

Factors Affecting Academic Performance of University Evening Students

Maruzzella Rossi

Universidad Andres Bello
Los Leones 745, Providencia
Santiago, Chile

Abstract

Most of the literature analyzing the factors which affect academic achievement in higher education focuses on the performance of students enrolled in full-time undergraduate programs. Although most of the universities have increased their supply of part-time and evening undergraduate programs in order to attract mature students who are currently working, there is little research analyzing the performance of this type of students. Using a survey of 808 students from evening undergraduate programs, I analyzed the effects of current employment status and former socioeconomic status on academic performance. Although that most of the research focused on full-time students have found a positive correlation between academic performance and family socioeconomic status, and a negative relationship between academic performance and working, I find that there is no such relationship in the case of evening students.

Keywords: Higher education performance; evening undergraduate students; job and studies; socioeconomic status

1. Introduction

Most of developing countries have faced a rapid increase in higher education admissions during last decades. Chile, as most of Latin American countries, has not been absent of this phenomenon. Indeed, Chile has experienced significant levels of growth over the past three decades in the field of admission to higher education undergraduate programs, from a total enrollment of less than 200 thousand students in the early eighties to an enrollment of more than one million students in recent years¹. Part of this increase is explained by the accelerated growth of admissions in part-time and evening programs. Regarding statistics of the Information Service of Higher Education of the Chilean Ministry of Education, the growth rate of evening students between 2008 and 2011 was 23.3% while the growth rate for full-time undergraduate students reached 18.6% during the same period.

Despite the growing influx of students into higher education over the past decades, there are different circumstances which have affected the permanence and academic success of students. According to Londoño (2013), and Patiño-Peña and Cardona (2013), among the factors that most influence the defection of college students, we can identify the family socioeconomic status and academic performance. Several studies have attempted to identify the variables which affect academic performance of full-time students. High school performance is one of the variables which has frequently been studied as a predictor of college academic performance. Indeed, Geiser and Santelices (2007) showed that high-school grade point average is the best predictor of college performance, overcoming other instruments used to select students, such as standardized admission's tests.

¹MINEDUC "Desertion in Higher Education", 2012. Government of Chile
<http://www.mineduc.cl/usuarios/bmineduc/doc/201209281737360.EVIDENCIASCEM9.pdf>

Another variable which has widely been analyzed as a factor of academic performance is socio-economic background of students. Smith and Naylor (2001) studied the effect of parents' type of job on UK undergraduate students' performance. They found that students whose parents were classified as unskilled workers performed significantly worse than students whose parents worked as professional workers. Okioga (2013), surveying 186 college students, showed that students' socio-economic background influences academic performance. He stated that families with a relative low income tend not to take an active role during their children's education, causing them a sense of constrain which, at the end, influences negatively their performance in higher education.

An interesting variable affecting academic performance, which is not broadly analyzed as the ones described in the precedent paragraphs, is working while in college. Astin (1993) stated that there is a negative relationship between academic performance and working, either the job is full-time or part-time. He pointed out that working hours decrease the students' involvement in campus activities. However, most of the studies have shown that paid work has a non-linear effect on academic performance. Therefore, there is a working-hour threshold that when the hours devoted to work overcome that threshold, students tend to decrease their academic performance. Applegate and Daly (2006) showed that working more than 22 hours per week has a negative impact in academic performance. Ruesga-Benito et al. (2014) have found that students working at least 15 hours per week are prompt to have a more negative academic performance than the ones that do not work.

Despite the increasing interest of students to attend higher education programs as a complement of their job duties, there is little research of which are the most important variables affecting the academic performance of these type of students. Using a survey of 808 students from accounting and business evening undergraduate programs at Universidad Andres Bello,² I analyzed the effects of parental socioeconomic status and employment status on academic performance. Although most of the research focused on full-time students has found a positive correlation between academic performance and both parents' education and family socioeconomic status, and a negative correlation between academic performance and being in a full-time job, I find that there are no such relationships in the case of evening students.

Following Kuh (2006), success in academic performance can be analyzed from different standpoints. One strand of the literature considers the completion of the university program as measure of student success. However, there are other definitions of higher education students' success, which generally incorporate measurable indicators of student achievement, such as university qualifications and credit hours earned in consecutive periods. Other measurable indicators of success are income and employment after college. In this research, in order to measure academic performance, I used the cumulative grade point average, and a binary variable defining as successful student the one who reach a cumulative grade point average of at least B- and unsuccessful student otherwise.

The data were collected using a survey of 808 students from the Faculty of Economics and Business Administration at Universidad Andres Bello. The questionnaire comprises a total of 20 items, which correspond to questions whose goal is to collect information on socio-demographic, economic and cognitive student characteristics such as age, gender, parents' education, parents' income, and high school grades, among others.

Performing OLS and logistic regressions, I found that family socio-economic status indicators, such as parental education and parents' income, do not have incidence on the academic performance of evening undergraduate students. Moreover, I also found that evening undergraduate students who are complementing their studies with working activities tend to have better academic results, measured as cumulative grade point average. There may be two reasons to explain the positive relationship between working and studying, (i) working might be the result of a responsible and hardworking person, and (ii) working experience may help to improve knowledge. These findings are interesting, since the literature, mostly analyzing daytime students, predicts a positive relationship between academic performance and socio-economic status, and a negative one between academic performance and job duties. This is not the case for evening undergraduate students. The rest of the paper is organized as follows. Section 2 includes the research questions of this paper. Section 3 describes the methodology used to estimate the relationship between undergraduate evening students' academic performance and both parents' socio-economic status and working while in college. Section 4 presents the results of this study. Finally, Section 5 concludes.

² Universidad Andres Bello is the largest Chilean university with more than 45 thousand students. The Faculty of Economics and Business Administration enrollment is about 8 thousand students.

2. Research Questions

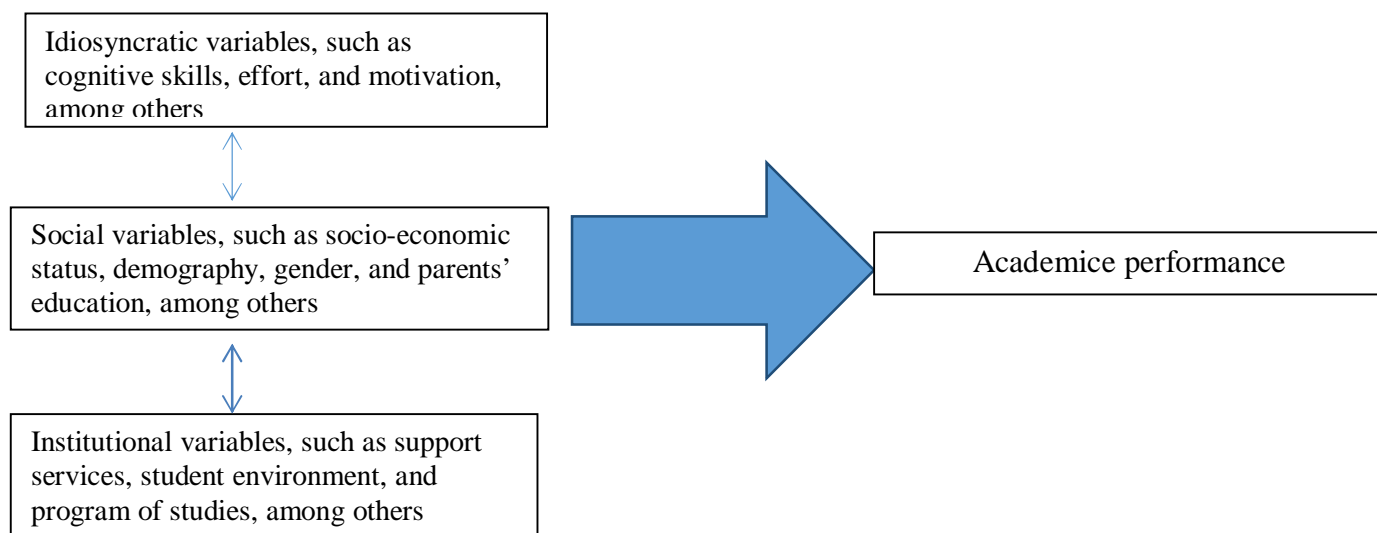
Most of the literature predicts that socio-economic background influences significantly academic performance while students attend college. However, these studies are mainly focused on daytime students. Parents socio-economic status may affect university academic performance through two main temporal channels, (i) resources provided by parents in the past, such as the quality of the school attended, time devoted by parents to help children's during school studies, among others, and (ii) resources provided by parents while students are in college, such as study material and appropriate conditions to study. Students choosing undergraduate evening programs are usually taking this decision because they currently have a full-time job. Another common characteristic of evening students, which is also related with the latter one, is that they are not living with their parents. Therefore, we may argue that socio-economic parents characteristics would influence less evening students given that this type of students already have an own socio-economic status, which might be different than their parents', and although that they would have been negatively affected by the scarcity of the resources provided by their parents in the past, they now depend on the resources provided by their own jobs, while most of daytime students still depend on their parents' resources.

Therefore, the first question addressed in this study is whether parents' socio-economic status has an impact on academic performance of evening undergraduate students. Given that these type of students depend less on their parents, we may expect that parents' socio-economic status has a lower impact on academic performance compared to daytime students. The second research interest of this study is how working affects performance of evening students. Most of the studies have found that full-time job affects negatively academic performance of daytime students. Devoting significant time to something extra than studies may limit academic performance. However, there would be statistical unobserved characteristics behind a student who is working, such as responsibility and hardworking. Most of evening students have already gained some years of working experience, thus this might help to know how much time they have to spend to accomplish their labor duties. Working experience may also be useful to have a better understanding of many topics related with studies. These might be reasons to expect that we may find an evening students' relationship between working and academic performance different than the one usually found for daytime students.

3. Methodology

Conducting a survey of students from the Faculty of Economics and Business Administration at Universidad Andres Bello, I retrieve data from 808 students. The questionnaire, as shown in Appendix 1, includes questions in order to collect data on past and present academic performance, past and present socio-economic status, employment status, gender, age, and marital status, among others. Following Garbanzo (2007), as displayed in Figure 1, the variables affecting academic performance can be grouped in: (i) idiosyncratic variables, (ii) social variables, and (iii) institutional variables.

Figure 1: Variables Affecting Academic Performance



Most of idiosyncratic variables are statistically unobserved. These variables, which affect academic performance, might be correlated with some students' decisions, such as academic program selection and employment status. Although some of these variables can be embodied in observable variables, as the case of cognitive skills and effort which can be embodied in high school grades, some others cannot. Therefore, this study does not attempt to identify causality, since the complexity of identifying and isolating the effect of these unobservable variables. In turn, I show how the relationship of students' academic performance with both socio-economic and employment status can be different from the relationship of daytime students. The reason of this difference indeed might be differences in statistically unobserved variables. Since there are observable variables which might be correlated with both academic performance and employment status (or socio-economic status), such as age or gender, I perform a regression analysis in order to control the effect of these variables, and isolate the relationship of the variables of interest. Therefore, the specification analyzed is the following,

$$y_i = \alpha + \beta l_i + S\gamma + X\delta + u_i, \quad (1)$$

Where y denotes academic performance, l represents employment status, matrix S contains the parents' socio-economic status variables, matrix X includes the control variables³ and u denotes the residuals. Subindex i denotes the cross-sectional nature of the data. The first specification to measure academic performance in this study is the cumulative grade point average during the university program. However, most of the students have cumulative grade point average in the range between C and B-. Therefore, I also include another specification to measure academic performance, which is a "merit" student's dummy variable, taking the value of one in the case that the student presents a cumulative grade point average of at least B-, and zero otherwise. Hence, for such a case I use the following specification,

$$P(y_i = 1) = \frac{\exp(\alpha + \beta l_i + S\gamma + X\delta)}{1 + \exp(\alpha + \beta l_i + S\gamma + X\delta)}, \quad (2)$$

Where $P(y_i = 1)$ denotes the probability that student i holds a cumulative grade point average of at least B-.

Therefore, I perform an OLS regression for equation (1) when using the cumulative grade point average as variable, and a logistic regression for equation (2) when using the "merit" student's dummy as variable y . To measure employment status I use a dummy variable which takes the value of one in the case that the student is currently working in a full-time job and zero otherwise. The parents' socio-economic variables included in matrix S are mother's years of schooling and father's years of schooling.⁴

4. Results

Table 1 shows the results of the OLS regression for equation (1). As we can see from Table 1, the t-statistic of full-time job's coefficient (coefficient β of equation (1)) is about 0.6. Therefore, we can conclude that there is no significant relationship between academic performance and being in a full-time job. This outcome differs from the one usually found for daytime students, where holding a full-time job while studying decreases academic performance. As discussed in the previous sections, evening students usually begin their studies when they have had significant working experience. Therefore, they already know how demanding are their jobs and thus they can allocate their time more properly.

Another interesting finding of OLS regression's coefficient shown in Table 1 is that parental socio-economic status variables do not have a significant impact on academic performance of evening students. As we can see in Table 1, mother and father years of schooling's t-statistics are about 0.3 and 0.1 respectively. Therefore, differently from findings for daytime students, in the case of evening students the parental socio-economic condition is not relevant for their academic performance.

³ The control variables included in the regressions are age, gender, marital status, high school grades, the score in the standardized test used in Chile to select university students, the type of school attended by the student during high school, and current family income. If these students would be daytime students, since most of daytime students live with their parents, current family income would be included as a parents' socio-economic variable. However, since most of the evening students do not live with their parents, I do not consider that variable as a parents' socio-economic variable.

⁴ The years of schooling variable is constructed with the corresponding duration of educational attainment. In the case of an incomplete level attained, I use the average of the corresponding duration between the complete level and the incomplete level.

Indeed, we can also see from Table 1 that the control variable logarithm of current family income has a significant positive impact on academic performance (with a t-statistic of almost 4). Therefore, as discussed in the previous sections, since they already have an own income-dependence, evening students are less parents-dependent than daytime students.

Table 1: OLS regression for equation (1)

Variable	Coefficient	t-statistic
Full-Time Job	0.0281	0.6093
Mother's Years of Schooling	0.0672	0.3078
Father's Years of Schooling	0.0208	0.1243
Age	0.0187**	5.1411
Gender	-0.0265	-0.4237
Marital Status	0.0658	0.9398
High School CGPA	0.2667**	6.5139
Average SAT Score	0.0013**	4.1089
School Type	-0.0886	-1.9388
Logarithm of Current Family Income	0.2233**	3.8186
Observations	643	
R-squared	0.77	
()** significant at 1% level.		

Table 2 shows the results of the logistic regression for equation (2), as explained in the previous section. As we can noticed from Table 2, although the relationship significance of some variables with academic performance differs from the OLS regression, the qualitative analysis does not change. Both employment status and parental socio-economic variables are also not significant, given their z- statistic values.

Table 2: Logistic regression for equation (2)

Variable	Marginal Effect	z-statistic
Full-Time Job	0.0015	0.11
Mother's Years of Schooling	0.0009	0.54
Father's Years of Schooling	0.0006	0.38
Age	0.0009**	2.82
Gender	-0.0101	-1.8
Marital Status	0.0023	0.16
High School CGPA	0.0611**	7.13
Average SAT Score	0.0002**	5.22
School Type	-0.0142	-1.91
Logarithm of Current Family Income	0.0104**	3.61
Observations	643	
()** significant at 1% level.		

5. Conclusions

There are several studies analyzing the relationship between academic performance and both employment and parental socio-economic status of daytime undergraduate students. However, in spite of the increasing college enrollment of evening students, there is little research about these relationships in the case of evening students. Regarding that most of evening students do not depend on their parents while studying and that they have already acquired working experience, it is interesting to check if the literature's usual findings for daytime students also hold in the case of evening students.

After conducting a survey of 808 students from the Faculty of Economics and Business Administration at Universidad Andres Bello to retrieve academic performance, employment and parental socio-economic status, among other variables. Performing an OLS regression, I found that there is no statistically significant relationship between academic performance and both employment and parental socio-economic status. This finding differs from the studies focus on daytime students.

I measured academic performance with the students' cumulative grade point average. However, most of the students present grades concentrated in the range of C and B-. Therefore, in order to check the robustness of the results, I also performed a logistic regression, defining a successful academic performance when a student reaches a cumulative grade point average of at least B-. The qualitative analysis of the results found on the latter regression is the same as when performing the OLS regression.

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A. Appendix 1: Survey Questionnaire

1. Carrera:
 a) Contador Auditor
 b) Ingeniería en Administración de Empresas
 c) Otra

2. Jornada:
 a) Diurna
 b) Vespertina

3. Año de ingreso: _____

4. Semestre que está cursando: _____

5. Sexo:
 a) Femenino
 b) Masculino

6. Edad: _____ años

7. Estado civil:
 a) Soltero
 b) Casado
 c) Divorciado
 d) Viudo
 e) Conviviendo

8. ¿Tiene experiencia laboral?
 a) Si
 b) No

9. ¿Se encuentra trabajando actualmente?
 a) Si
 b) No

10. Si su respuesta anterior es "sí", indique su jornada
 a) Part-time
 b) Full-time

11. Si su respuesta en la pregunta número 9 fue afirmativa, ¿trabaja en un área relacionada con la carrera que estudia?
 a) Si
 b) No

12. Colegio del que proviene:
 a) Particular
 b) Subvencionado
 c) Municipal

13. ¿Con quién vive?
 a) Ambos padres
 b) Madre
 c) Padre
 d) Solo
 e) Con otros familiares
 f) Con familia propia (esposa/o, hijos, conviviente)
 g) Con alguien que no forma parte de su núcleo familiar

14. ¿Cuál es el nivel educativo de su padre y madre?

Padre	Madre	Educación
()	()	Básica incompleta
()	()	Básica completa
()	()	Media incompleta
()	()	Media completa
()	()	Técnica incompleta
()	()	Técnica completa
()	()	Universitaria incompleta
()	()	Universitaria completa

15. ¿Cuál es aproximadamente el ingreso mensual de su familia dividido por el número de integrantes de la familia?

	Desde	Hasta
()	-	\$ 70.966
()	\$ 70.967	\$ 118.854
()	\$ 118.855	\$ 182.793
()	\$ 182.794	\$ 333.909
()	\$ 333.910	-

16. ¿Cuál fue su NEM?

	Entre
()	7,0 6,5
()	6,4 6,0
()	5,9 5,5
()	5,4 5,0
()	4,9 4,5
()	4,4 4,0

17. ¿Cuál fue su puntaje PSU?

Lenguaje		Matemáticas	
()	450 500	()	450 500
()	501 550	()	501 550
()	551 600	()	551 600
()	601 650	()	601 650
()	651 699	()	651 699
()	700 y más	()	700 y más

18. ¿Cuál es su promedio de notas acumulado (PGA) en la universidad?

	Entre
()	7,00 5,95
()	5,94 5,45
()	5,44 4,95
()	4,94 4,45
()	4,44 3,95
()	3,94 2,55
()	2,54 1,00

19. ¿Cómo financia su Educación Superior? Puede seleccionar más de una opción. Si es más de una indique el % de financiamiento.

Tipo de financiamiento	% de financiamiento	
()	Beca	
()	Crédito	
()	Aporte familiar	
()	Financiamiento propio	100%

20. En caso que sea alumno de segundo semestre en adelante, indique:

Nota: Si eliminó o renunció a algún ramo, éste ramo no se considera cursado, por lo tanto no debe incluirlo en la lista.

Ramos cursados semestre anterior	Situación (A o R)
1)	
2)	
3)	
4)	
5)	

A: Aprobado
 R: Reprobado