


Article

Student Burnout: A Case Study about a Portuguese Public University

Sofia Salgado ¹ and Manuel Au-Yong-Oliveira ^{1,2,3,*} 

¹ Department of Economics, Management, Industrial Engineering and Tourism, Campus Universitário de Santiago, University of Aveiro, 3810-193 Aveiro, Portugal; daniela.salgado@ua.pt

² INESC TEC, 4200-465 Porto, Portugal

³ GOVCOPP, Campus Universitário de Santiago, University of Aveiro, 3810-193 Aveiro, Portugal

* Correspondence: mao@ua.pt

Abstract: Burnout is increasingly present in organizations and in the most diverse professions, namely, in university students. Burnout can have negative repercussions on their well-being and can even lead them to abandon their studies. The objective of the study focuses on academic burnout and taking medication as a consequence of the requirements of the academic path of students at a Portuguese public university. To achieve this goal, a quantitative methodology was used, consisting of the distribution of a questionnaire to a sample of students from the analyzed university. The first study questionnaire obtained 207 responses, all valid. To perform the analysis of the quantitative data, the program IBM SPSS Statistics, version 25 was used. Inferential statistics were used, namely, Student *t*-test and one-way ANOVA (parametric tests), Spearman's correlation coefficient, and the Chi-square test, to test the previously defined research hypotheses. Among the variables for which statistically significant relationships with burnout were found, the following stand out: the arithmetic mean (course average); the professional situation; participation in extracurricular activities; the practice and frequency of physical exercise; the choice and expectations regarding the course; the uncertainty felt about the professional future; the evaluation of the relationship with colleagues.

Keywords: academic burnout; stress; higher education; quantitative research; coping strategies; medication



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1. Introduction

All individuals need to acquire fundamental knowledge and skills throughout their lives, and in particular, to exercise a profession. In an increasingly demanding world, the attendance of higher education is, for many, essential. However, nowadays, there are high levels of stress associated with university life and the environment of higher education institutions [1], and university students, exposed to highly competitive environments and sometimes precarious working conditions (in the case of student workers), are among the large portion of society that suffers from this complex state of mind.

According to [2], it seems frequent that, when entering university, students start by feeling only low levels of stress, caused, above all, by the uncertainties associated with the chosen training path and the type of instruction they face in the University education. The author states that this same stress tends, however, to increase with the progression in the academic path and with the intensification of the required work. The growing burden of study and responsibility also tends to add social and family pressures related to the desire for students to finish their study cycles successfully [3], as well as pressures derived from economic factors, cultural factors, and even aspects related to the personality of each student [4].

Among the factors that cause stress in young people are the significant changes that students go through in the transition periods from primary to basic education, from basic to secondary education and, of course, from secondary to university education. It is known

that it is precisely during these transition periods that students are most concerned with failure, with the future and with aspects such as the expectations of their parents, the possible end of a relationship or the distance from friends [5], all sources of pressure that can generate conflicts within your family.

On the other hand, among the various factors that generate stress and anxiety in modern society, there are also issues related to employability, namely, the unemployment rate of individuals with a higher education degree, which can have severe social, economic, and political consequences [6].

It is therefore imperative not only to understand what the consequences of stress are in a university context, but also to study how the growing concern of these students can cause harmful effects on their academic performance.

It is known that, today, one of the most common negative effects in the university community is academic burnout [7,8], which is a response to stress related to this specific environment, and which affects “the development, understanding and satisfaction of the student with their education and academic life” ([9], p. 4).

The academic burnout syndrome can be understood as the state in which a person is when subjected to long periods of work and stress, particularly caused by the questionable working conditions that he faces in the environment of the university institution in which he is inserted. These conditions can materialize in the lack of resources, in the high competitiveness among colleagues and in so many other factors that negatively influence the performance of any activities carried out in this area [10].

Now, all the peculiarities inherent to university life can cause students to develop syndromes such as burnout, directly associated with fatigue and emotional exhaustion [11], or other disorders of psychological well-being, related to the level of happiness and ideal personal development of students [12], a path that, in turn, must be free of psychological diseases and that implies reaching its full potential.

In the specific case of burnout, the student ends up facing academic life feeling disinterest and frustration, which, according to [4], has physical and emotional manifestations that are often accompanied by evasive behaviors and symptoms that mirror this discomfort. Some of these symptoms are identified: constant tiredness and fatigue; mental exhaustion; lack of ability to nurture their personal relationships; social distancing; complex mood states (such as anxiety, irritability and, in some cases, mild depression); difficulty in being focused or attentive during any task; weight loss and muscle spasms; hormonal and metabolic disorders; allergies and migraines; and insomnia and abuse of psychotropic and narcotic substances, alcohol or other drugs [10].

As can be seen from the symptoms linked to the aforementioned physical and psychological suffering, burnout is a worrying state of health, with many harmful effects [13]. Many of these symptoms are associated, in the case of university students, with a worse understanding of the subjects taught, with the low expectations of these students, with the (eventual) failure to obtain the desired academic degree and with the growing tendency to abandon the professional career for which the degree was initially chosen, as mentioned by authors such as [14,15].

However, and although it is difficult to avoid stress in some scenarios, certain authors, such as [5], believe that it is possible to learn to live with it, reducing the harmful social consequences and the pathologies that so often result from it.

In this sense, higher education institutions have an essential role in preserving the health of their students, since they are the key element in the higher education sector. Students participate in the process of producing scientific knowledge and are, at the same time, users of the teaching processes involved in it, representing an important part of today's society, considered to have a critical spirit and creativity [5].

Study Objectives and Research Questions

In view of the introduction above, with regard to burnout, the aim of this study is to fill a gap in the scientific literature on this topic. Thus, an analysis of academic burnout

in a Portuguese public university is carried out and the frequency with which university students of that institution take medication, from multivitamins to stimulants and/or hypnotics, hypnotics are sleeping pills [16], is investigated in order to try to respond to the demands inherent to that environment.

When tracing the current scenario, it appears that the impact of academic burnout is one of the main factors that affect the professional and personal success of students. For this reason, it is intended to propose, following this analysis, some important recommendations to reduce burnout and to improve the quality of life of students, through the implementation of reforms in higher education.

Ref. [17] refer that, in an empirical study, it is crucial to clarify the research question that is intended to be answered and that will lead to the research work. With this in mind, in order to achieve the empirical knowledge objectives listed above, the following research question are defined: "Do students at the Portuguese public university experience burnout and take or have they taken any medication during their academic career?"

The subject of the present investigation is relevant, since, in Portugal, a significant number of investigations directed to this theme has not been carried out, still less focusing on the public institution studied herein, according to the research carried out in the database SciVerse Scopus (Elsevier) (bibliographic database). Its relevance is also shown by the growing challenge that burnout and taking medication represent for universities, as will be seen below. Both phenomena have relevant economic and social implications, since students who are in a state of burnout are more likely to give up their studies and, therefore, will not be able to make a good contribution to society, as they will not develop their skills and capabilities to their full potential.

In this sense, the main research objectives of the present study are

- (1) quantify the degree of academic burnout among students at the Portuguese public university;
- (2) assess the prevalence of taking antidepressant, anxiolytic, multivitamin, stimulating and/or hypnotic medication among students at the Portuguese public university, during their academic career;
- (3) list the main factors that determine the taking of the same medication;
- (4) to analyze the relationship between the sociodemographic characteristics of the community under study and the academic burnout experienced by it;
- (5) identify the way students perceive academic burnout and taking medication throughout their university career, identifying the sensations they try to reduce by taking medication;
- (6) to propose some important solutions to reduce burnout, as well as improve quality of life and increase student satisfaction;
- (7) understand how researchers in the field interpret burnout and academic burnout;

The objectives are achieved through the application of a quantitative data collection methodology, more precisely through the application of a questionnaire to students of the Portuguese public university under analysis and through a literature review on the subject, based on a previous documentary survey.

2. Literature Review

2.1. Burnout Definitions

There are many studies that present definitions of burnout, in its broadest sense, and there are many nuances around them. However, it was [18] who, during the exercise of his activity in psychology, in the 1970s, popularized the concept of burnout, after witnessing a decrease in motivation and commitment in individuals who volunteered at a mental health clinic.

Ref. [18] also referred that, in the work context, burnout is a combination of factors, such as chronic emotional tiredness, physical tiredness and a lack of interest in work activity, low personal fulfillment and insensitivity in the care and attention towards the user. This idea was corroborated by [19], who defined the syndrome as the result of

excessive stress in the work context, in a context in which evidence of emotional tiredness and lack of emotional resources is evident and which is manifested by: a negative response and disinterest in other people; loss of idealism (depersonalization); and a reduction in feelings of competence and job performance (low personal achievement).

Ref. [19–21] state that burnout is a state that results from a continued irreconcilability between an individual and, at least, one of the six dimensions of work listed below:

- (1) Workload—when there is excessive workload and demands, and recovery cannot be achieved;
- (2) Control—when workers do not have sufficient control over the resources needed to complete or carry out their work;
- (3) Reward—when there is a lack of adequate rewards for the work done. The rewards can be financial, social and intrinsic (for example, the pride someone experiences when they know they have done their job well);
- (4) Community—when employees feel that they do not establish positive connections with their colleagues and guardians, leading to frustration and decreased social support;
- (5) Justice—when injustice is felt in the workplace, including inequalities in workload and wages;
- (6) Values—when employees feel constrained to act against their values and aspirations, or when they experience conflicts between the organization's values.

According to Velasco, J.C. [22], burnout is characterized, not only by the reduction of motivation and job satisfaction, but also by health problems, family and social conflicts, and by the decrease in productivity of individuals who suffer from it.

There are also authors, such as Rosales, Y. [23] who choose to categorize the effects of burnout in three groups: the psychosomatic, the behavioral and the emotional. In the first group, the author includes symptoms such as a change in heart rate, extreme fatigue, or headaches. In the second, it includes drug or alcohol abuse and absenteeism. Finally, in the third group, Rosales, Y. gives as examples the lack of motivation to study and the withdrawal from studies in the academic context.

As can be seen, although there is no consensus regarding the definition of burnout, there is agreement that this syndrome is the result of an effect and response to chronic stress in the work or academic context, which is characterized mainly by three dimensions: exhaustion, depersonalization and low personal fulfillment [24]. Ref. [25] even face burnout as a public health problem and, therefore, recognize that it has significant severity.

2.2. Academic Burnout and Factors Responsible for Burnout

Both burnout at work and academic burnout are a complex result (motivational, cognitive, emotional, and behavioral response) of a process of accumulation of chronic stress, developing due to the particularities of the context, academic or professional, and of the individual [26].

Ref. [27] indicate that, in the work context, the imbalance in professional life, overwork, depression, interpersonal conflicts, and a decreased sense of self-worth are some of the risk factors associated with the occurrence of the syndrome.

In an academic context, there are many factors responsible for its presence. According to some studies carried out in Australia, Canada, and the United Kingdom, the experience of the transition from secondary to higher education is, for example, a stress promoter, during and from the first year of post-secondary studies, with a propensity to increase in individuals entering university, for financial reasons, or associated with the competitiveness they face, among others [28].

Academic burnout is one of the most important educational research themes today, mainly because its prevalence has been increasing over the years [27,29]. The analysis of academic burnout can be the first step to understand the behavior and academic performance of university students, as well as to understand their level of commitment to

learning, their level of participation in the world of science and how it can affect the enthusiasm for their training [30].

According to [25,31], academic burnout consists of the feeling of cognitive and emotional exhaustion caused by the high demands of a university. Among them, university students are required to attend classes, perform assignments, exams and presentations, actively participate in the classroom, and interact with people and the educational establishment.

This excessive academic burden can have serious consequences on the physical and mental health of the student, who may not yet have an appropriate psychological structure to respond adequately. Thus, feelings of incapacity and incompetence on the part of the students may arise and, of course, a posture of disbelief, not only in relation to teachers and colleagues, but also in relation to studies and the objective of their training [31].

In addition to the academic background, studies such as those by [32], among many others, point to the fact that the social and professional pressures related to the financing of higher education, school performance, and poor relationships with colleagues and teachers are some of the factors that make college students more vulnerable to the development of this syndrome.

As can be deduced, there are many variables associated with burnout and, in this sense, authors such as [33] establish, in the particular case of academic burnout, categories of academic, environmental, and/or social context and intrapersonal variables (Figure 1). In Figure 1 it is possible to observe each of these categories of variables, illustrated by some examples.

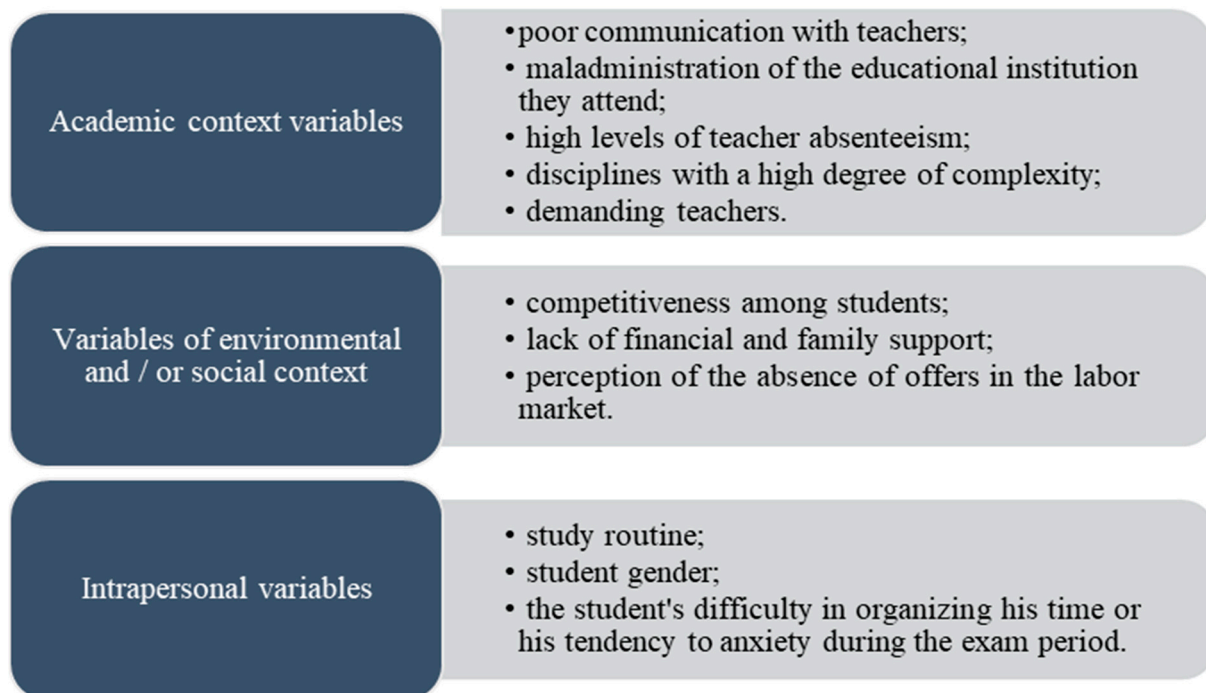


Figure 1. Categories of variables associated with academic burnout and respective examples [33].

The existing research on the predictive variables of burnout focuses essentially on the work context and not so much on the academic environment [9]. Ref. [34] present three groups of predictive variables related to the development of burnout in the work context: of an organizational, social, and individual nature, which can also be applied to the academic context.

There are some risk factors with regard to organizational aspects, which hinder the students' good academic performance, and which positively correlate with higher levels of burnout [34], among them, the difficulties with library and reprography services; the

absence of logistical support and infrastructure, namely, classrooms with scarce computer equipment, inappropriate ventilation, poor lighting or inappropriate furniture; or poor transport conditions for traveling to the school [9].

Additionally, the lack of financial support to study, in particular, the difficulty in obtaining scholarships provided or channeled by the university; the insufficient empathy and efficiency of administrative staff; organizational inflexibility; the difficulty in collaborating in decision-making; and the absence of an academic association, are other difficulties that arise for students, at the organizational level [9].

On the other hand, there are certain peculiarities of the student's work that may be controllable, or that are subject to the intervention of the higher education institution. Some of them are, the overload of disciplines and high academic demands; the frequent absence of explanations and clarifications indispensable to the elaboration of academic activities and work that imply greater concentration, or whose contents are complex; demanding and/or absentee teachers; the student's lack of control or autonomy over his work; the inappropriate distribution of the workload throughout the semester; and carrying out training activities and/or curricular internships at the same time as classes take place [35].

It is important to note that, when analyzing the student's task or activity factors, one must take into consideration the type of profession that he intends to pursue, or the course he attends, since burnout is more prevalent in some of the professions and/or courses, as will be seen below [35].

Regarding the social risk factors, in the academic field, which may precede or allow foreseeing the appearance of the burnout syndrome, empirical investigations emphasize the following: the poor relations between students and teachers, the absence of feedback from teachers, reduced solidarity and companionship, competitiveness and conflicts with colleagues, non-participation in cultural or recreational activities, and recreational spaces that are difficult to access. In addition, interpersonal factors also play a crucial role, namely the absence of family support and the absence of friendships [36].

On the other hand, [9] point out other aspects as more viable to predict burnout cases in university students, namely, sex (given that women are more effective and men more cynical in relation to their training), certain traits of personality (anxiety, stiffness, perfectionism, and low levels of self-efficacy; self-efficacy being an individual's belief or confidence in their own ability to perform a particular task or solve a particular problem [37]), and certain methods of measuring student academic performance, such as skill deficits, habits, and study methods (for example, to do a job, organize time, or speak in public). In addition, feeling anxious during exams, having poor social and cognitive abilities, and low prospects for academic success, as well as less motivation or satisfaction with the studies, are other aspects that, according to these authors, may precede a condition of burnout.

The identification of academic burnout, according to [38], may involve assessing the longevity of each student's studies, as well as recognizing certain attitudes, guided by cynicism and incompetence. In addition, some studies, such as those by [20,39,40], prove that people's personality, their social support and coping strategies are variables that allow for the predicting of burnout. However, there do not seem to be many investigations that analyze these variables in university students [41].

In short, it is possible to affirm that academic burnout is characterized by three dimensions: emotional exhaustion, disbelief, and low professional effectiveness, data confirmed by the analysis of several samples of university students from different countries and areas of training [31,32]. University students suffer from emotional exhaustion as a result of a feeling of exhaustion in face of the demand for studies. Disbelief, on the other hand, is present when a cynical and distant attitude towards studies is developed, and low professional effectiveness arises when the student cultivates the idea that he is incompetent [32].

2.3. Implications and Consequences of Burnout

Several studies show high stress, anxiety and depression among university students. In an attempt to respond to increasingly intense academic and social demands, namely, meeting new people, facing new responsibilities, adapting to new circumstances and increasing work demands [42], these students are more susceptible to syndromes such as academic burnout and to all the personal and social consequences that they can experience in their lives [43].

As ref. [44] point out, academic burnout can make it difficult for higher education students, expected professionals of the future, to graduate, which in turn can have a negative impact in the way they will exercise their professions or even lead to total failure with regard to finishing their cycle of studies and, later, entering the world of work.

In fact, according to certain authors, in university students, this syndrome is associated with poor cognitive performance [45], with reduced academic achievement or dropping out of school [46], and also to depressive symptoms [47] and even suicidal thoughts [13].

Now, if burnout causes low productivity and less student motivation [48], then it is negatively related to the performance of these same students [49]. Hence, students who suffer from burnout are more likely to manifest anger, difficulties in overcoming obstacles and, also, sadness [50].

On the other hand, university students involved in their study cycle in a relaxed and positive way have a better academic performance [51], showing themselves to be energetic, happy and, consequently, being more successful in their learning path.

According to [52], there are still several studies that prove that burnout has several effects, which can be severe, on the well-being and health of individuals.

In fact, burnout syndrome appears to be a considerable predictor of various illnesses and health disorders such as hypercholesterolemia, type 2 diabetes, obesity, coronary heart disease, cardiovascular disorders, musculoskeletal pain, prolonged fatigue, headaches, insomnia, gastrointestinal problems, breathing problems, and psychological changes, such as depression or mental disorders, among others [52].

According to the aforementioned authors, there is also a link between burnout and the adoption of unhealthy lifestyle habits, materialized, for example, in the increase in alcohol consumption and inactivity. In addition, other signs of the burnout syndrome are, according to [53], occupational problems, such as job dissatisfaction (for example, looking for a new job), absenteeism or disability.

2.4. Burnout, Motivation, and Low Academic Performance in University Students

The main objective of students is to obtain a good academic performance, which is what defines the progression in their studies. However, this performance is the result of an emerging product, composed of interdependent factors of various types: volitional, affective, cognitive, behavioral, and psychosocial, of the student and their learning circumstances. These factors include the conditions of the teaching institution itself, which also interfere with the student's teaching-learning relationship; the student's knowledge or study skills; and the pedagogical training materials provided for this performance [33,54].

If, according to [55], one of the causes for burnout may be the loss of motivation, according to [56], on the contrary, an extreme motivation is a kind of prerequisite for suffering from burnout. Therefore, the question of whether low or high motivation is a very limiting (if not controversial) aspect to assess the likelihood that an individual will suffer burnout [57] seems pertinent.

Ref. [58] ensures that students who are intrinsically motivated are less likely to suffer burnout than students who have extrinsic motivation. Ref. [59] corroborate this idea, stating that extrinsic motivation even tends to increase academic burnout, and an intrinsically motivated student is less susceptible to the development of this syndrome [57].

According to [60] extrinsic motivation comes from outside a person; that is, the person works to obtain external rewards, money being the most common of them. Intrinsic motivation, on the other hand, is the internal desire to do something, the person being

driven by interest, satisfaction, and the challenge of his own work, and not by external pressures.

For the author, intrinsic motivation is more important in creativity and in the work context than extrinsic motivation. In the same direction, studies by [61] corroborate the idea that intrinsic motivation plays an important role in overcoming the negative cycle of burnout. Additionally, according to [62], individual motivations have a considerable influence on the burnout cycle. Other authors such as [63] have even shown that the relationship between workload and burnout in university students is almost non-existent, but that academic motivation can effectively prevent burnout.

Therefore, the role that motivation plays in learning seems to be indisputable, namely, because it is responsible for the good involvement of students in academic activities, which require effort and dedication [64–66].

Refs. [67,68] point out four major sets of motivational theories as those that can explain the role of motivation in learning: (1) the first, focuses on beliefs about competence and expectations of students, both in terms of their success as well as their failure to obtain results; (2) the second, focuses on the motivations that lead individuals to perform certain activities (that is, the objectives with which they perform them, the intrinsic and extrinsic motivation or the values that motivate their involvement in these activities); (3) the third, encompasses students' expectations and values; and (4) the last set of motivational theories takes into account the relationship between motivational and cognitive processes.

It is crucial to understand motivation as a multidimensional construct that is explained based on the influence of the social environment and cognitive components [64–66], being a variable with a very important role both in theory and in practice, and which parents, guardians, teachers, and educators themselves often turn to, in order to clarify students' behaviors, their school performance and the quality of their learning [69–71].

Albeit it is also important to realize that academic motivation is a process that requires activation, direction and persistence, and in which the components of value, expectation and affection play a major role [72]. Note, for example, that when a student is confronted with a particular academic task, he may wonder about the reason or objective for which he should perform it; the greater the interest and usefulness you see in it, the greater the value you will attach to it and the greater your involvement in it. At the same time, the student will feel, or not, capable of carrying out the task in question, taking into account his personal resources, which may not be sufficient, making it necessary for him to be able to cultivate a certain belief that he is qualified to perform everything that this task implies. Finally, the third dimension of motivation to consider is the affective component; that is, the one according to which the student gets involved in a task and assesses the feelings and emotions that it provokes: if he feels confident, he will have the courage to complete the task successfully; if the task provokes anxiety, tension, or a bad mood, the student is more likely to abandon it early [73].

Refs. [74,75] even mention that motivation is a predictor of school performance as relevant as intelligence, and [76] add that one of the reasons why students apply themselves in tasks and learning activities, is related to the academic goals that direct their behaviors, since these are considered key predictors of performance [77].

In addition, it is expected that, as the student progresses in his studies, he will present different goals of achievement, due to his perception of the various curricular disciplines or the relevance of their contents to his vocational projects [69,71]. In this sense, [77,78] concluded that students oriented towards intrinsic goals have a better academic performance, while students whose goals focus on the self, end up showing worse performance.

Consider also what [79] refer about motivation in adolescence. According to these authors, in this phase of life, motivation is evidenced by different patterns depending on the gender of the students, which influences the way they approach the tasks they face, especially in the case of the female sex, which seems to have high levels of motivation for work. Age also appears to be a variable that influences motivational patterns.

Based on the theoretical model of [80], tested by [81], ref. [70] then developed the Inventory of Academic Goals (IMA), which was adapted and validated for basic and secondary education, and for higher education teaching (IMA-ES), in order to assess students' motivation. The IMA for Basic Education and for Secondary Education consists of a self-report instrument composed of 22 questions randomly distributed over four dimensions: (1) learning-oriented goals; (2) goals aimed at avoiding social pressure in the school context; (3) goals oriented towards concrete objectives; and (4) goals aimed at avoiding social pressure in the family context. The IMA-ES also consists of a self-report instrument, this one with 17 items distributed over three dimensions: (1) learning-oriented goals; (2) goals aimed at avoiding social pressure; and (3) performance-oriented goals [82].

In this inventory, the learning goals are related to intrinsic motivation; that is, when the student learns the contents taught in order to improve their knowledge and obtain new skills and abilities. The goals aimed at avoiding social pressure result from learning with the aim of obtaining the approval of family members, teachers, or peers. Finally, performance-oriented goals are associated with the student's tendency to study only with the objective of obtaining good academic performance, that is, good grades [82].

There is unanimity on the part of the researchers with regard to the various variables that interfere with the student's academic performance, it being possible to classify them as institutional, personal and social determinants. However, it could seem evident that students with high levels of exhaustion, a greater sense of disbelief and less professional effectiveness obtain poor results in their exams [4,35,83,84] disagree with these studies and claim that burnout is not a good predictor of lower academic performance.

It is important to say that this link (not always clear) between academic performance and burnout can be justified by the use of different methods in the evaluation of performance, carried out in divergent investigations, namely, the fact that some empirical studies use the academic arithmetic mean as the sole criterion of analysis, which is notoriously insufficient [9].

Despite this, most studies are unanimous in emphasizing that burnout is negatively related to satisfaction with studies [4], professional maturity [85], the desire to abandon studies [34,86], happiness in the face of the academic path [34], and expectations of successful learning [87].

In conclusion, [9] state that the effect of burnout on academic performance is not yet fully explained, but that it appears as a relevant indicator in the decline of numerous aspects associated with performance and satisfaction with the studies themselves, as in the forecast of school dropout by the university student. In summary, the various empirical studies tend to identify that students who suffer from burnout result in poor academic performance.

2.5. Academic Burnout in the Portuguese Context: What Do the Studies Say?

With regard to Portugal, [88] carried out a study with the objective of determining the incidence of burnout in Portuguese higher education. Therefore, a questionnaire was distributed by the universities of the 20 districts of Portugal (including the universities of the archipelagos of Madeira and the Azores), through the Qualtrics platform and through the student associations of the respective institutions. This questionnaire was based on the Maslach Burnout Inventory Student Survey (MBI-SS), which will be explained below, and included 15 ordinal self-report items, whose response scale varied between "0—Never or No time" to "6—All days or Always".

According to this same study, 64.9% of the students at the University of Aveiro suffer from burnout, the highest value in all the analyzed universities; by contrast, at the Polytechnic Institute of Viana do Castelo only 15% of students suffer from burnout. Beja, Viana do Castelo, Faro, Portalegre, Vila Real, and Bragança are districts with average levels of burnout. Setúbal, Aveiro, Évora, Coimbra, Porto, Santarém, Lisbon, Viseu, Castelo Branco, Braga, and Leiria are the districts where students have the highest levels of burnout.

Ref. [88] conclude that all districts have average levels of academic involvement, with students in the Exact Sciences courses showing the lowest levels of academic involvement and the second highest burnout value among the different areas of study analyzed in the referred work (Human Sciences, Exact Sciences, Health Sciences, and Biological Sciences). In this study, Biological Sciences (at the top), the Exact Sciences and the Health Sciences are those with the highest levels of burnout. On the other hand, university students in courses in the Humanities area are those who have a greater academic involvement and those who suffer less from burnout.

The authors also concluded that female students have marginally higher values of both involvement and burnout, compared to male students.

Finally, ref. [88] point out that psychological variables, such as academic involvement and burnout, are absolutely determinant factors for the academic success of university students, being directly related to students' self-efficacy, as well as their own performance problems and school dropout.

3. Research Hypotheses

In the present research work, the following research hypotheses were defined:

- **Hypothesis 1 (H1).** *there are differences in academic burnout according to sex, with female participants having higher levels of academic burnout than male participants;*
- **Hypothesis 2 (H2).** *there are differences in academic burnout according to the age group, with students aged 18 to 25 having higher levels of burnout when compared to students aged 26 or over;*
- **Hypothesis 3 (H3).** *there are differences in academic burnout according to academic qualifications, with students in the first cycle (undergraduate) having higher levels of burnout, when compared with students from other academic degrees;*
- **Hypothesis 4 (H4).** *there are differences in academic burnout according to the area of study, with students in the areas of Biological Sciences, Exact Sciences, and Health Sciences having higher levels of academic burnout when compared to those in the Humanities area/Social;*
- **Hypothesis 5 (H5).** *there are differences in academic burnout according to the year of higher education attended, with students in the first years having higher levels of burnout when compared to students in the remaining years;*
- **Hypothesis 6 (H6).** *there are differences in the levels of academic burnout according to the arithmetic average of the course;*
- **Hypothesis 7 (H7).** *there are differences in academic burnout depending to the student's professional situation, with student workers having higher rates of burnout;*
- **Hypothesis 8 (H8).** *there is a correlation between gross monthly income and burnout, with a lower gross monthly income being associated with higher levels of burnout;*
- **Hypothesis 9 (H9).** *there are differences in academic burnout according to the participation of students in extracurricular activities, with those who do not participate in these activities more susceptible to burnout;*
- **Hypothesis 10 (H10).** *there are differences in academic burnout according to the participation of students in sports activities, with students who practice these activities showing lower levels of burnout;*
- **Hypothesis 11 (H11).** *there is a correlation between the frequency with which students practice physical exercise and burnout;*
- **Hypothesis 12 (H12).** *there are differences in academic burnout due to the students' perception (considering the particularity of their situation) about the negative impact of the sudden freedom brought on by the transition from secondary education to higher education, with students who consider that this freedom negatively affected them (while students) having higher burnout rates;*
- **Hypothesis 13 (H13).** *there are differences in academic burnout according to the reasons that led students to choose the course they are attending, and students who chose the course they attend based on the employability rate of the same show higher levels of burnout. On the other*

hand, students who choose the course by vocation and/or taste have lower levels of burnout than those who did not choose the course for the aforementioned reason;

- **Hypothesis 14 (H14).** there is a correlation between academic burnout and the classification that students make of the course in relation to their initial expectations, and students who feel that the course did not meet their initial expectations have higher levels of burnout;
- **Hypothesis 15 (H15).** there is a correlation between burnout and the perception of the material conditions of the university attended, with lower levels of burnout associated with a better perception of the material conditions of the university concerned;
- **Hypothesis 16 (H16).** there is a correlation between burnout and the classification that students attribute to their teachers, with lower levels of burnout associated with the attribution of higher ratings;
- **Hypothesis 17 (H17).** there is a correlation between burnout and the classification of the relationship between students and their teachers, with lower burnout rates associated with the attribution of higher ratings;
- **Hypothesis 18 (H18).** there is a correlation between burnout and the classification of the relationship between students and their colleagues, with lower burnout rates associated with the attribution of higher ratings;
- **Hypothesis 19 (H19).** there are differences in burnout due to the uncertainty felt by students in relation to their professional future, with students who feel this uncertainty having higher levels of burnout;
- **Hypothesis 20 (H20).** there are differences in burnout due to the presence of a recent diagnosis of depression, with students recently diagnosed with depression having higher levels of burnout;
- **Hypothesis 21 (H21).** there are differences in academic burnout due to taking medication, with students taking medication having higher levels of burnout;
- **Hypothesis 22 (H22).** there are differences in academic burnout depending on the type of medication taken by students, and students who take antidepressants, anxiolytics, multivitamin supplements, and sleeping medication having higher levels of burnout when compared to those who do not take this medication;
- **Hypothesis 23 (H23).** there are differences in the levels of academic burnout according to the frequency of taking medication;
- **Hypothesis 24 (H24).** there are differences in the levels of academic burnout according to the reason that leads to taking medication;
- **Hypothesis 25 (H25).** there are differences in academic burnout due to the fact that students know (or not) colleagues who take sleeping medication, and students who do not have colleagues in this situation have higher levels of burnout;
- **Hypothesis 26 (H26).** there is a relationship between the arithmetic average (course grades) obtained by students and taking medication;
- **Hypothesis 27 (H27).** there are differences between burnout and the fact that the student has considered giving up the course or his studies, with students showing a tendency towards this dropout presenting higher levels of burnout;
- **Hypothesis 28 (H28).** there is a correlation between the tendency of students to consider that they can withstand the pressures in their study cycle and the presence of burnout, with students who believe they are able to withstand these pressures having lower levels of burnout;
- **Hypothesis 29 (H29).** there is a correlation between the classification of their academic performance and the presence of burnout, with students who manifest burnout showing a greater tendency to consider that their academic performance is inferior;
- **Hypothesis 30 (H30).** there are differences between academic burnout and the fact that students consider that improving some aspects of the university's functioning would help to increase their level of psychological well-being, with students considering that reducing the number of hours of daily and weekly classes, the reformulation of teaching methods, a wider range of curricular options and the availability of other means that provide psychological support would improve their psychological well-being are the students with the highest levels of burnout.

4. Materials and Methods

We shall now present the methodology and procedures adopted in the present study.

Thus, the present work follows a quantitative data collection methodology, more precisely through the application of a questionnaire to students of the Portuguese public university in question.

The literature review on the topic was made based on a previous documentary research.

The objective of the study was to verify how many students experience academic burnout and take (or have already taken) medication due to the requirements of the academic environment.

In the first question of the questionnaire, it was questioned whether the participants studied (or not) at the analyzed public institution. If the participants did not study at that institution, they were sent to the end of the questionnaire and could not answer any more questions. Only participants who studied at the public institution analyzed could complete the entire questionnaire and were sent to the following questions.

The sample of this study is non-probabilistic and is also a convenience sample (not entirely random as the authors used their connections and networks to reach as many students as possible, in the Portuguese public university, having also been aided by various student bodies and associations, as described below); its approach was intended to provide a broad view of the academic environment in question, in order to achieve the objective of the study.

4.1. Participants

In total, 207 students from the analyzed university participated in the study, who were asked to answer a questionnaire, of which, 90% of the participants were between 18 and 25 years old and about 8% were between 26 and 35 years old, with about 31% of the participants being male and 69% female. It should also be noted that 91% of respondents were of Portuguese nationality, and 100% were resident in Portugal, with around 74% attending the university under analysis and the remaining 26% of respondents attending polytechnics at the same institution (the institution has four polytechnics). Of these students, the majority, 61%, have a first cycle (degree).

Regarding the study area, it was decided to divide the courses into four main study areas, namely, Biological Sciences, Health Sciences, Exact Sciences, and Human/Social Sciences, to facilitate the interpretation of the results by the reader, as well as the statistical analysis, and in order to meet the study carried out by [88], with whose investigation it is intended, in the end, to compare the results.

Thus, most students, about 32%, attend courses related to the area of Human/Social Sciences, 28% attend courses in the area of the Exact Sciences, 23% in the area of Biological Sciences, and about 17% are in the Health Sciences area. Most students, 29%, are in the 1st year and around 24% are in the 2nd year of higher education (in their degree). About 56% of the students have an arithmetic average of between 13 and 15.

Only 27% of the surveyed students had a paid professional occupation. Most of the students in this study, 33%, have a gross monthly income between 1000 and 1499 euros. However, about 25% have a gross monthly income between 1500 and 2499 euros and 24% have an income between 600 and 999 euros.

4.2. Data Collection Instruments

In order to understand if university students of the chosen educational institution experience academic burnout, as well as if they take (or have already taken) medication during their academic career and to identify their feelings regarding the course and the institution they attend, a questionnaire was applied to university students from a Portuguese public higher education institution. The survey consists of 55 closed-answer questions and four open-answer questions (Appendix A).

This questionnaire uses some questions from the Maslach Burnout Inventory—Student Survey (MBI-SS), adapted by [51], translated and adapted to the Portuguese language by [31]. It is a self-report scale consisting of 15 questions referring to the three subscales of academic burnout (emotional exhaustion, disbelief, and professional effectiveness) and the feelings and emotions that students experience in the school context.

Here, respondents express how often they feel what each of the 15 questions suggests, on an ordinal seven-point scale, which ranges from 0, “never” to 6, “always”. The reliability of the factors was assessed by measuring the internal consistency of the Cronbach’s alpha coefficient (α) and, in its entirety, the MBI-SS scale presents an $\alpha = 0.79$ [89].

Since the central point of the scale is “regularly”, the total of the burnout score was calculated using the average of the questions of the three subscales, considering that the students presented burnout when this total score was higher than three, as defended by [88]. Regarding the three subscales, for the purposes of this study, questions 38 to 42 refer to the emotional exhaustion subscale, questions 43 to 46 refer to disbelief and, finally, questions 49 to 54 refer to professional effectiveness.

In the subscale dedicated to professional effectiveness, the higher the values, the lower the levels of burnout; that is, the higher the values, the lower the ineffectiveness of individuals. For this reason, the response scale for the items in this subscale has been inverted, as suggested by the study by [90] and as is done in the study by [88], a study with which we intend, in the final stretch, to compare the results of the present study. The remaining questions were elaborated from scratch, based on the consulted literature.

It should also be noted that, initially, sociodemographic information was collected through the questionnaire.

4.3. Data Collection Procedures

In the study, a questionnaire on burnout and taking medication was distributed to university students.

After elaborating the questionnaire, tests were carried out on the data collection instruments, asking education specialists to evaluate the questionnaire in terms of the time to fill it in and the clarity of the questions, and they were also asked whether or not they had learned anything useful in order to understand whether it would be necessary to make any changes to the questionnaire.

After validation and the elaboration of the necessary corrections, the associative nuclei of the various courses, sports nuclei and administrative services of the university and the polytechnics under analysis were contacted, as well as organizations created in the academic environment, in order to request the dissemination of the questionnaire to the students. The questionnaire was disseminated through social networks via the centers and services mentioned.

It should also be noted that the data collection was carried out respecting all applicable ethical principles, especially with regard to the anonymity of the respondents and the confidentiality of the investigation. There was an incentive for student participation through the drawing of tickets for the RFM SOMNII summer festival at Praia do Relógio in Figueira da Foz (a three-day general pass).

The questionnaire was online (online Google form format) since 30 March 2020 and until 30 April 2020, having obtained 207 responses, all of which valid.

4.4. Statistical Procedures

To perform the analysis of the quantitative data, the program IBM SPSS Statistics, version 25 was used. Inferential statistics were used, namely, Student’s *t*-test and one-way ANOVA (parametric tests), Spearman’s correlation coefficient, and the Chi-square test to test previously defined research hypotheses.

The variables were characterized using the mean and standard deviation. The level of significance was set at a value of $p < 0.05$. Regarding Spearman’s Correlation Coefficient, it is also worth noting that [91] refers that correlations above 0.40 are considered strong,

while correlations that vary between 0.20 and 0.40 are considered moderate. Correlations below 0.20 are considered weak. This was precisely the criterion considered in the analysis carried out in the present investigation.

5. Results

As the values of the asymmetry ($Sk = 0.219$) and kurtosis ($Ku = -0.522$) coefficients of the burnout score are less than one, it is possible to assume that the data have an approximately normal distribution, as can be seen in Table 1. Thus, parametric tests can be used, such as Student's t -test and ANOVA [92,93].

Table 1. Descriptive analysis of the burnout score ($n = 207$).

Variables	Min	Max	M	DP	Sk	Ku
Burnout	0.60	4.80	2.48	0.92	0.219	-0.522

Regarding the reliability analysis, the Alfa Cronbach coefficients were calculated for the burnout score ($\alpha = 0.901$) and for the respective subscales: emotional exhaustion ($\alpha = 0.929$), disbelief ($\alpha = 0.916$) and professional effectiveness ($\alpha = 0.830$).

The values of the coefficients are above the cut-off line (0.70) and the values of the item-total correlations corrected above 0.30. It was also verified whether the output of an item improved the internal consistency of the scale (Cronbach's Alpha without the item), as suggested by [92], as shown in Table 2.

Table 2. Reliability analysis of the burnout score.

Variables	n	M	DP	Cronbach's Alpha	No. of Items
Burnout	207	2.48	0.92	0.901	15
Emotional exhaustion	207	2.73	1.39	0.929	5
Disbelief	207	1.91	1.31	0.916	4
Professional effectiveness	207	2.65	0.93	0.830	6

As mentioned, it was considered that students had burnout when the average score of all questions was higher than three. It is concluded that, in the total sample, 29% of the students surveyed have burnout. It is also observed that about 37% of the students are cognitively and emotionally exhausted, 17% have a cynical attitude towards their studies, colleagues and teachers, and about 36% feel incapacity and professional inefficiency.

5.1. Relationship between Burnout and Sociodemographic Variables

Student's t -test was used to verify if there were differences in academic burnout due to sociodemographic variables.

There are no statistically significant differences between men ($M = 2.54$; $SD = 0.94$) and women ($M = 2.45$; $SD = 0.92$) regarding burnout ($p = 0.531$). Thus, it is concluded that sex does not influence the levels of burnout.

In order to carry out this analysis, age was recoded in only two classes: from "18 to 25 years" and "26 years or more", since the respondents were concentrated in the greatest number in these age groups and to facilitate the organization of data; additionally, there are also no statistically significant differences with regard to burnout according to the age group ($p = 0.156$), which means that students between 18 and 25 years old do not have higher levels of burnout ($M = 2.51$; $SD = 0.91$) than students aged 26 or older ($M = 2.20$; $SD = 1.01$).

To carry out this analysis, the variable educational qualifications was recoded into two categories: "Degree" and "Other higher qualifications". With regard to educational qualifications, the differences are close to statistical significance ($p = 0.065$), that is, there seems to be a trend towards higher levels of burnout in undergraduate students than in

students of other study cycles. However, it cannot be considered that there are statistically significant differences between the first cycle ($M = 2.57$; $SD = 0.96$) and the academically higher study cycles ($M = 2.33$; $SD = 0.85$), in the levels of burnout.

Finally, note that there are differences in academic burnout depending on the student's professional situation, and students who do not work ($M = 2.56$; $SD = 0.94$) have higher levels of burnout ($p = 0.046$) than students who are student workers ($M = 2.27$; $SD = 0.85$).

5.2. Relationship between Burnout and Student Participation in Extracurricular Activities and Physical Exercise

Student's *t*-test was used to verify if there were differences in academic burnout due to the participation of students in extracurricular activities and due to the practice of physical exercise.

As it turns out, there are statistically significant differences in academic burnout according to the participation of students in extracurricular activities ($p = 0.015$). Students who do not participate in extracurricular activities have higher levels of burnout ($M = 2.70$; $SD = 0.96$) than students who participate in these activities ($M = 2.37$; $SD = 0.89$).

As far as physical exercise is concerned, there are statistically significant differences in academic burnout ($p = 0.021$). Students who participate in sports activities show lower levels of burnout ($M = 2.42$; $SD = 0.87$) than those who do not practice any type of physical exercise ($M = 2.70$; $SD = 1.07$).

5.3. Relationship between Burnout and the Transition from Secondary Education to Higher Education, Choice of Course, and Professional Future

Student's *t*-test was used to check if there were differences in academic burnout regarding the transition from secondary education to higher education and the choice of course and professional future.

In fact, there are statistically significant differences in burnout due to the students' perception of the negative impact of sudden freedom brought on by the transition from secondary education to higher education ($p = 0.015$). Students who consider that this freedom has affected them negatively while students have higher levels of burnout ($M = 2.88$; $SD = 0.84$) than students who consider that this aspect has not affected them negatively ($M = 2.42$; $SD = 0.92$).

In addition, there are statistically significant differences in academic burnout according to the reasons that led students to choose the course they attend. Students who chose the course they attend based on the employability rate ($M = 2.49$; $SD = 0.86$) do not have higher levels of burnout ($p = 0.917$) than those who did not choose this option ($M = 2.47$; $DP = 0.95$). However, students who choose the course by vocation and/or taste ($M = 2.42$; $DP = 0.92$) have lower levels of burnout ($p = 0.038$) than those who did not choose the course for this reason ($M = 2.80$; $SD = 0.93$).

There are also statistically significant differences in the levels of burnout according to the uncertainty felt in relation to the professional future ($p = 0.004$). After all, students who feel uncertain about their future work show higher levels of burnout ($M = 2.56$; $SD = 0.93$) than those who do not feel any uncertainty ($M = 2.04$; $SD = 0.79$).

5.4. Relationship between Burnout and the Existence of a Recent Diagnosis of Depression, Intake, and Type of Medication

Student's *t*-test was used to verify if there were differences in academic burnout due to the existence of a recent diagnosis of depression and taking medication.

Therefore, it was observed that there are statistically significant differences in burnout due to the presence of a diagnosis of depression ($p < 0.001$), since students who were recently diagnosed with depression have a higher prevalence of this syndrome ($M = 3.40$; $SD = 0.73$).

There are also statistically significant differences in academic burnout due to taking medication ($p < 0.001$), with students taking medication having higher levels of burnout ($M = 2.72$; $SD = 0.90$). Students who take antidepressants have higher levels of burnout

than those who do not take this type of medication ($p < 0.001$). In turn, students who take anxiolytics ($p < 0.001$), food supplements/multivitamins ($p = 0.024$), and sleeping medication ($p = 0.046$) have higher levels of burnout compared to those who do not take this type of medication.

In addition, there are statistically significant differences in academic burnout according to the reason for taking medication. For example, students who take medication to combat symptoms of emotional exhaustion ($p < 0.001$) and to improve their academic achievement ($p = 0.010$) have higher levels of burnout when compared to students who do not take it for these reasons.

It should also be noted that there are statistically significant differences in academic burnout due to the fact that students know (or do not know) other colleagues who take sleeping pills, since students who do not know colleagues who take this type of medication have higher levels burnout ($p = 0.021$).

5.5. Relationship between Burnout and the Tendency to Drop Out of the Course or Studies and Aspects to Improve Psychological Well-Being

Student's *t*-test was used to check if there were differences in academic burnout due to the tendency of students to drop out of the course or studies and the aspects to improve their level of psychological well-being in the school they attend.

In fact, it is noticed that there are statistically significant differences in burnout according to the fact that the student has considered giving up the course or studies, concluding that students who have considered giving up the course ($p < 0.001$) or studies ($p < 0.001$) have higher levels of burnout.

There are also differences in burnout due to the aspects that students consider that would help to improve their level of psychological well-being at the university. In fact, students who report that the reduction in the number of hours of daily and weekly classes ($p = 0.005$), the reformulation of teaching methods ($p < 0.001$), and a wider range of curricular options ($p = 0.048$) would improve their psychological well-being have higher levels of burnout.

Regarding the option concerning the availability of other means that provide psychological support to students, the differences are close to statistical significance ($p = 0.071$).

5.6. Relationship between Burnout and Study Areas, Year of Higher Education and Arithmetic Mean of Course

ANOVA was used to check if there were differences in academic burnout according to the areas of study of the students, the year of higher education they attend and their arithmetic average (grades) of their course.

There are no statistically significant differences between the study areas regarding burnout ($F = 1.379$; $p = 0.250$). In other words, the study area has no influence on burnout levels, which means that students in the areas of Biological Sciences, Exact Sciences, and Health do not have higher levels of academic burnout than the rest.

In addition, there are also no statistically significant differences in academic burnout according to the year of higher education they attend. Students in the first and last years of college do not have higher levels of burnout ($F = 0.776$; $p = 0.542$), when compared to students who attend the remaining years. In other words, the year of higher education does not influence the levels of burnout.

Regarding the arithmetic mean of course, there are statistically significant differences in academic burnout ($F = 3.369$; $p = 0.036$). Thus, students with a low average, from 10 to 12 points ($M = 2.71$; $SD = 0.98$) have higher levels of burnout than students with a higher average, from 16 to 20 points ($M = 2.22$; $SD = 0.96$). In sum, the multiple comparisons tests show that there is a trend towards a decrease in burnout levels with the increase in the arithmetic mean of the course ($p = 0.029$).

Note, however, that, for this analysis, the arithmetic mean variable of the course was recoded into three categories: "From 10 to 12 points", "From 13 to 15 points" and "From 16

to 20 points" given the classes in which the greatest number of responses were concentrated and to facilitate the organization of the data.

5.7. Relationship between Burnout and the Frequency with Which You Take Medication

ANOVA was used to check if there were differences in academic burnout depending on the frequency with which he takes medication.

There are statistically significant differences in academic burnout according to the frequency of taking medication ($F = 5.449$; $p < 0.001$). Multiple comparison tests show that students who take this type of medication about once a month or once a week have significantly higher levels of burnout than students who do not take it ($p = 0.006$).

It should be noted that in order to carry out this analysis, the variable of the frequency with which students take medication was recoded into four categories: "Only during the assessment periods", "About once a month or once a week", "I do not take any medication" and "Every day" as these are the categories in which the greatest number of responses were concentrated and to facilitate the organization of the data.

5.8. Correlation between Academic Burnout and Students' Gross Monthly Income, Frequency with Which They Practice Physical Exercise, and Their Initial Expectations Regarding the Course

Spearman's Correlation Coefficient was used to check if there was a correlation between academic burnout and the students' gross monthly income, the frequency with which they practice physical exercise, and their initial expectations in relation to the course.

In view of the data obtained, it was concluded that there is no statistically significant association between gross monthly income ($r_{sp} = -0.020$; $p = 0.776$) and burnout; that is, that a lower gross monthly income is not necessarily associated with higher burnout levels.

On the other hand, there is a weak negative correlation, statistically significant, between the frequency with which students practice physical exercise and the levels of burnout ($r_{sp} = -0.170$, $p = 0.014$); that is, the higher the frequency with which they exercise, the lesser are their burnout levels.

It can also be said that there is a moderate negative correlation, statistically significant, between the classification that students attribute to the course they entered in view of their initial expectations and academic burnout. In fact, the higher the student's initial expectations, the lower the levels of burnout ($r_{sp} = -0.267$; $p < 0.001$).

5.9. Correlation between Academic Burnout and the Perception of the University's Material Conditions, the Classification Given by Students to Teachers, and Their Relationship with Them

The Spearman Correlation Coefficient was used to check if there was a correlation regarding academic burnout due to the perception, on the part of students, of the material conditions of the university attended, as well as the burnout and the classification they attribute to their teachers and their relationship with them.

There is a weak, statistically significant negative correlation between burnout and the perception of the material conditions of the university attended; that is, when students have a perception that the material conditions of their university are superior, they suffer less from burnout ($r_{sp} = -0.137$; $p = 0.048$).

In addition, there is a moderate, statistically significant, negative correlation between burnout and the rating that students assign to their teachers ($r_{sp} = -0.349$; $p < 0.001$). It can therefore be said that students who give teachers better ratings have lower levels of burnout.

On the other hand, there is no association between burnout and the classification that students attribute to the relationship with their teachers ($r_{sp} = 0.023$; $p = 0.745$). This means that higher ratings regarding the relationship between students and teachers are not associated with lower levels of burnout.

5.10. Correlation between Academic Burnout and the Relationship of Students with Their Colleagues, the Ability to Withstand the Pressure of Studies, and the Classification of Their Performance

Spearman's Correlation Coefficient was used to check if there was a correlation regarding academic burnout and the way students classify their relationship with colleagues, their ability to withstand the pressure caused by studies and the way they classify their academic performance.

There is a weak, statistically significant negative correlation between burnout and the rating given by students to their relationship with colleagues ($r_{sp} = -0.188$; $p = 0.007$), that is, the higher the rating, the lower the levels of student burnout.

In addition, there is a strong, statistically significant negative correlation between burnout and the fact that students know (or do not know how) to withstand the pressures of their study cycle. That is, the more students think they are able to withstand the pressures of their study cycle, the lower the levels of burnout ($r_{sp} = -0.522$; $p < 0.001$).

There is also a moderate, statistically significant negative correlation between burnout and the classification of students' academic performance. This means that the lower the rating of their academic performance, the higher the levels of burnout ($r_{sp} = -0.366$; $p < 0.001$) that they suffer.

5.11. Relationship between Medication Intake and Course Arithmetic Mean

The Chi-square test was used to check if there was an association between taking medication and the course arithmetic mean (the grades of the student) (Tables 3 and 4).

Table 3. Calculation of the chi-square.

	Grades	Take Medication		Total
		No	Yes	
Average	10–12 points	28	14	42
Good	13–15 points	65	51	116
Excellent	16–20 points	33	14	47
	Total	126	79	205

Table 4. Calculation of the chi-square.

O	E	O-E	(O-E) ²	(O-E) ² /E
28	25.81	2.19	4.78	0.19
14	16.19	-2.19	4.78	0.30
65	71.30	-6.30	39.66	0.56
51	44.70	6.30	39.66	0.89
33	28.89	4.11	16.91	0.59
14	18.11	-4.11	16.91	0.93
			Total:	3.44

Degrees of freedom: 2.

Critical value from the table at the 5% level: 5.991 (which is greater than the calculated critical value 3.44).

Conclusion: there is no association between the variables. The variables are independent—there is no statistically significant relationship between the arithmetic mean of the course obtained by the students and medication intake.

6. Discussion

Among the sociodemographic variables studied, the potential effects on the burnout levels of sex (H1), age (H2), and gross monthly income (H8) were investigated based on the formulated hypotheses.

For the sample analyzed, it was not possible to attribute an influence of the gender variable to the levels of burnout. Thus, hypothesis 1 was not validated, contrary to the results of [9,88]. Note, however, that the former found only marginally higher levels of burnout in females, and that the latter attributed risk factors associated with personality characteristics to the sexes, namely, greater perceived effectiveness on the part of women, and more cynical about studies by men. Although both studies may indicate an apparent trend towards their results, the influence of sex on burnout levels does not seem clear, which was also evident in the present study. To confirm this trend, further studies would be needed, with larger and standardized samples.

Additionally, the age of the students did not reveal any influence on the burnout levels, although the literature refers that one of the groups most affected by the syndrome is the millennials [94]. In this study, higher levels of burnout were not found among students aged 18 to 25 years, when compared with those of students aged 26 or older, so research hypothesis 2 was not validated. Remember that the definition of millennial is not consensual, so the age range considered in this study may not be representative of that generation. On the other hand, the entire sample consisted of university students and, regardless of the age range referring to millennials, not all will be university students, so it would be necessary to extend the study universe to extra-university realities in order to be able to correctly measure the levels of the generation as a whole.

According to the research hypothesis 8, it was expected that lower gross monthly income would be associated with higher levels of burnout, as suggested by [33], who emphasize that the lack of financial support is a variable associated with academic burnout. Studies such as those by [32] point to the fact that the related social and professional pressures with higher education funding being a factor that makes university students more vulnerable to academic burnout. However, this was not verified in this study, since a lower gross monthly income was not significantly associated with higher levels of burnout; thus, not validating hypothesis 8. The financial support that the University in analysis provides and the fact that it is located in a geographical area where the cost of living is not high can explain this result.

With regard to academic variables, the educational qualifications (H3), the study areas (H4), the year of higher education attended (H5), the arithmetic average of the course (H6) and the professional situation were considered for analysis (H7).

No significant differences were found in the burnout syndrome between educational qualifications, areas of study or year of higher education attended; therefore, hypotheses 3, 4, and 5 were not validated. The fact that there are no significant differences in relation to educational qualifications and the year in higher education can be explained by the possible uniformity of academic load throughout the university course; that is, students continue with the same workload and suffer from stress throughout the course. As it turned out, in the course of their training, it is understood that students are, on the one hand, reformulating their goals, and, on the other, being confronted with the reality of their course and the profession they intend to exercise as mentioned by the authors [69,71,95]. These perceptions that are being fed may lead students to continually renew the pressure on themselves, or that, on the contrary, they will gradually lose their motivation and enthusiasm for the path they have been following. In any case, stress levels can be replenished and thus maintained, for different reasons, throughout the course.

Ref. [88] found that students of courses in the area of Biological and Exact Sciences are the ones who reveal the highest levels of burnout among the various areas of study and that those in the Humanities are those who suffer less from burnout; this was not evidenced by the present study. This result can be explained by the distribution of the study areas in the sample, it being verified that the majority of respondents, about 32%, were studying in the area of Human/Social Sciences, 28% in the area of Exact Sciences, around 17% in the area of Health Sciences and the remaining 23% were in areas related to Biological Sciences. In the study by [88], 33% attended courses in the Humanities area, about 30% in the Exact Sciences area, 27% in the Health Sciences area, and only about 10%

in the Biological Sciences area. The main differences in the two distributions are, therefore, in the areas of Health Sciences and Biological Sciences; that is, in the present study there was an excess of 13% of students in the area of Biological Sciences and 10% less in the area of Health Sciences.

As for the arithmetic mean, it was found that students with a lower average, from 10 to 12 points, have higher levels of burnout than students with higher averages, from 16 to 20 points. This result validates hypothesis 6 and is in line with what is reported by the authors [45,46], who indicate that the syndrome is related to poor cognitive performance and decreased academic achievement. It is understandable that this is the case, since academic burnout, as we have seen, is characterized precisely by a lack of motivation to study and perform the required tasks, in addition to physical symptoms such as constant tiredness and fatigue and migraines, thus impacting the output of students who suffer from it.

The influence on burnout levels was also analyzed according to the professional situation, verifying that students who do not work have higher levels of burnout than those who are worker-students. Thus, hypothesis 7 has not been validated. It would be plausible to consider that student workers could have higher levels of burnout, compared to students who do not engage in any paid professional activity, because they have to reconcile their studies with their profession, and are therefore faced with more challenges. However, according to the results obtained in the present study, and since no references to similar analyses were found in the revised literature, the possibility of students with worker-student status having better developed or adapted mechanisms such as coping and emotional intelligence, managing to better manage stress in relation to students who have less challenges to manage.

In addition to the sociodemographic and academic variables analyzed above, we tried to understand the impact that students' perceptions about the transition from secondary to higher education, and their options regarding the course, can have on the level of burnout, considering that the transition experience is an imminent cause of stress during the first year of post-secondary studies [28]. In fact, it was proven that there are differences in the manifestations of academic burnout due to the students' perception about the negative impact of the sudden freedom brought by the transition from secondary education to higher education, thus validating hypothesis 12. Students who consider that this freedom has affected them in a negative way have higher levels of burnout, as [28] refer. Freedom brings responsibility and, in this sense, young people may not yet be mature enough to properly manage emotions, relationships and even studies, without a support network as tight as up until then; that is, there are lower levels of emotional intelligence and resilience that, as mentioned earlier, act as a kind of protection against the syndrome.

The conditions of the educational institution itself are also pointed out in the literature as factors related to the burnout syndrome [9,10,33]. It was found, in the present investigation, that students who have a perception that the material conditions of their university are superior suffer less from burnout. Additionally, the higher (better) the relationship with their colleagues, the lower the burnout levels of students. Thus, hypotheses 15 and 18 were validated, which is in agreement with the conclusions of [36], regarding the contribution to the appearance of burnout of factors such as reduced solidarity and companionship, competition and disagreements with colleagues. However, higher classifications regarding the relationship between students and teachers were not, in this study, associated with lower levels of burnout, contrary to what was indicated by the authors [36], who report that poor relationships between students and teachers and the lack of feedback from teachers, are academic social risk factors that can precede or predict the appearance of burnout. Therefore, hypothesis 17 was not validated.

Another factor that is pointed out in the literature as a predictor of academic burnout felt by students is the competence of their teachers [96]. Further, in the present study, it was concluded that students who attribute better ratings to their teachers show lower levels of burnout, which validates hypothesis 16. Students who feel that teachers are not

competent may tend to develop a more cynical attitude towards the course, and/or become discouraged, feeling that the discipline or course does not meet expectations, which, in turn, may influence your motivation and commitment to studies. Students who are unmotivated and with worse academic performance are more susceptible to developing the syndrome.

The impact that the reasons for choosing the course can have on the levels of burnout was also analyzed, concluding that the students who chose the course they attend taking into account the employability rate do not present significantly higher levels of burnout than those for which the choice did not consider this criterion. However, students who chose the course by vocation and/or taste have lower burnout levels than those who did not choose the course they are attending for that reason. Therefore, hypothesis 13 was partially validated, and the assumption that the vocation or taste for the course may be linked to greater motivation on the part of the students, and thus constitute a protective factor against this syndrome as mentioned in the literature seems plausible. Remember that [95] affirm that the choice of the profession to be exercised is not fully conscious, ending up not being a factor directly linked to the students' decision. Factors which do weigh, the authors point out, for example, are economic reasons, reputation or the desire to help others.

In the present study, the correlation between burnout and the fact that students feel they know (or not) how to withstand the pressures of their study cycle was also assessed. The more students think they are able to withstand the pressures of their study cycle, the lower their burnout levels. In addition, students who report that the reduction in the number of hours of daily and weekly classes, the reformulation of teaching methods and a wider range of curricular options as factors that would improve their psychological well-being, in the university context, present greater burnout levels. Hypotheses 28 and 30 have therefore been validated.

Ref. [96] refer to the low expectations of students with regard to their course as one of the factors that most result in burnout in Portuguese university students. Ref. [95] state that, by understanding, during their academic career, that the course or future profession does not meet the expectations created, the student develops a sense of disappointment that, consequently, can also lead to frustration, discontent and stress, with a tendency to increase continuously, and lead to a burnout scenario. If the scenario gets worse, and if effective coping strategies and their implementation are neglected, a burnout scenario will most likely arise. Similar results were obtained in the present study, since it was concluded that the higher the initial expectations of the student, the lower the levels of burnout, therefore hypothesis 14 was validated.

Issues related to employability and the perception of the absence of offers in the labor market were also pointed out as factors that generate stress and anxiety in modern society and associated with academic burnout [6,33]. The present study also found that students who feel uncertain about their future work show higher levels of burnout than those who do not manifest this uncertainty, thus validating hypothesis 19. This uncertainty felt by students may be partly explained by the crisis that we are facing, as a result of the COVID-19 pandemic, namely, regarding its repercussions in the labor market, in which it was already difficult for graduates to enter.

In Portugal, young people have more and more academic training, according to the data in [97], which show that, in 2019, there were 83,193 individuals with recent degrees (students who completed their bachelor's, master's, doctorate, or specialization course in that year). In Portuguese society, until the 1980s, having a higher education was associated with ensuring a well-paid job. However, the widespread entry into higher education and the resulting increase in graduated individuals caused significant changes in this scenario. Portugal has a small and diversified economy, there is little labor, and this reality, combined with constant advances in technology and automation, contributes to the difficulty of finding jobs by young people. Most young people are unable to obtain employment in their area of training, or if they do, it is poorly paid. Nowadays, the number of young people who have a regular full-time job is decreasing, and those who have it are hardly able to achieve

a degree of security in the long term; that is, a large part survives through occasional jobs in the short term (part-time), with little or no guarantees and contractual rights, which results in the possibility of losing jobs unexpectedly due to economic crises and/or the employer (being fired with no forewarning). These situations provoke feelings of insecurity, uncertainty and fear in this generation, with serious psychological consequences. Due to the social and economic aspects mentioned, most young people postpone the decisions and responsibilities inherent in adult life, remaining for long periods semi-dependent on their parents, with all the social and personal repercussions that arise from it [98]. According to [99], the youth unemployment rate in the European Union increased by two percentage points between 2019 and 2020, reaching 17%.

Other factors considered important in preventing burnout are extracurricular activities and physical exercise. This study points in this direction, since it was concluded that students who participate in extracurricular activities or practice physical exercise have lower levels of burnout, and, in addition, the greater the frequency with which they practice physical exercise, the lower these levels are. These results allow us to validate the research hypotheses 9, 10 and 11, and are congruent with those obtained by [36], who showed that non-participation in cultural or recreational activities can precede or predict the appearance of burnout.

As already mentioned, burnout syndrome is related to depressive symptoms [47] and even suicidal thoughts [13]. The analysis of the data in the present study showed that students who were recently diagnosed with depression have higher levels of burnout, so hypothesis 20 was validated.

The need to take medication was pointed out by [96] as a predictor of academic burnout experienced by university students. In the present study, it was found that students who take medication show higher levels of burnout, and those who take it about once a month or once a week have significantly higher levels of burnout than students who do not take any medication. Regarding the type of medication, those who take antidepressants have higher levels of burnout than those who do not; those who take anxiolytics or sleeping medication, or food supplements/multivitamins, have higher levels of burnout compared to those who do not take this type of medication. In this study, it was also determined that students who take medication to combat the symptoms of emotional exhaustion (related to burnout) and to improve their academic performance have higher levels of burnout when compared to students who do not take it for these reasons. Thus, research hypotheses 21, 22, 23, and 24 were validated. This result can be justified by the social pressure that is exerted by society and by family members (related to the desire that the students conclude their study cycles successfully), and also by the increasing responsibility [3], economic pressures, cultural, and even aspects related to the students' personality [4]. It would be pertinent to understand if the levels of burnout are higher in students who take more than one type of medication at the same time.

It should also be noted that students who do not know other colleagues who take sleeping medication have been shown to have higher levels of burnout, which validates hypothesis 25. A possible explanation for these results may be the fact that difficulty in sleeping and/or the medication taken are felt as taboo topics, and not knowing specific coping strategies via such medication may be detrimental (given the importance of a good night's sleep).

Note, however, that no relationship was found between the arithmetic mean obtained by students and taking medication. Therefore, hypothesis 26 has not been validated. Considering, as indicated above, that taking medication can be enhanced by the social pressure exerted, this result can be justified by the idea that this pressure is exerted on students whatever their course average; that is, if the student has a lower average, you will feel pressure to go up; if it is average, you may be required to improve it to reach the highest level; if it is already high, you will feel pressure to maintain it.

Ref. [96] point out the student's subjective academic performance and the intention to give up his study cycle as relevant predictive factors for the academic burnout felt by

students. In this sense, it was found, in the present study, that students who consider giving up the course or studies have higher levels of burnout, and therefore hypothesis 27 was validated. Regarding the classification of their academic performance, it was proved that the better they classify their academic performance, the lower the burnout levels of the students, which validates the hypothesis 29.

Finally, hypothesis 30 was also validated. There are differences between academic burnout and the fact that students consider that improving some aspects of the university's functioning would help to increase their level of psychological well-being, with students considering that reducing the number of hours of daily and weekly classes, the reformulation of teaching methods, a wider range of curricular options, and the availability of other means that provide psychological support would improve their psychological well-being are the students who have higher levels of burnout.

7. Conclusions

Based on the results obtained, it was not possible to establish a relationship between the occurrence of burnout and sociodemographic variables, such as gender, age group, and gross monthly income, or academic variables, such as educational qualifications, areas of study, year in higher education, and the relationship with teachers.

However, there are statistically significant differences between burnout and the following factors: the arithmetic mean of the students' course; your professional situation; the way they perceive the transition to higher education; the material conditions of the educational institution; their assessment of their relationship with colleagues; the rating they attribute to the competence of teachers; the reasons for choosing the course; students' ability to withstand the pressure of their study cycle; the aspects that they believe can improve their level of psychological well-being at the university; your expectations regarding the course; uncertainty regarding the professional future; their participation in extracurricular activities; the practice of physical exercise (and the frequency of this practice); a recent depressive clinical condition; taking medication (in particular antidepressants, anxiolytics, multivitamins and/or hypnotics) and the frequency with which they take it; the reason for taking medication (alleviating symptoms of emotional exhaustion and improving school performance); the knowledge of colleagues who take sleeping medication; consider giving up the course or studies; and the way they rate their own academic performance.

In contrast, among the factors that seem to protect students from experiencing burnout are academic involvement, intrinsic motivation, coping strategies and social support, emotional intelligence, and resilience.

It should be noted that the present study showed that about 29% of the university students at the analyzed university show signs of burnout. Higher education institutions urgently need to take measures to remedy this situation, which constitutes a serious public health problem and which has several consequences, namely that of hampering the training of young people. Among these measures, rethinking, and reformulating teaching will be essential.

The results obtained provide an important practical contribution to the management of the satisfaction of university students and to improve their quality of life, since they alert to several factors that can serve as a basis for correcting failures and implementing improvements, increasing permanence and success in the analyzed higher education institution and, potentially, in other institutions.

In terms of practical contribution, it is suggested that the educational institution analyzed and the other higher education institutions implement some of the suggestions listed below to increase student satisfaction and students' quality of life:

- Reformulation of teaching methods, creating new methods of assessment (not just exams and/or tests) and promoting dynamic classes to stimulate students' creativity and motivation (taking, for example, occasional classes outdoors or with music);
- The reduction in the number of hours of daily and weekly classes; Portugal is one of the European countries where students have a greater number of hours, on average,

about 21 h of classes per week (similar to Poland). The European average is only 17 h. However, there are countries in the North where these numbers are lower, for example, in Sweden (10 h) and/or Norway (13 h). However, if study time is added to this time, a national university student spends, on average, about 46 h in class and in study. Regarding worker-students, the number rises to the 63 h per week that worker-students occupy between classes, study, and their profession, which justifies that it is very hard to work and study simultaneously in such a national context [100];

- Provide a wider range of curriculum options so that students can study what they really like, and think is appropriate for their vocational pathways;
- Providing more free workshops to learn how to deal with anxiety, pressure, stress, time management, as well as sessions on emotional intelligence and resilience aimed at the entire academic community;
- Reduction of waiting lists for psychology appointments;
- Greater dissemination of mental illness and psychology consultations;
- Make the exam schedule available at the beginning of the semester, so that students can choose the assessment method in an organized manner and reduce students' stress and anxiety during the assessment period;
- Greater coordination by the university's Rectory to avoid accumulating exams on the same day;
- Have a lower load of group work and, on the other hand, more individual work, since it was an aspect mentioned by the students;
- The reduction in the number of students per class in order to promote greater teacher-student interaction;
- Reformulation of the program of most curricular units, giving more importance to the practical aspect of teaching, the promotion of short-term paid internships and, in general, the preparation of students for the imperfections of the working world (which is the main mission of teaching at university). In the same sense, the courses could be divided into two phases: one held at the university and the other at a company (having access to real problems), with the company paying students for their time, knowledge and availability or, alternatively, paying for their tuition fees (as occurs in Germany). This measure would increase the students' intrinsic motivation, which, as verified in the present study, is a burnout protection factor;
- Consideration of student feedback regarding the topics taught and the topics not taught that may be really relevant to them;
- Creation of an extracurricular physical exercise activity to promote individual and team work to relieve stress and promote interpersonal relationships;
- Improving the comfort of leisure spaces and increasing the number of social spaces to relieve stress and promote interpersonal relationships;
- Improving material conditions to increase comfort in classrooms, as material conditions have an influence on burnout;
- Individual and group orientation programs as suggested by the authors [57];
- If the success of higher education institutions and their students is related to the well-being of teachers, it is crucial to analyze the predominance of stress and burnout in this profession to understand the problems and some of the causes behind stress and implement measures [101].

In short, future research may relate the variables burnout and taking medication with others not addressed in this study, such as student personality traits (anxiety, rigidity, perfectionism, and self-efficacy), the social support system in which he/she is inserted, and the coping strategies used by him/her.

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Appendix A. Online Questionnaire (Google Forms) Distributed to University Students at the Portuguese Public University

Burnout is a state of physical and mental exhaustion caused by professional/academic life.

This questionnaire was carried out with the aim of analyzing whether university students have experienced, at some point in their academic life, the burnout syndrome. It also serves to understand whether these same students took (or still take) any medication during their academic career and, if so, what motivated them or motivates them to do so.

Your data will be treated confidentially, being used for scientific purposes only.

This questionnaire is anonymous.

* Required

1. Are you a student at the Portuguese public university? *

Yes

No

2. Gender *

Female

Male

3. Age *

18–25

26–35

36–45

46–55

Other: _____

4. Country of origin (place of birth): * _____

5. Country of residence: * _____

6. What is your educational establishment? *

Portuguese public university

Polytechnic 1 of the Portuguese public university

Polytechnic 2 of the Portuguese public university

Polytechnic 3 of the Portuguese public university

Polytechnic 4 of the Portuguese public university

7. What are your educational qualifications? *

- Degree
- Master
- PhD
- Postdoctoral
- Aggregation

8. What is your area of study? *

- Public Administration
- Biology
- Biochemistry
- Biotechnology
- Materials Science and Engineering
- Biomedical Sciences
- Engineering Sciences
- Health Sciences
- Marine Sciences
- Environmental Sciences and Engineering
- Communication Sciences and Technologies
- Social Sciences
- Accounting
- Design
- Economy
- Education
- Electrotechnical
- Biomedical Engineering
- Civil Engineering
- Computer Engineering
- Engineering and Industrial Management
- Mechanical Engineering
- Chemistry
- Chemical Engineering
- Physics
- Geosciences
- Management
- Computers
- Languages
- Mathematics
- Music
- Regional and Urban Planning
- Psychology
- Chemistry
- Translation
- Tourism
- Other: _____

9. What year of higher education do you attend? *

- 1st year
- 2nd year
- 3rd year
- 4th year
- 5th year

10. Currently, what is your average course? *

- 10–12
- 13–15
- 16–18
- 19–20
- Other: _____

11. Do you have any paid work? *

- Yes
- No

12. What is the gross monthly income of your household (in euros)? *

- Less than 600 euros
- € 600–€ 999
- € 1000–€ 1499
- € 1500–€ 2499
- € 2500–€ 3499
- € 3500–€ 4499
- € 4500–€ 5499
- € 5500–€ 6499
- More than € 6500

13. Who do you live with? *

- Alone
- Parents
- Grandparents
- Other family members
- Other: _____

14. Who mainly finances your studies? *

- Parents and/or other family members
- Himself
- Scholarship and/or other social support
- Other: _____

15. Do you participate in extracurricular activities? *

- Yes
- No

16. What are the extracurricular activities in which you participate? *

Check all that apply

- Associations
- Academic Tuna
- Academic Practice and other related activities
- Events organized by the university
- I do not participate in extracurricular activities
- Other: _____

17. Do you consider that the fact of participating in many extracurricular activities negatively affects your studies? *

- Yes
- No

18. Do you practice physical exercise? *

- Yes
- No

19. How often do you exercise? *

- Once a month
- Once a week
- Two to three times a week
- Every day
- I don't practice physical activity

20. Do you consider that, in the transition from secondary education to higher education, most students gain more freedom in a relatively sudden way? *

- Yes
- No

21. Do you consider that this freedom affected you negatively, as a student? *

- Yes
- No

22. What are the reasons that led you to choose the course you are attending? *

Check all that apply

- Social pressure
- Employability rate
- Pressure from family and/or friends
- Vocation and/or taste
- Other: _____

23. In relation to your initial expectations, how would you rate the course you are attending? *

- Worse
- Like
- Better

24. In general, how do you rate the material conditions of the university you attend? *

- More
- Reasonable
- Good
- Excellent

25. In general, how do you rate your teachers? *

- Incompetent
- Reasonable
- Good
- Excellent

26. How do you rate your relationship with most of your teachers? *

- Bad
- Fair
- Good
- Excellent

27. And how do you rate your relationship with your colleagues? *

- Bad
- Fair
- Good
- Excellent

28. Do you feel uncertain about your professional future? *

- Yes
- No

29. Have you recently been diagnosed with depression due to the demands of your studies? *

- Yes
- No

30. Have you ever needed to take medication in order to meet the demands of your studies? *

- Yes
- No

31. What medications did you take/take? *

Check all that apply

- Antidepressants
- Anxiolytics (medicines for anxiety)
- Food supplements/multivitamins to improve your mental performance (that is, to improve your memory and concentration), increase your energy and, consequently, improve your academic results
- "Smart drug" (Piracetam)
- Creatine
- Stimulants (for example, Adderall or Ritalin)
- Sleep medications (for example, Diazepam, Estazolam, Alprazolam and Zolpidem)
- I never took any medication during my studies
- Other: _____

32. How often do you take/took these medications? *

- Every day
- About once a month
- About once a week
- Only during evaluation periods
- I don't take any medication
- Other: _____

33. Why are you taking/taking this medication? *

Check all that apply

- Social pressure
- Symptoms of emotional exhaustion
- Influence of friends and/or family
- To improve my academic achievement
- By medical prescription
- I don't take any medication
- Other: _____

Disbelief *

In the next questions, choose the frequency with which, throughout your academic career, you encounter/have encountered the feelings described.

	Never	Almost Never	Sometimes	Regularly	Enough Times	Often	Ever
43. I have been losing interest in my studies since I entered university.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
44. I feel unenthusiastic about my studies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
45. I believe less and less in the potential usefulness of my studies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
46. I have doubts about the meaning of my studies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

47. Have you thought about giving up the course you are attending? *

Yes

No

48. Have you thought about giving up your studies? *

Yes

No

Professional effectiveness *

In the next questions, choose the frequency with which, throughout your academic career, you encounter/have encountered the feelings described.

	Never	Almost Never	Sometimes	Regularly	Enough Times	Often	Ever
49. I can effectively solve the problems that I face in my studies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
50. I believe that I participate, in a positive way, in the classes I attend.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
51. I feel like I'm a good student.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
52. I feel stimulated when I reach my school goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
53. I have acquired knowledge in many relevant subjects during my course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
54. During classes, I feel that I can follow the material effectively.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Global Assessment *

55. From 1 to 5, how do you rate your posture in relation to the following statement: "I can handle the pressures I feel very well in my study cycle." *

Strongly disagree Strongly agree

56. How do you rate your performance on the course? *

- Bad
 Fair
 Good
 Excellent

57. Which of the following do you think would help to improve your level of psychological well-being at the university? *

Check all that apply

- Reduction in the number of hours of daily and weekly classes
 Reformulation of teaching methods
 More opportunities (resource or second “calls”) so that students can pass each of the course units
 A wider range of curriculum options
 Organization of more workshops to teach ways to reduce stress and anxiety
 Provision of other means to provide psychological support to students
 Other: _____

58. Describe what, in your opinion, could help improve your level of psychological and physical well-being at the university. *

59. E-mail for contact (in case of winning the draw). _____

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