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Academic burnout syndrome in university students during the Covid-19 pandemic

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Abstract--The academic school period in the context of the pandemic is an antecedent for the development and fixation of academic burnout. The aim was to analyze the academic burnout syndrome in university students during the pandemic by comparing its social variables. Comparative descriptive study7d *depersonalization* it is also at a medium level, unlike the personal fulfillment dimension, where the level is low. In addition, women and men present symptoms and signs, as well as, students who work and study, from the engineering

area and from the first cycles (under 19 years of age). It is concluded that the study is original and clearly demonstrates the differences in the behavior of burnout syndrome among students according to their social variables.

Keywords---burnout syndrome , university students, Covid-19 pandemic

Introduction

The effect of the pandemic in Peru had psychosocial repercussions in the community of the education sector due to government health provisions to prevent the spread and massive contagion (Seperak *et al.*, 2021), with the cessation of face-to-face activities for virtual ones at all levels, in that sense, there were changes in the academic and social environment of university students impacting their mental health, observing an increase in anxiety and depression (Cao *et al.*, 2020; Araoz *et al.*, 2021).

In this regard, this academic period becomes a background for the development and fixation of academic burnout, due to factors typical of universities such as: absence of interaction with the teacher, excessive academic load, deficiency in virtual classroom services, competition among peers, as well as factors related to social support (family and friends) and personal, low motivation and self-efficacy, and dissatisfaction with studies, considering them as a risk group for mental health (Xiong *et al.*, 2020; Perez *et al.*, 2020).

Academic burnout syndrome is a multifactorial symptom based on high levels of emotional exhaustion, depersonalization and low academic efficacy, defined by several researchers as a pathology (Avecillas *et al.*, 2021; Amor *et al.*, 2020; Comella *et al.*, 2021).

The study dimensions also categorized, based and adapted from Maslach's study (1976), explain that the emotional or academic exhaustion dimension is originated by the academic demands or requirements, decreasing the student's commitment (Alvarez-Pérez & López-Aguilar, 2021); the cynicism or depersonalization dimension focuses on the cynical attitude taken towards studies (Salazar *et al.*, 2021); and the self-fulfillment dimension is based on the affection of their self-efficacy beliefs demonstrating incompetence, all of which is evidenced by the presence of psychosomatic and cognitive symptoms and behavioral problems (Amor *et al.*, 2020; Ardiles-Irarrázabal *et al.*, 2022).

Recent studies on academic burnout in Peru during the Covid-19 pandemic describe that: students present moderate levels of academic burnout and according to variables such as sex, age group, work situation and year of studies are associated with burnout (Estrada *et al.*, 2021); in addition, a publication on prevalence and severity of academic burnout indicates that students present high levels of burnout and the risk situation is significant, finding that university women are the ones who score higher than men (Seperak *et al.*, 2021); likewise, Alavedra and Cárdenas (2021) found that the prevalence of burnout syndrome

varies between 8% and 57%, manifesting a certain degree of anxiety, depression and stress due to the uncertainty caused by the pandemic, affecting the normal development of academic activities (Prada-Chapoñan *et al.*, 2020).

Therefore, it is essential to continue studying those aspects that affect the mental health of university students in order to understand the reality of this population, providing the necessary information for educational authorities to be concerned and make decisions to reduce this psychosocial problem.

Therefore, the objective of this study was to analyze the academic burnout syndrome in university students during the pandemic by comparing their social variables.

Method

Comparative descriptive study, with quantitative approach, non-experimental - cross-sectional design.

Participants

A total of 755 intentionally selected students from a public university participated, of which 163 cases had to be withdrawn for incorrectly answering the instrument (n = 592). Ages ranged from 16 to 52 years. The mean was 21.56 years and the SD was 3.77 years. According to sex, 448 were female (75.68%), 144 were male (23.48%) and 5 persons did not respond. Regarding economic dependence, 494 (83.44%) reported being dependent, 98 (16.05%) reported being self-supporting and 3 persons did not answer. 65.88% say they only study, 34.12% say they study and work.

Instruments

The inventory used was the Maslach Burnout Inventory-Student Survey (MBISS), validated in Colombia by Hederich-Martínez and Caballero-Domínguez (2016); which is a questionnaire for the evaluation of academic burnout syndrome of collective application and individual diligence. It evaluates the feeling of not being able to give more of oneself, both physically and psychically (burnout), the presence of a negative attitude of devaluation and loss of interest in the study (cynicism or depersonalization) and the existence of doubts about one's own ability to perform academic work (academic self-efficacy or self-fulfillment). All items in each of these three subscales are scored on a 7-point frequency scale, ranging from 0 (never) to 6 (always). Social characteristics such as age, sex, economic dependence and occupation were also added to the inventory.

Procedures

For the application of the instrument, the university students were contacted, then the instrument was adapted to the google forms format and was applied individually to the student through their e-mails after being informed of the objective of the research, the instructions of the instrument and the

confidentiality of the data provided, accepting to participate voluntarily and agreeing to the informed consent.

Data analysis

The distribution, skewness, kurtosis and normality of the data were analyzed with the Shapiro-Wilk test, showing that there is no normal distribution ($p < 0.001$). In addition, homogeneity of variance tests were performed (not equal). Considering the use of non-parametric tests. A descriptive and comparative analysis of burnout syndrome was performed according to sex, dedication to study, academic area and age.

To compare two independent samples, the Mann-Whitney U was used with its respective effect size (TE), the calculation of the probability of superiority (PSest) was performed, obtaining that the interpretive standards are no effect (PSest \leq 0.0), small (PSest \geq 0.56), medium (PSest \geq 0.64) and large (PSest \geq 0.71) (Ventura, 2016). The comparison of k independent samples was performed with Kruskal Wallis H and Pos Hoc tests, its effect size used was epsilon squared (ϵ^2) (Tomczak & Tomczak, 2014), being its interpretative rules small for $\epsilon^2 \geq 0.01$, medium for an $\epsilon^2 \geq 0.06$ medium and large for an $\epsilon^2 \geq 0.14$ (Cohen, 1992). The JAMOVI 1.2.27 program was used for statistical analysis.

Results

Table 1. Descriptive of the dimensions of Burnout Syndrome.

Dimensions	M	DE	Med	Min	Max
Emotional exhaustion	4.021	1.401	4.2	0	
Depersonalization	3.810	1.526	3.5	0	
Personal realization	2.954	1.192	3.2	0.4	

Note: M = Mean; D = Standard deviation; Md = Median; Min = minimum; Max = maximum.

Table 1 shows the results of the level of burnout syndrome in university students being of moderate level, and according to dimensions, in the emotional exhaustion, it is in the medium level, the implementation of the virtual teaching process at the beginning of the pandemic generated concern in students, after that they were adapting to virtuality, handling the tools with greater ease and in most cases were implemented with the necessary technological resources to achieve adequate connectivity, some students were favored by the university with mobile equipment and internet connection, reducing the connectivity gaps.

In the depersonalization dimension, they also present medium level, the virtual modality does not allow interpersonal interaction in an efficient way, generating that students do not develop their soft skills, thus modifying their behavior patterns, depersonalizing themselves by varying their usual behaviors, having the significant probability of the appearance of burnout syndrome symptoms.

The lack of direct interpersonal relationships hinders socialization, as well as the restrictions in the different socio-labor environments obstructs students from developing their internships in companies or institutions that allow them to put into practice the knowledge acquired and reduces the possibility of entering the labor market, which generates pessimism in some students with respect to developing professionally in the occupational field of their specialty.

Table 2. Comparison of burnout syndrome dimensions according to sex.

Dimensions	Men (n=144)	Women (n=448)	Statistician		PSest
	Range	Range	U	p	
Emotional exhaustion	390.60	405.80	30327.0	0.029	0.49
Depersonalization	407.10	333.70	31112.0	0.022	0.45
Personal realization	470.11	450.27	29135.5	0.080	0.47

Note: n = sample size; M = Mean; U = Mann Withney U; p = significance (0.005); PSest= Probability of Superiority (effect size).

In relation to the analysis of the differences found in the level of burnout syndrome according to the sex of the students, when comparing the data found it was identified that it is women who present greater emotional exhaustion, and it is men who present greater depersonalization, the effect size being small for both dimensions, in the personal fulfillment dimension no differences were found according to sex.

Table 3. Comparison of burnout syndrome dimensions according to dedication to study.

Dimensions	Studying only (n=390)	Working and studying (n=202)	Statistician		PSest
	Range	Range	U	p	
Emotional exhaustion	257.05	321.71	37615.000	0.024	0.46
Depersonalization	299.67	290.38	35764.500	0.066	0.39
Personal realization	287.20	314.45	38153.500	0.031	0.48

Note: n = sample size; M = Mean; U = Mann Withney U; p = significance (0.005); PSest= Probability of Superiority (effect size).

Table 3 shows the levels of the dimensions of burnout syndrome were compared with the dedication to study by the students, finding that there are statistically significant differences in the dimensions of emotional exhaustion and personal fulfillment, in both cases it is the students who work and study who present greater symptoms than the students who do not study, their effect size being small, this happens because of the dual function developed by this group of students, and in the depersonalization dimension no significant differences were found between the students who only study with those who work and study.

Table 4. Comparison of burnout syndrome dimensions according to dedication to the academic area.

Dimensions	Engineerin g (n=256)	Social (n=336)	Statistician		PSest
	Range	Range	U	p	
Emotional exhaustion	297.18	289.95	14641.000	0.002	0.09
Depersonalization	299.18	270.89	13574.000	0.010	0.04
Personal realization	297.69	285.09	14369.000	0.078	0.00

Note: n = sample size; M = Mean; U = Mann Withney U; p = significance (0.005); PSest= Probability of Superiority (effect size).

When comparing the levels of the dimensions of burnout syndrome according to the academic area to which the students' specialty belongs, according to the data observed, it is evident that there are significant differences in the dimensions of emotional exhaustion and depersonalization, the effect size being small; in the same way, students from the engineering area present higher levels in the dimensions of emotional exhaustion and depersonalization, considering this situation due to the curriculum and greater academic demands developed in the specialties of this area.

Table 5. Comparison of burnout syndrome dimensions according to age.

Dimensions	<=19 (n=146)	20 - 21 (n=228)	22 - 23 (n=121)	>= 24 (n=97)	Statistician	p	ϵ^2
	Range	Range	Range	Range	H		
Emotional exhaustion	285.14	243.21	224.62	232.89	18975.000	0.000	0.04
Depersonalization	278.31	221.25	256.47	243.65	20548.000	0.000	0.04
Personal realization	280.56	271.09	211.86	239.78	15089.000	0.001	0.04

Note. N= sample; H= Kruskal Wallis statistic: p= significance (0.005); ϵ^2 = Epsilon squared.

When comparing the dimensions of burnout syndrome according to age, students under 19 years of age (from the first cycles) show greater symptoms in the dimensions of emotional exhaustion, depersonalization and personal fulfillment than students in the other groups (small effect size).

Conclusions

The level of burnout syndrome in university students is of medium level and in the emotional exhaustion and depersonalization dimensions it is also at medium level, unlike the personal fulfillment dimension where the level is low.

The process of virtual teaching at the beginning of the pandemic generated a series of adverse situations due to the access and availability of economic resources that worried and worried the students, however, they were adapting to

virtuality, handling the tools with greater ease and in most cases were implemented with the necessary technological resources to achieve adequate connectivity, some students were favored by the university with mobile equipment and internet connection, reducing the accessibility gaps.

Burnout syndrome tends to develop more in women due to emotional exhaustion and in men due to depersonalization; likewise, students who work and study tend to develop greater emotional exhaustion and personal fulfillment than students who only study.

Burnout syndrome also tends to develop more in engineering students in the dimensions of emotional exhaustion and depersonalization, considering this due to the curriculum and greater academic demands developed in the specialties of this area. Likewise, students under 19 years of age (from the first cycles) present greater symptoms in the dimensions of emotional exhaustion, depersonalization and personal fulfillment than students in the other age groups.

It is concluded that the study is original, clearly demonstrating the differences in the behavior of burnout syndrome among students according to their social variables, being a significant contribution to the sciences and disciplines that are interested in the different problems that arise in the educational environment in the current context.

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