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Does Social Background Influence Political Science Grades?

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This paper tests a hypothesized linear relationship between social background and final grades in several political science courses that I taught at the University of Central Arkansas. I employ a cross-sectional research design and ordinary least square (OLS) estimators to test the foregoing hypothesis. Relying on a sample of up to 204 undergraduate students that I taught in 2008 and 2009, and controlling for attendance, GPA, gender, test scores, and number of credit hours, I found no linear relationship between social background and grades. A notable finding of this paper is that the social backgrounds of students born to families of lower and moderate education and their political science grades have a curvilinear relationship. In addition, there seems to be no relationship between the social background of students who come from families of higher education and their grades. On the other hand, students' class attendance and GPA seem to have positive influences on their final grades. Gender and students' number of credit hours are not, however, related to students' final grades.

Keywords: social background, political science grades, academic performance

The relationship between social background and academic performance has been debated by scholars for the past several decades. Many scholars have contended and empirically found that family income and education levels, attributes of social background, contribute to the academic success of students who attend college (Demie, Butler, & Taplin, 2002; Gayle, Berridge, & Davis, 2002). Other scholars disagree and provide counter findings: social background and academic performance are not causally related (Bakker, Denessen, & Brus-Laeven, 2007; Leman, 1999). Yet, as Rego and Sousa (1999, p. 93) have suggested, "[I]t is possible that on some courses (like law, political science, sociology, etc.) academic performance may depend, to a greater degree, on the family's social and cultural background." Thus, the question of determining the relationship between social background and academic performance remains open (ASHE Higher Education Report, 2007; Lavin, 1965).

The main purpose of this study is to test the existence of a relationship between social background and final grades in the political science courses that I taught at the University of Central Arkansas between 2008 and 2009. Using a cross-sectional research design and a sample of up to 204 undergraduate students, I tested the impact of social background on final grades. I found that students' social background has no linear and significant effect on political science grades. A notable finding of this paper is that the combined social background data of students born to families of lower and moderate education and their political science grades have a curvilinear relationship. On the other hand, there seems to be little or no correlation between the social background of students born to families of higher education and their political science grades.

Literature Review

Social Background and Academic Performance

According to Coleman (1988, p. S109), family's wealth influences academic performance because it provides students with the "physical resources that can aid achievement: a fixed place in the home for studying, materials to aid learning, the financial resources that smooth family problems." Wealthy families can facilitate the educational success of their children by sending them to quality schools or paying for out-of-school tutors (Marks, Cresswell, & Ainley, 2006; see also Chiu, 2010; Chiu & Khoo, 2005). Students who come from resource-rich families will also likely have access to books that are necessary for them to excel in their studies (Rego & Sousa, 1999). In addition, family education fosters cognitive environment that aids student learning (Coleman, 1988). For instance, because of the discrepancy in financial, moral, and informational support that parents provide to their children (ASHE Higher Education Report, 2007), students whose parents were first-generation college students achieved lowered grades in colleges compared to students whose families (one or two of them) had at least a bachelor's degree (Pike & Kuh, 2005; see also Pascarella, Pierson, Wolniak, & Terenzini, 2004). Other scholars have found that mothers' education tends to affect their children's studies more than does fathers' education (Scott, 2004). For instance, mothers read more to their children than do fathers (Cheung & Anderson, 2003). In addition, given that mothers are the primary caregivers and also tend to lead single-parent families, their involvements in their children's studies influence their children's current and future academic successes (Pettit, Yu, Dodge, & Bates, 2009; Scott, 2004).

However, the positive effect of social background on academic performance is disputed by other scholars. Leman (1999) found weak and insignificant impact of social class on grades among Cambridge University undergraduate students. Similarly, Rego and Sousa (1999) found no statistically significant relationship between socioeconomic background and academic performance in higher education in Portugal. In addition, Pascarella et al. (2004) found no statistically significant difference in second-year writing skills or in third-year reading comprehension or critical thinking between first-generation and other students. More often than not, no theoretical explanations are given with regard to the absence of a positive correlation between social background and academic performance. This is because, in some of these cases, social background was used as a control variable. In others, the data did not support the hypothesized positive effect of social background on performance. The foregoing contradictory findings seem puzzling.

According to Lavin (1965), the apparent contradiction in the studies that have tested the relationship between social background and academic performance is due to problems in model specification:

> The relationship between SES [socioeconomic status] and academic performance is positive through most of the SES range, but at the upper SES levels, it is inverse. When the SES sample does not include this upper segment, positive relations will be found. When the sample does include the upper range and does not go below the middle class, inverse relations will be found. (p. 126)

Lavin (1965) has argued that the inconclusive findings about the relationship between socioeconomic status and academic performance can be theoretically explained by the presence of a discrepancy in the levels of motivation among students who come from the various social classes. Specifically, students who come from families of lower- and middle-classes may be motivated to succeed in their academic and career endeavors than those who are born into the upper classes, who would just be content with graduating from college (Lavin, 1965; see also Grehan, Flanagan, & Malgady, 2011). Having found no statistical relationship between social background and academic performance, Rego and Sousa (1999) also argued that the two variables might be mediated by, among other things, motivational profiles. More specifically, the authors provided two propositions for future studies: students who come from richer families can perform better if they are educated to value academic performance and those who come from poorer families can do better in their studies when educated to go beyond their families' socioeconomic positions.

Moreover, some scholars have argued that the relationship between social background and academic performance may be indirect. According to Coleman (1988; see also ASHE Higher Education Report, 2007), families affect the academic success of students indirectly by providing them with social capital. Social capital entails the relations between children and family members. The amount of time and support that family members give to children tend to facilitate student learning. For instance, mothers' involvements in their children's studies, including reading to them and helping them with their homework, is believed to influence their children's current and future academic successes (Cheung & Anderson, 2003; Pettit, Yu, Dodge, & Bates, 2009; Scott, 2004). Children are, on their part, expected to learn and be aware of various forms of social capital, including personal obligations and social norms, if they are to succeed in dealing with their teachers and peers. Such intangibles could, in turn, help children to do well in their studies. In addition, children should benefit from the flow of valuable information from family members and society, including learning the importance of staying in high school and acquiring a college education (Coleman,

1988). Moreover, parental interest, encouragement, and involvement in their children's education tend to mediate inequalities in skills between students from lower and higher social classes (Cheung & Andersen, 2003).

School Effects or Social Background?

Other scholars have argued that school effects (such as the quality of schools and teachers) determine student learning (Heyneman & Loxley, 1983; Konstantopoulos, 2006; Konstantopoulos & Borman, 2011). For instance, Heyneman and Loxley (1983) have found that the impact of family background on academic performance is weak in societies with lower level of economic development. This is because in poorer countries, access to school is limited. The school is also considered a place where students are prepared for jobs. Thus, regardless of social status, all families strive to make sure that their children do well in school. On the other hand, school effects are found to be the main determinants of student learning in poorer countries (Heyneman & Loxely, 1983). In general, if schools have adequate financial resources, they will likely hire enough and well-trained or effective teachers. The quality and quantity of teachers would, in turn, foster the academic performance of students (Koshal, Koshal, & Gupta, 2004; Yuhong & Yongmei, 2008).

Other scholars have, however, contended that a higher level of development is not an impediment to students' academic performance. For instance, wealthier countries, such as the United States, tend to have more public resources like museums and libraries (aspect of school effects) that can provide more opportunities to student learning (Chiu, 2010). Wealthier countries also tend to produce richer families and resourceful schools; and such resources may be used to foster student learning (Chiu, 2010; see also Chiu & Khoo, 2005). In other words, the wealth of a country may indirectly contribute to student achievement by directly affecting social status and school effects (see also Konstantopoulos, 2006; Konstantopoulos & Borman, 2011).

Other Possible Predictors of Academic Performance

Although social background and school effects may be two of the most important variables that can explain student learning, there are several other factors that could be controlled for. According to Moore (2003), class attendance fosters students' learning. For instance, students who attend classes regularly would benefit from class discussions; they would also learn when teachers go over assigned materials. Although there are some counter arguments (Chung, 2004; Durden & Ellis, 2003), several empirical studies have confirmed the hypothesis that attendance and grades are related (Launius, 1997; Moore, 2003, 2005; Tiruneh, 2007).

Students' GPA also seems to play a major role in academic performance. In general, students with higher level of GPA are likely to possess the skills, experience, and motivation needed to be successful in earning higher grades. Empirical findings seem to support the impact of GPA on grades (Krieg & Uyar, 1997; Moore, 2005; Tiruneh, 2007).

Another variable that is believed to play a role in students' academic performance is gender. Male and female students are believed to have different kinds of interests and motivations towards learning. It is argued that politics requires aggressiveness (as in the case of making difficult decisions, like a declaration of war) and such behavior is well suited to males than to females; consequently, girls are raised and socialized to be less interested in politics than are boys. Stereotypes such as 'politics is a male domain' and other cultural norms seem, despite the abolishment of legal barriers, to affect the involvement and interest of women in politics (Hedlund, Freeman, Hamm, & Stein, 1979; see also Bernstein, 2005). If politics is, indeed, a male domain, males should outperform females in political science exams. Moreover, according to the psychological literature, females tend to mature earlier than males, giving the former a comparative advantage in higher verbal skills over the latter; males, in contrast, seem to manifest greater spatial and quantitative skills than females (Didia & Hasnat, 1998). In sum, male and female students' academic performance may be shaped by both socialization (as in the case of boys' interest in politics) and natural characteristics (as in the case of girls' verbal abilities). Of the 204 students in my classes, 114 of them (55.9%) were males, suggesting that males are more interested in politics than are females. The general empirical evidence is, however, mixed: most seem to find that females perform better in their exams than do males (Lavin, 1965; Lekholm & Cliffordson, 2008; Scott, 2004), while some have observed no statistical differences (Didia & Hasnat, 1998; Tiruneh, 2007; Wilson, 2002).

Furthermore, students' class status (being a freshman, a sophomore, a junior, or a senior) seems to matter for academic performance. For instance, upperclassmen are expected to perform better in exams than are lowerclassmen because the former are least affected by test anxiety and also have longer experience in college work (Gohmann & Spector, 1989). On the other hand, Tiruneh (2007) has found no statistical relationship between class status and grades.

Some scholars also have argued that doing well in tests, quizzes, and homework contributes to overall class performance. According to Belcheir (2002), mid-term grades predicted the probability of a passing grade. Whereas recitation exams determined course achievement (Thompson & Zamboanga, 2004), quizzes and homework grades predicted students' final grades (Kruck & Lending, 2003; Tiruneh, 2007).

Other variables that may affect academic performance include anxiety and confidence (Chung, 2004; Grehan et al., 2011), enjoyment of a class (Launius, 1997), professors' teaching methods (Didia & Hasnat,

1998), ethnicity (Gayle et al., 2002; Leman, 1999; Wirt et al., 2002), course prerequisites (Eskew & Faley, 1988; Urban-Lurain & Weinshank, 2000), day or evening classes (Marcal & Roberts, 2000), Fall or Spring semester (Krieg & Uyar, 1997), class size (Hancock, 1996), intelligence (Furnham, 2012; Lavin, 1965), scholastic aptitude /assessment test (SAT) scores and other standard exams (Eskew & Faley, 1988; Krieg & Uyar, 1997), hours spent on employment (Krieg & Uyar, 1997), and time spent on studying (Didia & Hasnat, 1998).

Research Design and Model Specification

Using a sample of up to 204 undergraduate students that I taught at the University of Central Arkansas between 2008 and 2009, I tested the impact of social background on political science final grades. Given that the social background data that I collected from my students were only for 2008 and 2009, I combined the data and employed a cross-sectional design. The data for the final grades [will be called Final-Grades hereafter] are compiled from several requirements: two tests, a research paper, class participation, and a final exam. I measure social background by the levels of education and income of students' families. Family education [will be called Fam-Educ hereafter] is measured by the number of years that parents spent in school. For instance, if a father and mother were high school graduates, this family would receive a score of 24 (12 years of education each). Because the combined family education data are employed in the ensuing analyses, single-parent students' data (which numbered only less than ten) are omitted. Family income (which will be referred to as Middle-Income and Upper-Income for middle- and upper-income families, respectively, hereafter) is specified as an ordinal variable. Specifically, if the combined income of a family was less than $40, 000, between $40,000 and $70, 000, and greater than $70, 000, it was categorized as lower-, middle-, and upper-income, respectively. The lower-family income is used as the baseline variable. Given that the median household income of Arkansas was about $38, 758 in 2007 (U.S. Department of Agriculture), the above categories of income groups (although arbitrary) seem fairly reasonable. The data for the education and income of students' families were obtained from the survey that I conducted in each of my classes. Of the 204 students, those who came from families of lower-, middle-, and upper-income were 22%, 37%, and 41%, respectively. In addition, students who came from families of lower, moderate, and higher education were 19%, 60%, and 21%, respectively.

While the number of control variables that could be used to explain Final-Grades is very high, I included those which I had data for: class attendance, GPA, gender, tests, and number of credit hours. I had taken attendance (will be called Attendance hereafter) during all class meetings. I obtained the data for students' GPA and the number of credit hours (will be called GPA and Credit-Hours, respectively, hereafter) from the university's sources. I specify Gender as a dichotomous variable; males get a score of 1 and females 0. Test scores are measured by the two tests that I had given to most of my classes (seminars being the exception) each semester. They will be referred to as Test #1 and Test # 2 hereafter. Class status may be measured by student age or by freshman–senior classification, or by number of credit hours. I have specified class status in this paper as the number of credit hours that students have taken. Table 1 provides the full description of the independent and dependent variables.

Model Estimation and Analysis

I used the SPSS module and employed ordinary least squares (OLS) to estimate Final-Grades. In Table 2, I showed the correlation matrix of the independent and dependent variables. I did not observe any potential multicollinearity problem between the independent variables; r is less than or equal to 0.63 and greater than or equal to -0.65 in all of the cases. Interestingly, the two-highest correlations occurred between Test # 1 and Test # 2 ($r = 0.63$) and between Middle-Income and Upper-Income ($r = -0.65$). That is, as the value of Test # 1 increases, the value of Test # 2 increases. And as the value of Middle-Income increases, the value of Upper-Income decreases. Table 2 also foreshadows that the impact of the social background variables on students' political science grades might be relatively weak. Specifically, the correlation between Fam-Educ and Final-Grades is 0.05. And the correlations between students born to Middle-Income and Upper-Income and Final-Grades are 0.01 and 0.08, respectively.

Model 1 of Table 3 shows that social background variables were not related to Final-Grades. When I added GPA to the social background variables in Model 2, this variable had a statistically significant impact on Final-Grades. The social background variables were not significant, however. When I replaced GPA with Test # 1 in Model 3, only Test # 1 was statistically significant. Still excluding the GPA variable from the analysis, I replaced Test #1 with Test # 2 in Model 4. Upper-Income and Test # 2 showed a statistically significant impact on Final-Grades. In addition, Fam-Educ was significant but at the 0.10 level. In Model 5, I included both Test 1 and Test 2 (but not GPA) with the social background variables. Both Test # 1 and Test # 2 were related to Final-Grades. It is interesting to note that the magnitude of the slope of Test # 2 (0.41) is a bit larger than that of Test # 1 (0.32). In addition, as Table 1 shows, the correlations between Test # 2 and Final-Grades and Test 1 and Final-Grades are 0.76 and 0.73, respectively. These results suggest that my students did better in the second test, perhaps because when preparing for Test # 2, they seemed to have learned how and what to study from the test format that I used in Test # 1. Given the foregoing, it

Table 1
Description of Independent and Dependent Variables

Independent Variables	**Description of Independent Variables**
Fam-Educ	Education data of families with lower, moderate, and higher education
Fam-Educ-MH	Education data of families with moderate and higher education [used in Table 4]
Fam-Educ-LM	Education data of families with lower and moderate education [used in Table 4]
Fam-Educ-Pol1	Polynomial education data of families with lower, moderate, and higher education [used in Table 4]
Fam-Educ-Pol2	Polynomial education data of families with lower and moderate education [used in Table 4]
Middle-Income	Income data of middle-income families
Upper-Income	Income data of upper-income families
Attendance	Student class attendance
GPA	Student GPA
Gender	Student gender
Test # 1	First test taken by students
Test # 2	Second test taken by students
Credit-Hours	Number of credit hours taken by students
Dependent Variables	**Description of Dependent Variables**
Final-Grades	Students overall or semester grades
Final-Grades-MH	Overall or semester grades of students who come from families of moderate and higher education [used in Table 4]
Final-Grades-LM	Overall or semester grades of students who come from families of lower and moderate education [used in Table 4]

Table 2
Correlation Matrix

	F-Edu	M-Inc	U-Inc	Attend	GPA	Gen	T # 1	T# 2	C-H
Fam-Educ	1.0								
Middle-Income	0.02	1.0							
Upper- Income	0.33**	-0.65**	1.0						
Attendance	0.02	-0.02	0.02	1.0					
GPA	0.001	0.03	0.01	0.22**	1.0				
Gender	0.12	-0.05	0.12	-0.10	-0.21**	1.0			
Test # 1	0.03	-0.004	0.05	0.20**	0.60**	-0.06	1.0		
Test # 2	0.09	0.06	-0.03	0.30**	0.48**	-0.02	0.63**	1.0	
Credit-Hours	0.09	-0.07	0.07	-0.17**	-0.02	0.06	0.09	0.01	1.0
Final-Grades	0.05	0.01	0.08	0.28**	0.31**	-0.03	0.73**	0.76**	-0.23**

*: $p < 0.10$; **: $p < 0.05$

Table 3
OLS Estimates (Dependent Variable: Final-Grades)

	Model 1 B	Model 2 B	Model 3 B	Model 4 B	Model 5 B	Model 6 B	Model 7 B
Intercept	71.77**	50.21**	26.70**	29.80**	17.92**	17.94**	4.62
	(6.23)	(7.69)	(4.49)	(3.87)	(3.77)	(3.78)	(3.95)
Fam-Educ	-0.002	0.02	-0.01	-0.16*	-0.11	-0.11	-0.10
	(0.23)	(0.22)	(0.10)	(0.10)	(0.08)	(0.08)	(0.08)
Middle-Income	3.17	2.52	1.47	1.73	1.52	1.50	1.63*
	(3.00)	(2.86)	(1.33)	(1.24)	(1.09)	(1.09)	(0.97)
Upper-Income	4.47	3.91	2.27	3.96**	3.19**	3.18**	3.15**
	(3.10)	(2.96)	(1.39)	(1.29)	(1.14)	(1.14)	(1.01)
Attendance							2.15**
							(0.31)
GPA		6.85**				0.24	-0.28
		(1.55)				(0.75)	(0.68)
Gender							-0.41
							(0.70)
Test # 1			0.59**		0.32**	0.32**	0.33**
			(0.04)		(0.05)	(0.05)	(0.04)
Test # 2				0.61**	0.41**	0.41**	0.35**
				(0.04)	(0.04)	(0.04)	(0.04)
Credit Hours							-0.003
							(0.01)
N:	188	188	177	177	177	177	177
R-Squared:	0.01	0.11	0.54	0.60	0.69	0.69	0.77

*: $p < 0.10$; **: $p < 0.05$; Bs are unstandardized betas; standard errors in parentheses.

would be interesting to know if professors in other colleges and universities also observe the same finding.

Moreover, of the three social background variables, only Upper-Income was statistically significant in Model 5. I added GPA, Test # 1, and Test # 2 with the social background variables in Model 6. Only Upper-Income, Test # 1, and Test # 2 became statistically significant. The effect of GPA on Final-Grades disappeared (as was also the case in Model 6) when Test # 1 and Test # 2 were included in the model. GPA also added virtually nothing to the variance explained in Final-Grades. In Model 7, I included all of the independent variables in the analysis. Upper-Income, Attendance, Test #1, and Test # 2 became statistically significant at the 0.05 level. And Middle-Income was significant at the 0.10 level. On the other hand, Fam-Educ, GPA, Gender, and Credit Hours were not significant. It should also be noted that the variances explained by the models in Table 3 ranged from 1% to 77%. For instance, the R-squared value in Model 7 suggests that the nine independent variables included in the model explained 77% of the differences in Final-Grades.

Note that most of the social background variables were statistically insignificant in the models

analyzed in Table 3. The only exception was Upper-Income (save Middle-Income and Fam-Educ, which were each significant at the 0.10 level in only one model), which was statistically significant in four of the seven models. Although Upper-Income showed some influence on Final-Grades in the four multivariate models, the correlation between the two variables was low and statistically insignificant ($r = 0.08$; $p = 0.3$). Given the foregoing, I tested Lavin's (1965) hypothesis: that the association between socioeconomic status and academic performance is non-linear. Lavin's hypothesis can be tested by specifying both linear and polynomial family-education variables. And if Lavin's hypothesis is, indeed, correct, the slopes of the linear- and polynomial-education variables will be positive and negative, respectively. I show the model in Eq. 1, where

$$Y = a + b1\ X1 + b2\ (X2)2 + e \qquad \text{Eq. (1)}$$

Y = Final-Grades, a = the Y-intercept, b1 = the slope of the linear family-education variable, X1 = the linear family-education variable [Fam-Educ], b2 = the slope of the polynomial-education variable, (X2)2 = the polynomial family-education variable [Fam-Educ-Pol1], and e = the error term. Figure 1 also shows a hypothetical polynomial or curvilinear model of academic performance.

Model 1, in Table 4, shows that although the parameters in the equation had signs as hypothesized by Lavin (1965), both Fam-Educ and Fam-Educ-Pol1 were statistically insignificant. In addition, the variance explained in Final-Grades by the two variables was only 1%. Recall Lavin (1965) has also argued that when the social background data do not go below students who came from the middle class, an inverse relationship exists between the two variables. To find out if he was correct, I, first, parsed the family-education data into three arbitrary but fairly organized categories: students who came from families of lower education (0-24 years of education), those who came from families of moderate education (25-32 years), and those who came from families of higher education (greater than 32 years). Excluding the data for students born to families of lower education, I then ran a linear regression in Model 2. Although the social background variable had a negative sign as Lavin expected, the model was not statistically significant. The variance explained in the political science grades of the two groups [Final-Grades-MH] by the students' social background variable [Fam-Educ-MH] was also only 0.1%. Curious, I ran correlation analyses between the data of students who came from families of lower, moderate, and higher education and their grades, respectively, and found the following: 0.31 ($p = 0.05$), -0.16 ($p = 0.07$), and 0.02 ($p = 0.88$). The foregoing analyses led me to assume that the social background of students born to families of lower and moderate education and their grades may be positively and negatively related, respectively. On the other hand, I assumed that the social background of students born to higher-education families and their grades might not, unlike Lavin's expectation, be related.

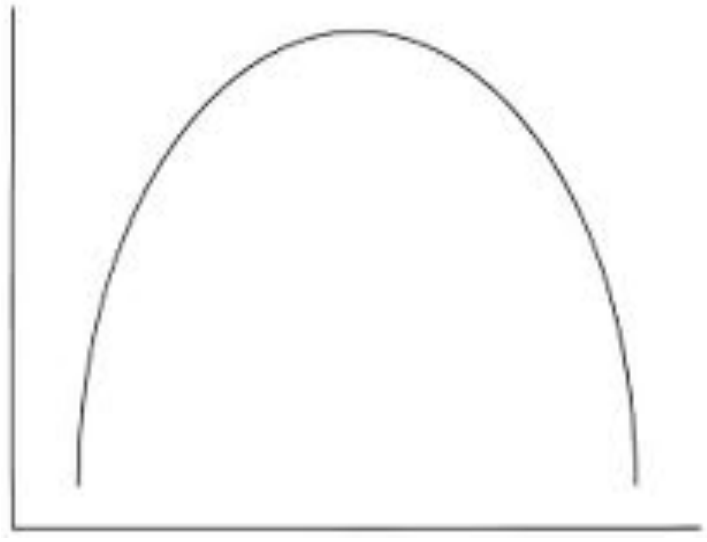

Figure 1. Hypothetical polynomial or curvilinear model of academic performance.

Consequently, I decided to exclude the latter group from the ensuing analyses. The finding that I obtained in Model 3 of Table 4 seems to provide some support for my assumptions. Specifically, I observed a statistically significant curvilinear relationship between the combined data of students born to families of lower and moderate education and their grades. More specifically, the social background data of students born to families of lower and moderate education [Fam-Educ-LM and Fam-Educ-Pol2] and Final-Grades-LM had a positive correlation in the left-side of the curvilinear curve. That is, in this part of the curve, the effect of students born to families of lower education on Final-Grades-LM was higher (r = 0.31), leading to the positive trend. But as the values of social background increased, the values of Final-Grades-LM started to decline. That is, in this part of the curve, the effect of students born to families of moderate education on Final-Grades-LM was higher (r = -0.16), leading to the negative trend. In fact, when I did a manual simulation analysis, it provided support for the foregoing argument. Specifically, the peak or highest point on the curvilinear curve occurred when parents' education was 26.5 years.

Table 4
OLS Estimates (Dependent Variables: Final Grades; Final-Grades-MH, Final-Grades-LM)

	Model 1 B	Model 2 B	Model 3 B	Model 4 B	Model 5 B	Model 6 B	Model 7 B
Intercept	56.40** (13.81)	82.86** (4.94)	-6.07 (25.33)	-23.62 (21.14)	-21.75 (17.21)	-0.85 (16.51)	-6.85 (14.63)
Fam-Educ	1.38 (0.91)						
Fam-Educ-MH		-0.18 (0.16)					
Fam-Educ-LM			6.34** (1.90)	4.52** (1.64)	2.43* (1.34)	1.26 (1.30)	0.88 (1.15)
Fam-Educ-Pol1	-0.02 (0.02)						
Fam-Educ-Pol2			-0.12** (0.04)	-0.08** (0.03)	-0.04* (0.03)	-0.02 (0.02)	-0.02 (0.02)
Attendance				2.57** (0.51)	2.42** (0.42)	1.80** (0.41)	1.88** (0.36)
GPA				5.59** (0.91)	0.68 (0.93)	2.30** (0.78)	-0.004 (0.79)
Test # 1					0.50** (0.06)		0.32** (0.05)
Test # 2						0.47** (0.05)	0.34** (0.05)
N: R-Squared:	204 0.01	165 0.001	160 0.07	150 0.41	140 0.63	140 0.66	140 0.74

*: $p < 0.10$; **: $p < 0.05$; Bs are unstandardized betas; standard errors in parentheses.

Note also that the variance explained in Final-Grades-LM by Fam-Educ-LM and Fam-Educ-Pol2 went up from 1% (as was the case in Model 1, where the data of the three groups were included) to 7%.

Moreover, when I included Attendance and GPA in Model 4 with Fam-Educ-LM and Fam-Educ-Pol2, all variables became statistically significant. About 41% of the variance in Final-Grades-LM was explained by the variables analyzed in Model 4. I then included Test # 1 in Model 5, along with GPA and Attendance. Fam-Educ-LM and Fam-Educ-Pol2 became significant but only at the 0.10 level. Attendance was also statistically significant at the 0.05 level. GPA was insignificant, however. When I replaced Test # 1 with Test # 2 in Model 6, however, Fam-Educ-LM and Fam-Educ-Pol2 became insignificant. GPA and Attendance were statistically significant. Finally, when I analyzed all of the independent variables in Model 7, the social background variables and GPA became statistically insignificant. Attendance, Test # 1 and Test # 2 became significant, however.

In sum, given that the correlation between the combined social background data of students who came from families of moderate and higher education and their grades was statistically significant, and given that the correlation between the social background data of students who came from families of higher education and their grades were nearly zero, this work seems to provide only a partial support for Lavin's (1965) hypothesis. Moreover, although the social background data of students coming from families of lower and moderate education seemed to have a statistically significant curvilinear impact on their grades, the variance explained in the latter variable was only 7%. In addition, the significance of the curvilinear relationship model seemed to get weaker, even disappear, as more non-social background variables were included in the models.

Limitations of the Study

It should be noted that there are some limitations to this study. First, the sample data were collected only from one university. Studies with larger sample sizes and that include several more colleges and universities across the United States will more likely confirm or refute the findings of this study. Second, the income data employed in this paper are ordinal, which most likely limited the variance explained in the political science grades. In other words, interval-level income data will be more appropriate to use in future studies. Third, given the absence of statistically significant positive correlations between students' grades and their middle-income or upper-income family backgrounds, it will be a worthy endeavor if future studies control for motivation to enhance our understanding of academic performance. Lastly, the social background variable may produce larger variance and show stronger significance if it is also specified as an indirect, no just direct, predictor of academic performance.

Discussion of Results

The purpose of this paper was to test the impact of social background on the political science grades of the students that I taught at the University of Central Arkansas. Using a cross-sectional research design and a sample of up to 204 students, I found no positive and linear effect of social background on political science grades. A notable finding of this paper is that the combined data of students born to families of lower and moderate education and their political science grades seemed to have a curvilinear relationship. On the other hand, the correlation between the social background data of students who came from families of higher education and their grades were nearly zero. Such findings seem to provide a partial support for Lavin's (1965) hypothesis. Moreover, this work seems to suggest that the non-finding of a relationship between social background and academic performance by some scholars (see Leman, 1999; Pascarella et al., 2004; Rego & Sousa, 1999) may be due to model misspecification. That is, these researchers specified only linear, not polynomial, models. It is also interesting to note the existence of a parallel between the impact of social background and school effects on student learning. On an individual or micro level of analysis, this work has shown that the correlation between the social background of students born to families of lower education and their political science grades is higher than the correlation between the latter variable and the social background of students born to families of moderate and higher education. On the other hand, on a country or macro level of analysis, Heyneman and Loxely (1983) have found that school effects have more influence on student learning in lower-income countries. If, indeed, scarcity of schools seems to be motivating students' academic performances in lower-income countries (Heyneman & Loxely, 1983), the desire for social mobility tends to be enhancing the political science grades of students born to lower-income families.

But how can we explain the absence of strong correlation between social background and political science grades in this study? Moreover, why was the relationship between the non-parsed polynomial social background data and political science grades statistically insignificant? One possible reason for the foregoing may be that the two variables may have also an indirect, not just direct, relationship. As Coleman (1986; see also Cheung & Andersen, 2003) has argued, families affect the education of their children by indirectly providing them with social capital, which include intangibles like personal obligations, expectation, and social norms. Social capital, in turn, could prepare students in dealing with their teachers and peers effectively. Social background may also foster the presence of school

quality, be it greater resources or skillful teachers (Chiu, 2010). And school quality is believed to influence academic performance (Heyneman & Loxely, 1983; see also Cheung & Andersen, 2003; Lee & Burkam, 2002). In other words, the impact of social background on academic performance may be fully observed if we specify the former variable both as a direct and indirect predictor of the latter (see also Chiu, 2010).

In conclusion, if the findings of this paper are correct, it seems reasonable to argue that students who come from families of moderate- and higher-socioeconomic status do not seem to have an extra advantage in their academic performance. Even simple descriptive statistics can show this. The means of the political science grades of my students born to families of lower, moderate, and higher education were 75.8, 77.6, and 76.9, respectively. These mean differences are very small. One clear advantage that students who come from families of moderate and higher education have over those born into the families of lower classes is, however, greater access to college: social background is empirically found to be a major determinant of college enrollment (ASHE Higher Education Report, 2007; Kim, 2012; Planty, Hussar, & Snyder, 2009; Rowan-Kenyon, Bell, & Perna, 2008). Evidence also suggests that a higher number of students who come from poorer families tend to drop out of college than do students who come from richer families (see Chen & St. John, 2011; Tinto, 2006). Thus, given that the academic performance of students who come from lower socioeconomic status does not seem to be much impeded by their social background and given that college education is critical for fostering the social mobility this group of students, a major education policy for state and federal governments as well as college administrators should be to find ways that could facilitate the college enrollment and retention of students who come from the socioeconomically disadvantageous families. Specifically, colleges may have to secure greater financial resources from government and other sources so that they can recruit more low-income students from high schools by promising them financial support (see also Kim, 2012). Moreover, increased counseling services in high schools and colleges that stress the importance of college education to low-income students may motivate these students to pursue college education and to stay in and graduate from college (see also Lautz, Hawkins, & Perez, 2005; Sharkin, 2004).

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