Artículos Científicos

Nivel educativo y ocupación de los padres: Su influencia en el rendimiento académico de estudiantes universitarios

Educational Level and Occupation of Parents: His Influence on the Academic Performance of University Students

Nível educacional e ocupação parental: sua influência no desempenho acadêmico de estudantes universitários

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Resumen

El rendimiento académico de estudiantes de diferentes niveles educativos ha sido ampliamente analizado considerando factores económicos, sociales o psicológicos. Desde el punto de vista económico, la ocupación de los padres, así como su nivel educativo, muestra una relación positiva con el rendimiento académico de los hijos en diferentes niveles educativos. El objetivo de la presente investigación fue analizar la influencia del nivel educativo y la ocupación de los padres en el rendimiento académico de los estudiantes universitarios y así proponer estrategias que permitan elevar el logro académico. Los datos fueron obtenidos mediante un cuestionario semiestructurado y analizados con el algoritmo *chi-squared automatic interaction detection* (Chaid), tablas

de contingencia y una regresión ordinal. Los resultados muestran que el nivel educativo de la madre, cuando es superior a licenciatura, influye positivamente en el rendimiento académico de los hijos; en cambio el nivel educativo del padre no resultó significativo estadísticamente. Se observó también que estudiantes cuyos padres se desempeñan como profesionistas, comerciantes, directivos, jefes de departamento y trabajadores de la educación son aquellos que obtienen un mejor rendimiento académico; la ocupación de la madre no resultó estadísticamente significativa.

Palabras clave: Chaid, estudiantes, ocupación, padres, rendimiento.

Abstract

The academic performance of students of different educational levels has been widely analyzed considering from economic, social or psychological factors. From the economic point of view, the occupation of the parents, as well as their educational level, shows a positive relationship with the academic performance of the children in different educational levels. The objective of the present investigation was to analyze the influence of the educational level and the occupation of the parents in the academic performance of the university students and thus propose strategies that allow to elevate the academic achievement. The data were obtained through a semi-structured questionnaire and analyzed with the chi-squared automatic interaction detection (CHAID) algorithm, contingency tables, and an ordinal regression. The results show that the educational level of the mother when she is superior to a truncated degree has a positive influence on the academic performance of the children, whereas the educational level of the father was not statistically significant. It was also observed that students whose parents perform as professionals, traders, managers, department heads, education workers are those who obtain a better academic performance; the occupation of the mother was not statistically significant.

Keywords: CHAID, students, occupation, parents, performance.

Resumo

O desempenho acadêmico de estudantes de diferentes níveis educacionais tem sido amplamente analisado, considerando fatores econômicos, sociais ou psicológicos. Do ponto de vista econômico, a ocupação dos pais e o nível educacional mostram uma relação positiva com o desempenho acadêmico das crianças nos diferentes níveis de escolaridade. O objetivo da presente investigação foi analisar a influência do nível educacional e a ocupação dos pais no desempenho acadêmico dos estudantes universitários e, assim, propor estratégias que permitam aumentar o desempenho acadêmico. Os dados foram obtidos através de um questionário semiestruturado e analisados com o algoritmo de detecção automática de interação qui-quadrado (Chaid), tabelas de contingência e regressão ordinal. Os resultados mostram que o nível educacional da mãe, quando superior a um diploma de bacharel, influencia positivamente o desempenho acadêmico dos filhos; Por outro lado, a escolaridade do pai não foi estatisticamente significante. Também foi observado que os alunos cujos pais trabalham como profissionais, comerciantes, gerentes, chefes de departamento e trabalhadores da educação são os que obtêm melhor desempenho acadêmico; a ocupação da mãe não foi estatisticamente significante.

Palavras-chave: Chaid, estudantes, ocupação, pais, atuação.

Introduction

The academic performance of students of different educational levels has been widely analyzed considering from economic to social or psychological factors. Academic performance refers to the demonstrated level of knowledge in an area or subject reflected through quantitative indicators that are generally expressed with weighted grades in the vigesimal system, whose approval ranges are established by a qualified social group for specific areas of knowledge (Coschiza, Fernández, Redcozub, Nievas and Ruiz, 2016).

The average grades are the reflection of assessments and exams in which the student demonstrates knowledge related to different areas or subjects that are considered necessary for their development as a member of society, so it can be used as an academic performance criterion (Reyes, Godínez, Ariza, Sánchez and Torreblanca, 2014).

In the same way, Ravelo (2013) indicates that academic performance is the result of the interaction of multiple aspects of what happens to the higher education student and can be measured with the grades obtained during the educational process.

Mamiseishvili (2012) indicates that the factors that help to increase academic performance are the skills for study and time management, the support of family, peers and teachers; that is, it depends on the interaction of various factors that are related to each other, such as the socioeconomic factors of the family environment, and not only of the school system (García, Soto and Ochoa, 2013). It is worth mentioning that family support can be given in a monetary, psychological way, availability of study materials and knowledge transfer. Academic performance is directly related to human capital, considered a primary element for the economic growth of a country. (Baumann y Hamin, 2011).

Parent Occupation

Several authors have found that the performance of students at different academic levels has positive relations with the socioeconomic level of the parents, mainly considering the occupation of the father, because the participation of women in the labor market is low despite being at a turning point. In developed countries it has been found that students whose parents are professionals or education workers obtain a higher academic performance; On the other hand, students whose parents are related to the agricultural field have an average academic performance, and in developing countries such school children tend to have a lower performance than the national average (Marks, 2011; Chi, Wang, Liu and Zhu, 2017).

Students whose parents have basic or low-skilled occupations obtain a lower performance and are affected by academic risk with a probability between 70% and 80%, which clearly shows social differentiation (Muelle, 2016). However, Coschiza et al. (2016) report that the occupation of the parents is not statistically representative as a variable of influence on the academic performance of the students.

Regarding the socioeconomic level related to the occupation of the parents, Albor, Dau and Ruíz (2014) refer that students belonging to higher socioeconomic levels have a higher academic performance in degrees such as administration, accounting and medicine. The low academic performance at low socioeconomic levels is due to the fact

that this prevents students from accessing sources and learning resources such as technology, intensive courses, etc. (Reyes *et al.*, 2014).

Parental level of study

The educational level of the parents is considered a central component in the cultural capital of the students, since it determines their abilities, values and knowledge regarding formal education and in their educational practices, in addition to increasing their verbal, cognitive skills and space; The above has a direct relationship with the student's academic performance (Díaz and Morales, 2011; Chaparro, González and Caso, 2016).

As Rodríguez and Guzmán (2019) indicate, the educational level of the parents is identified as one of the family factors that affect the academic performance of the students, and that students with parents with university studies tend to have a better school performance. The education of parents improves the way in which family members interact by encouraging the adoption of cognitive scripts, beliefs and values that are related to academic behavior and is related to the achievement of achievements (Abuya, Mumah, Austrian, Mutisya and Kabiru, 2018). The educational level of parents on average helps determine the expectations of their children's participation in higher levels of education (Koshy, Dockery and Seymour, 2019).

On the other hand, Erola, Jalonen and Lehti (2016) mention that the influence of parents' academic level, occupation and income on academic performance is interrelated, since a certain type of education leads to specific occupations and provides certain levels of entry; therefore, the accumulation of education in the form of human capital in parents not only contributes to the improvement of the family socioeconomic level, it also influences an improvement in academic performance.

Several studies have found that the educational level of mothers has a greater relevance in the academic achievement of students at different academic levels; Therefore, students with mothers who have higher education are those who obtain better performance in the classroom (Díaz y Morales, 2011; Manchón and Cordero, 2014; Harding, Morris and Hughes, 2015; Chaparro et al, 2016; Waterman and Lefkowitz , 2017; Abuya et al., 2018; Simões, Rivera, Moreno and Gaspar de Matos, 2018; Kim, 2018; De Coninck, Matthijs and Luyten, 2019). In developing countries it is considered

that the importance of maternal education in academic performance is probably associated with the traditional role of women in the training of children (Cuenca, 2016).

Due to the complexity of the academic performance as an object of study due to the multiple factors that influence it, the present investigation only took into account the educational level, the occupation of the parents and the family income. Therefore, the objective of this study was to analyze the influence of the occupation and the level of study of parents in the academic performance of university students and to identify strategies to increase academic achievement.

The research hypothesis is that the educational level of the mother and the occupation of the father have a positive influence on the academic performance of university students in Mexico.

Materials and methods

The study was of a cross-sectional exploratory type carried out with the purpose of determining the influence of the academic level and the occupation of the parents on the academic performance of university students. The data were collected in Mexico in 2017. The research was aimed at university students belonging to public universities. The classification of the level of studies of the mother and father (Cla_NEM and Cla_NEP), classification of family income (Clas_ingosos), the occupation of the father and the mother according to the Mexican classification of occupations published by the Institute were considered as independent variables National Statistics and Geography [Inegi] (ClaP_Inegi and ClaM_Inegi); and as a dependent variable, the average grade of the university student (re_aca) was considered, considered as a proxy variable for academic performance. Table 1 shows the description of the variables.

Tabla 1. Descripción de variables del modelo

Variable	Descripción	Relación
Rendimiento académico (re_aca)	Promedio de calificación obtenida por el estudiante universitario, considera los niveles: excelente (9.6-10), bueno (8.6-9.5), adecuado (7.6-8.5) y deficiente (6.0-7.5).	Dependiente: variable primordial para analizar la influencia de la ocupación de los padres en el rendimiento académico del estudiante universitario.
Clasificación del nivel de estudios de la madre (Cla_NEM)	Nivel de estudios de la madre del estudiante universitario; considera nueve niveles hasta doctorado incluyendo sin estudios.	Independiente: variable considerada por la influencia que puede tener en el rendimiento académico del estudiante universitario al transferir conocimientos.
Clasificación del nivel de estudios del padre (Cla_NEP)	Nivel de estudios del padre del estudiante universitario; considera nueve niveles hasta doctorado incluyendo sin estudios.	Independiente: variable considerada por la influencia que puede tener en el rendimiento académico del estudiante universitario al transferir conocimientos.
Clasificación del ingreso económico familiar (Clas_ingresos)	Ingreso económico mensual familiar; contempla cinco niveles de ingreso.	Independiente: variable económica considerada porque puede proporcionar medios físicos (libros, tecnología, etc.) que influyen en el rendimiento académico.
Ocupación del padre según clasificación del Inegi (ClaP_Inegi)	Ocupación del padre del estudiante universitario considerando la clasificación mexicana de ocupación del Inegi; considera 19 áreas generales.	Independiente: variable considerada para determinar su influencia en el rendimiento académico.
Ocupación de la madre según clasificación del Inegi (ClaM_Inegi)	Ocupación de la madre del estudiante universitario considerando la clasificación mexicana de ocupación del Inegi; considera 19 áreas generales.	Independiente: variable considerada para determinar su influencia en el rendimiento académico.

Fuente: Elaboración propia

For the data collection, a semi-structured survey was designed and applied that included sections related to the variables mentioned above. The survey was applied

randomly; The sample size was equivalent to 918 students who were studying at the university. The data were obtained in 2017 in Mexico City.

The study used the method of multivariate analysis called in English chi-squared automatic interaction detection (Chaid), which, it should be added, is an exhaustive algorithm, and the ordinal regression model. The first refers to a segmentation analysis technique that allows establishing dependency relationships between explained and explanatory variables (Escobar, 1992). To complement the classification tree obtained through the exhaustive Chaid algorithm, contingency tables are included. For its part, the ordinal regression model is designed for the analysis of response variables measured on an ordinal scale (Rodríguez G., 2007).

Data were captured and analyzed with the statistical package IBM SPSS Statistics 20.0. The ordinal regression model considered the academic performance of university students as a dependent variable (re_aca). The predictors considered were: classification of level of studies of the mother and father (Cla_NEM and Cla_NEP, respectively), classification of family income (income_school) and the occupation of the father and mother according to the classification of the Inegi (ClaP_Inegi and ClaM_Inegi, respectively).

Results and Discussion

The results obtained show that 60% of university students are men and 40% women. Regarding the qualifications obtained, it is observed that the average is equal to 8 points on the scale of 0 to 10. Regarding the level of studies of the parents, 35.7% of the mothers have high school studies, while 36.9% of parents have undergraduate studies. It was found that the average income is between 4611 and 6129 pesos per month and that the parents work mainly in the private sector.

Figure 1 shows the classification tree obtained through the exhaustive Chaid algorithm.

Figura 1. Árbol de clasificación
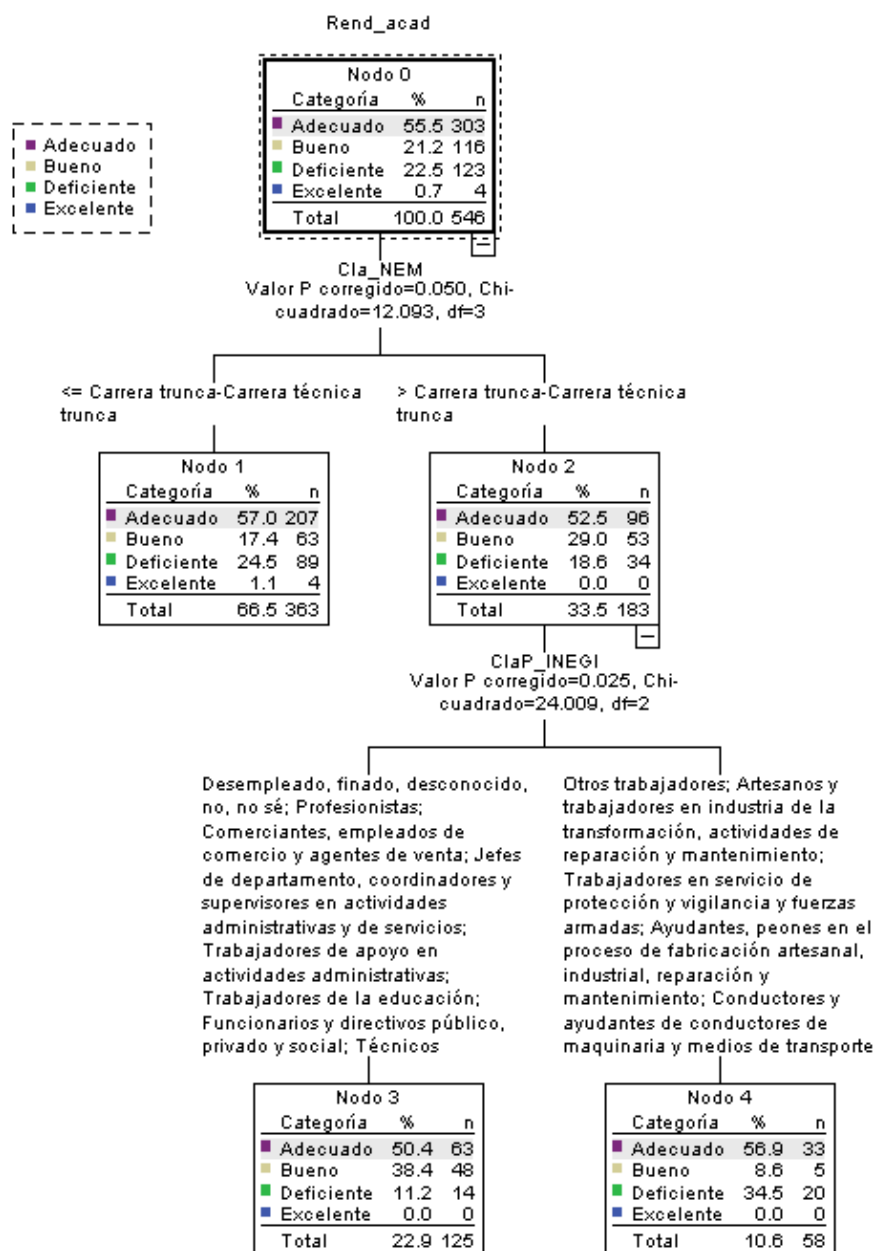
Fuente: Elaboración propia

The classification tree shows that, of the total number of university students surveyed, only 0.7% have an excellent performance, that is, a grade point average higher than 9.6; on the other hand, 21.2% have a good performance (9.5-8.6); 55.5% have adequate academic performance, that is, between 7.6 and 8.5 grade point average, and 22.5% have poor performance (7.5-6.0).

The mother's level of studies was identified as the main predictor variable with a chi-square of 12,093. It is observed that of the students whose mothers have higher education to bachelor's degree truncated 29.0% obtained a good academic performance; however, none obtained excellent academic performance. It should be noted that the percentage of students who obtained a good academic performance and whose mothers have an academic level lower than the bachelor's degree was lower by almost 12 percentage points - which is consistent with the studies conducted by Marks (2011); Díaz and Morales (2011); Manchón and Cordero (2014), and De Coninck et al. (2019). The foregoing is due to the fact that in Latin America mainly, mothers are present in most of their children's education and, having a higher level of study, the ability to provide effective support to schoolchildren is greater.

The next predictive variable of academic performance is the classification of the father's occupation according to the Inegi. In this regard, it is perceived that the percentage of students with a good academic performance (38.4%) are those whose parents are professionals, traders, managers, administrative and educational workers; On the other hand, students whose parents are employed in the transformation, maintenance and repair industry at operational levels and who obtained a good academic performance represented only 8.6%. This is consistent with what was reported by Albor et al. (2014); Pier (2016); Canales (2016) and Chi et al. (2017). This is due to the fact that jobs with higher income levels allow parents to create environments conducive to the educational development of their children, by providing them with physical, digital and security means to develop their skills, which shows that There is still inequality in the education system in Mexico and other Latin American countries.

Rodríguez y Guzmán (2019) indicate that students whose parents are in a work situation with greater instability or precariousness are more vulnerable to having a poor academic performance and dropping out of school (Yáñez, Vera and Mungarro, 2014; Reyes et al., 2014; Cuenca, 2016; Chaparro et al., 2016; Rodríguez and Guzmán, 2019). However, it is observed that 56.9% of students whose parents are employed in the transformation, maintenance and repair industry at operational levels have adequate academic performance; while only 50.4% of students whose parents are employed as professionals, merchants, managers, administrative and education workers obtain such performance. The above shows that, although students with an adequate academic level are those whose parents are employed at the operational level, students with parents

employed at management and professional levels are those who obtain a higher academic performance.

Table 2 shows the correlation analysis of the mother's level of study variables to determine its influence on the academic performance of the university student.

Tabla 2. Rendimiento académico según clasificación del nivel de estudios de la madre

Ren_aca		Cla_NEM								
		0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Adecuado	**Núm.**	1	30	112	1	196	1	151	13	1
	%	0.1	3.3	12.2	0.1	**21.4**	0.1	16.5	1.4	0.1
Bueno	**Núm.**	0	17	44	0	61	1	82	8	0
	%	0.0	1.9	4.8	0.0	6.7	0.1	9.0	0.9	0.0
Deficiente	**Núm.**	2	9	55	0	66	0	48	5	5
	%	0.2	1.0	6.0	0.0	7.2	0.0	5.2	0.5	0.5
Excelente	**Núm.**	0	0	1	0	4	0	1	0	0
	%	0.0	0.0	0.1	0.0	0.4	0.0	0.1	0.0	0.0
Total	**Núm.**	3	56	212	1	327	2	282	26	6
	%	0.3	6.1	23.2	0.1	35.7	0.2	30.8	2.8	0.7

Fuente: Elaboración propia

The identification numbers in table 2 are as follows. 0: Without studies, 1: Primary, 2: Secondary, 3: Truncated baccalaureate, 4: Baccalaureate, 5: Truncated bachelor's degree, 6: Bachelor's degree, 7: Master's degree, 8: Doctorate.

The statistical value $\chi 2$ calculated for the academic performance with respect to the educational level of the mother is 39,528, the probability of finding a χ_c^2 less than a χ_t^2 is low (0.024) so the null hypothesis is rejected in favor of alternative hypothesis that states that the distribution between the boxes is different. It is observed that there is a high correlation between the student's adequate academic performance and the mother's academic level when it is equivalent to the high school level (21.4%). This is consistent with that reported by various authors who indicate that there is a positive association between the educational level of mothers and academic performance, because mothers with a higher educational level or greater human capital use higher quality parenting practices to stimulate cognitively to their children in addition to participating more in

school activities than parents do (Harding et al., 2015; Erola, Jalonen and Lehti, 2016; Abuya et al., 2018; Simões et al., 2018; Takeda and Lamichhane, 2018; Kim, 2018).

Table 3 shows the correlation analysis of the father's occupation variable to determine its influence on the academic performance of the university student.

Tabla 3. Rendimiento académico según ocupación del padre considerando clasificación del Inegi

Re_aca		ClaP_Inegi															
		0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
Adecuado	Núm.	22	80	10	21	22	1	41	15	30	23	1	114	0	2	6	118
	%	2.4	8.7	1.1	2.3	2.4	0.1	4.5	1.6	3.3	2.5	0.1	**12.5**	0.0	0.2	0.7	12.9
Bueno	Núm.	7	38	0	7	14	2	18	2	10	9	7	65	0	1	1	32
	%	0.8	4.2	0.0	0.8	1.5	0.2	2.0	0.2	1.1	1.0	0.8	7.1	0.0	0.1	0.1	3.5
Deficiente	Núm.	4	20	2	11	9	1	21	4	16	5	5	36	2	1	3	50
	%	0.4	2.2	0.2	1.2	1.0	0.1	2.3	0.4	1.7	0.5	0.5	3.9	0.2	0.1	0.3	5.5
Excelente	Núm.	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4
	%	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Total	Núm.	34	139	12	39	45	4	80	21	56	37	13	215	2	4	10	204
	%	3.7	15.2	1.3	4.3	4.9	0.4	8.7	2.3	6.1	4.0	1.4	23.5	0.2	0.4	1.1	22.3

Fuente: Elaboración propia

The identification numbers in table 3 are described below. 0: Unemployed, deceased, unknown; 1: Professional; 2: Technicians; 3: Education workers; 4: Public, private and social officials and managers; 5: Agricultural, livestock, forestry, hunting and fishing workers; 6: Craftsmen and workers in the processing industry, repair and maintenance activities; 7: Helpers, laborers in the process of artisanal manufacturing, industrial, repair and maintenance; 8: Drivers and assistant drivers of machinery and means of transport; 9: Department heads, coordinators and supervisors in administrative and service activities; 10: Support workers in administrative activities; 11: Merchants, business employees and sales agents; 12: Street vendors and street workers in services; 13: Workers in personal services; 14: Workers in protection, surveillance and armed forces, and 15: Other workers.

The statistical value $\chi 2$ calculated for academic performance with respect to the father's occupation is 69,132; the probability of finding a χ_c^2 less than a χ_t^2 is low

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(0.012), so the null hypothesis is rejected in favor of the alternative hypothesis that states that the distribution between the boxes is different. It is observed that there is a high correlation between the student's adequate academic performance and when the parent is employed as a merchant, trade clerk and sales agent (12.5%). The above is consistent with the findings made by Marks (2011); Díaz and Morales (2011); Reyes et al. (2014); Casanova et al. (2018), and Chi et al. (2017), who indicate that students whose parents have higher income occupations tend to have better academic performance, because the best income allows to provide more and better means for the development of academic skills; On the other hand, students from disadvantaged economic backgrounds may have low academic performance due to poor skills and poor study habits due to the shortcomings they may present, as well as the lack of access to learning sources and resources.

The second analysis was carried out through an ordinal regression model. The following shows the model fit tests, the parallel line test and the coefficients obtained. Table 4 shows the adjustment information of the ordinal regression model and table 5 the data of the R-square pseudo.

Tabla 4. Información de ajuste del modelo de regresión ordinal

Modelo	-2 log de la verosimilitud	Chi-cuadrado	gl	Sig.
Solo intersección	1518.21			
Final	1424.66	93.55	47	.000

Función de vínculo: Logit.

Fuente: Elaboración propia

Tabla 5. Datos del pseudo R-cuadrado del modelo de regresión ordinal

Cox y Snell	.097
Nagelkerke	.112
McFadden	.050

Función de vínculo: Logit.

Fuente: Elaboración propia

The model is considered to have a good fit, because when comparing the level of significance of 0.002, with an $\alpha = 0.05$; The null hypothesis that the model without predictive variables is better than the model with predictive variables is rejected. Table 6 shows the estimates of the ordinal regression model parameters.

Tabla 6. Estimaciones de los parámetros del modelo de regresión ordinal

		Estimación	Error típ.	Wald	Gl	Sig.	Intervalo de confianza 95 %	
							Límite inferior	Límite superior
Umbral	[re_aca = 1.00]	-8.180	1.313	38.80	1	.000	-10.754	-5.606
	[re_aca = 2.00]	-4.169	1.247	11.17	1	.001	-6.613	-1.724
	[re_aca = 3.00]	-1.484	1.243	1.43	1	.232	-3.920	.952
Ubicación	[Cla_NEM=1]	-3.346	1.240	7.28	1	.007	-5.776	-.916
	[Cla_NEM=2]	-2.754	1.212	5.17	1	.023	-5.129	-.379
	[Cla_NEM=4]	-2.795	1.206	5.38	1	.020	-5.158	-.432
	[Cla_NEM=5]	-4.240	1.839	5.31	1	.021	-7.845	-.634
	[Cla_NEM=6]	-3.294	1.195	7.60	1	.006	-5.637	-.952
	[Cla_NEM=7]	-3.254	1.205	7.28	1	.007	-5.616	-.891
	[ClaP_Inegi=11]	-.520	.207	6.32	1	.012	-.925	-.115
	[Cla_NEP=4]	2.511	1.225	4.20	1	.040	.110	4.912
	[ClaM_Inegi=4]	-3.607	1.394	6.70	1	.010	-6.338	-.875
	[ClaM_Inegi=10]	-2.782	.916	9.22	1	.002	-4.578	-.987
	[ClaM_Inegi=14]	-.853	.326	6.85	1	.009	-1.491	-.214

Función de vínculo: Logit.

Fuente: Elaboración propia

Regression estimates are labeled "threshold" for the terms equivalent to the intercept and "location" are the coefficients for the predictive variable. When performing the significance tests for each of the coefficients, considering an $\alpha = 0.05$, it is observed that the level of studies of the mother (Cla_NEM) and the father (Cla_NEP), the occupation of the father and the mother according to the classification of the Inegi (ClaP_Inegi and ClaM_Inegi), are related to the academic performance of university students (re_aca).

Specifically, it is observed that adequate and good academic performance is more likely to be affected by the level of education of the parents, especially when it is equivalent to a bachelor's degree in the case of parents and at all levels (except truncated baccalaureate) in the case of mothers. Regarding the occupation of the parents, it is observed that levels of adequate and good performance are more likely to be affected when the father is a merchant or trade employee and sales agent; On the other hand, when mothers work as helpers or laborers in artisanal and industrial manufacturing, they are likely to influence their children's academic performance. Table 7 contains the parallel line test data of the estimated regression.

Tabla 7. Datos de la prueba de líneas paralelas de la regresión ordinal

Modelo	-2 log de la verosimilitud	Chi-cuadrado	gl	Sig.
Hipótesis nula	1424.66			
General	1314.42	110.23	94	.121

Fuente: Elaboración propia

Regarding the parallel line test, the null hypothesis states that the coefficients of the slopes are the same for all categories of the response variable; Therefore, having a significance level of 0.121 and considering an $\alpha = 0.05$, the null hypothesis is not rejected and it is concluded that the coefficients of the slopes are equal for all categories of the response variable.

This research allows us to glimpse the importance of the influence of socioeconomic aspects of parents in the academic performance of university students, which will allow to determine the way in which incentives are designed and applied to students to improve their academic performance. However, it should not be forgotten that students from public universities were considered in the sample, without identifying students from private universities. The strength of this research consists in the usefulness for the design and application of strategies that allow to encourage university students to improve their academic performance.

Conclusions

It was found that the academic performance of university students is mainly influenced by the level of studies of the mother and the occupation of the father; The above is consistent with the findings of various researchers at different educational levels in the world. The influence of the level of education of the mother is due in large part to the fact that she is the most actively involved in school activities and who contributes to the development of cognitive abilities in her children due to coexistence, since, despite social change, it is the mothers who are most related to the education of the children.

The results allowed to verify that at the university level the academic performance of the students is influenced by the occupation of the father, because those who have occupations with better income can provide physical and electronic sources and resources for learning and thus improve their cognitive abilities .

The findings in the present investigation allow us to propose that the universities contemplate as beneficiaries of their scholarships to low-income students, but beyond a purely assistanceist way: they should take regularization courses in order to access the scholarship. In this way, not only would they be increasing their economic possibilities to access resources and sources of learning, they would also be improving their cognitive abilities.

The increase in the academic performance of the students may contribute to the decrease in school drop-out and in the long term to the improvement of the population's quality of life.

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