

Risk and Protective Factors of Higher Educational Attainment: Evidence from the Chicago Longitudinal Study

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Background

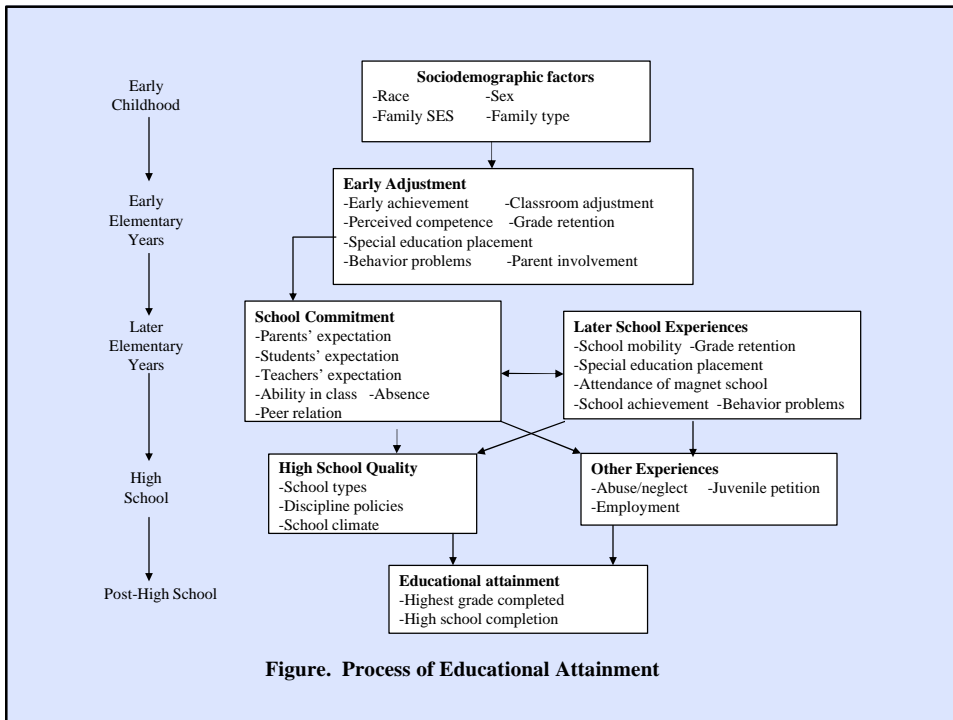
- Education is an important indicator for future well being
- None postsecondary education (NELS, 2000)
 - 59.2% Black vs. 37.3% White
 - 59.5% the lowest 20 percentile of SES status vs. 22.6% the highest 20 percentile of SES status
- Focus of research

Research Questions

- What are the risk and protective factors of educational attainment?
- Are those factors the same across different indicators of educational attainment?

The Present Study

- Longitudinal data set
 - Extensive data came from various sources
- Study sample is at risk of school failure: economically disadvantaged
- Comprehensive framework



Study Sample

- 1,286 youth from the Chicago Longitudinal Study (CLS)
- Original sample of CLS: 1,539
- Continuously promoted children graduated from high school in 1998
- Average age was 20 in 2000

Child Characteristics of the Original and Study Samples in the CLS

Characteristics	Original sample (N= 1,539)	Study Sample (N =1,286)	Attrition Sample (N=253)	p-value
Percent girls	50.0	51.0	46.0	.143
Percent Black	93.0	93.6	89.8	.041
Percent parent not completed high school by child's age 8	43.3	42.6	50.9	.109
Percent single parent by child's age 8	58.0	57.7	62.7	.419
Percent parent unemployment by child's age 8	57.0	57.6	49.4	.167
Percent parent were teen (<19) at child's birth	18.1	18.0	19.3	.703
Percent of ever reported receiving free lunch by age 8	71.3	72.1	65.7	.100
Percent income level is 60% + poverty for school area	76.0	75.3	79.5	.171
Family risk index (0-5)*	2.5	2.7	1.9	.043
ITBS word analysis in K*	63.8	63.7	64.2	.581

* Test statistics are *F* statistics. Others are Pearson chi-square.

Educational Attainment

- Sources: administrative records from schools and self-report by age 20
- Highest grade completed
 - Range: 7 to 13
 - Average: 10.97
- High school completion
 - 52.6%(n=676) completed high school
- High school graduation
 - 49.7% (n=631) graduated from high school

Explanatory Variables

Variables	Measures
Program	
Preschool participation	1=Yes, 0 =No
Follow-on participation	1=Yes, 0 =No
Sociodemographic Factors	
Race	1=Black, 0=Others
Sex	1=Female, 0=Male
Ever reported free Lunch at child's age 8	1=Yes, 0 =No
Ever reported reduced-price lunch at child's age 8	1=Yes, 0 =No
Parent not completed HS at child's age 8	1=Yes, not completed HS
Single parent status at child's age 8	1=Yes, 0 =No
If had more than 4 children at child's age 8	1=Yes, 0 =No
Teen parents (< 19 years)	1=Yes, 0 =No
Ever reported abuse/neglect by age 3 (court)	1=Yes, 0 =No
Low birth weight (less than 5.5 pounds)	1=Yes, 0 =No
If missing more than 5 variables	1=Yes, 0 =No

Explanatory Variables

Early Adjustment

ITBS Word analysis (grade k)	ITBS score: range 19-99
Classroom adjustment (grade 1-3)	Scores: range 7-30
Perceived competence (grade 3-6)	Z score: range -2.86-2.01
Parent Involvement (grade 1-6)	Times rating above average
Early grade retention (grades 1-3)	1=Yes, 0 =No
Early special education placement (grades 1-3)	1=Yes, 0 =No

School commitment

Teacher's expectation are high (students rating)	Number of times rated high
Parent expectation for kids education	Years of education
If student expect to go to college	1=Yes, 0 =No
Ability level of class rating below average	Number of times: : Range 0-3
Days of absence per year by age 12	Days: range 2-17

Explanatory Variables

School- Based Factors

Percent above grade level in reading	Percentage
If moved once (grade 4-8)	1=Yes, 0 =No
If moved twice (grade 4-8)	1=Yes, 0 =No
If moved three times (grade 4-8)	1=Yes, 0 =No
Ever retained (grade 4-8)	1=Yes, 0 =No
Ever in special education (grade 4-8)	1=Yes, 0 =No
If ever enrollment in magnets (grade 4-8)	1=Yes, 0 =No
ITBS reading scores (grade 8)	ITBS score: range 77-212

High School Quality and Others

If attend magnet school (9-12)	1=Yes, 0 =No
If attend career academy school (9-12)	1=Yes, 0 =No
If attend technical school (9-12)	1=Yes, 0 =No
Attended a Chicago Non public high school	1=Yes, 0 =No
Attended high school outside of Chicago	1=Yes, 0 =No
Any child abuse/neglect (ages 4-17)	1=Yes, 0 =No
Any juvenile petition by age 18	1=Yes, 0 =No

Data Analysis

- Linear regression
- Logistic regression

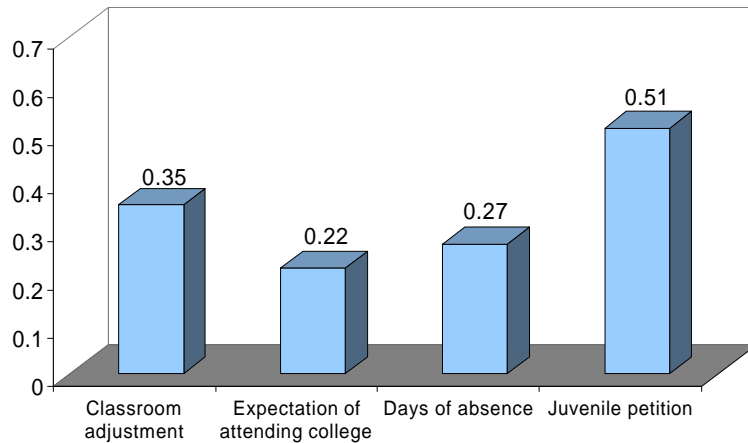
Results

- Model explained 31.7% of variance of highest grade completed
- Model predicted accurately overall 74.6% of observed high school graduation and 74% of completion status

Factors	Highest grade completed	High school completion	High school graduation
	Unstandardized Coefficients	Odds ratio	Odds ratio
Sociodemographic Factors			
Race (1=black)	-.384**	.62*	.66
Ever reported free Lunch	-.464***	.54***	.55***
Parent not completed HS at child's age 8	-.528***	.51***	.54***
Early Adjustment Indicators			
Classroom adjustment (grade 1-3)	.032**	1.05**	1.05**
Parent Involvement (grade 1-6)	.081**	1.09	1.10
Ever in special education (grades 1-3)	.529***	1.66*	1.79*
School commitment			
If student expect to go to college	.405***	1.49**	1.50**
Days of absence by age 12	-.054***	.93***	.93***
Intervening School- Based Factors			
If moved twice (grade 4-8)	-.287**	.70*	.63**
If moved three times (grade 4-8)	-.363**	.66	.54**
Ever retained (grade 4-8)	-.449***	.53**	.43***
High school quality			
If attend magnet school (9-12)	.360***	1.34	1.40
Any juvenile petition by age 18	-.952***	.25***	.20***
Number of cases	1265	1286	1286

* p < .10 ** p < .05 *** p < .01

Selected Effect Sizes of Factors on Highest Grade Completed



Note. Classroom adjustment is one point above average. Days of absence is 10 days of absence.

Unstandardized Coefficients of Model Predicting Highest Grade Completed by Gender

Factors	Male	Female
Sociodemographic Factors		
Race (1=black)	-.132	-.852***
Ever reported free Lunch	-.662***	-.286*
Parent not completed HS at child's age 8	-.338**	-.765***
Teen parents (< 19 years)	.338*	-.402**
If missing more than 5 variables	-.446**	-.094
Early Adjustment Indicators		
Classroom adjustment (grade 1-3)	.054***	.011
Perceived competence (grade 3-6)	.244***	-.054
Parent Involvement (grade 1-6)	.044	.109**
Ever in special education (grades 1-3)	.530**	.953***
School commitment		
If ability of class ever rating below average	.092	-.221**
If student expect to go to college	.325**	.501***
Days of absence by age 12	-.031**	-.064***
Intervening School- Based Factors		
If moved twice (grade 4-8)	-.109	-.460**
If moved three times (grade 4-8)	-.779***	-.176
High school quality		
If attend magnet school (9-12)	.466**	.344**
Any juvenile petition by age 18	-.983***	-.825***
Constant	10.463	10.903
R Square	.371	.306
Number of cases	613	652

* p < .10 ** p < .05 *** p < .01

Summary of Findings

- Risk factors:
 - Low-income, parent not completed high school, more days of absence, and grade retention experience decrease the chances of obtaining higher education.
- Protective factors
 - Better early classroom adjustment, students' expectation of attending college increase the chances of obtaining higher education.

Limitations

- Generalizability
- Variables not included in the model
- Outcome measures

Implications

- Social Policy
 - Design of effective prevention or intervention program
- Social workers and other professionals
 - Effective intervention factors

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- For more information about the Chicago Longitudinal Study, visit:
 - <http://www.waisman.wisc.edu/cls/>