The Influence of Socioeconomic Status on Academic Achievement

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1. Introduction

Federal legislation has recently implemented a new policy, No Child Left Behind, which evaluates the success of both schools and teacher performance by the test score achievement of their students. With financial resources dependent upon student achievement, it is important to understand what influences the test scores of students. This study incorporates an alternative model examining how student role performance, school resources, and the family background of students contribute to student test score achievement.

2. Methodology

Using the National Educational Longitudinal Study (NELS:1988) data set, this study examines the influence of twenty-three variables on the test scores of eighth-grade students. The data set consists of a clustered, stratified national probability sample. After restrictions were placed upon the data, the total sample size is 21,410 students. Using the Statistical Package for the Social Sciences (SPSS), the univariate and bivariate analyses include ANOVAs and t-tests to determine frequencies and compare relationships between variables. Last, Ordinary Least Squares (OLS) multiple regression analysis is used to determine the effect of socioeconomic status on the test scores, net of other factors.

3. Conclusions

The OLS regression results are displayed on the following page using unstandardized values, which allow for comparison across the four quartiles. For the full sample, standardized values are shown as well, to reveal the impact of each variable within each model. As hypothesized, the socioeconomic status of students has the strongest effect on student test score achievement net of other variables. Within the full sample, socioeconomic status is shown to increase test scores by .330 points. Using this alternative model, the adjusted r-square is .467, explaining 46% of the variation affecting test scores. The table also displays the strength of model segments across quartiles, with stronger statistical significance within the student role performance and family background segments than within the school resource segment.

These findings are important because they reveal how students from advantaged backgrounds are able to achieve more than students from lower socioeconomic backgrounds both within and across educational settings. School dependence upon test score achievement for financial resources from federal and state allocations therefore will severely hinder the success of students from lower quartile households and perpetuate student inequality.

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OLS Regression Analysis of Test Scores by Socioeconomic Quartile

(Dependent Variable = Test Scores)

	Full Sample			First		Second		Third		Fourth	
Variables	unstd.	[1]	std.	unstd.	[1]	unstd.	[1]	unstd.	[1]	unstd.	[1]
Independent Variables											
Student Role Performance											
Female (0,1)	-1.966	***	-0.049	-1.965	***	-1.433	***	-2.310	***	-2.707	***
Minority (0,1)	-5.272	***	-0.110	-5.268	***	-5.938	***	-6.715	***	-4.439	***
Handicap (0,1)	-5.533	***	-0.107	-3.349	***	-6.748	***	-5.566	***	-7.233	***
Held back a grade (0,1)	-8.521	***	-0.179	-7.156	***	-8.098	***	-10.241	***	-13.144	***
Absent in previous month (0,1)	-0.666	**	-0.016	-1.435	***	-0.477		-1.012	*	0.084	
Unprepared for class (0,1)	-2.501	***	-0.061	-2.569	***	-2.634	***	-3.044	***	-1.654	**
Hours spent on homework	5.070	***	0.115	0.338	***	0.471	***	0.540	***	0.603	***
Student deviance (0,1)	-6.433	***	-0.158	-4.62	***	-6.204	***	-7.109	***	-7.713	***
Seek help outside of class (0,1)	-4.811	***	-0.092	-4.667	***	-4.357	***	-4.900	***	-4.785	***
School Resources											
Urban (0,1)	0.195		0.005	-0.559		0.276		0.831		1.245	*
Public (0,1)	-2.758	***	-0.044	-3.012	**	-2.195	*	-3.043	***	-2.829	***
Student to teacher ratio	-0.139	***	-0.031	-0.083		-0.107	*	-0.078		-0.213	***
# Extracurricular activities (0-22)	0.002		0.000	-0.015		-0.028		0.033		0.034	
Family Background											
Socioeconomic status	0.330	***	0.261								
Number of siblings	-0.173	**	-0.014	-0.184		-0.375	**	0.020		-0.826	***
Two-parent households (0,1)	-0.524	*	-0.011	-0.039		-0.695		-0.781		1.529	*
# Topics studied outside school (0-7)	1.814	***	0.119	1.782	***	1.797	***	1.915	***	1.600	***
# Technological resources (0-7)	0.417	***	0.030	0.261	*	0.681	***	0.649	***	1.736	***
Students have study room (0,1)	-0.844	*	-0.013	-0.814		-1.265	*	-1.160		0.002	
# Family academic resources (0-5)	2.149	***	0.117	1.556	***	2.520	***	2.776	***	2.952	***
# Number of household rules (0-7)	-1.178	***	-0.099	-0.494	***	-1.409	***	-1.142	***	-1.456	***
Parents involved with school (0-4)	-2.523	***	-0.125	-1.611	***	-2.880	***	-2.976	***	-3.254	***
Access to cultural capital (0-5)	0.993	***	0.078	0.838	***	0.985	***	1.037	***	1.584	***
(Constant):	35.979	***		45.491	***	52.516	***	53.031	***	52.409	***
Adjusted R-sq.	0.467			0.282		0.319		0.317		0.320	

1= statistical significance * p<.05; **p<.01; ***p<.001