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Factors of psychological burnout and early manifestations of stress in university students in Mexico

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Abstract

One of the common problems faced by students is the consequences of psychological burnout. Among these consequences are increased health problems and levels of academic stress, which can be defined as the discomfort that the student presents due to physical or emotional factors that exert significant pressure affecting their academic performance and their metacognitive ability to solve problems. A non-experimental, descriptive, cross-sectional, correlational, non-experimental research was designed in which the sample consisted of 1134 students from different careers in a public university center in southern Jalisco. For the evaluation of stress, Seppo Aro's Symptomatic Stress Scale (E.S.E.), proposed in 1983, was applied, and the Battery for the study of psychosocial work conditions "CTCPS-MAC" was used to evaluate psychological burnout. As a result, 34.23% of the women reported a higher level of psychological stress in factor 1 of cognitive-emotional response, while the men had a higher score in factor 2 of behavioral response with 5.38%. Regarding academic stress, 78.83% of the women reported harmful stress and 21.17% were men. This study places special emphasis on the importance of implementing actions to improve institutional health.

Keywords: Stress, burnout, university students, confinement, stress, confinement.

1. Introduction

The educational environment has changed and evolved over the decades, implementing technological resources to have a greater learning impact on the student population. However, the technology-interaction factor always existed, until the pandemic appeared. This affected considerably the student population, who had to migrate their face-to-face classes to a completely remote modality, confining nearly 5 million students (National Association of Universities and Higher Education Institutions ANUIES, 2020).

The decrease in the number of infections and deaths has made it easier for the more than 1.5 billion students who were affected, from preschool to higher education (UNESCO, 2020). In making this return, it is important to assess the experiences of students during the pandemic because both the confinement and the new learning mode, come to present harmful effects in terms of their mood, personal and family conditions, their perception of distance learning, but especially how much their psychological health was diminished (Dussel et al., 2020; Expósito & Marsollier, 2021; González, 2012; Kalman & Osorio, 2021), because the constant workloads and the change could lead the students to present psychological exhaustion and stress due to the new challenges and demands they had to face.

The term psychological burnout has been handled over the years from different positions, which makes a theoretical conceptualization and a concrete definition difficult, which is why this term is often confused with burnout syndrome. Although burnout involves psychological exhaustion, not all psychological exhaustion can be considered burnout (Carrión et al., 2015). psychological burnout begins to be defined from two perspectives, the clinical one, which defines it as a state reached by the subject as a result of work stress and the psychosocial perspective poses it as a process developed by the interaction of characteristics of the work environment and personal factors (Monte and Silla, 1997).

Rodríguez et al. (2019) refer to the fact that the definition of psychological burnout has been extended so much that it can occur in any type of circumstance regardless of the context, including the educational sector. For this reason, research such as that of Mengh et al. (2019) is focused on pointing out that educational institutions are essential to be able to intervene in a timely way in the face of any possible alteration or problem in students.

2. Literature review

Over the years, education has been evolving based on different factors that have to do with society and technology, according to Corredor (2019) these changes are due to the attempts to progress of each nation which in turn generates new educational policies that guarantee educational quality. Starting a university career can be motivating, but in some cases, it turns out to be a stressful experience, and difficult to handle, and it becomes more acute if one studies a profession related to health sciences, turning the study into a source that generates stress. This can occur when the person experiences tension in their learning process, from preschool grades to university and postgraduate education (Gómez et al., 2015 and Alfonso et al., 2015).

Deciding which college career to study is an important part of young people's life development, it is a dynamic process in which students must first go through a phase of exploration in themselves to know what exactly they want to do and they must also investigate different career options with the appropriate career guidance (Marathe and Wagani, 2022). One of the common problems faced by students is the consequences due to psychological burnout. Among these consequences are increased health problems (Martín, 2007, Polo et al. 1996, cited in Gil-Monte, 2009). These studies show that the health problems that arise are anxiety and its relationship with overload, the vulnerability of the immune system, and the increased likelihood of contracting diseases (Gil-Monte, 2009), (Montes de Oca Rojas, 2022).

It should be noted that burnout is a continuous response to stress since when it manifests itself for long periods with the same intensity, it can affect both physical and mental health and affect personal relationships (Ferrer, 2002).

The American Psychological Association (APA, 2020) indicates that stress is an upsetting emotional experience that is accompanied by predictable biochemical, physiological, and behavioral changes. It occurs in all people, regardless of age, gender, or social status, and manifests itself through worries or discomfort that affect both physical and psychological health.

Stress can appear in different settings during the life of a human being, all those who have experienced it associate it as a consequence of how complex the human, the social, and ecological environment is and it is present in all activities and contexts (Martinez & Diaz, 2007; Shahsavarani et al., 2015). It is common for all human beings to constantly face stress and they do not always face it in the same way, this happens on many occasions because the source of stress is unknown because they do not have the necessary tools to face it or because they do not know how to use them correctly (González & González, 2012).

The context where stress can occur is very broad, some research has focused on work stress (Ganster and Rosen, 2013), family stress (González and Lorenzo, 2012), social stress (Sadín, 2003), and academic stress (Wilks, 2008), among others. Stress caused by the work context is the most studied, but current research on academic stress is having a greater boom since it occurs at younger ages and can influence the academic and social performance of students (Escobar et al. 2018 and Barraza, 2005).

On the other hand, as mentioned by Zarate et al. (2017), academic stress is the discomfort that the student presents due to physical or emotional factors that exert significant pressure affecting their academic performance and their metacognitive ability to solve problems. The academic demands that generate stress are homework and the lack of time to complete it, academic overload, the presentation of work in class, and the taking of exams. Likewise, the study habits variable has a significant relationship with academic stress and its physical, psychological, and behavioral symptoms (Zárate et al., 2017).

Often, people decide to study a university career without taking into account fundamental aspects to which they should be prepared or at least have a little more knowledge in all aspects in which they will be immersed (physical, psychological, economic, spiritual, emotional, and family, among others). The importance of this research is centered on the importance of the following aspects: the importance of the study and the importance of the research. The importance of this research focuses on analyzing the perspective of students when they decide to study a professional career, the research question of this study is: What is the correlation between psychological wear and stress present in university students? Ideally, students should be aware of the change they will generate and take into account the organization of time for each subject, willingness to work in a team, and psychological and physical preparation.

3. Method

For the type of study, a descriptive, cross-sectional, correlational, non-experimental research was designed, in which the researchers have no control over any variable and only describe and compare the characteristics of the study population and the strength of correlation between the factors that measure psychological exhaustion and the symptoms and early manifestations of psychosomatic origin in university students.

The study population was the students enrolled in the different careers that belong to a university center in the South of Jalisco and the different shifts and grades were included. It was a non-probabilistic sample of 1134 students in the 2021 confinement period who met the inclusion criterion of being a regular student of any semester of the careers offered in the 2021-B school cycle.

To obtain data, a self-applicable questionnaire was applied online during the months of September and October 2021, which was provided by the coordinators of each educational program. With the application of the questionnaire, informed consent, and sociodemographic data such as age, sex, marital status, number of children, school grade, hours of study invested per week before and during the pandemic, degree program attended, and economic source of funding for their study were obtained. For the evaluation of stress, the Symptomatic Stress Scale (S.S.S.) of Seppo Aro, proposed in 1983, was applied, and the Battery for the Study of Psychosocial Working Conditions “CTCPS-MAC” was used to evaluate psychological burnout.

The Seppo Aro symptomatic stress scale contains 18 items, one for each symptom associated with stress, whether somatic, physiological, or emotional in nature. Each item has four response options ranging from 0 to 3. The result is obtained by adding the score of each item, ranging from 0 to 54 points, where 0 to 10 is normal stress and more than 10 is considered pathological stress.

Battery for the study of psychosocial working conditions “CTCPS-MAC", the battery for the study of psychosocial working conditions “CTCPS-MAC" was used, which consists of four dimensions that can be evaluated separately and a total of 14 factors. The dimensions are Work Context, Work Content, Individual Factors, and Psychological Burnout. In this case, the evaluation of psychological burnout was carried out through 20 questions, which receive a score from 1 to 5 according to the possible answers of completely agree (CA), agree (A), neither agree nor disagree (I), disagree (D), and completely disagree (CD). This achieves a minimum score of 20 and a maximum of 100 pts.

Regarding ethical considerations, all participants were given informed consent to safeguard their guarantees of free participation and confidentiality. The research was disseminated through the coordinators of each educational program without participating in

the design. According to article 17 of the regulations of the General Health Law on Health Research. This study is considered to be of minimal risk since no tissues or blood samples are used.

For the statistical analysis, it was referred to the descriptive of the numerical variables, averages, standard deviation, minimum, and maximum were calculated; for categorical variables, simple and relative frequency measures were calculated. For the bivariate analysis, parametric and non-parametric tests were used according to the normality of the variables, such as the Mann-Whitney U-test, Pearson, and Fischer's chi2 to identify statistical differences between the comparison groups, which were established by sex, hours of study invested during confinement and stress levels. For the analysis of the correlation between psychological stress factors and early symptoms and manifestations of psychosomatic origin, Spearman's correlation coefficient was used, which according to Cohen (1988 [EDA1]) correlation coefficients with values equal to or greater than .10 and less than .30 indicate a relationship of small magnitude, values greater than .30 indicate a moderate magnitude, while values greater than .50 indicate correlations of high/high magnitude. The statistical package Stata 8.0 and Excel office 365 were used for this purpose.

4. Results

From the descriptive analysis of the sample of 1131 students, it was observed that 27.94% (n=316) corresponded to the male sex and 72.06% (n=815) to the female sex. The average general age was 20.07 years with an SD ±2.7 years, a minimum of 17, and a maximum of 44 years. Table 1 below presents a description of the population (Table 1).

Table 1

Description of the population by variables according to sex

Variable	Dimensions	*Gender*		Total
		Men	Women	
	n	316	815	1131
			Años	
Age *	Minimum	17.00	16.00	16.00
	Maximum	44.00	41.00	44.00
	Average	20.30	19.90	20.07
	Standard deviation	3.20	2.40	2.73
			%	
Number of semesters attended online by pandemic **	Uno	23.73	20.86	21.66
	Dos	19.62	20.74	20.42
	Tres	56.65	58.40	57.91
Works ***	Sí	52.53	37.55	41.73
	No	47.47	62.45	58.27
Hours of study spent per week in pandemic confinement *	Fewer hours	32.91	29.57	30.50
	More hours	35.76	45.28	42.62
	Equal hours	31.33	25.15	26.88
Career ***	Lawyer	6.65	8.10	7.69
	Agrobiotechnology Lic.	0.00	0.12	0.09
	Agribusiness	9.81	8.59	8.93
	Physical Culture and Sports	4.11	1.35	2.12
	Sustainable Tourism Development	2.85	3.68	3.45
	Bachelor's Degree in Nursing	6.33	14.36	12.11
	Geophysics Engineering	1.90	0.37	0.80
	Biological Systems Engineering	1.90	1.35	1.50
	Telematics Engineering	12.03	2.09	4.86
	Hispanic Literature	1.58	1.35	1.41
	Veterinary Medicine and Zootechnics	12.34	9.94	10.61
	Surgeon and Midwife	9.18	6.01	6.90

	International Business	10.76	8.71	9.28
	Nutrition	5.06	11.29	9.55
	Journalism	3.16	3.80	3.63
	Psychology	2.22	6.01	4.95
	Seg Lab Civil Protection and Emergencies	2.22	1.72	1.86
	Social Work	1.27	6.63	5.13
	Dental Surgeon	3.48	2.82	3.01
	Nursing Technician	0.32	0.49	0.44
	Not identified	2.85	1.23	1.68
Stress ***	Unstressed	48.00	52.00	4.42
	Eu stress	35.71	64.29	38.70
	Harmful stress	21.17	78.83	57.21

**P-value<0.05 ** P-value >0.05 *** P-value <0.01 Source: Own elaboration*

97.17% (n=1,099) of the students refer to themselves as single, of these 28.03% (n=308) are male, 71.97% (n=791) are female. 2.56% (n=29) identified themselves as married or cohabiting, of these 20.69%(n=6) were male and 79.31% (n=23) were female. 0.09% (n=1) are divorced or separated and 0.18% are widowed (n=2). The differences in the percentages are not statistically significant.

Regarding work activity, 41.73% (n=472) work, of which 64.83% are women and 35.17% are men. Of the 58.27% (n=659) who report not working, 22.76% are men and 77.24% are women. The differences in these percentages are statistically significant with a P<0.01.

Of these, 30.61% (n=75) are male and 69.39% (n=170) are female; of the 20.42% (n=231) who reported having 2 semesters online, 26.84% (n=62) are male and 73.16% (n=169) are female. Of the 57.91% (n=655) who reported having completed three semesters online, 27.33% (n=179) were male and 72.67% (n=476) were female. The percentage differences are not statistically significant P>0.05.

30.50% (n=345) reported spending less time studying during confinement, of which 30.14% (n=104) were male and 69.86% (n=241) were female; 42.62% reported spending more time studying, of which 23.44% were male and 76.56% were female; only 26.88% did not modify their study hours, of which 32.57% were male and 67.43% were female. The differences in the percentages are statistically significant with a value of P < 0.05.

According to the distribution of the population (n=1131) according to the degree programs studied, the following stand out for their participation: Nursing with 12.7%, Veterinary Medicine with 10.67%, Nutrition with 9.52%, International Business with 9.26%, Agribusiness with 8.91%, Law with 7.67%, and Surgeon and Midwife with 6.88%. 67% and Surgeon and Midwife with 6.88%; the careers of Occupational Safety, Civil Protection, and Emergencies; Biological Systems Engineering, Hispanic Letters, Geophysics Engineering, Nursing Technician, Agrobiotechnology, and others not identified had participation of less than 1.9%. The highest percentage of women is found in nursing with 14.36%, in nutrition with 11.29%, in Veterinary Medicine and Animal Husbandry with 9.94%, and the highest percentages of men are found in Veterinary Medicine and Animal Husbandry with 12.34%, in Telematics Engineering with 12.03% and International Business with 10.76%, these percentage differences are statistically significant P<0.01% see Table 2.

Table 2. Assessment of psychological burnout by factor and gender

Factors		Very good	Good	Normal	Regular	Harmful
				%		
FACTOR 1 Subjective symptoms and health disturbances - Psychological states - Cognitive-emotional response	T	11.85	21.75	4.6	33.07	28.74
	H	18.04	28.8	5.06	30.06	18.04
	M	9.45	19.02	4.42	34.23	32.88

FACTOR 2 Subjective symptoms and health disturbances - Psychological states - Behavioral response	T	25.2	43.94	7.69	19.72	3.45
	H	31.65	39.87	6.65	16.46	5.38
	M	22.7	45.52	8.1	20.98	2.7
FACTOR 3 Subjective symptoms and health disturbances - Psychological states - Physiological response	T	45.36	28.74	4.33	16.27	5.31
	H	52.53	30.38	3.16	8.54	5.38
	M	42.58	28.1	4.79	19.26	5.28

According to the evaluation of the 3 factors of psychological burnout of the battery for the study of Psychosocial Working Conditions (CTCPS-MC), developed by Carrión (2014), it is observed that FACTOR 1 Subjective symptoms and alterations of health - Psychological states - Cognitive-emotional response was the factor with the highest percentage in the weighting of harmful with 28.74% of the total number of students; with 32.88% of women weighing in this range. The 33.07% rate it as regular, with women having the highest weighting in this range with 34.23%. The ranges of very good, good, and normal weighted with 11.85%, 21.75%, and 4.6% respectively were weighted in higher percentage by men.

FACTOR 2 Subjective symptoms and alterations of health - Psychological states - Behavioral response, of the 3 factors received the lowest weighting in the harmful range with 3.45% with males being weighted more in this range with 5.38% compared to females who weighted in this range 2.7% (Table 2). This factor was weighted as very good by 25.3%, as good by 43.94%, as normal by 7.69%, and as fair by 19.72%, with women having the highest percentages in the good, normal and fair ranges.

Regarding FACTOR 3, Subjective symptoms and alterations of health - Psychological states - Physiological response, it is observed that it is the factor with the highest weighting in the range of very good with 45.36% of the total study population, with 52.53% of men being weighted more in this range. The highest evaluation in this factor by women is observed in the normal range with 4.79% and men in the ranges of very good, good, regular, and harmful (Table 3).

Table 3. Assessment of psychological burnout.

Stress level	*Stress-free*		*Eustress*		*Harmful stress*	
Gender	Men	Women	Men	Women	Men	Women
Psychological burnout	%					
Very good	18.68	13.82	74.73	78.86	6.59	7.32
Good	3.76	1.12	50.38	40.9	45.86	57.98
Normal	7.14	13.64	21.43	27.27	71.43	59.09
Regular	1.49	0.72	14.93	9.78	83.58	89.49
Harmful	0	0	63.64	8.11	36.36	91.89

Regarding stress, 4.42% of the population was evaluated without stress, of which 48% were men and 52% were women; 38.7% presented eustress, of which 35.72% were men and 64.29% were women; and 57.21% presented harmful stress, of which 21.17% were men and 78.83% were women; these percentage differences are statistically significant.

It was observed that among men who rated psychological stress as very good, 6.59% presented harmful stress; 74.73% presented eustress and 18.68% did not present stress. In women, 7.32% presented harmful stress, 78.86% presented eustress and 13.82% did not present stress. It was observed that both men and women evaluated in the nonstressed range did not consider psychological stress as harmful (Table 4).

Table 4. Evaluation of psychological wear and tear according to hours spent studying and stress level

Stress levels	*Stress-free*			*Eustress*			*Harmful stress*		
Hours spent in the study during confinement	Less	More	Equal	Less	More	Equal	Less	More	Equal
Psychological burnout					%				
Very good	16.67	11.25	20.27	75.00	81.25	74.32	8.33	7.50	5.41
Good	3.31	0.96	1.53	37.75	43.54	50.38	58.94	55.50	48.09
Normal	11.11	6.25	18.18	11.11	18.75	45.45	77.78	75.00	36.36
Regular	0.00	0.00	3.61	9.01	8.67	16.87	90.99	91.33	79.52
Harmful	0.00	0.00	0.00	23.53	14.81	40.00	76.47	85.19	60.00

P=0.0000

Regarding the evaluation of psychological stress according to hours spent studying and stress levels, it was observed that students who spent fewer hours studying and did not suffer from stress had a better weighting of psychological stress, with neither harmful nor regular weights, while those who spent more hours studying and suffered from stress had a worse weighting, with higher percentages of harmful and regular weights (Table 5).

Table 5

Symptoms and early manifestations of stress	FACTOR 1 Subjective symptoms and alterations in health - Psychological states - Cognitive-emotional response			FACTOR 2 Subjective symptoms and health disturbances - Psychological states - Behavioral response			FACTOR 3 Subjective symptoms and health disturbances - Psychological states - Physiological response			Psychological burnout		
	T	H	M	T	H	M	T	H	M	T	H	M
1. Heartburn or burning in the stomach	0.2884*	0.3071*	0.3894*	0.2327*	0.2040**	0.2439*	0.3772*	0.2923*	**0.3877***	0.3805*	0.3071*	0.3894*
2. Loss of appetite	0.3763*	0.3671*	0.3673*	0.2250*	.-.	0.2305*	0.3007*	0.2730*	0.2848*	0.3859*	0.3671*	0.3673*
3. Desire to vomit or vomiting.	0.3175*	0.2835*	0.3435*	0.1537*	.-.	0.1641*	0.3272*	0.2888*	0.3167*	0.3487*	0.2835*	0.3435*
4. Abdominal pains	0.3532*	0.4025*	0.3985*	0.1922*	.-.	0.1950*	**0.3883***	**0.3941***	0.3663*	0.4171*	0.4025*	0.3985*
5. Diarrhea or frequent urination	0.3202*	0.2453*	0.3548*	0.1640*	.-.	0.1784*	0.2722*	0.2122**	0.2788*	0.3366*	0.2453*	0.3548*
6. Difficulty falling asleep	0.4090*	0.3970*	0.4010*	0.2337*	0.2183**	0.2363*	0.2749*	0.2716*	0.2646*	0.4065*	0.3970*	0.4010*
7. Nightmares	0.2896*	0.2891*	0.3420*	0.1976*	.-.	0.2024*	0.3112*	0.2439*	0.3100*	0.3457*	0.2891*	0.3420*
8. Headaches	0.3527*	0.3446*	0.3546*	0.1650*	.-.	0.1626*	0.3480*	0.2418*	0.3600*	0.3701*	0.3446*	0.3546*
9. Decreased sexual desire	0.2683*	0.3180*	0.2979*	0.1775*	.-.	0.1666*	0.2632*	0.2312*	0.2566*	0.3138*	0.3180*	0.2979*
10. Dizziness	0.3760*	0.3503*	0.4100*	0.2128*	.-.	0.2416*	0.3556*	0.2369*	0.3669*	0.4138*	0.3503*	0.4100*
11. Palpitations or irregular	0.3365*	0.3242*	0.4007*	0.1847*	.-.	0.1948*	0.3778*	**0.3263***	0.3810*	0.3920*	0.3242*	0.4007*

heartbeat.

12. Trembling or sweating of the hands	0.3189*	0.3107*	0.3717*	0.1916*	.-.	0.1835*	0.3488*	0.2945*	0.3544*	0.3641*	0.3107*	0.3717*
13. Excessive sweating without physical exertion	0.2542*	0.2845*	0.3315*	0.1432*	.-.	0.1517*	0.2670*	0.2485*	0.2688*	0.3187*	0.2845*	0.3315*
14. Shortness of breath without physical exertion	0.3167*	0.3655*	0.4180*	0.2049*	.-.	0.2253*	**0.4222***	0.3227*	**0.4338***	0.4178*	0.3655*	0.4180*
15. Lack of energy or depression	**0.6003***	**0.5696***	**0.5700***	**0.3658***	**0.3996***	**0.3498***	0.3809*	**0.3531***	0.3725*	**0.5809***	**0.5696***	**0.5700***
16. Fatigue or weakness	**0.5302***	**0.5426***	**0.5386***	**0.3145***	**0.3058***	**0.3158***	**0.4038***	**0.3455***	**0.4015***	**0.5533***	**0.5426***	**0.5386***
17. Nervousness or anxiety	**0.5383***	**0.5201***	**0.5340***	**0.3061***	**0.3088***	**0.3034***	**0.3963***	0.3163*	**0.4009***	**0.5453***	**0.5201***	**0.5340***
18. Irritability or anger	**0.5163***	**0.4433***	**0.4991***	**0.2964***	**0.2481***	**0.3136***	0.3443*	0.2207**	0.3639*	**0.4990***	**0.4433***	**0.4991***

*Source: own elaboration * P <0.001 ** P<0.05 .-. Non-significant values*

Correlations between psychological burnout factors and symptoms and manifestations of stress.

Regarding the correlation of Factor 1 (Subjective symptoms and alterations of health - Psychological states - Cognitive-emotional response) with the symptoms and early manifestations of stress, lack of energy or depression; fatigue or weakness, nervousness or anxiety, and Irritability or anger, stand out for presenting a high linear correlation with values greater than 0. When analyzed according to the sex of the participants, the variable irritability or anger in both men and women presents a moderate correlation with values lower than 0.5 but higher than 0.3, these values are statistically significant with a P value <001.

The correlations of Factor 2 (Subjective symptoms and alterations of health - Psychological states - Cognitive response - Behavioral response) with the symptoms and early manifestations of stress, stand out for the greater presence of correlation values of small magnitude ranging from 0.1 but less than 0.3 in most symptoms, which when analyzed by sex, in men only presents significant values in 6 of 18 symptoms and this only lack of energy presents a moderate correlation. Women, on the other hand, present significant correlation values in all correlations, highlighting Lack of energy or depression and Fatigue or weakness with correlations of moderate magnitude with values greater than 0.3 but less than 0.5.

The correlation of Factor 3 (Subjective symptoms and alterations of health - Psychological states - Physiological response) with symptoms and early manifestations of stress show more moderate correlation values compared to the correlations obtained with Factor 2. Highlighting: Abdominal pain, shortness of breath without physical exertion, fatigue or weakness, and nervousness or anxiety are the highest values, with moderate correlation. Separating these correlations according to sex, for men the symptoms and early manifestations of stress with the highest values are 4: Abdominal pain, Palpitations or irregular heartbeat, lack of energy or depression and Fatigue or weakness, and for women: Heartburn or burning in the stomach, Shortness of breath without physical exertion, Fatigue or weakness and Nervousness or anxiety.

Concerning the correlation of psychological burnout with early symptoms and manifestations of stress, it is observed that Lack of energy or depression, Fatigue or weakness, and Nervousness or anxiety, present

high correlations with values above 0.5 in general and by sex.

5. Discussion

The educational context has had its changes over the years. However, in the last 3 years, the change was even greater due to the pandemic, where students not only had to migrate their study modality from face-to-face to virtual. This generated in the students a greater demand due to the increase of demands in the educational activity, having to face problems of connectivity and accessibility of technological resources. All this, added to the daily demands of work, daily life, family, and social life can lead to stress and psychological exhaustion. In this article, relevant data can be observed that show the presence of these factors in the university population.

One of the aspects studied has been the emotional impact on university students generated by COVID-19, they report the application of a scale and a questionnaire to assess the level of stress experienced (Lozano et al., 2020; Robles and Rojas, 2015). The results indicate a decrease in motivation together with an increase in anxiety and stress, data that were also reflected in the present study.

The 34.23% of women referred to a higher level of psychological burnout in terms of cognitive-emotional response factor 1, while men weighted a higher score in terms of behavioral response factor 2 with 5.38%. This indicates that women present higher levels of psychological burnout in terms of emotions and cognitive processes that include aspects such as perception or attention and men in behavioral issues.

Regarding stress levels, 78.83% of women referred harmful stress and 21.17% were men, this can be compared with a study conducted by Vidal-Conti, Muntaner-Mas, and Palou in 2018 that shows that women have higher levels of general stress with 96.1%, while men present 88.2% of stress in university students of primary level degree. To these results is added the research conducted by Castañeda et al. (2021), who say that women have been the most affected. Women show greater effects in everything, especially in their mental and physical health, young female students are suffering greater effects than males. These results are associated with the fact that women have higher academic demands and the number of responsibilities and commitments obtained due to gender issues.

One of the most significant limitations of the study was that 72% of the sample were women, which may explain why women have higher scores for psychological burnout and academic stress. The careers with the highest participation in the study were surgeon and midwife, nutrition, and nursing, which are identified with a higher female population. As a recommendation for future studies on the subject, it is suggested that the sample be more homogeneous in terms of gender to obtain a better perspective.

Regarding the context in which this study was conducted, it should be taken into account that it was during the confinement derived from the pandemic by COVID-19, it can be said that one of the biggest challenges for the whole society, in general, is to face the emotional and behavioral consequences that are still present today after facing the nearly 845,000 deaths worldwide in which relatives or close people of university students, including students themselves, are included. The work done by professors in multiple educational institutions should also be taken into account, as their work was put to the test by mitigating the problems and risks that were present in the educational environment as a result of COVID-19 (Molina et al., 2021).

Undoubtedly, the process of incorporating students into the university implies facing and confronting significant changes in the way of approaching learning, greater autonomy and initiative are needed, as well as changes in the teaching methodology and on many occasions in the personal sphere. All these changes must be made in favor of the mental health of students that can prevent risks of both physical and emotional illnesses. It is worth mentioning that within the students' social support networks, changes such as entering a new physical environment also arise.

The results obtained in this study place special emphasis on the importance of implementing actions to improve institutional health, including emotional, cognitive, behavioral, and

stress management aspects in general, to prevent these issues from leading to physical ailments that put the health of university students at risk.

References

[1] Alfonso, B., Calcines, M., Monteagudo, R. y Nieves, Z. (2015). Estrés académico. EDUMECENTRO, 7(1), 163-78

[2] Arredondo-Hidalgo, M., & Caldera-González, D. (2022). Tecnoestrés en estudiantes universitarios. Diagnóstico en el marco del covid-19 en México. Educación y Humanismo, 24(42), 90-105. https://doi.org/10.17081/eduhum.24.42.4491

[3] Asociación Nacional de Universidades e Instituciones de Educación Superiror ANUIES. (2020). Anuarios estadísticos de educación superior 2020-2021. https://bit.ly/3sG6FUP

[4] Beteta, M. (2008). Relación entre la autoeficacia y el rendimiento escolar y los hábitos de estudio en alumnos de secundaria. REICE: Revista Electrónica Iberoamericana sobre Calidad, Eficacia y Cambio en Educación. 6(1), 59-99.

[5] Carrión M., López F y Gutiérrez A. (2015). Influencia de factores negativos del contexto de trabajo en el desgaste psíquico de trabajadores en Colombia. Hacia Prom Salud; 20(1):111–25.

[6] Castañeda, C., Peláez, I., y Giraldo, L. (2021). Covid-19 y género: efectos diferenciales de la pandemia en universitarios. Revista MExicana de Sodiología, 84(1). https://doi.org/10.22201/iis.01882503p.2021.0.60072

[7] Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Hillsdale, NJ: Erlbaum.

[8] Corredor, N. (2019). Factores de la calidad educativa desde una perspectiva multidimensional: Análisis en siete regiones de Colombia. Plumilla Educativa, 23(1), 121–139.

[9] Chávez, J. y Peralta, R. (2019). Estrés académico y autoestima en estudiantes de enfermería, Arequipa-Perú. Revista de Ciencias Sociales Ve, 25(1), 384-399.

[10] Barraza, M. (2005). Características del estrés académico de los alumnos de Educación Media Superior. Investigación Educativa Duranguense, 1 (4), 15-20.

[11] Dussel, I., Ferrante, P., & Pulfer, D. (2020). La educación de pasado mañana. Notas sobre la marcha. Análisis Carolina. https://doi.org/10.33960/AC_41.2020

[12] Escobar, Z., Soria, D., López, P. y Peñafiel, S. (2018). "Manejo del estrés académico; revisión crítica". Revista Atlante: Cuadernos de Educación y Desarrollo.

[13] Expósito, C., & Marsollier, R. (2021). Percepción docente de las debilidades del sistema educativo en el regreso a las aulas. Revista Educación las Américas, 11(1). https://doi.org/10.35811/rea.v11i1.136

[14] Ferrer R. (2002), Burnout o síndrome de desgaste profesional. Med Clin (Barc), 119:495-6.

[15] Ganster, D. & Rosen, C. (2013). Work Stress and Employee Health: A Multidisciplinary Review. Journal of Management, 39(5), 1085–1122.

[16] Garbanzo, G. (2007). Factores asociados al rendimiento académico en estudiantes universitarios, una reflexión desde la calidad de la educación superior pública. Revista Educación, 31(1), 43-63.

[17] Gil-Monte, P., Figueiredo-Ferraz, H. y Cardona, S. (2009). Desgaste psíquico y problemas de salud en estudiantes de psicología. Psicologia em Estudo, 14(2), 349-353.

[18] Gómez, H., Pérez, C., Parra, P., Ortiz. M., Matus, O. y McColl, P. (2015). Relación entre el bienestar y el rendimiento académico en alumnos de primer año de medicina. Rev Med Chile, 143(1), 930-7.

[19] Gómez, M. (2016). Introducción a la metodología de la investigación científica. Editorial Brujas.

[20] González, B. y Lorenzo R. (2012). Propuesta teórica acerca del estrés familiar. Revista Electrónica de Psicología Iztacala, UNAM, México, 15(2), 416-432.

[21] González, L. (2012). Estrés académico en estudiantes universitarios asociados a la pandemia por COVID-19. Revista Espacio I+D Innovación más Desarrollo, 9(25), 158-179. https://doi.org/10.31644/IMASD.25.2020.a10

[22] Kalman, J., & Osorio, A. (2021). La complejidad educativa del regreso a

clases: entre lo urgente y lo confuso. Milenio. https://bit.ly/3pAajNI

[23] Lozano, A., Fernández, J., Figueredo, V., & Martínez, A. (2020). Impactos del confinamiento por el COVID-19 entre universitarios: Satisfacción Vital, Resiliencia y Capital Social Online. International Journal of Sociology of Education, 79-104. https://doi.org/10.17583/rise.2020.5925

[24] Marathe, A. Y Wagani, R. (2022). Role of Passion in Career Choices of University Students: A Mixed Method Study. Journal of Positive School, 6(5), 109–118.

[25] Martínez-Díaz, E. y Díaz, D. (2007). Una aproximación psicosocial al estrés escolar. Educación y Educadores. 10(1), 11-22.

[26] Mendoza, M., León, P., Gilar, R. y Vizcaíno, M. (2022). Gestión del proceso enseñanza-aprendizaje: estilos de aprendizaje y rendimiento académico. Revista Venezolana de Gerencia, 27 (7), 281-296.

[27] Menghi, M., Rodríguez, L. y Oñate M. (2019). Diferencias en los valores de las dimensiones del burnout en educadores con y sin síntomas o problemas de salud. Propósitos y Representaciones, 7(3), 179-197.

[28] Molina, T., Lizcano, C., Alvarez, S., y Camargo, T. (2021). Student crisis in pandemic. How do university students value virtual education? Conrado [online], 17(80), 283294. http://scielo.sld.cu/scielo.php?pid=S1990864420210003002 83&script=sci_abstract&tlng=n

[29] Montes de Oca Rojas, Y., Barros Bastidas, C. I., & Castillo Cabeza, S. N. (2022). Metodología de investigación en emprendimiento: Una estrategia para la producción científica de docentes universitarios. Revista De Ciencias Sociales, 28(2), 381-391. https://doi.org/10.31876/rcs.v28i2.37945.

[30] Pinto, E., Villa, A. y Pinto, A. (2022). Estrés académico en estudiantes de la Universidad de La Guajira, Colombia. Revista de Ciencias Sociales Ve, 28(5), 87-99.

[31] Robles, P., y Rojas, M. (2015). La validación por juicio de expertos: dos investigaciones cualitativas en Lingüística aplicada [Sapienza Università di Roma]. https://www.nebrija.com/revista-linguistica/la-validacion-por-juicio-de-expertos-dos-investigaciones-cualitativas-en-linguistica-aplicada.html

[32] Rodríguez, J., Benavídez, E., Ornelas, M. y Jurado, P. (2019). El burnout académico percibido en universitarios; comparaciones por género. Formación Universitaria, 12(5), 23-30.

[33] Román, C. y Hernández, Y. (2011). El estrés académico: una revisión crítica del concepto desde las ciencias de la educación. Revista Electrónica de Psicología Iztacala 14(1), 1-14.

[34] Sandín, B. (2003). El estrés: un análisis basado en el papel de los factores sociales. International Journal of Clinical and Health Psychology. 3(1), 141-157.

[35] Shahsavarani, A., Abadi, E., y Kalkhoran, M. (2015). Stress: Facts and Theories through Literature Review. International Journal of Medical Reviews. 2(2), 230-241.

[36] Torres, H., Torres, P., Cobo, J., Cabascango, J., Manturano, R. y Puentes, A. (2022). Education and Covid-19: Collaboration of families in school homework. Journal of Positive School Psychology, 6(5) 251–262.

[37] UNESCO. (2020). COVID-19: La acción que lleva a cabo la Coalición Mundial para la Educación de la UNESCO ante el mayor trastorno del aprendizaje nunca experimentado. https://bit.ly/36PYa0I

[38] Vidal, J., Muntaner-Mas, A. y Palou, P. (2018). Diferencias de estrés y afrontamiento del mismo según el género y cómo afecta el rendimiento académico en estudiantes universitarios. Contextos educativos, Revista de educación, 22 (1),181-195.

[39] Wilks, S. (2008). Resilience amid Academic Stress: The Moderating Impact of Social Support among Social Work Students. Advances in So- cial Work. 9(2), 106–125.

[40] Zárate, N., Soto, M., Castro, M. y Quintero, J. (2017). Estrés académico en estudiantes universitarios: medidas preventivas. Revista de la Alta Tecnología y la Sociedad 9(1), 92-8.

[41] Zárate, N., Soto, M. y Martínez, E. (2017). Factores de estrés en pasantes de servicio social universitario de odontología. Jalisco: Ediciones de la Noche.