 who were not enrolled in primary or secondary school at survey date 1979 or May 1, 1979, whichever was earlier.

a. The values entering the intercept were being never married, family income in 1978 above poverty level, not intending to join the military, local unemployment rate less than 3 percent, not expecting to attend college, enrolled in general high school curriculum when dropped; out of school, not being two or more years behind grade level, having been enrolled in a school with a student/teacher ratio of less than 15, and living in a county where less than $750 of local government funds is spent on education per student.

†Significant at P = .10
*Significant at P = .05
**Significant at P = .01

III. Going Directly to College

Of the 3,190,000 youth enrolled in the 12th grade in the Spring of 1979, 48 percent were enrolled in college a year later. The same variables which influence dropping out of high school apparently also influence the decision to go directly to college. Race (Kolstad 1979), sex (Robertshaw and Wolfle 1980) and age (Rumberger 1981) have been found to be important variables. Parental education has been found to be positively correlated with college attendance in almost all studies (Bachman, Green, and Wirtanen 1971; Christensen, Melder and Weisbrod 1975). Likewise, Kolstad (1979), Robertshaw and Wolfle (1980), and Rumberger (1981) all found that number of siblings, educational expectations and a measure of academic ability influence enrollment in college. Kolstad (1979) also found that high school curriculum was important. Robertshaw and Wolfle (1980) found a rural background to lead to lower enrollment and Rumberger (1981) found a positive correlation with the reading materials index, living in the South, local unemployment rates, marital status, having a child, and, for Hispanics, living in a central city. Bachman, Green and Wirtanen (1971) found lower college attendance among those youth who had failed one or more times in school, had negative attitudes toward school, came from broken homes, were non-Jews, or were blacks in racially segregated schools.

In addition to including all the above variables, we hypothesize that the other variables used in the previous analyses will also apply to college decisionmaking. For example, the student-teacher ratio in high school should be a predictor on the basis that those students coming from high schools with lower student-teacher ratios are more likely to be academically prepared to go on to college. Receipt of remedial English or mathematics training could be expected to indicate poor academic preparation and, therefore, lower the rate of college attendance. Coming from a household in

poverty during 1978 should indicate financial hardship which limits college attendance. Finally, youth who are not in the labor force, who plan to work at age 35 and who do not plan to join the military (those presumably more committed to school than work) would be expected to have higher percentages going directly to college than would other youth.

Findings

Our analysis of the determinants of moving directly from the 12th grade on to college showed that most of the variables were significant (see table 4.3). Much higher probabilities of moving from the 12th grade to college were found for older students (about 10 percentage points with each year of age); for those whose fathers attended college (19 to 26 points higher); and for females (8 to 11 points). Those students who thought they had more control over their environments, those who did not intend to marry within five years as compared with those with such intentions, and those who attended religious services more often also were more likely to move directly to college.[15]

Also more likely to go on directly to college were more able students, where ability is shown by knowledge of the labor market (up to 25 points); those not two or more years behind modal grade (33 points) and not having taken remedial education (18 points); those in college preparatory curricula (28 points above those in general programs and 38 points above those in vocational curricula); those from schools with 1,000-1,749 students, and of course those youth who said they expectd to attend college when in the 12th grade. Finally, we found that minorities who attend predominately white schools (i.e., less than 10 percent minority student bodies) were substantially less likely to attend college during the following year.

Table 4.3
Factors Influencing Going from 12th Grade to College
During 1979-1980 (Probit Results)

Characteristic[a]	Mean Rate of Going to College	Maximum Likelihood Estimate	t-value	Partial Derivative Evaluated at Means
Age		0.275	2.80**	0.104
Sex				
Female	51.0	--	--	--
Male	44.1	-0.301	-2.04*	-0.114
Father's Education				
0-11 years	28.0	-0.680	-4.60**	-0.258
12 years	39.5	-0.505	-3.63**	-0.192
More than 12 years	72.6	--	--	--
Education not available	22.2	-0.565	-2.16*	-0.215
Poverty Status of Family in 1978				
Above poverty	50.2	--	--	--
Below poverty	28.9	0.062	0.40	0.023
Income not available	45.2	-0.288	-2.08*	-0.110
Mother Born Outside the United States				
Yes	56.0	0.449	1.87†	0.171
No	46.7	--	--	--

Table 4.3 (continued)

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Characteristic[a]	Mean Rate of Going to College	Maximum Likelihood Estimate	t-value	Partial Derivative Evaluated at Means
Father Born Outside the United States				
Yes	60.3	0.163	0.60	0.062
No	46.9	--	--	--
Frequency of Religious Attendance		0.006	3.46**	0.002
Knowledge of the World of Work Score		0.067	2.28*	0.025
Rotter Score		-0.091	-3.43**	-0.035
Intend to Work at Age 35				
Yes	49.3	0.258	1.67†	0.098
No	40.8	--	--	--
Not available	40.3	0.103	0.40	0.039
Intend to Marry Within 5 Years - Female				
Yes	43.9	-0.383	-2.68**	-0.146
No	48.9	--	--	--
Intend to Marry Within 5 years - Male				
Yes	31.4	-0.307	-1.89†	-0.117
No	51.4	--	--	--

Expects to Attend College				
Yes	68.7	1.446	11.27**	0.550
No	8.2	--	--	--
High School Curriculum				
General	49.6	--	--	--
College preparatory	81.4	0.741	6.19**	0.282
Vocational	13.7	-1.39	-0.253	-1.56-0.096
Curriculum not available	18.4	-0.670	-2.31*	-0.255
Two or More Years Behind Modal Grade				
Yes	14.4	-0.875	-3.10**	-0.333
No	49.7	--	--	--
Remedial Education Received				
Yes	24.0	-0.465	-2.95**	-0.177
No	52.5	--	--	--
Not available	46.7	-0.052	-0.36	-0.020
Student-Teacher Ratio				
Less than 15	41.9	--	--	--
15	40.9	-0.504	-1.54	-0.192
16	43.9	-0.511	-1.66†	-0.194
17	52.0	-0.199	-0.72	-0.076
18	57.2	-0.086	-0.32	-0.033
19	42.0	-0.425	-1.71†	-0.161
20	54.9	-0.357	-1.26	-0.136
21	50.6	-0.409	-1.56	-0.156
22	52.0	-0.346	-1.14	-0.131
23	44.2	-0.491	-1.61	-0.187
24 or more	46.4	0.022	0.09	0.009
Not available	44.2	0.131	0.38	0.050

Table 4.3 (continued)

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Characteristic[a]	Mean Rate of Going to College	Maximum Likelihood Estimate	t-value	Partial Derivative Evaluated at Means
School Size				
1-999 students	41.6	−0.012	−0.08	−0.005
1000-1749 students	54.4	0.358	2.42*	0.136
More than 1750 students	50.2	--	--	--
Not available	43.8	−0.441	−1.33	−0.168
Minority Status of Respondent and Percentage of Minority Students in School				
Minority respondent, school less than 10 percent minorities	29.0	--	--	--
Minority respondent, school 10-50 percent minorities	46.2	1.285	3.17**	0.488
Minority respondent, school more than 50 percent minorities	45.3	0.900	2.23*	0.342
White respondent, school less than 10 percent minorities	45.7	0.795	2.02*	0.302

White respondent, school more than 10 percent minorities	52.1	0.803	2.01*	0.305
Not available	47.4	0.948	2.32*	0.360
Constant		-5.206	-2.87**	-1.987
Mean	47.5			
2 Times Log Likelihood Ratio		536.339		
N		971		

UNIVERSE: Respondents age 14-21 on January 1, 1979 who were enrolled in primary or secondary school at survey date 1979, or May 1, 1979, whichever was earlier.

a. The values entering the intercept were being female, mother and father born in the U.S., father's educational attainment more than 12 years, family income in 1978 above poverty level, not intending to marry within five years, not expecting to attend college, enrolled in general high school curriculum in 1979, not being two or more years behind grade level, did not receive remedial education, and being enrolled in a school with a student/teacher ratio of less than 15.

†Significant at P = .10
*Significant at P = .05
**Significant at P = .01

Several variables which were not statistically significant were: race; unemployment status of the youth and local unemployment rate; number of siblings; absence of a parent when growing up; and school satisfaction, type and funding level. These variables appear to indicate that financial constraints and school resources are relatively unimportant in determining who goes on to college when other variables are controlled.

IV. Conclusions and Policy Implications

Several conclusions may be drawn from these findings. First, in aggregate, black and Hispanic youth have higher dropout rates and lower probabilities of moving from high school directly to college than do whites. To the extent that these educational decisions affect subsequent labor market success, we can expect continuing racial inequality.

These racial differences in schooling decisions, however, appear due to factors other than race and ethnicity. When other factors are controlled, black youth are less likely than whites to drop out of school, and minority youth are just as likely to move on to college from the 12th grade as are white young people. Apparently, other variables that correlate with race and ethnicity lead minorities to their "negative" educational behavior. Family background variables correlated with minority status which affect schooling decisions include lower education of father, for both blacks and Hispanics; greater incidence of being from poverty homes, absence of mother or father in the home at age 14, and having a child during the year are both correlated and influential for blacks. Also, minorities have poorer schooling situations, i.e., blacks and Hispanics tend to have higher proportions two or more years behind modal grade, much lower knowledge of the labor market scores (our ability proxy), and higher student-teacher ratios.[16] Finally, black youth were more likely to be unemployed.

The implication of these findings is that to improve the schooling situation of minorities, other variables must be changed. Obviously, public policy, particularly as it relates to schools, can do very little to alter some of these variables. For instance, if knowledge of the labor market is actually a measure of basic intelligence, there is little that schools can do to alter it. Similarly, growing up in a single parent household is not easily manipulated by public policy, although government policies other than schooling may impact on this variable. On the other hand, specific background and school-related variables can be influenced by public actions. For instance, the knowledge of the world of work score has been shown to be correlated with race, poverty and age in earlier studies (Parnes and Kohen 1975), indicating that the scale may reflect learned and cultural materials rather than genetically inherited traits. This correlation implies that teaching about the labor market in the schools might reduce dropout rates and increase the proportion of youth going on to college. Obviously, reducing the number of youth who are behind grade level and are dissatisfied with school will also positively affect these decisions. Such changes would in turn lower the overall socioeconomic differences between whites and minorities.

A second finding is that coming from a poverty household and being unemployed while in school tend to increase the probability of dropping out of school, ceteris paribus. The higher dropout probability for poor youth may be the result of their facing substantial economic burdens which do not allow them to continue in school or of the higher marginal utility of income from finding jobs rather than from further schooling. Unemployed youth may similarly have financial burdens which they are trying to shoulder by seeking work, or they may be looking for attractive alternatives to school. Regardless of the reason for the higher dropout rates, it does not appear that programs which increase employment or reduce poverty will have a large direct effect on school

enrollment. The effects of these two variables are not large; a reduction of less than 1 percentage point in the national dropout rate would result if there were no poverty and all youth were employed or not in the labor force.

Third, while it should be noted that, on average, youth from poorer families were less likely to attend college, this was probably due to the family background variables of poor youth, such as lower parental education and lower knowledge of the labor market, which were related to college attendance. When these factors were controlled, the percentages of poor youth going on to college were not statistically different from those who were not poor. It would appear that government and other financial aid was sufficient to overcome the strictly monetary problems of students, and financial constraints were not a major impediment to college attendance during 1979-80 among those students who did complete high school. Recent reductions in federal aid to college students may have negated this conclusion, however.

Fourth, school segregation did not affect the dropout rate when other factors were controlled. This implies that integration efforts will not affect this variable directly. On the other hand, minority youth in predominantly white schools were less likely than other minorities to go to college during the following year, a fact which may indicate that integration will raise college attendance rates among minorities.

Fifth, curriculum is a determinant of dropping out of school and going on to college. Students in college preparatory programs have lower dropout rates and higher college attendance rates than students in general studies and vocational curricula. Unfortunately it is not clear to what extent these differences are the result of the programs and how much represent self-selection on the part of the students: students desiring to complete school and go on to college could be expected to seek out college preparatory courses. To some extent the inclusion of the expected level of educa-

tion controls for self-selection bias, but because expected education probably does not control for all of this bias it is impossible to say if placement of more students in college preparatory tracks would lead to reduced numbers of dropouts.

Plans for the future may reflect a young person's outlook on life but these plans also may be a function of their past experiences. For instance, youth planning to marry are more likely to drop out of school and not to go on directly to college from the 12th grade. It is not clear whether these young people are reducing their education because of their marital expectations or whether failures in high school have turned them away from education and toward other outlets, such as families. Regardless of the flow of causality, however, those youth who plan to marry earlier, join the military, and not to work at age 35, are more likely to leave school than other youth.

Sixth, school characteristics appear to have only limited influence on the three schooling decisions under study here. The dropout rate rises somewhat with student-teacher ratio. Students in schools with student-teacher ratios of less than 18 generally have dropout ratios about 3 percentage points lower than those where the ratio is 19 to 21, and 3 to 4 percentage points below students in schools where the ratio is 22 or more. The relationship is not linear, however, so that the effect of removing one student from each class would not be the same, e.g., going from classes of 23 to classes of 22 would appear to increase the dropout rate by 1 percentage point. Thus, while lowering the student-teacher ratio would lead to some reduction in dropouts, the impact would not likely be very great.

A further finding is that satisfaction with school is a correlate of dropping out; it would appear that if school satisfaction can be increased, dropping out of school can be decreased. Less clear is how this is to be accomplished. In ad-

dition to the single question on global satisfaction with school, nine more specific attitude questions were asked. Overall satisfaction was correlated significantly ($.12 \le r \le .20$, $P = .001$) with each, however, so that it is not evident that any specific actions such as improving teaching or counseling or school safety will necessarily have a significant impact on dropping out of school.[17]

Finally, teenage pregnancy is one of the major reasons for dropping out of school; having or fathering a child during the year increased the probability by 6 percentage points. Obviously, to the extent that childbearing is delayed until schooling is completed, educational attainment will be increased as will the youth's subsequent labor market success, which has been shown to be correlated with high school graduation. Programs such as sex education and the provision of contraceptive information in the home, school, or another setting, which lead to a reduction in teenage pregnancy, will have substantial impact on the schooling decisions of youth. Further, the provision of services which will permit students with children to continue their education could be helpful.

NOTES

1. By examining the dropout rate for this period, we depart from other studies which compare dropouts with high school graduates or enrollees at a point in time. Our procedure has two advantages. First, it allows us to exploit the longitudinal nature of the data. A major problem with single observation studies is that they measure variables after the dropout has occurred with the result that their measurements may be biased due to inaccurate recall in the case of attitudinal variables, variables for substantially earlier periods, and variables involving details tied closely to specific dates (e.g., employment status in a specific week prior to the dropping out). A second problem is timing of the dropout. If a post-school age group, e.g., 20-21-year-olds, is used, the analysis cannot differentiate persons who dropped out and then returned to school from those who went straight through to graduation. Our method, however, allows us to identify the dropout occurring in a given year and also allows analysis of the returnees.

2. This number compares to 885,000 14-24-year-olds reported by the U.S. Bureau of the Census (1981) to have been enrolled in October 1978 and not enrolled in 1979 without completing the 12th grade. Since the NLS sample was composed of persons who were at least 15, most of the slight difference can be explained by the omission of the 14-year-olds.

3. Approximately one year passed since the vast majority of respondents were reinterviewed 11-13 months after their initial interview.

4. In the following review of variables not all studies are cited which found a significant relationship between dropping out and the variable. Only a few are cited for each variable. The studies which have the most complete lists of variables are Bachman, Green and Wirtanen (1971), McNally (1977), and Rumberger (1981).

5. The NLS finds for youth age 20-21 that 31 percent of Hispanics, 24 percent of blacks and 12 percent of whites did not complete high school. Other studies show minorities have lower rates when socioeconomic background is controlled (Masters 1969). The NLS has aggregate dropout rates of 16 percent for males and 13 percent for females 20-21 years old.

6. The NLS contains a dichotomized global satisfaction with school measure and it would be expected that those students who were dissatisfied with school would more likely be the ones to drop out.

7. The regressions were run without using the sample weights. Due to computer program limitations, not all variables could be included in the probit analysis. Therefore, only those variables significant at $P = .10$ in the OLS regressions were included. The mean dropout rates are weighted to reflect the national population.

8. Since there were zero-order correlations of many of these variables with the dropout rate, we conclude that they must be correlated with other variables in the analysis which are more important.

9. The percentage point increases or decreases in the probabilities in this chapter are taken from the probit equations evaluated at the means. They represent the average changes for the entire sample holding the other variables constant at their means.

10. If the father was absent at age 14, mother's education was used.

11. It may be argued that the schooling variables are in fact intermediate outcomes of family background and other variables, possibly introducing multicollinearity. Therefore, the OLS equations were run omitting all of the school variables. The major changes were that being male, having moved in 1978, and the index of reading materials and sex were now significant. Also, some of the previously significant variables increased their coefficients and t-values.

12. This section by the authors appeared as "A Note on the Return of Dropouts to High School," *Youth and Society,* Vol. 14, No. 4, June 1983. Reprinted with permission.

13. This was borne out in the study by Larter and Cheng (1979).

14. School satisfaction, which was only measured for those in school, was not included in this equation. A variable for having been married was added to the equation since it was hypothesized that single youth would be more likely to return to school. There were not enough cases of married persons to include this variable in the dropout equation.

   Earlier regression runs had also included variables for reason left school and length of time out of school, but these were not statistically significant and are omitted here.

15. To test whether these effects were artifacts of correlations with the school and the expectations for going to college variables, the OLS equation was run without them. The results were even more dramatic; the coefficients for Hispanics, blacks, females, not living in a rural area, the reading materials index, not living in the North Central states, and intending to work at age 35 became positive and significant at $P = .05$.

16. It should be noted, however, that when the school variables were dropped from the OLS regressions, the same relationships between race and ethnicity and the schooling decisions still occurred.

17. When the nine specific questions were included in earlier regression runs along with the global satisfaction question, none was statistically significant at $P = .05$.

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