

PUBLIC AND PRIVATE UNIVERSITY STUDENTS: A COMPARATIVE ANALYSIS OF SOCIODEMOGRAPHIC, ACADEMIC, ECONOMIC AND PSYCHOLOGICAL VARIABLES

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Abstract

The Covid-19 pandemic has had a vast impact on society, particularly in the higher education (HE) context, with online classes and social isolation recommendations. While much of the post-pandemic research on this topic does not distinguish between public and private institutions or focuses mainly on public institutions, exploring students' realities (similarities and differences) in public and private universities deserves special consideration. Along with other aspects, considering the pandemic's economic challenges and discrepancies in tuition fees between institutions, such a topic might be of particular interest. Financial distress may encourage students to seek employment alongside their studies, which may lead to additional difficulties or potentially negative outcomes. This cross-sectional study aimed to: (1) compare students enrolled in public and private universities in a set of relevant variables, including dropout intentions; (2) assess if there are interaction effects between type of institution (public vs. private) and work status (being or not a working student). A stratified sample of 1070 Portuguese university students aged between 19 and 45 years ($M = 22.87$; $SD = 3.64$), selected through a convenience quota method, was assessed for sociodemographic, academic, economic, and psychological variables using self-report instruments. The data were collected between November 2022 and February 2023. Descriptive, two-factor ANCOVAs, and MANCOVAs, controlling for the study cycle (bachelor, master), were conducted. Regarding the type of institution, the findings showed that there were more displaced students in public universities, while private universities had more working students. Students from public universities showed greater adaptation difficulties in several domains. Although students from private institutions reported higher monthly expenses, no differences were found regarding economic difficulties or in the perception of income decrease in the last two years. No differences were found in the levels of academic self-efficacy, academic exhaustion, social connectedness to the campus, or dropout intentions between students from public and private universities. Working students showed higher economic difficulties than non-working students. No interaction effects were found between type of institution and work status. These findings provide valuable insights into the profiles of university students in both public and private institutions in a post-pandemic context. Many students in both public and private institutions work part-time or full-time to afford their education because of the rising cost of living. However, being a working student does not seem to imply greater academic exhaustion or association with dropout intentions, which may suggest a positive impact of this condition on academic performance and students' well-being. Further contributions to research and higher education stakeholders are discussed.

Keywords: *Higher education, public and private institutions, students' work status, academic adaptation difficulties, dropout intentions.*

1. Introduction

Over the past few decades, higher education in Portugal and across Europe has undergone significant transformations, marked by the expansion and diversification of both public and private sectors. These changes have been driven by a combination of policy reforms, societal demands, and economic factors, leading to a more inclusive and varied educational landscape (European Commission, 2024).

In Portugal, the late 20th century witnessed a substantial increase in higher education enrollment. This was partly due to the democratization of education and the extension of compulsory schooling, which collectively fostered a greater demand for tertiary education. The public sector, traditionally the primary provider of higher education, faced challenges in accommodating this growing demand, leading to the emergence and rapid expansion of private institutions. Between 1985 and 1996, the private higher education sector in Portugal transformed from a peripheral entity into a mass system, significantly increasing its share of student enrollments. This expansion was facilitated by legislative changes, notably the Decree-Law No. 100-B/85 and Decree-Law No. 121/86, which provided a legal framework for private higher education institutions. These laws aimed to regulate and promote private initiatives, enabling them to complement the public sector and address the educational needs of a diversifying student population (Cabrito, 2010). Despite the growth of private institutions, public higher education in Portugal continued to have a dominant role. Data from the Directorate-General for Education and Science Statistics (DGEEC) indicate that, as of the 2022/2023 academic year, public universities and polytechnics enrolled most higher education students. In the academic year 2020/21, there were 36 public and 70 private higher education institutions (HEIs). Over 81% of students were enrolled in public-sector institutions, 19% enrolled in private HEIs (OECD, 2022). This trend reflects ongoing efforts by the public sector to expand capacity and adapt to changing educational demands (DGEEC, 2024).

The expansion of higher education in Portugal has also been accompanied by efforts to increase the population's educational attainment. In 2023, 41.5% of young adults aged 25 to 34 held a higher education degree, reflecting a steady increase over the past decade, though still slightly below the European Union average of 43.1% (European Commission, 2024). This upward trend underscores the country's commitment to enhancing educational outcomes and aligning with broader European targets. Students enrolled in public universities are more likely to relocate from their hometowns compared to their counterparts in private institutions. This trend is attributed to the geographical distribution and prestige associated with public universities, which often impose students to move to urban centers to access desired programs. According with Sá et.al (2011), as far as cultural and socio-economic background are concerned, income and parental education have been shown to play a role in determining the decision to leave home to attend higher education. Students from disadvantaged economic backgrounds appeared to be more constrained in their choices than other students. In fact, the Organization for Economic Cooperation and Development (OECD) 2022 country report points out that, in Portugal, displaced students accounted for around one-third of students attending public higher education institutions, more than double the proportion in the private higher-education sector. Among these “displaced students”, around 40% were defined as in financial need. Students at private institutions are often faced with higher monthly costs than those at public universities, which means that they are more likely to be working students. This difference is primarily due to elevated tuition fees in private institutions. Given the higher tuition fees associated with private institutions, students attending these institutions may seek employment to offset educational expenses.

2. Objectives

The first aim of this cross-sectional quantitative study was to compare students from public and private universities (institution type) on sociodemographic variables (geographical displacement and work status), academic and psychological variables (adaptation difficulties, academic self-efficacy, academic exhaustion, social connectedness to the campus, and dropout intentions), and economic variables (monthly expenses, perceived economic difficulties, and perceived income reduction over the past two years). The second aim was to examine whether institution type (public vs. private) and work status (working vs. non-working students) interact to influence students outcomes, particularly in terms of academic adaptation, self-efficacy, economic struggles, academic exhaustion, social connectedness, and dropout intentions.

3. Methods

3.1. Participants

The study included the participation of 1070 higher education university students (44.8% male and 55.2% female), with 77.9% from public institutions and 22.1% from private institutions. The majority were enrolled in courses that were their first choice (82.4%). Also, 50.8% of the students were displaced, and 61.2% of students were exclusively dedicated to their studies, while 38.8% combined work and study (working-students). Most participants attended daytime courses (85.2%), and the mean age of students was 22.87 years ($SD = 3.64$).

3.2. Instruments

A **Sociodemographic** questionnaire was used to assess characterization variables, namely the residence (displaced or not) and working status.

The **Screening Instrument for Students at Risk of Dropping Out from HE** (Casanova et al., 2021) was employed to measure Dropout Intention (7 items), Academic Exhaustion (5 items), and Satisfaction with Education (5 items). Responses are given on a 5-point Likert scale, ranging from 1 (never) to 5 (always). In this study, the internal consistency in the subscales, as measured by Cronbach's alpha, was .84 for Satisfaction with education, .83 for Academic exhaustion and .87 for Dropout intention.

To evaluate academic adaptation difficulties, the **Instrument for Exploring Difficulties in Academic Adaptation** (Casanova & Almeida, 2017) was used. This instrument assesses six areas: 1) Adaptation to the Institution, 2) Learning, 3) Interpersonal, 4) Economic, 5) Autonomy, and 6) Vocational. Each domain is measured with a single item, rated on a scale from 1 (no difficulties) to 5 (several difficulties).

The Portuguese version of the **Social Connectedness Scale** (SCS; Lee & Robbins, 1995) was used to assess students' sense of social connectedness to the campus. This unidimensional scale consists of 8 items and evaluates students' personal sense of belonging in higher education settings. Responses are recorded on a 6-point Likert scale (1 = strongly disagree; 6 = strongly agree). In this study, the Cronbach's alpha was .92.

Academic self-efficacy was assessed using the **Academic Self-Efficacy Scale** (Santos et al., 2019), a 4-item scale rated on a 5-point Likert scale, where 1 represents strongly disagree and 5 indicates strongly agree. In the current study, this scale demonstrated strong reliability, with a Cronbach's alpha of .89.

3.3. Procedure

After approval by the Ethics Committee of the Lusófona University, data collection took place via online and telephone. All participants gave informed consent. The telephone data collection was carried out using the CATI system (Computer Assisted Telephone Interviewing), by experienced interviewers. The online data collection was done through an online survey directly accessed by the participants, who had previously accessed the survey link, through the CAWI system (Computer Assisted Web Interviewing).

3.4. Data analysis

Statistical analyses were conducted using ANOVAs, Chi-Square tests, and (M)ANCOVAs to examine the effects of institution type (public vs. private) and work status (*working vs. non-working students*) on various academic, economic, and psychological variables. Given the significant effect of the study cycle variable (bachelor vs. masters) and differences between sub-samples (a higher proportion of undergraduate students in private institutions), this variable was controlled in the analysis. Chi-Square tests, one-way ANOVAs were used. Two-way (M)ANCOVAs were used to analyze the main and interaction effects of institution type and work status on economic, academic, and psychological variables.

4. Results

Before conducting the main analyses, assumption checks were performed. Levene's test indicated that the assumption of homogeneity of variances was met for all dependent variables ($p > .05$). Box's M test for equality of covariance matrices was non-significant ($p > .05$), indicating homogeneity of covariance matrices.

Regarding sociodemographic differences, public university students were significantly more likely to be displaced (54.1%) than private university students (39.40%), $F(1,1066) = 15.84, p < .001, \eta^2 = .015$. Additionally, students from private institutions were significantly more likely to be working-students (47.9%) compared to those from public institutions (36.20%), $F(1,1066) = 10.55, p = .001, \eta^2 = .010$. Concerning academic and psychological variables, public university students reported greater adaptation difficulties compared to private university students in these areas: institutional (public: $M = 2.25, SD = 1.10$; private: $M = 2.09, SD = 1.01, F(1,1065) = 4.66, p = .031, \eta^2 = 0.004$), interpersonal (public: $M = 2.38, SD = 1.21$; private: $M = 2.20, SD = 1.17, F(1,1065) = 4.00, p = .046, \eta^2 = 0.004$), learning (public: $M = 2.42, SD = 1.07$; private: $M = 2.23, SD = 0.98, F(1,1065) = 6.34, p = .012, \eta^2 = 0.006$), and vocational (public: $M = 2.25, SD = 1.20$; private: $M = 1.88, SD = 0.98, F(1,1065) = 15.84, p < .001, \eta^2 = 0.020$). However, no significant differences were observed between institution types in terms of academic self-efficacy ($F(1,1066) = 2.34, p = .493, \eta^2 = .002$), academic exhaustion ($F(1,1066) = 1.79, p = .519, \eta^2 = .002$), social connectedness to the campus ($F(1,1066) = 0.98, p = .957, \eta^2 = .001$) and dropout intentions ($F(1, 1066) = 0.982, p = .322, \eta^2 = .001$). Students from private universities reported significantly higher monthly expenses (in euros) than those from public universities (private: $M = 656.40$,

$SD = 547.43$; public: $M = 523.29$, $SD = 542.06$), $F(1,1066) = 8.77$, $p = .003$, $\eta^2 = .008$). However, there were no significant differences in perceived economic difficulties ($F(1,1066) = 0.94$, $p = .519$, $\eta^2 = .001$) or perceived income reduction over the past two years ($F(1,1066) = 1.21$, $p = .272$, $\eta^2 = .001$). Also, no significant differences were found between groups in terms of academic exhaustion ($M = 2.82$, $SD = 0.97$ vs. $M = 2.70$, $SD = 0.99$, $F(1,1066) = 1.78$, $p = .183$, $\eta^2 = .002$) or dropout intentions ($M = 2.24$, $SD = 1.12$ vs. $M = 2.17$, $SD = 1.10$, $F(1,1066) = 0.98$, $p = .322$, $\eta^2 = .001$). However, working-students reported significantly greater economic difficulties ($M = 2.48$, $SD = 1.21$) than non-working students ($M = 2.21$, $SD = 1.15$), $F(1,1066) = 20.42$, $p < .001$, $\eta^2 = .019$.

Finally, interaction effects between institution type and work status were tested for all dependent variables. No significant interaction effects were found for academic adaptation ($F(1,1066) = 1.213$, $p = .271$), academic self-efficacy ($F(1,1066) = 0.982$, $p = .322$), economic difficulties ($F(1,1066) = 1.112$, $p = .292$), academic exhaustion ($F(1,1066) = 0.743$, $p = .389$), social connectedness ($F(1,1066) = 0.678$, $p = .410$), or dropout intentions ($F(1,1066) = 1.003$, $p = .317$). These results indicate that institution type and work status independently influence student experiences, with no significant interaction effect observed.

5. Discussion

Results show that students attending public universities had a much higher chance of being away from home than those attending private universities. This seems to be linked to family financial constraints, which may also influence students' academic pathways (Sá et.al, 2011). Displacement of students can negatively impact their lives - homesickness; difficulties in managing daily household responsibilities (Sosu et al, 2019), and the promptness at which the campus community is able to repair the disruption is crucial. Public policy and stakeholders can help by integrating mentoring programs and implementing school social action policies.

Students from private universities were substantially more likely to be working students than those from public institutions. Moreover, while perceived economic challenges did not differ significantly across institution type, individuals attending private universities reported far greater mean monthly expenses (in euros) than students at public universities. Although students from all backgrounds might work to support themselves, some research suggests that those from low-income families are more likely to do so than their higher income peers, and tend to work more hours than others (Anane & Curtis, 2022). Working more than 20 hours a week is associated with lower grades and higher retention rates (Logan et al., 2016). In our study, employed students reported much more financial difficulties than students who did not work. Private institutions must be aware of this challenge; not only the mismatch between income and expenditure is likely to mean that extra money is needed to study, considering the higher tuition fees, but the resulting need for part-time employment is likely to limit both the completion of studies and the ability to develop the skills necessary for 'employability' (Hordósy et al., 2018). These results underscore the importance of reinforcing financial assistance measures for higher education students.

Students from public universities report more academic and psychological challenges, including problems with institutional support, vocational and learning difficulties, than those from private universities. Vocational and learning difficulties often result from a mismatch between expectations and reality. Therefore institutions, particularly public institutions, could take proactive measures, namely by creating materials that accurately portray the institution and its academic programs; or implement tutorial or vocational reorientation activities from the moment students begins to show signs of difficulty in academic performance (Merkle et al, 2024). By the other hand, no differences were found between public and private students in terms of academic exhaustion and dropout intentions, with mean reported levels above the mean scale level for academic exhaustion. During pandemics, university students showed increased levels of anxiety, depression, and dissatisfaction with education formats (Calizaya-López et al., 2022). Dropout rates increased during pandemic years (Dargon & Moulin, 2025). It is expectable that changes brought by the "Covid-19 experience" have had a lasting and cumulative impact on students' education trajectories. Therefore, academic institutions in general should give greater attention to symptoms of academic exhaustion, since it evolves over time and becomes a strong predictor of dropout (Turhan, 2023).

While previous research suggests that private university students, especially working students, experience more stress from academic demands (Calizaya-López et al., 2022), in the present study, no significant interaction effect between work status and institution type was found. Future studies with qualitative and longitudinal studies may contribute to clarify the role of students' working status on academic trajectories and well-being. In conclusion, present study highlights differences and similarities in relevant academic features between students in public and private universities, and thus makes an important contribution to research and institutions that can play a role in changing educational contexts.

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