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# Academic Performance and Persistence of Study Bursary Holders

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#### **Abstract**

The social dimension of higher education is a key element in university-wide policies and procedures at international level. Amongst measures to improve student retention, grants and bursaries promote equity by making financial assistance available for study purposes to children of low-income families. Within the framework of the Spanish government's University Strategy 2015 programme, the purpose behind the introduction of study bursaries was to provide economically disadvantaged social groups with access to, and the possibility of completing, higher education studies. From a study of 642 undergraduate students awarded a study bursary in the 2010-11 cohort at the University of Barcelona, a profile of the study bursary holders and their academic performance during their first year at university was defined. The projected results indicate that study bursaries lead to higher levels of student dedication in the pursuit of study and that they offset the difficulties faced by students from low-income families.

*Keywords:* transition to university, study bursary, academic performance, social dimension, non-conventional university students, student persistence.

#### Introduction

Within the context of the European Higher Education Area (EHEA), the London Communiqué (2007) is a key point of reference in that it represented an important step forward in the comprehensive definition and operationalization of the concept of the social dimension and by guiding education policies in a way as to foster the goal of a socially inclusive and equitable system of higher education (Eurydice, 2011). In addition to facilitating access through funding programmes together with flexible systems of access, institutions need to ensure equity across career pathways (persistence) and in outcomes (graduation). Similarly, gover-

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nments need to adopt mechanisms that enable students to complete their studies regardless of obstacles associated with social origin or economic situation (Harrison & Hatt, 2012; Egido Gálvez, Fernández Diaz & Galán, 2014). In other words, institutions must address the problems of inequity in the system.

The social dimension of higher education has become a key and fundamental element in university policies, and reforms in recent decades have accordingly aimed at consolidating more inclusive and open institutions while at the same time seeking to apply and make compatible the two key principles of equity and excellence. In Spain, this process has occurred in parallel with the setting up of the European Higher Education Area (EHEA), which established the overarching framework for the basic principles of change at EU level. Within the context of the EHEA, the social dimension has always been considered one of the aspects fundamental to the modernisation of universities that aspire to be the driving force of intelligent and sustainable growth and actively promote social cohesion.

Recent research on this has been conclusive, with economic factors being one of the main predictors of access and choice of studies (Troiano & Elias, 2014). According to Cabrera, Pérez and López (2014), a large body of work has been carried out at international level that affirms the under-representation at university of students from low-income families. In Spain, the increase in university fees since the 2012-13 academic year and reductions in grants, together with the increased impoverishment of families as a result of the economic crisis, augured changes in the social composition of the universities. As Michavila (2013) and Arińo (2014) have also pointed out, regional differences in tuition fee policies have led to a high level of segmentation between the Autonomous Communities (regions of Spain).

In a recent study on students at two Catalan universities, Elias and Daza (2014) established the existence of clear differences in the social composition of different degree courses according to the fees and level of difficulty of the courses, with more working class students taking degree courses that presented fewer risks, i.e. the fees were more economical and the subjects less difficult for the student. This phenomenon was even higher among low-income student grant holders, which shows the impact of economic conditions on the expectations and strategies used by students to choose their university degree course. Studies by Langa and Rio Ruiz (2013), Rio Ruiz and Jiménez Rodrigo (2014), and Arino (2014) point in the same general direction.

The data also raise questions about the performance indicators in that the graduation rates of economically disadvantaged students are lower and these students tend to take longer (more years) to complete their studies (Cabrera, Pérez & López, 2014; Crawford & Harris, 2008; Gairin *et al.*, 2014). The causes of this may be due to an interaction of personal and contextual factors. The influence of prior academic background (i.e. acquired knowledge, and study and time

management skills) explains the outcomes of some students, especially those who drop out due to academic reasons (Rodriguez, Fita & Torrado, 2004; Cabrera, Burkum, La Nasa & Bibo, 2012; Figuera & Torrado, 2014, 2015). Another influence is the high number of students who work and study at the same time; in this situation, employment leads to a reduction in the amount of time students spend on campus, studying and interacting with their peers and teachers. Several consequences of this are increased levels of stress, lack of motivation and poor academic performance (Adams and Corbett, 2010; Gilardi and Chiara, 2011). Mandatory attendance of classes and activities under the new Bologna model is detrimental to these groups and has increased student drop-out in higher education (Gairin *et al.*, 2014; Troiano & Elias, 2014; Borgen & Borgen, 2015). Other significant variables include those connected with the social and cultural capital of a student's family of origin, identified with variables such as "first generation" (Rodriguez Espinar, 2014) and the path of admission (Figuera & Torrado, 2014, 2015).

Given all of these data, there have been numerous calls, as well as reports on the subject, for an adequate system of funding and financial assistance to safeguard the principle of equity. In recent years there have been important changes in the funding model of Spanish universities (OECD, 2013), particularly with the passing of legislation (Executive Order 922/2009, 29 May) dealing with a new system of grants grounded in a model based on the criteria of equity and efficiency. The most significant development was the introduction of a new type of study bursary (beca salario), which represented a shift in the modernisation of what had, up until that time, been a fragmented system of compensatory grants. Study bursaries now became available for full-time study and provided students with an income to offset the expenses involved in going to university. This new grant system began to be introduced progressively from the 2009-10 academic year onwards, the idea being that the current system would be phased out by 2020. This process however was modified substantially by Executive Order 14/2012, which restricted access to the bursaries through stricter economic and academic requirements (the family's level of income, and a higher level of required average grades in higher secondary education and university studies). This new legal framework, together with the increase in university fees, has led to a social debate on the implications for the principles of equity embraced by the university system in Spain.

In the light of this debate, various authors have highlighted the need for compatible data in order for the effect of bursaries as a factor affecting access and continuance in the education system, and as a key instrument in the achievement of equity, to be appropriately discussed. These lines of research are still in an early stage in Spain, although certain working hypotheses can be drawn from the results. Some studies refer to post-compulsory education, such as the work by Mediavilla (2010), who concludes that the way that 19-year old students perceive

a bursary has a positive impact on their level of educational achievement, and the work of Rio Ruiz and Jiménez Rodrigo (2014) with students awarded a bursary subject to academic achievement, with the authors observing an increase in the number of students who fulfil the academic requirements to obtain a bursary. For some students, the bursary also serves as an incentive that determines key variables such as the commitment to and degree of effort put into study, with outcomes that vary according to academic pathway and level of prior achievement.

The studies also bring to the fore the underlying difficulties faced by students where academic study is conditioned by their need to constantly fulfil certain requirements in order to maintain a study bursary. Becoming a bursary holder influences their attitudes and vital strategies, as well as their approach to study. Instrumental strategies predominate in their choice of degree course, with students choosing study programmes that they are more likely to pass in. The use of instrumental strategies also predominates in planning and coping with their studies with the aim of achieving certain required pass grades in order to maintain a bursary. On the other hand, grade marks and the possibility of more in-depth study through elective (optional) courses may be affected due to the pressure of having to fulfil the on-going academic requirements of maintaining a bursary (Rio Ruiz & Jiménez Rodrigo, 2014).

The current debate on funding mechanisms to achieve and safeguard the goals of equity underpins the need for longitudinal and contextual studies that can help to explain the different realities that are involved. The objective of this article is to present the findings of research aimed at analysing the process of transition during the four years at university of a cohort of students who gained admission with a study bursary. More specifically, it deals with the variables that reinforce persistence at university of study bursary holders and the effectiveness of study bursaries in the transition at the end of their first academic year. An attempt is made to measure the relationship between study bursary holders and student persistence at university.

#### Method

The aim of the research was to analyse the effect of study bursaries, as an economic factor, on the first-year performance of students at university. This involved an analysis of the relationship between individual and academic characteristics and the probability of persistence according to the performance of students who were admitted to the University of Barcelona with a study bursary in their first year at university.

Use was made of the available data on students admitted to undergraduate study programmes at the University of Barcelona in the 2010-11 academic year to identify and analyse this impact. The fact that the analysis is based on data on just

one university could imply that the findings cannot be easily extrapolated to the university system as a whole. The University of Barcelona is however the largest university in Catalonia in terms of the number of undergraduate students and the second largest in Spain. A wide range of degree courses is also offered at the university, including programmes in all five of the main areas of knowledge.

This research forms part of a broader ex post facto study of a comparative descriptive nature in which an analysis was made of the data from the institutional database (analysis tool) that combines the information on new students in a total of sixty-eight (68) undergraduate degree courses at the University of Barcelona in the 2010-11 academic year, covering all five of the main areas of knowledge. The data throw light on the impact of study bursaries within the target context of study and according to different subject areas. 2009-10 was the first academic year in which study bursaries were introduced in Spain for undergraduate students, and for this reason the baseline used for the study was the entry cohort in 2010-11.

# **Participants**

A total number of 9,538 study bursaries were awarded in Spain in the 2009-10 academic year, which accounted for 4.70% of all students awarded a grant under the national grant scheme (Table 1). A total of 392 study bursaries were awarded to students at the University of Barcelona that year. In the 2010-11 academic year, the year covered by this study, the number increased (as might be expected) to 642 new entrant study bursary holders. The 2010-11 academic year was consequently chosen for analysis because by then the new programme had become consolidated.

The study population consisted of 642 new entrant undergraduate student bursary holders in the 2010-11 cohort (10,394 new entrant students) at the University of Barcelona.

Table 1.	Volume of bursary	holders in	the 2009-10	academic year

Typology of students	Spanish Public Universities	Catalan Public Universities	University of Barcelona
New entrant students	203,352	212,867	10,717
New entrant undergraduate student bursary holders	9,538	3,456	392
Percentage	4.70%	1.60%	3.65%

*Source:* Data and Figures on the University System in Spain 2010-11, University of Barcelona 2009-10 academic year, and ACUP (2011)

## Data Analysis

PASW Statistics' pack of statistical analysis tools (version 20.0) was used for the data processing and analysis. The following were carried out: descriptive univariate analyses of all the variables involved; descriptive bivariate analyses to explore the relationship between the variables; normality tests; parametric and non-parametric tests; and analyses of variance (ANOVAs) to determine the significance of the differences encountered

#### **Results**

## The profile of study bursary holders

As regards the socio-demographic characteristics, the number of female bursary holders was in general considerably higher than that of male bursary holders (445 females compared to 197 males). In spite of the fact that female students in general tend to out-number male students in the Social Sciences, the data show that female students obtained proportionally more study bursaries (7% of female students compared to 4.9% of male students in the particular case of students at the University of Barcelona).

With regard to the socio-economic variables, the database included two indicators of social and family background: the father and mother's level of education and their occupation. The results show that there were differences in relation to the general profile of the cohort. The level of education of the parents of students who obtained a study bursary was lower than that of other students. The analysis of the second indicator of the family background, i.e. the parents' level of occupation, showed a similar relationship.

As far as academic background is concerned, most students with a study bursary attended a public educational institution prior to university. There were significant differences in terms of the path of admission to university. The majority of students with a study bursary gained admission in the usual way, i.e. by sitting university entrance exams, although more than one in four students gained admission to university on finishing advanced vocational training (CFGS) as to directly following post-compulsory schooling (*bachillerato*). The proportion of students with a study bursary who gained admission to university on finishing advanced vocational training was clearly higher than that of students in the same cohort who did not have a study bursary (32.2% compared to 16.8%). With regard to the grade obtained in the university entrance exams, a Mann-Whitney U test showed that there were no significant differences in relation to students who did not have a study bursary ( $p \le 0.183$ ) (Ferrán, 2002).

# Study bursary and academic performance

Analysis was made of the effects of study bursaries on the academic performance of bursary holders, i.e. if bursaries contributed to better academic outcomes in the form of higher grades. To analyse the degree to which the award of a study bursary actually helped to improve the academic performance of bursary holders, two measurements were considered: a) the number of course exams sat, and b) the average grade of exams sat. Other indicators of academic performance such as the exam sitting rate, the exam pass rate and the course pass rate, were also taken into account.

Academic performance in the first year of study at university is one of the main factors affecting persistence among students with a study bursary as they have to comply with certain academic requirements in order to maintain their bursaries, namely, they have to enrol in a certain number of courses and they have to pass a certain number of course exams. To place the data on the number of finally registered students who sat the exam in context, consideration must also be given to the prevailing regulations. New entrant students at the University of Barcelona can either enrol as full-time students in ten (10) courses (6 ECTS each module) or as part-time students in modules totalling between 30 to 36 ECTS. In practice, only a very small proportion (less than 1%) of students enrolled as parttime students in recent academic years. Students have to enrol as full-time students in order to be eligible for a study bursary. It was for this reason that performance was measured on the basis of the number of course exams sat as to the percentage of course enrolments. The number of course enrolments however was the same for the overwhelming majority of students, with the exception of students who had previous recognised qualifications (convalidación).

Table 2 shows a comparison between academic data on study bursary holders and other students. From the available information, it was possible to estimate if these values are statistically different. The results of a Mann-Whitney U test (for independent samples) show that the difference is significant at the 95% level of confidence for the number of course enrolments ( $p \le 0.000$ ), the number of course exams sat ( $p \le 0.001$ ) and the exam pass rate ( $p \le 0.001$ ). More specifically, study bursary holders enrolled in more courses and sat more exams (due to the conditions imposed by the award of a study bursary), although their exam pass rate (% of exam sitters who pass the exam) was lower than that of non-bursary holders.

	,	3	
Variables	Non-bursary holders (N=9.752)	Study bursary holders (N=642)	Sig.
Course enrolments	1 to 5: 8.4%	1 to 5: 1.3%	0.000**
	> 5: 91.6%	> 5: 98.7%	0.001**

Table 2. Academic differences between study bursary holders and other students

variables	Non-bursary noiders (N=9.752)	(N=642)	Sig.
Course enrolments	1 to 5: 8.4%	1 to 5: 1.3%	0.000**
	> 5: 91.6%	> 5: 98.7%	
Course exams	1 to 5: 16.3%	1 to 5: 9.4%	0.001**
	> 5: 83.7%	> 5: 90.6%	
Approved courses	1 to 5: 26.4%	1 to 5: 21.9%	0.803
	> 5: 73.6%	> 5: 78.1%	
Average grade (s.d.)	6.03 (1.62)	5.83 (1.54)	0.001**
Exam sitting rate 1	85.3%	87.6%	0.107
Exam pass rate <sup>2</sup>	72.4%	68.3%	0.001**
Course pass rate 3	66.4%	64.5%	0.083

<sup>&</sup>lt;sup>1</sup> Exam sitting rate (% of finally registered students who sat the exam)

Source: authors' computations

In addition, an analysis of the average grade for first-year students using the means test (Mann-Whitney U test) shows that there is a significant difference  $(p \le 0.001)$  between study bursary holders and non-bursary holders. The difference was higher for non-bursary holders (a mean of 6.03 compared to 5.83 for students with a study bursary) (see Table 2). It can be concluded that academic performance was slightly lower in the case of study bursary holders. This may be due to the greater pressure on study bursary holders taking exams that they had to pass in order to maintain a study bursary. According to the regulations at the time of the 2010-11 academic year, students with a study bursary were required to pass 80% of their enrolled credit courses in order for their bursary to be extended.

# Study bursary and persistence

The relationship between study bursaries and academic performance and persistence among study bursary holders was analysed. As a preliminary step, the issue of the academic performance of university study bursary holders who persisted compared to those who did not was considered. The basic hypothesis was that compliance with the academic requirements in order to retain a study bursary may have an effect on the probability of students dropping out of their degree courses at the end of their first year of study at university.

<sup>&</sup>lt;sup>2</sup> Exam pass rate (% of exam sitters who pass the exam)

<sup>&</sup>lt;sup>3</sup> Course pass rate (% of finally registered students who pass the exam)

<sup>\*\*</sup> significant at the level of 0.01

*Table 3.* Academic differences between study bursary holders who persisted and those who dropped out at the end of the first year at university

Variables	Study bursary holders who	Study bursary holders who dropped	Sig.
	persisted	out	
	N=510	N=132	
Course enrolments	1 to 5:0.6%	1 to 5:3.8%	0.209
	> 5: 99.4%	> 5: 96.2%	
Course exams	1 to 5:1.4%	1 to 5 5:43.7%	0.000**
	> 5: 98.6%	> 5: 56.3%	
Approved courses	1 to 5: 11.2%	1 to 5:78.4%	0.000**
	> 5: 88.8%	> 5: 21.6%	
Average grade (s.d.)	6.21 (1.23)	4.17 (1.66)	0.000**
Exam sitting rate	96.5%	49.6%	0.000**
Exam pass rate	76.4%	25.8%	0.000**
Course pass rate	74.5%	12.4%	0.000**

\*\* significant at the level of 0.01 Source: authors' computations

A comparison of the performance of the two groups shows there were significant differences in all of the variables with the exception of the number of course enrolments (*Table 3*). The enrolment rate of both study bursary holders who persisted and study bursary holders who did not continue was high, although the exam sitting rate and course pass rate were much higher for study bursary holders. Their exam sitting rates, exam pass rates and course pass rates were therefore very high.

As far as the average grade in the first year at university was concerned, study bursary holders who dropped out had lower average grades than other students (4.17 compared to 6.21) (see *Table 3*). In this regard, study bursary holders who dropped out of their degree course at the end of the first year had a high enrolment rate, although their subsequent performance was poor. This may have been due, amongst other reasons, to greater pressure on study bursary holders taking exams that had to be passed in order to renew a study bursary. Other non-academic variables may have also had an influence on this poor performance and subsequent drop-out.

The empirical evidence shows that study bursaries enable this type of student to gain admission to university and that they do fulfil the principle of equity in access and during the period of transition. On the other hand, 20.6% (132 students who dropped out from a total of 642) with a study bursary were unsuccessful in the process of academic transition compared to 21.7% of the non-bursary holder population of the study without a study bursary who dropped out. The inability of students to integrate into the academic system, measured in terms of the percentage that do not pass exams and their grades, would appear to be one of the possible causes of drop-out among bursary holders and the non-bursary holder population. Of greater concern, however, is whether this group of students (20.6%) with fewer resources will be capable of returning to higher education.

#### **Conclusions**

Very little research has been done up until now on ascertaining whether financial aid for students results in a higher probability of students with fewer financial resources staying on at university. Literature on this subject has been limited to determining the role of financial aid in improving access to university and analysing the effect of credits constraints on decision making by students as to whether they should enter higher education or not.

In this regard, the key purpose of grants for study purposes is to cut across economic barriers and increase the possibilities for social groups that face financial hardship and difficulties to gain access to higher education and continue and complete their studies. There have been many calls, as well as reports on the subject, for an adequate system of funding and financial assistance that safeguards the principle of equity in the university system (Harrison & Hatt 2012; Egido Gálvez, Fernández Diaz & Galán, 2014; Arino, 2014). The findings of this research show, first, that the persistence rates of students with a study bursary are similar to those of students as a whole. This would seem to indicate that study bursaries do help to compensate the difficulties of students from low-income families, which means that study bursaries are a powerful instrument for safeguarding social equity. In this regard, our findings would appear to confirm the thesis by Cabrera, Pérez and López (2014) and Rio Ruiz and Jiménez Rodrigo (2014) that a study bursary is an incentive that has an effect on key variables such as commitment and the degree of effort put into study by students, with positive outcomes on the level of performance.

The current deterioration in the economic conditions in Spain, however, together with the increase in the cost of university fees, calls into question the way in which changes to policy dealing with grants and bursaries will affect the academic performance of students. Based on our research, it was found that the award of a study bursary does not, in itself, guarantee more intense dedication to study or better academic performance. While further research into this issue is needed, this would seem to indicate that greater academic pressure stemming from economic problems and the need to hold on to a study bursary leads to students having less incentive to obtain better grades and their being more inclined to ensure that they pass in more courses.

Some authors are of the opinion that aspects of family background associated with income and the parents' education have a potential role in the educational attainment of their children, which has opened a new analytical perspective that sees family background as a vital input in the individual's process of accumulating skills. Parents transmit their patterns of income and consumption, as well as their skills, to their offspring, postulating factors that determine both the quality and quantity of skills accumulated as a result of education (Arińo & Llopis, 2011).

The empirical evidence thus indicates that a significant proportion of the university student population comes from a low-skill family environment. It can therefore be concluded that access to a university education results in inter-generational mobility for the children of families with a low-income level and a low level of education as, by gaining admission to university, they also gain access to the world of opportunities that a university degree offers.

On the basis of the results of the study, economic necessity is a factor of psychological stress that forces students to divert their attention from academic activities to worrying about money. If such financial circumstances remain unchanged, students end up distancing themselves from the academic and social circles in the institution and focus on other activities. In this regard, one initial conclusion, in line with the thesis of authors such as Cabrera *et al.*, (2012), is that the effects of the variables of family context may have an indirect influence on the academic outcomes of students through factors such as the cultural and family context, access to complementary courses at university, social network, etc. In addition to study bursaries and other grants, consideration needs to be given to the application of institutional programmes in higher education that include cultural support for these groups in order to safeguard the equity that the system seeks to provide.

Bearing in mind the more student-centred approach to academic performance and achievement in the European Higher Education Area (Martin *et al.*, 2010), counselling can clearly have an impact especially during the first year at university, and in this context student tutoring and counselling by the university can play an important role.

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