Academic Burnout, Personality, and Academic Variables in University Students

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Article

Academic Burnout, Personality, and Academic Variables in University Students

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Abstract: The study examines academic burnout syndrome and its relation to personal and academic variables among university students in nursing and early childhood education programs in Spain. A total of 606 university students (Primary Education: 49.7%; Nursing: 49.7%) of both sexes (71.5% female), and average age 20.68 years (SD = 1.65) participated. An ex post facto retrospective single-group design was planned. The instruments used were the Maslach Burnout Inventory-Student Survey (MBI-SS) and the NEO Five Factor Inventory (NEO-FFI). Nursing students, who showed more study hours, less sleep, and lower grades, had higher academic burnout scores. Linear regression models were proposed to analyze the relationship between academic burnout, personality, and sociodemographic variables. Nursing students scored higher in emotional exhaustion and lower in cynicism, and they scored higher in neuroticism and openness. Furthermore, 16.1% of the variance in academic burnout was explained by personality variables as degree, course and study hours. These findings suggest the importance of considering both academic and personality variables in understanding academic burnout in university students.

Keywords: academic burnout; personality; nursing; education

1. Introduction

The burnout syndrome is a psychological phenomenon extensively studied, impacting individuals under high chronic stress, particularly in work environments. First coined by Freudenberger in 1974 [1], it described emotional exhaustion and depersonalization among healthcare professionals. Freudenberger recognized it was distinct from anxiety, stress, or depression, tentatively naming it burnout. The concept gained momentum years later through the work of social psychologists Maslach and Jackson in 1981 [2], leading to prolific scientific literature [3]. They proposed a definition involving three dimensions: emotional exhaustion, depersonalization, and reduced personal accomplishment. Emotional exhaustion is characterized by feeling emotionally drained and fatigued, not due to physical causes like sports exertion. Depersonalization refers to emotional distancing from those one works with, a detachment from the aversive experiences. The third dimension, reduced personal accomplishment, encompasses the inevitable feeling of not achieving personal or professional development, not meeting professional goals, or feeling work is meaningless, linked to perceived self-efficacy reduction [4].

This definition and conceptualization of the syndrome was adopted by international research, and it remains the most accepted one today, with slight linguistic nuances. Since then, the concept has expanded widely and is applied to various professions and contexts, including the academic field. Some authors, following up on the original proposal of the syndrome, raised the unquestionable fact that burnout could be observed in other areas, such as sports [5], and even proposed it as a psychopathological syndrome in early ages [6]. Today, no one can doubt that we are dealing with a psychological syndrome caused by severe and lasting stress in environments as diverse as the workplace, the academy, the social, the sporting, the marital, or even in individual planes.

The academic burnout syndrome, also known as "educational burnout" or "burnout in education", is a specific manifestation of burnout that affects professionals in the educational field, such as teachers, researchers, and students. It was in the 1990s that the first studies on burnout in

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university students appeared, and, thus, in a very recent systematic review [7], authors conclude that academic burnout is more frequently experienced by students than by teachers, giving a turn to the now outdated approaches of Maslach and Jakcson (1981) of wanting to place it solely in the workplace.

Although there is no universally accepted definition, scholars have identified common symptoms that characterize academic burnout. It is characterized by the same symptoms as general burnout (physical and emotional exhaustion, demotivation towards studies and emotional disconnection from the academic environment, and a decrease in the sense of achievement and personal efficacy), but it is associated with specific factors of the academic environment, such as: academic pressure to obtain good grades, the intense workload and the lack of resources to meet educational demands, meeting tight deadlines and following an accelerated study pace, comparison with other students and pressure to excel, difficulty in reconciling study with other activities, etc. [8].

Many authors have highlighted that academic burnout can have a negative impact on mental health, academic performance, and satisfaction with higher education [9]. Thus, a study regarding psychosomatic aspects associated with burnout in nursing students [10], observed not only problems such as sleep disturbances but even more serious psychological problems such as depression. This result could be established in the same line as that also obtained one year later with medical students [11], where academic burnout maintained an inverse relationship with the level of mental health of these young people. Recent results also observed how engineering students with academic burnout correlated with other problems such as obsessive-compulsive disorders, depression, phobic anxiety, or paranoid ideation, to name just a few examples [12].

To address this problem, it is essential to identify the underlying causes and develop appropriate prevention and support strategies to promote the well-being of university students and ensure a healthy academic environment. The risk factors for academic burnout are multiple and can be of a personal, organizational, or occupational nature [13,14]. Personal factors include personality, coping style, and physical and mental health. Organizational factors include workload, academic pressure, lack of control, lack of social support, and insecurity and uncertainty about the future job market. Occupational factors include lack of meaning in work, lack of recognition, and dissatisfaction with the professional career.

Linking with personality, the need to attend to the psychological profile of the subject if it was to be addressed from a psychopathological perspective had already long ago been pointed out [15]. Therefore, in this work, in addition to analyzing the academic burnout syndrome, we aim to observe the relationship that the problem has with the personality of the students. To do this, we will observe the differences that can potentially be found by taking into account the degree studied, starting from the hypothesis that perhaps nursing students are the ones who present the highest levels of burnout, following recent findings who argued that up to a third of nursing students could suffer from it [16]; or which showed how the weakness of the variables related to the less resistant personality caused more propensity to the syndrome [17].

We are interested in observing, if this hypothesis is confirmed, what the reasons may be that could lead to the fact that there may be university careers that host more burnout than others, and for this it is essential to verify whether the personality characteristics, in their configuration as a pattern of functioning, could explain this reality. Likewise, we are interested in knowing the influence of academic variables such as the degree studied (comparing in this case nursing and early childhood education students), the academic year, the hours dedicated to studying, and the students' average grade.

Therefore, the main objectives of this study was (1) to examine the differences in academic burnout levels among university students based on their degree, academic year and weekly study hours; and (2) to investigate the relationship between university student personality characteristics and academic burnout.

2. Materials and Methods

2.1. Target population and sampling procedure

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The present study was conducted with a random sample of university students, all of whom were voluntarily recruited and selected at random. The inclusion criteria included active enrollment in the academic programs of Nursing or Early Childhood Education, as well as possessing Spanish nationality. The exclusion criterion was that the participants' age was over 26 years old.

Meeting all of these criteria, we concluded with a sample of 606 university students with an average age of 20.68 years and a standard deviation of 1.65 years. The sample comprised 71.5% females, and regarding their fields of study, 49.7% of the students were enrolled in Nursing and the remaining 50.3% in Early Childhood Education.

2.2. Measures

An ad hoc questionnaire was employed to assess socio demographic variables necessary to describe the sample. This questionnaire inquired about age, sex, marital status, dependents, hours dedicated to study and sleep, and the average grade from the previous academic year.

Regarding academic burnout, it was examined using the Maslach Burnout Inventory-Student Survey (MBI-SS) [18], adapted and validated for the Spanish population [19]. This questionnaire consists of 15 items rated on a Likert scale from 0 to 6, where the lowest score (0) corresponds to "never" and the highest score (6) to "every day". Additionally, this questionnaire has three subscales: Emotional Exhaustion, Cynicism, and Efficacy. According to this questionnaire, high scores in the first two factors and low scores in the last are indicative of higher levels of academic burnout. The internal consistency of the MBI-SS in this study was .716.

Personality was assessed using the NEO Five Factor Inventory (NEO-FFI) [20] in its Spanish version [21]. This questionnaire is comprised of 60 items rated on a Likert scale with five response options (ranging from strongly disagree to strongly agree) and presents five subscales: Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness, forming a questionnaire with an internal consistency of .748.

2.3. Research design

To analyze the relationships between academic burnout, personality traits, and sociodemographic variables, a retrospective ex post facto single-group design [22] was carried out. Other academic variables such as the degree studied and the average grade obtained by the students the previous year were also analyzed.

2.4. Ethics approval and consent to participate

Upon obtaining the approval of the University's Research Ethics Committee, the deans of the faculties of Education and Nursing were contacted to explain the purpose of the study and to arrange the most suitable dates for administering the questionnaires. In the classroom context, the standardized procedure carried out to ensure uniformity in the instructions to all participants was explained. Furthermore, prior to completing the booklet, informed consent was obtained from all subjects involved in the study. Assurance of anonymity and confidentiality of the data provided was given to all participating individuals, in addition to having the continuous presence and guidance of the research team, who supervised the sessions in which the measurement instruments were administered for individual completion, lasting approximately 50 minutes.

2.5. Data analysis

In relation to the statistical analyses, a study of basic descriptors and frequency of all variables was carried out. In addition, several tests were used to observe the differences between subgroups and establish their different profiles. In the case of continuous variables, the Student's T-test was used and for categorical variables, Chi-squared. In relation to the analysis of academic burnout and personality, the Student's T-test was performed to observe the differences between groups. Next, two linear regression models were proposed, respectively, generating the corresponding mean scatter

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plots to observe the data. Both for the analysis and for the graphs, they were performed by the statistical program Jamovi. 2.3.21.0.

2.6. Statistical Analysis

Regarding the statistical analyses, a study of basic descriptors and frequency of all variables was conducted. Additionally, various tests were used to observe differences between subgroups and establish their different profiles. For continuous variables, the Student's T-test was utilized, and for categorical variables, the Chi-square test. In relation to the analysis of academic burnout and personality, the Student's T-test was performed to observe differences between groups. Subsequently, two linear regression models were formulated, with corresponding scatter plots generated to observe the data. Both the analysis and the plots were conducted using the statistical program Jamovi 2.3.21.0.

3. Results

3.1. Preliminary Analysis

Regarding the sociodemographic differences between both subgroups, differences were observed in the variables of age, hours of study, and hours of sleep. Examining the age of participants, statistically significant differences were perceived with a medium-high effect size (t604=3.72, p<.001, d=.302); in the variable of study hours, statistically significant differences were observed with a high effect size (t604=-6.15, p<.001, d=-.500); in the sleep hours variable, statistically significant differences were also noted with a medium-low effect size (t604=2.26, p=.024, d=.184). Table 1 illustrates the magnitude of these differences, indicating that nursing students were younger, studied more hours, and slept less. Furthermore, statistically significant differences between the subgroups were also observed in other variables, such as the sex of the participants (χ2= 10.4, p<.001). However, no differences were found in marital status (χ2=1.01, p=.316) and number of children (χ2=1.04, p=.308). As shown in Table 2, 77.4% of the nursing students were female compared to 65.6% of female students in early childhood education.

Table 1. Sample Description by Age, Study Hours, and Sleep Hours.

		M	SD	Min	Max	t	p	d
Age	E.C. Educ.	20.93	1.53	18.0	25.0	3.72	<.001	.302
	Nursing	20.44	1.73	18.0	25.0			
Study hs	E.C. Educ.	6.87	6.79	0.0	68.0	-6.15	<.001	.500
	Nursing	10.83	8.90	0.0	70.0			
Sleep hs	E.C. Educ.	7.25	2.01	0.0	12.0	2.26	.024	.184
	Nursing	6.94	1.18	0.0	10.0			

Furthermore, differences were also observed in the grades achieved. Early childhood education students have obtained higher grades compared to nursing students. As depicted in Table 2, both 'excellent' and 'very good' grades occurred more frequently in early childhood education students, with 65.2% and 55.3% respectively. In contrast, nursing students had a higher frequency of lower scores, though the 'fail' response could not be analyzed due to its low occurrence in both groups, it should be noted that 68.4% of the students who scored a 'pass' were from the nursing program.

Table 2. Sample description according to the average grade obtained in the previous courses.

Average grade	E.C. Education		Nursing		Statistics	p
D	**1**	(33.3%)	2	(66.7%)		
C	43	(31.6%)	93	(68.4%)	25.7	<.001
B	242	(55.3%)	196	(44.7%)		
A	15	(65.2%)	8	(34.8%)		

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Since the study's objective was to analyze the differences in academic burnout and personality among students from different fields, the Student's t-test was conducted to assess the observed differences between the two subgroups. As shown in Table 3, differences were found between the total score of academic burnout and some of its factors (exhaustion and cynicism). Notably, in the academic burnout data, the effect size for the exhaustion factor was very high (t604=-9.352, p<.001, d=.760), in contrast to the efficacy factor, where no statistically significant differences were observed (t604=.889, p=.374, d=.072).

Continuing with the data analysis from Table 3, statistically significant differences were only observed in the following personality variables: Neuroticism and Openness. For Neuroticism, a difference with a low effect size was noted (t604=-2.121, p=.034, d=-.172) and for Openness, a medium effect size (t604=-2.433, p=.015, d=.198). These findings suggest that nursing students scored higher in emotional exhaustion and lower in cynicism. However, no differences were observed in efficacy. In terms of personality, nursing students scored higher in neuroticism and openness; no differences were observed in the other scores.

Table 3. Differences in Burnout and Personality in Nursing and Early Childhood Education Students.

		Media	DE	Mín	Máx	t	p	d
Burnout	E.C. Educ.	41.58	7.82	18.00	65.0	-5.07	<.001	-.412
	Nursing	45.17	9.55	23.00	90.0			
Emotional exhaustion	E.C. Educ.	9.69	5.62	0.00	27.0	-9.35	<.001	-.760
	Nursing	14.28	6.43	1.00	30.0			
Deperson	E.C. Educ.	4.55	3.98	0	19	1.92	.056	.156
	Nursing	3.90	4.37	0	24			
Personal accomplish	E.C. Educ.	27.34	4.65	11.00	36.0	.89	.374	.072
	Nursing	26.99	4.88	11.00	36.0			
Neuroticism	E.C. Educ.	19.95	8.18	0.00	47.0	-2.12	.034	.072
	Nursing	21.36	8.20	1.00	43.0			
Extraversion	E.C. Educ.	34.21	6.91	15.00	48.0	.45	.654	.364
	Nursing	33.96	6.80	9.00	48.0			
Openness	E.C. Educ.	27.91	6.35	13.00	44.0	-2.43	.015	.198
	Nursing	29.16	6.31	12.00	48.0			
Agreeableness	E.C. Educ.	31.43	5.85	11.00	46.0	-.81	.419	-.066
	Nursing	31.82	5.86	12.00	46.0			
Conscientious.	E.C. Educ.	31.58	6.56	15.00	48.0	-.17	.865	-.014
	Nursing	31.67	6.59	11.00	47.0			

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Comparing the relationship between these variables, statistically significant differences were observed between personality factors and academic burnout. Specifically, a linear regression model was proposed between neuroticism, agreeableness, and conscientiousness with a low effect size (F3, 602=24.6, p<.001, d=.109). These data suggest that both scores in conscientiousness and neuroticism are directly related to levels of academic burnout; whereas higher scores in agreeableness lead to lower academic burnout scores. However, the most comprehensive model includes the personality variables (described above) with degree, course year, and study hours (F8, 597=14.4, p<.001, d=.161). This last analysis accounts for 16.1% of the variance explained in academic burnout.

These findings are also reflected in Figures 1 and 2, where it is observed that nursing students scored higher in academic burnout as they progressed through their courses, with a notable difference between the first and fourth years. This difference between degrees is also evident in the study hours and their relationship with academic burnout.

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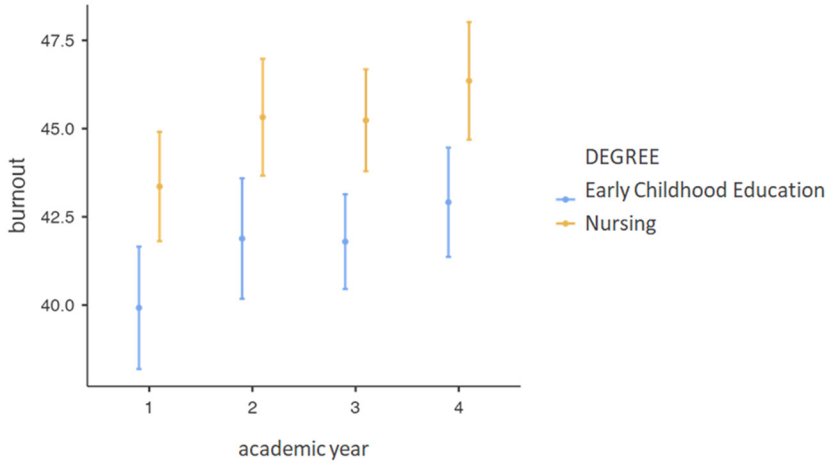

Figure 1. Relationship between Burnout, Course Year, and Degree.

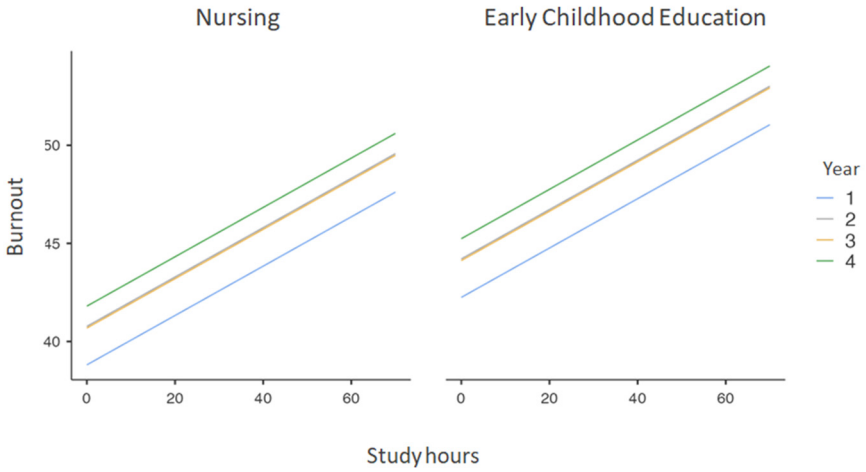

Figure 2. Relationship between Burnout, Study Hours, and Degree.

4. Discussion

This study aims to be a preliminary approach to the reality of university students experiencing academic burnout and the relationship this syndrome may have with sociodemographic and academic variables, as well as personality traits. It is true that the comparison made does not provide definitive data on some of the hypotheses presented, but it is interesting to note that nursing students show a higher level of academic burnout, as indicated by previous works [17]. These studies also established certain connections between the syndrome and personality traits, with neuroticism being positively correlated and agreeableness negatively correlated in our case.

The fact that nursing students clearly present a younger age profile, with greater dedication to study and consequently fewer hours dedicated to sleep, aligns with some contributions from studies conducted with other student population groups regarding sleep disorders [10], increased commitment to studies [23] and improvement of developed habits [24]. However, undoubtedly the most interesting aspect is confirming that the study of personality, as initially related to the syndrome [15], continues to be an essential aspect if we wish to understand the reality of academic burnout when it affects, in this case, students in general, or nursing students in particular. Only through this can we delve deeper into improving the mental health of our students with effective programmatic actions [7,11,12].

5. Conclusions

Several conclusions can be drawn as a result of the findings from the conducted study:

It is pertinent to conduct research that focuses on the personality of the student and its relationship with academic burnout syndrome, from different theoretical proposals that link it with other variables, such as sociodemographic ones.

It would also be interesting to introduce new variables related to maintained habits, such as physical activity, diet, hours dedicated to rest, among others.

There is a need to increase the number of university degrees analyzed to verify if there are indeed trends that link academic burnout more evidently in some studies than in others.

Consideration should be given to the psychological variables of the student, both those related to their personality and those more specific to mental health when developing prevention programs for the syndrome.

For future studies, it would be advisable to increase the number of sociodemographic variables, as this could aid in understanding the variation in behavior among different students with academic burnout.

The robustness of the theoretical proposal is maintained, confirming the appropriateness of analyzing academic burnout syndrome and personality profiles in an attempt to optimally understand this psychological problem, with it being evident that academic burnout remains associated with problems of the neurotic spectrum (neuroticism).

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Institutional Review Board Statement: Institutional Review Board Statement: The study was conducted according to the guidelines of the Declaration of Helsinki, and approved by the Institutional Review Board (or Ethics Committee) of Comité de Ética de la Investigación de la Universidad Católica de Murcia (protocol code CE012301 and date of approval is 26/01/2023).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Conflicts of Interest: The authors declare no conflicts of interest.

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