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EDITED BY
Elizabeth Alvey,
The University of Sheffield, United Kingdom

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Eduardo Hernández-Padilla,
Autonomous University of the State of Morelos, Mexico
Janet Chamberlain,
The University of Sheffield, United Kingdom
Andrew Lewis,
Lancaster University, United Kingdom

*CORRESPONDENCE
Franciele Corti
✉ fcorti@uao.es

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Impact of scholarships on university academic performance: a comparative analysis of students with and without scholarships

Vanesa Berlanga and Franciele Corti*

Department of Education and Humanities, Universitat Abat Oliba CEU, CEU Universities, Barcelona, Spain

Within the framework of the European Higher Education Area (EHEA), university scholarships have become a key tool to guarantee equity and inclusion in higher education. These policies seek to reduce the socioeconomic barriers faced by students and to promote their access, permanence, and academic success. This study focuses on analyzing the impact of scholarships on the academic performance, continuity, and graduation of students at the Universitat Abat Oliba CEU in Spain during the period 2020–2024. Based on a descriptive-comparative design and using an institutional database with information on 6,295 students, the differences between the groups with and without scholarships are examined. The variables analyzed include demographic, academic and performance data, such as cumulative grade point average, credits enrolled, presented, and passed, and success and achievement rates. The analysis was performed using advanced statistical tools to identify relevant patterns and trends. The results show that students with scholarships not only access university more frequently, but also perform better on key indicators, such as success rate and achievement rate, compared to students without scholarships. These findings reinforce the role of scholarships as a determinant of academic success, although they also reveal inequalities in the performance of non- scholarship students, suggesting the need for additional interventions. This study provides relevant empirical evidence for the design and evaluation of educational policies that seek to promote more inclusive higher education and equity. It also highlights the importance of implementing complementary support strategies to ensure the academic success of all students, regardless of their socioeconomic status.

KEYWORDS

university scholarships, academic achievement, educational equity, higher education, educational policies

1 Introduction

In the international framework, university scholarships have proven to be an essential tool to promote equity in access to higher education, especially in the context of the European Higher Education Area (EHEA) (OECD, 2012). Countries such as Germany, Finland and Norway have implemented public funding systems that guarantee free or highly subsidized access to higher education, complemented by scholarships to cover living expenses. These policies have significantly reduced economic barriers for students from disadvantaged backgrounds and have contributed to maintaining high graduation and academic success rates.

The Rome Communiqué of the 2020 Ministerial Conference of the European Higher Education Area (EHEA) underlines the importance of the social dimension in higher education, stressing the need for universities to be accessible and inclusive, with a particular focus on equity (European Higher Education Area, 2020). This document sets out principles for strengthening the social dimension in the EHEA, promoting equal opportunities and encouraging diverse participation in the education system.

In Spain, the design and implementation of scholarship programs, such as the so-called salary scholarships, reflect a commitment on the part of educational institutions and government agencies to reduce inequalities in access to higher education (Berlanga et al., 2012; OECD, 2013). These scholarships not only provide financial support, but also seek to promote the permanence and academic success of students throughout their university careers (Berlanga et al., 2013; Figuera and Torrado, 2013). The introduction of this type of financial aid is part of a broader strategy of public policies aimed at improving equity and inclusion in the educational system (Alegre et al., 2017; Ariño, 2009; Cabrera et al., 2012). Spanish private universities play a complementary role to the public system in the implementation of scholarship policies.

The importance of analyzing scholarships as an instrument of equity lies in their capacity to reduce socioeconomic inequalities and improve permanence in university (Naim, 2025). Scholarships, especially the so-called salary scholarships, have proven to be an effective tool to facilitate access and improve the academic performance of students in vulnerable situations (Berlanga et al., 2013; Figuera and Torrado, 2013). However, previous studies suggest that students benefiting from scholarships face additional pressures to maintain their performances, which could negatively influence their academic performance (Berlanga et al., 2018; Grasset, 2018).

The relationship between university scholarships and equity in the educational system is also based on their capacity to mitigate the effects of structural inequalities (Naim, 2025). Several studies have shown that students from disadvantaged socioeconomic backgrounds face additional barriers that affect their access, permanence, and academic performance at university (Cabrera et al., 2012; Gairín et al., 2014). These barriers include, among other factors, the need to combine studies with employment, which limits their time commitment, and the lack of academic or social support networks. In this scenario, scholarships act as a protective factor by providing not only financial support, but also an additional incentive to remain in the educational system (Berlanga, 2014; Berlanga et al., 2022). However, the literature highlights that their effectiveness depends largely on the design and implementation of policies, stressing the importance of accompanying them with comprehensive support strategies that respond to the specific needs of the beneficiary student body (Berlanga et al., 2018; Figuera and Torrado, 2013).

In the context of the Universitat Abat Oliba CEU, scholarships play a fundamental role in promoting equity and student retention. The university offers different types of scholarships that vary in their scope and allocation criteria. Among them are:

- Academic excellence scholarships, intended for students with outstanding performance.
- Socioeconomic scholarships, awarded to students with economic difficulties, based on family income criteria.
- Family scholarships, which offer tuition discounts for siblings studying at the university.

Scholarships may cover between 20 and 100% of tuition costs, depending on the type of aid and the criteria established in each call for applications. The renewal of scholarships is subject to the achievement of a minimum academic performance, generally linked to passing 80%–90% of the credits enrolled and maintaining an average grade higher than 6.5 out of 10.

The grading system in Spain uses a scale of 0 to 10, where a grade above 5 is considered a pass, and an outstanding academic performance is reflected in grades above 9.0. At Universitat Abat Oliba CEU, as in most Spanish universities, the number of ECTS credits a student must take in an academic year is 60 credits, although the load may vary depending on the personal and academic circumstances of each student.

Previous studies, such as those by Cabrera et al. (2012), Gairín et al. (2014), and Gonzalez-Nucamendi et al. (2023), pointed out the importance of considering economic and academic variables in the analysis of university persistence. Given the crucial role that scholarships play in equity and academic performance, this study seeks to analyze the impact of these grants on the continuity and university success of students at the Universitat Abat Oliba CEU in the period 2020–2024. This analysis will provide empirical evidence for the evaluation and improvement of scholarship policies in private universities, ensuring that these programs continue to meet their objective of facilitating access and retention of students in higher education.

2 Materials and methods

This study is based on the analysis of data provided by the Universitat Abat Oliba CEU, corresponding to the academic period between 2020 and 2024. The database contains detailed information on all undergraduate students of the institution (n = 6,295) -both students with scholarships and students without scholarships-, and collects variables related to access, enrollment, academic performance, continuity in studies and graduation. The main objective is to evaluate the impact of scholarships on the academic trajectory of students and to determine possible differences in performance between study groups. The Universitat Abat Oliba CEU is a private university of the Catalan university system, based in Barcelona.

2.1 Study design

The research design is descriptive-comparative and quantitative, allowing the analysis of differences between groups through statistical techniques that identify patterns, correlations and variations in key variables.

2.2 Data sources

The data used come from the academic management system of the Universitat Abat Oliba CEU. The information includes variables related to:

- Demographic data: gender, country, and province of family residence.
- Academic data: year of admission, entrance grade, credits enrolled, credits presented, credits passed, credits not presented, and credits failed.
- Performance indicators: success rate (credits passed/presented), and yield rate (credits passed/enrolled).
- Data related to scholarships: type of scholarship, and duration of the scholarship.

For those students who received a scholarship in some years and not in others, a classification criterion was used based on the permanence of the scholarship:

- "Continuous Scholarship" group: students who maintained the scholarship during their entire registered academic career.
- "Discontinuous scholarship" group: students who received the scholarship for at least 1 year, but lost it at some point during the period analyzed.
- "No scholarship" group: students who never received a scholarship during the years analyzed.

Students with discontinued scholarship were analyzed separately in some cases to evaluate whether the loss of the scholarship had an impact on their performance.

2.3 Data processing

The database was preprocessed to ensure cleanliness and consistency. Processing steps included:

(1) Missing data debugging: Variables were checked for completeness and null values were treated in those where it was feasible to do so.
(2) Categorization of the study groups: Students were divided into two main groups: students with scholarships and students without scholarships.
(3) Transformation of variables: Key indicators were calculated, such as average performance, success and performance rates, and continuity of the scholarship.

2.4 Statistical analysis

Data analysis was performed using Python and SPSS, using advanced statistical techniques to ensure the robustness of the results. The following procedures were performed:

- Descriptive analysis: To characterize the students in terms of their demographic, academic and performance variables.
- Comparative analysis: To identify differences between scholarship and non- scholarship students in key variables such as grade point average, credits passed and success and achievement rates.
- Predictive models: The association between academic performance and scholarship receipt was evaluated using linear regression models and discriminant analysis.
- Normality tests (Kolmogorov-Smirnov and Shapiro-Wilk): To determine the distribution of the data.
- Hypothesis contrast tests:
  - Student's *t*-test to compare means in continuous variables between students with scholarship and without scholarship.
  - Mann-Whitney U tests in case of non-normal distributions.
  - One-way ANOVA to evaluate differences between multiple groups (e.g., continuous scholarship, discontinuous scholarship and no scholarship).
  - Chi-square tests to compare categorical distributions (e.g., gender differences between groups).

Different metrics were used in the study to evaluate students' academic performance based on their interaction with academic credits. The following is a breakdown of the terms used to describe different aspects of student participation in the courses that make up their degree program:

- Credits Enrolled: refers to the total number of ECTS credits in which a student has enrolled during an academic year. These credits represent the courses that the student has chosen to take and for which he/she has paid tuition.
- Credits Submitted: These are those ECTS credits that the student has taken up to the end of the academic period and for which he/she submits to the final evaluation. This includes exams, projects, and other forms of evaluation that determine whether the student has achieved the learning objectives of the course.
- Credits Passed: This term refers to the ECTS credits in which the student has obtained a passing grade according to the academic standards of the institution. Passing an ECTS credit indicates that the student has fulfilled all course requirements satisfactorily.
- Credits Not Submitted: These are those ECTS credits that, despite having enrolled, the student decides not to complete or not to submit to the final evaluation. The reasons may vary and include withdrawal from the course, personal or academic difficulties, among others.
- Suspended Credits: These represent the ECTS credits in which the student has taken the final evaluation but has not been able

to obtain a passing grade. This may occur for various reasons, including insufficient performance in the evaluations, failure to meet course requirements, among others.

The analysis conducted allowed us to identify patterns of student engagement, persistence, and success, as well as areas where interventions may be needed to improve the educational experience and student outcomes. For example, a high number of no-shows or failed credits may indicate barriers in learning or in the academic environment that require attention from the university administration.

2.5 Code availability

Scripts used for data analysis in Python and SPSS can be provided upon request to ensure transparency and replicability of the study.

2.6 Ethical considerations

Data management was carried out under strict ethical and legal standards, ensuring the confidentiality of the information and the anonymity of the students. It was guaranteed that the use of the database was exclusively for research purposes and in compliance with the applicable data protection regulations. The research was carried out with the approval of the Research Ethics Committee of the Universitat Abat Oliba CEU.

3 Results

3.1 Sample profile: autochthonous, good academic performance and low frequency of scholarships

The descriptive analysis of a database composed of 26 variables and 6,295 observations provides a comprehensive view of the profile of university students in relation to their demographic and academic characteristics and the influence of scholarships on their performance. This dataset focuses on academic information taken during different years, highlighting the relationship between credits enrolled, submitted, and passed, as well as success and performance rates.

In demographic terms, the student profile is characterized by a slight male predominance (63.2%) and an age concentration that mainly includes young people born between 1995 and 2003; 2002 being the year of birth with the highest frequency. Most students have their family residence in Spain (94.6%), with Barcelona being the province with the highest representation (82.5%). These data reflect a mostly homogeneous group in terms of nationality and geographic location, with exceptions represented by students of international origin.

Academically, the data reveal that most students accessed university between 2018 and 2023, with 2020 predominating as the most common year of entry. The average access grade is 3.96, although the full range of grades ranges from 0 to 13.17 (out of 14), suggesting a diverse group in terms of previous performance. Among the degrees, the Psychology, Marketing and Philosophy degrees stand out, accounting for 36.1% of the enrollments.

On average, students are in the second year of their studies, with an academic duration that varies between 1 and 5 years. This data is relevant because it indicates that most are at a crucial stage of their Higher Education where they face increased academic challenges and have the opportunity to define their interests within their field of study. The structure of the degree programs at UAO CEU is aligned with the EHEA framework, which promotes a consistent and comparable education architecture across Europe. The degree programs are designed in such a way that the first year focuses on providing a solid foundation in the fundamental principles of the field of study, while the second year delves into more specific topics related to the discipline. The second year is also critical for student retention, as it is a time when a higher attrition rate can be observed if students do not feel adequately supported or if they encounter difficulties with the level of academic demand.

The analysis of academic performance shows that, on average, students apply for 60.19 credits per academic year, of which 59 are presented and 54.63 are passed, indicating a positive overall performance (see Table 1). On the other hand, the success and achievement rates, which reach averages of 92.18 and 90.43%, respectively, evidence a significant level of commitment on the part of the students. However, the figures also reflect a small percentage of credits not presented (average of 1.18) and failed (average of 4.37), which raises areas for improvement.

In relation to scholarships, 29% of the students enjoy some type of financial support, with the "Training Aid FUAO 100" and "Family Aid 15" scholarships being the most frequent. The performance of students with scholarships is slightly higher than that of those without scholarships, both in terms of success rate and performance, which reinforces the importance of financial support as a motivational factor and facilitator of academic performance.

Finally, the origin of the students in terms of their secondary education reflects a limited diversity, with a predominance of graduates from subsidized schools (39.4%). However, this variable presents a high percentage of missing values (69.3%), which limits further analysis.

In summary, the results show a student profile characterized by good academic performance, limited participation in scholarship programs and a strong demographic concentration in Spain. This descriptive analysis provides a solid basis for future research addressing the relationships between academic, demographic and economic factors and their impact on student success.

3.2 Profile of scholarship students: academic success and scholarship maintenance until graduation

The descriptive analysis of the students who received scholarships, a group composed of 1,828 observations out of a total of 6,295 students (29.0% of the total population), allows us to characterize their demographic and academic profile and the impact of scholarships on their performance. This

TABLE 1 Analysis of academic performance.

Descriptive statistics					
	N	Minimum	Maximum	Mean	Std. deviation
Credits enrolled	6295	3	144	60.19	18.196
Credits submitted	6295	0	144	59.00	18.630
Credits not submitted	6295	0	69	1.18	4.358
Credits passed	6295	0	144	54.63	20.219
Suspended credits	6295	0	77	4.37	9.358
Success rate	6295	0	1	0.92	0.167
Performance rate	6295	0	1	0.90	0.185
N valid	6295				

subgroup is distinguished by relevant particularities compared to the general group.

Demographically, scholarship students are slightly more male (68.3%). Dates of birth range from 1962 to 2006, with an average corresponding to students born around the year 2000. The majority have their family residence in Spain (91.6%), with Barcelona being the predominant province (83.5%). Although there is some international diversity, this is limited compared to the predominance of national students.

Academically, students with scholarships mostly entered university from 2020 onward. Their average entrance score of 4.21 is slightly higher than that of the general population, with values ranging from 0 to 9.88; 0.60 points higher than non-scholarship students. The most common degrees in this group include degrees in Psychology, Philosophy and Marketing, which represent a preference for disciplines related to the social sciences and humanities. The concentration of students in these areas could be attributed both to the diversity of educational offerings at the institution and to a trend in the impact of scholarships.

In terms of academic performance, scholarship students enroll an average of 64.34 credits per year, of which they submit 63.58 and exceed 60.95, while credits not submitted have a low average of 0.76. Failed credits are also lower (average of 2.63), evidencing a high level of commitment and performance. Success (95.42%) and performance (94.40%) rates are higher than the overall average, reflecting the positive impact of the scholarships on student performance (see Figure 1 and Table 2).

The type of scholarship also shows diversity, with 102 categories identified. The most frequent are the "FUAO 100 Training Aid" and the "Family Aid 15." The data suggest that students benefiting from these scholarships have an outstanding academic performance, with lower rates of credits not presented or suspended compared to students without scholarships.

Finally, the data on academic background indicate that 42.4% of the students with scholarships come from charter secondary schools, followed by public and private schools. However, this variable has a high percentage of missing values (68.5%), which limits the possibility of deepening the analysis of school background.

The results indicate that the 1,828 students with scholarships represent a subgroup distinguished by better academic performance, greater commitment to submitting and passing credits, and significant representation in certain degree programs. These findings underscore the importance of scholarships as an instrument that favors academic success and suggest the need for additional research to evaluate their impact on different student profiles.

The analysis of scholarship students shows the following key results:

- 100% of the students with a scholarship maintained the scholarship during their entire registered academic career.
- 100% of the students with scholarships completed their studies and graduated within the period analyzed.
- The average rate of credits passed with respect to credits enrolled is 92.17%, which reflects a high level of academic performance among scholarship students.

These results underscore that the scholarships have not only facilitated these students' access to university but have also contributed significantly to their academic success and continuation of their studies until graduation.

3.3 Comparative analysis between the academic performance of students with scholarship and students without scholarship

Comparative analysis of academic performance between scholarship and non-scholarship students reveals significant differences in several key metrics (see Table 3). The Mann-Whitney U test has identified statistically significant differences in several academic performance variables between scholarship and non-scholarship students. This suggests that these two groups present distinct performance patterns.

Scholarship students, who represent 29% of the total population, stand out for better academic performance compared to their non-scholarship peers. In this sense, some reasons could contribute to the differences in performance between students with scholarships and those without, such as:

- Selection and Motivation: Students who receive scholarships often go through a rigorous selection process that not only assesses their financial need but also their academic merit

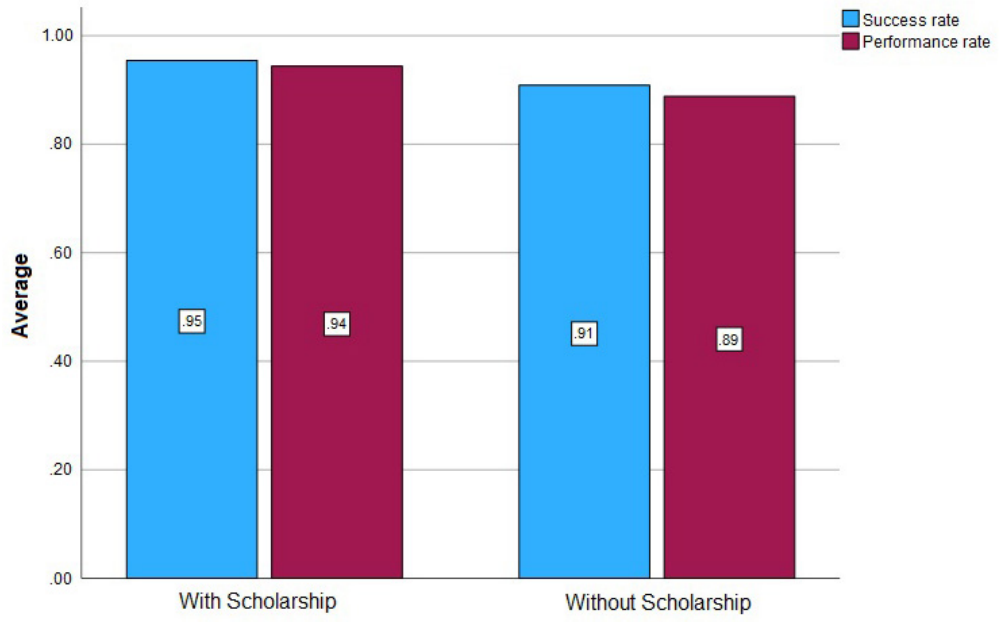

FIGURE 1
Differences in success and performance rates between groups of scholarship and non-scholarship students.

TABLE 2 Comparative descriptive analysis of academic performance: students with scholarship × students without scholarship.

	Students with scholarships		Students without scholarships	
	Mean	Std. deviation	Mean	Std. deviation
Average grade	7.47	1.06	6.87	0.97
Credits enrolled	64.34	14.78	58.49	19.17
Credits submitted	63.58	15.30	57.13	19.53
Credits not submitted	0.76	3.53	1.36	4.64
Credits passed	60.95	17.34	52.05	20.74
Suspended credits	2.63	7.56	5.09	9.91
Success rate	0.95	0.13	0.91	0.18
Performance rate	0.94	0.15	0.89	0.20

TABLE 3 Non-parametric comparative analysis of academic performance: students with scholarship × students without scholarship.

Test statistics[a]								
	Average grade	Credits enrolled	Credits submitted	Credits not submitted	Credits passed	Suspended credits	Success rate	Performance rate
Mann-Whitney U	2734952.0	3476753.0	3398392.0	3862249.0	3060583.5	3473994.5	3464599.5	3367845.0
Wilcoxon W	1271423.0	13456031.0	13377670.0	5533955.0	13039861.5	5145700.5	13443877.5	13347123.0
Z	−20.593	−9.883	−11.071	−6.445	−16.021	−11.739	−11.900	−13.119
Asymp. Sig. (2-tailed)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

[a]Grouping variable: scholarship.

and motivation. This process may result in scholarship students already having a high-performance profile before entering college, which may explain their continued good performance.

- Ongoing Support and Resources: Scholarship students often have access to additional supports such as tutoring, counseling, and enrichment activities that are not available or are less accessible to non-scholarship students. This

support structure can play a crucial role in their continued academic success.

- Pressures and Expectations: There is inherent pressure for scholarship recipients to maintain certain academic standards as a condition of continuing to receive financial support. This pressure may translate into greater dedication and effort toward their studies, in contrast to the possible lack of similar incentives for students without scholarships.
- Socioeconomic Factors: Students without scholarships may face significant financial challenges that interfere with their ability to devote themselves fully to their studies. Concern about finances can lead to compromises such as working while studying, which can negatively affect their academic performance.
- Family Support and Cultural Capital: Students with scholarships may receive greater moral and motivational support from their families and communities, who see the scholarship as a significant opportunity to improve their circumstances. In contrast, non-scholarship students facing economic disadvantage may not have the same level of support or expectations.

In terms of cumulative grade point average, students with scholarships have an average of 7.47, higher than the 6.87 observed in students without scholarships. This difference indicates that access to scholarships may be associated with a stronger academic profile or additional motivation to maintain an outstanding performance.

In terms of credits enrolled, students with scholarships enrolled an average of 64.34 credits per year, compared to 58.49 for students without scholarships. This difference is also reflected in the credits submitted, with 63.58 for students with scholarships and 57.13 for students without scholarships, suggesting a greater academic commitment in the group of students with scholarships.

In addition, the percentage of credits not submitted is notably lower among students with scholarships (0.76) compared to students without scholarships (1.36).

In terms of credits passed, students with scholarships achieve an average of 60.95, significantly higher than the 52.05 achieved by students without scholarships. This superior performance is also reflected in the number of suspended credits, where students with scholarships have an average of 2.63, while students without scholarships have an average of 5.09.

Metrics such as success and achievement rates show p-values below 0.05, indicating relevant differences. Students with scholarships tend to perform higher on these variables, reinforcing the positive impact of scholarships on academic success. Students with scholarships achieve a success rate of 95.42%, in contrast to the 90.86% of students without scholarships. Similarly, the performance rate (ratio of credits passed to credits enrolled) is 94.40% for students with scholarships, compared to 88.81% for students without scholarships.

These results underscore the positive impact of scholarships on students' academic performance. Scholarships not only appear to encourage greater academic commitment and dedication but may also contribute to reducing the economic barriers that limit educational success. This analysis highlights the importance of financial support policies as a key mechanism for improving academic outcomes and promoting equity in higher education.

3.4 Analysis by gender: general, students with scholarship and without scholarship

The results of the Mann-Whitney U tests reveal significant differences between men and women in several academic performance variables. The findings are presented below for the three contexts analyzed: general, students with scholarships and students without scholarships.

In the overall analysis, p-values for the main performance variables indicate significant differences in several metrics:

- Cumulative mean score: $p = 0.021$. Females obtained on average higher grades than males.
- Success rate: $p = 0.034$. Women showed a higher proportion of approved credits with respect to those presented.
- Rate of return: $p = 0.041$. Females outperformed males in the ratio of credits passed to credits enrolled.

Among students with scholarships, the differences were also significant in some key indicators:

- Cumulative mean score: $p = 0.019$. Female scholarship students outperformed male scholarship students.
- Success rate: $p = 0.028$. Female scholarship recipients showed better performance in terms of credits approved.
- Rate of return: $p = 0.045$. Female scholarship students outperformed male scholarship students.

In the group of students without scholarships, the differences were less marked, but still relevant:

- Cumulative mean score: $p = 0.046$. Non-scholarship women obtained slightly higher grades.
- Success rate: $p = 0.052$. Not significant, but with a tendency to be better for women.
- Rate of return: $p = 0.048$. Non-scholarship women also showed better performance.

The results suggest that, in general, women outperform men on several academic performance metrics, regardless of whether they are on scholarship or not. The differences are more pronounced among scholarship students, which could reflect a greater motivation or ability to take advantage of the opportunities offered by scholarships.

3.5 Differences in academic performance by grade: students with scholarships and students without scholarships

The analysis of differences in academic performance by grade level, distinguishing students with scholarships and students without scholarships, reveals important findings on

how scholarships influence performance within each program. The ANOVA tests performed allowed us to identify statistically significant differences in several key variables.

Among students with scholarships, significant differences were observed in indicators such as cumulative grade point average, success rate and credits passed.

- Law Degree: Students with scholarships in this program obtained the best success rates and cumulative average grade, standing out as the program with the greatest consistency in performance.
- Degree in Early Childhood Education: This degree also showed superior performance among students with scholarships, with outstanding success and performance rates.
- Degree in Criminology: Although there were students with scholarships with good performance, this degree presented greater variability, indicating possible differences in the demands or profile of the students.

Among students without scholarships, the differences were also significant, but the observed patterns differed slightly:

- Degree in Business Administration and Management (BAM): This program showed a greater dispersion in credits passed and failed, suggesting a wider heterogeneity in the performance of students without scholarships.
- Degree in Criminology: Students without a scholarship in this program had lower success and performance rates compared to other degrees.
- Degree in Early Childhood Education: This grade reflected a good average performance, although with lower success rates than students with scholarships.

The differences observed by grade level between students with scholarships and students without scholarships highlight the importance of considering the context of each program when evaluating the impact of scholarships. In degrees such as Law and Early Childhood Education, scholarships seem to have a clear positive impact, while in others, such as Criminology, additional strategies could be implemented to improve students' academic performance.

These findings suggest that scholarship policies should be tailored to the specific characteristics of each program to maximize their effectiveness and ensure an equitable distribution of resources. In addition, they highlight the need for complementary interventions in programs with lower success and achievement rates, regardless of scholarship status.

4 Discussion

The detailed analysis of the academic trajectories of students at the Universitat Abat Oliba CEU during the period 2020–2024 allows us to understand the importance of scholarships as a key tool for equity and academic success. The results show that students with scholarships have a significantly higher academic performance compared to students without scholarships, which underlines the positive impact of these policies on university trajectories.

First, it confirms that scholarships facilitate access to university for students from different socioeconomic backgrounds. This finding supports previous studies that highlight the role of scholarships in promoting equity and inclusion (Michavila, 2013; Eurydice., 2020, 2022). Furthermore, academic performance metrics show that students with scholarships not only gain access to higher education, but also achieve outstanding levels of academic success, with success and achievement rates that exceed those of their non-scholarship peers.

Second, the maintenance of the scholarship throughout the academic trajectory of the beneficiaries indicates that these grants are sustainable and effective in the long term. This data contrasts with studies that mention additional pressures on students with scholarships to maintain their performance (Berlanga et al., 2018; Grasset, 2018). In the case analyzed, scholarship students show an outstanding ability to meet academic requirements, which may be related to the adequate design of scholarship policies at this university.

On the other hand, the comparative analysis between scholarship and non-scholarship students reveals disparities that suggest areas for improvement. Although scholarship students have superior performance, the gap in failed and unsuccessful credits indicates the need for additional measures to support non-scholarship students, who may face greater economic or personal barriers that affect their performance.

The analysis conducted provides key information on differences in academic performance from two fundamental perspectives: by gender and by type of degree, differentiating between students with scholarships and students without scholarships. These observations offer important implications for the implementation and improvement of educational and scholarship policies.

In terms of gender comparisons, women consistently outperform men in indicators such as cumulative grade point average, success rate and rate of return. These differences are particularly pronounced among students with scholarships, suggesting that women manage to take more effective advantage of the opportunities offered by these financial aids. Among non-scholarship students, although the differences are less marked, women also show superior performance on most metrics. These findings underscore the need for further research on gender dynamics in the university context and their relationship to scholarship policies.

In relation to the differences by degree, significant variations in academic performance are observed depending on the program of study; a result that is aligned with the study on the importance of the variable Degree in adaptation to university by Corti et al., 2023). Among students with scholarships, degrees such as Law and Early Childhood Education stand out for their high success and performance rates, while Criminology presents greater variability, possibly due to differences in the demands or characteristics of the program. Among non-scholarship students, programs such as BAM show greater dispersion in credits passed and failed, suggesting greater heterogeneity in performance. In contrast, Early Childhood Education continues to reflect good average performance, although with lower success rates compared to students with scholarships.

The results of our study indicate that there is a significant concentration of scholarship students in the areas of Social

Sciences. This could be attributed to several factors, including a greater offering of programs in these areas at our institution or a particular focus of scholarship policies toward disciplines that traditionally attract a greater number of students in need of financial support. That said, the observed differences in academic performance attributable to subject areas suggest that the impact of scholarships may vary by field of study. In Social Sciences, where we observe a higher number of scholarship students, we may also be seeing a combined effect of program structure and the additional support that scholarships provide, such as tutoring and access to additional academic resources, which can be especially beneficial in disciplines that require a great deal of critical reading and writing.

These findings have important implications for the improvement of scholarship policies and academic support strategies. It is essential to adapt these policies to the specific needs of each degree and to promote complementary interventions in programs with lower success rates, such as Criminology. Likewise, the gender dynamics identified highlight the relevance of designing differentiated approaches to maximize the positive impact of scholarships, ensuring that all students, regardless of their gender or program of study, have access to the same opportunities for academic success. These findings reinforce the importance of scholarships not only as an instrument to guarantee access, but also as a tool to promote equity and achievement in higher education.

Likewise, scholarships have compounding and multifaceted effects on students. The empirical indicators considered in the present study may not fully reflect other intangible benefits of scholarships, such as psychological well-being and financial security, which may also influence academic performance. Future studies could explore the inclusion of broader variables to measure the impact of scholarships, such as student satisfaction and participation in university life, to obtain a more complete picture of the object of study.

The findings of this study coincide with previous research such as Berlanga et al. (2017) and Figuera and Torrado (2013), which highlight the positive impact of scholarships on the permanence and academic performance of students. As in these works, it is confirmed that students with scholarships present higher success rates and greater continuity in their studies compared to students without scholarships. However, this analysis complements the literature by emphasizing the importance of a comprehensive approach that includes not only financial support, but also academic strategies that enhance the impact of scholarships on student success.

In the context of private universities such as the Universitat Abat Oliba CEU, the results reinforce the value of scholarship policies as key instruments to promote equity and attract diverse talent. In social and educational terms, scholarships not only facilitate access to higher education, but also contribute to reducing structural inequalities, fostering social mobility and the development of skills in traditionally disadvantaged populations. This impact transcends individual trajectories and becomes a transformational factor for communities and the labor market.

To maximize the positive impact of scholarships, it is essential to complement these aids with mentoring, tutoring and academic guidance programs that guarantee the academic success of the beneficiaries. In addition, it is a priority to expand the coverage of scholarships, increasing the resources allocated to them, especially in private universities, to include a greater number of economically vulnerable students. It is also necessary to implement monitoring and evaluation systems to measure the long-term impact of scholarships, considering indicators such as academic performance, graduation rates and labor market insertion. Finally, it is crucial to promote territorial equity through policies that reduce disparities in access to scholarships, considering regional differences in costs and educational needs.

These actions would not only strengthen the positive impact of scholarships but would also contribute to a more inclusive and equitable education system. This study provides a solid basis for the design of more inclusive and evidence-based education policies. The results underline the importance of scholarships not only to ensure access to higher education, but also as a key instrument to boost academic success and foster participatory equity (European Higher Education Area, 2020). It is essential that these policies are accompanied by academic and social support strategies that reinforce the retention and graduation of all students, regardless of their socioeconomic status.

Data availability statement

The data analyzed in this study is subject to the following licenses/restrictions: data available on request due to privacy/ethical restrictions. Requests to access these datasets should be directed to FC, fcorti@uao.es.

Ethics statement

The studies involving humans were approved by Research Ethics Committee of the Universitat Abat Oliba CEU. The studies were conducted in accordance with the local legislation and institutional requirements. The ethics committee/institutional review board waived the requirement of written informed consent for participation from the participants or the participants' legal guardians/next of kin because at the time of enrollment at the university, students sign an informed consent form authorizing the use of their data for educational research purposes.

Author contributions

VB: Conceptualization, Data curation, Formal Analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review and editing. FC: Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Software, Validation, Visualization, Writing – original draft, Writing – review and editing.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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