Comparativa de nivel de estrés de estudiantes de primer semestre y semestres superiores

Comparison of stress level of first semester and higher semesters students

Comparação do nível de estresse dos alunos do primeiro semestre e semestres superiores

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Resumen

El estrés es una de las enfermedades de salud mental que se ha investigado últimamente debido al confinamiento por el COVID-19 y sus consecuencias. Investigadores tanto del sistema educativo como del sistema de salud lo han abordado con diferentes enfoques y han encontrado diversas razones de origen, además de recalcar que se ha incrementado. El objetivo de este trabajo fue determinar el nivel de estrés presente en estudiantes de primer ingreso y semestres posteriores para identificar si existen diferencias, deducir las posibles razones, y proponer alternativas que las contrarresten. La metodología usada es de tipo exploratoria a través de una encuesta aplicada a final del ciclo 2022A y con el uso de la Escala de Estrés Percibido (EEP) con 10 ítems para determinar el nivel de estrés en estudiantes universitarios a través de un estudio cuantitativo, descriptivo y relacional en una muestra de 72 estudiantes (37 de primer semestre y 35 de semestres superiores). Se eligió esta escala porque tiene buena consistencia interna, es una de las más utilizadas y más conocida. Los datos de la encuesta fueron procesados con Excel y los resultados muestran que el 67.56 y 58.82% de los estudiantes presentan estrés medio para primer semestre y semestres superiores, y el 13.51 y 14,7% tienen estrés alto, respectivamente. La escala presenta una buena consistencia interna con un coeficiente Alpha Cronbach de 0.7 y 0.82 para primer semestre y semestres superiores, respectivamente. Una de las conclusiones es que el nivel de estrés

medio está presente mayormente tanto en estudiantes de primer ingreso como de semestres superiores, por lo que se deben proponer estrategias, como talleres de manejo de estrés y manejo del tiempo, para afrontar el estrés y prevenir riesgos de abandono, bajo desempeño, entre otros.

Palabras clave: diagnóstico de estrés, estrés académico, COVID-19, atención psicológica, escala de estrés percibido.

Abstract

Stress is one of the mental health conditions that has been investigated recently due to the COVID-19 lockdown and its consequences. Researchers from both the educational and health systems have approached it from different perspectives and have identified various underlying causes, noting that it has increased. The objective of this study was to determine the level of stress present in first-year students and those in later semesters to identify if there are differences, deduce possible reasons, and propose alternatives to counteract them. The methodology used is exploratory, involving a survey conducted at the end of the 2022A cycle and utilizing the 10-item Perceived Stress Scale (PSS) to determine the stress level in university students through a quantitative, descriptive, and relational study in a sample of 72 students (37 from the first semester and 35 from later semesters). This scale was chosen because it has good internal consistency, is one of the most used and well-known. The survey data were processed with Excel, and the results show that 67.56% and 58.82% of students have medium stress levels in the first semester and later semesters, respectively, and 13.51% and 14.7% have high stress levels, respectively. The scale presents good internal consistency with a Cronbach's Alpha coefficient of 0.7 and 0.82 for the first semester and later semesters, respectively. One conclusion is that medium stress levels are predominantly present in both first-year students and those in later semesters. Therefore, strategies such as stress management and time management workshops should be proposed to address stress and prevent risks of dropout, poor performance, among others.

Key words: stress diagnosis, academic stress, COVID-19, psychological care, perceived stress scale.

Resumo

O stress é uma das doenças de saúde mental que tem sido investigada ultimamente devido ao confinamento da COVID-19 e às suas consequências. Pesquisadores tanto do sistema educacional quanto do sistema de saúde abordaram-no com diferentes abordagens e encontraram diversas razões de origem, além de enfatizarem que ele tem aumentado. O objetivo deste trabalho foi determinar o nível de estresse presente em alunos do primeiro ano e semestres subsequentes para identificar se há diferenças, deduzir os possíveis motivos e propor alternativas que os neutralizem. A metodologia utilizada é exploratória através de um inquérito aplicado no final do ciclo 2022A e com a utilização da Escala de Estresse Percebido (PES) com 10 itens para determinar o nível de stress em estudantes universitários através de um estudo quantitativo descritivo e relacional. amostra de 72 alunos (37 do primeiro semestre e 35 dos semestres superiores). Esta escala foi escolhida porque possui boa consistência interna, é uma das mais utilizadas e mais conhecidas. Os dados da pesquisa foram processados em Excel e os resultados mostram que 67,56 e 58,82% dos alunos apresentam estresse médio para o primeiro semestre e semestres superiores, e 13,51 e 14,7% apresentam estresse alto, respectivamente. A escala apresenta boa consistência interna com coeficiente Alpha de Cronbach de 0,7 e 0,82 para o primeiro semestre e semestres superiores, respectivamente. Uma das conclusões é que o nível médio de estresse está presente principalmente tanto nos alunos do primeiro ano quanto nos alunos dos semestres superiores, por isso devem ser propostas estratégias, como oficinas de gerenciamento de estresse e de gerenciamento de tempo, para enfrentar o estresse e prevenir riscos de abandono, mau desempenho, entre outros.

Palavras-chave: diagnóstico de estresse, estresse acadêmico, COVID-19, atendimento psicológico, escala de estresse percebido.

Introduction

Stress is a response of individual adaptation and readjustment due to internal and external pressures (Conchado Martínez *et al.,* 2019) that when it occurs in the academic field, mostly associated with students, is called academic stress. This is a factor that was studied prior to the confinement due to COVID-19 and in which some studies (González Cabanach *et al.,* 2017; Jerez-Mendoza and Oyarzo-Barría, 2015; García-Ros *et al.,* 2012) determined that the level was mostly between medium to high in different cycles, more so in women, due to the overload of homework, homework, evaluations and limited time to do work. Other studies such as (Conchado Martínez *et al.,* 2019; Galván Corral *et al.,* 2019) identified mostly medium-level stress levels , the first relating

it to academic performance and the lack of study methodology because it was applied in the second cycle. , the second study applied to different cycles determined that work has a direct relationship with stress, although students who work presented less stress than those who do not work, and that they are also affected by the amount of tasks and technology available. Most of the conclusions are that there is interest in continuing to expand research in the area and that high stress levels are a barrier to achieving adequate performance and it is preferable that it be maintained at medium or low levels. Likewise, during COVID-19, several studies were carried out in this regard, either to understand its nature, to identify people who needed help or to determine its existence in various populations (Briscese *et al.,* 2020; Weems *et al.,* 2020; Xiao *et al.,* 2020; Silas and Vázquez, 2020) because it caused significant stress around the world. For example, González Ramírez et al. (2020) point out that 25% of the Mexican population presented psychological discomfort and symptoms of post-traumatic stress. Likewise, in the references (Pascoe *et al.,* 2020; González Ramírez, 2020) point out that the abrupt migration to online education caused various health situations such as depression, stress, difficulty sleeping, among other things, which caused poor academic performance, increased risk of dropping out of school and low motivation. to learning, in addition, González Ramírez (2020) indicates that it is increasing. On the other hand, Santana Campas *et al.* (2022) report on the relationship between coping strategies and the stress produced by virtual classes in which they point out the existence of medium to high stress in 67.9% of the higher level student population, mainly in women, who use planning strategies. , personal resource management and support compared to men who use positive reappraisal, planning and personal resource management. Likewise, in the literature consulted (Vasquez Sánchez *et al.,* 2021) indicates the existence of a moderate level of stress in nursing students with main symptoms such as drowsiness, difficulty concentrating, and feeling depressed and sadness, which were caused by limited time to work, having an overload of tasks and performing different tasks. types of activities.

Therefore, the objective of the work is to have a stress diagnosis of students from different semesters at the higher level of a public university that shows their levels between the semesters taken, first semester and higher semester, and the possible relationship with work. , career and sex, to propose actions that counteract it, since it is a health risk factor that, as some authors point out, has increased during the pandemic and has caused poor academic performance, a decrease in motivation for learning and an increase of the risk of dropping out of school. Some research questions that we want to resolve are: is the stress level the same for the first semester and higher semesters? Is there a relationship between the level and the career that the students study? Is there a relationship between level and sex? Do working students have greater stress?

The document is distributed as follows: first, the methodology used and the materials are presented; then, the results of the survey applied and finally, the conclusions along with future work.

Materials and Method

First, an exploratory research was carried out to learn about similar works and proposals for stress measurement scales. Then the scale was chosen based on the ease of application and recommendations for use to carry out the research, this is non-experimental quantitative given that variables are not manipulated. Stress is considered as the independent variable. The study had a mixed approach, since it involved collecting and analyzing both qualitative data (sex, major, etc.) and quantitative data (age, semester, etc.) and was carried out through a Google form that integrated an instrument to carry out the diagnosis of stress in 2022A in a public institution in Jalisco. The research design was transversal, descriptive and exploratory. Sampling was of convenience with the criterion desire and willingness to participate in the survey and be a student who is taught classes. The instrument considered two sections, one with general questions such as sex, career, among others, and the stress section in which the Perceived Stress Scale (PES, figure 1) of 10 items or questions, designed by Cohen, was used. Kamarck and Mermelstrein in 1983 (Campo-Arias, Oviedo and Herazo, 2014), this identifies the perception of psychological and daily life stressors during the last month, and each item has five response options on a Likert scale ranging from never (0) to always (4), except for four questions (4,5,7 and 8) that are scored inversely, with a maximum total of 40 points.

This was previously applied to a pilot sample of 10 students to verify its internal consistency. The identification of stress levels is carried out with three scales according to the score obtained: low (0 to 17), medium (18 to 24) and high (25 to 30). The data analysis was carried out with Excel, it was descriptive and through frequencies, the consistency of the instrument was obtained with Cronbach's Alpha per survey, and the statistics were determined with the calculation of chi Square (X^2) calculated and critical with a contingency table for the categorical variables (stress level, career, sex, among others), as well as the value of the Cramer coefficient (V) to determine the independence and the relationship between these variables. The main results obtained from the surveys are presented below.

1. ¿Con qué frecuencia ha estado afectado por algo que ha ocurrido inesperadamente?
2. ¿Con qué frecuencia se ha sentido incapaz de controlar las cosas importantes en su vida?
3. ¿Con qué frecuencia se ha sentido nervioso o estresado?
4. ¿Con qué frecuencia ha estado seguro sobre su capacidad para manejar sus problemas personales?
5. ¿Con qué frecuencia ha sentido que las cosas le van bien?
6. ¿Con qué frecuencia ha sentido que no podía afrontar todas las cosas que tenía que hacer?
7. ¿Con qué frecuencia ha podido controlar las dificultades de su vida?
8. ¿Con qué frecuencia se ha sentido que tenía todo bajo control?
9. ¿Con qué frecuencia ha estado enfadado porque las cosas que le han ocurrido estaban fuera de su control?
10. ¿Con qué frecuencia ha sentido que las dificultades se acumulan tanto que no puede superarlas?

Figure 1. EEP-10 instrument.

Source: Campo-Arias, Oviedo and Herazo (2014).

Results

The Cronbach's Alpha index for the EEP-10 instrument was 0.7 (acceptable) and 0.82 (good) for the first semester and upper semester surveys, respectively. The sample of those who wished to participate in the survey and were given classes was 72 students, 37 from the first semester and 35 from upper semesters. Regarding the majors, in the first semester they were in Public Accounting (CP), Gastronomic Business Management (GNG) and Financial Administration and Systems (AFS), and in the upper semesters they were in Public Accounting, Financial Administration and Systems, Information Technology Information (IT), Human Resources (HR), International Business (NI), Business Engineering (IN) and Psychology (Psico). As mentioned in the methodology, the samples were for convenience and for the same reason, responses are not discarded due to the limitation of students to whom classes are taught.

The general data of both surveys, first semester (A) and upper semesters (B), of the first section of the instrument are provided in table 1.

Table 1. General data.

Survey	Stress Level	Men	Women	Age	They work	Modality preferred
TO	Under 18.92% Medium 67.57% High 13.51%	35.14%	64.86%	Min. 18 Max. 40	27.03%	Virtual 8.11% Mixed 43.24% In-person 48.65%
B	Low 26.47% Medium 58.82% High 14.71%	58.82%	41.18%	Min. 19 Max. Four. Five	35.29%	Virtual 11.76% Mixed 58.82% In-person 29.41%

Source: self made.

The relationship between the variables work and stress level for higher semesters is presented in Table 2, it was only analyzed for this group because it is the one with the highest percentage in Table 1.

Table 2. Frequency of work stress for higher semesters.

Stress level	Range	Frequency	Yes they work	Do not work	x^2 calculated	x^2 critical
Low	0-17	9(26.47%)	15.38%	33.33%	2.01	5.99
Half	18-24	20(58.82%)	61.54%	57.14%	Cramer's V	
High	25-40	5(14.71%)	23.08%	9.52%	0.243	

Source: self made.

The frequency of the stress level by sex at the low, medium and high levels for the first semester is shown in Table 3 and for higher semesters it is shown in Table 4.

Table 3. Frequency of stress by sex for the first semester.

Stress level	Range	Frequency	Man (%)	Women (%)	x^2 calculated	x^2 critical
Low	0-17	7 (18.91%)	18.91%	0%	16,992	0.103
Half	18-24	25 (67.56%)	16.21%	51.35%	Cramer's V	
High	25-40	5 (13.51%)	0%	13.51%	0.678	

Source: self made.

Table 4. Frequency of stress by sex for higher semesters.

Stress level	Range	Frequency	Man (%)	Women (%)	x^2 calculated	x^2 critical
Low	0-17	9 (26.47%)	14.71%	11.76%	1,086	5,991
Half	18-24	20 (58.82%)	38.23%	20.58%	Cramer's V	
High	25-40	5 (14.71%)	5.88%	8.82%	0.126	

Source: self made.

The stress levels by major for the first semester can be seen in Table 5, and for higher semesters it is shown in Table 6. The nomenclature of the majors was presented at the beginning of this section.

Table 5. Frequency of stress by race for the first semester.

Stress level	Range	YOU	CP	RH	NEITHER	IN	AFS	Psycho	x^2 calculated	x^2 critical
Low	0-17	22.22%	14.71%	fifty%	100%	100%	16.67%	0%	13,621	21,026
Half	18-24	66.67%	38.23%	fifty%	0%	0%	66.67%	fifty%	Cramer's V	
High	25-40	33.33%	5.88%	0%	0%	0%	16.67%	fifty%	0.633	

Source: self made.

Table 6. Frequency of stress by major for higher semesters.

Stress level	Range	CP	AFS	CRG	X^2 calculated	x^2 critical
Low	0-17	22.22%	66.67%	6.25%	6,536	9,488
Half	18-24	66.67%	33.33%	75%	Cramer's V	
High	25-40	11.11%	0%	18.75%	0.42	

Source: self made.

Discussion

According to Table 1, the distribution of stress level percentages for both first semester and upper semester students are similar; That is, they are mostly concentrated in the medium level, followed by the low level and then the high level. It is notable that there is stress at the higher level because the result is higher at the middle level and perhaps it is one of the consequences of isolation due to COVID-19. This coincides with what was reported in Santana-Campas *et al.* (2022) and with what is reported in Silva-Ramos *et al.* (2020), although in the latter it is pointed out that the high level of stress occurs more than the low, so it is important that strategies are taken to control it, since as indicated in González Ramírez (2020) its level reflects an increase in the period of confinement due to COVID-19. On the other hand, the percentage of medium level stress in the first semester is 8.71%, higher than that of higher semesters, although the opposite happens for the high level of stress because it is slightly higher for higher semesters than for the first semester. It is possible that the average level is higher for the first semester than for higher semesters due to the fact that first-time students are not adapted to the dynamics of the upper secondary school compared to those from higher semesters or perhaps because of the slight difference in consistency. internal between the two instruments.

The maximum and minimum age relationship is similar with respect to students in the first semester and higher semesters, although a frequency of age of 19 years was mostly noted in both surveys, so it was not of interest to determine the existence of a relationship with the stress level.

Regarding the percentage of students who work, greater stress is evident for higher semesters than for the first semester, although it is not reflected as an increase in the percentage of stress ranges. This implies that it is important to pay attention to upper semester students who work, and establish attention mechanisms so that high stress cases are not exceeded.

In Table 2 it can be noted that both students who work and those who do not work present moderate stress, but this percentage is higher for students who do work compared to those who do not work. At this medium level, for those who do not work, the low level follows and then the high level, but for those who work the opposite happens, the high level follows and then the low level. So it seems that in general, those who work have higher levels of stress than those who do not work, perhaps it makes sense given that those who work usually have less time to attend to their academic activities and consider work more important than academic life. However, the calculated X^2 is less than the critical one, so it follows that the work and stress level variables are independent. Although in Galván Corral *et al*. (2019) did determine the existence of significant statistical influence between these variables, but in the opposite direction; That is, students who do not work presented greater stress than those who do work and they indicate that it is likely due to their level of competence.

Another important thing to point out is that the experience of first-time students regarding their virtual courses, an open question, is that they are easily distracted, in addition to the fact that the professors do not explain and there are more tasks. Something similar happens with the higher semesters, although the preference of the modality is not the same. It is possible that this experience has a direct relationship with the average stress level, but it was not determined. Although some studies indicate that the virtual modality caused more stress with confinement, and perhaps that is why this modality is less preferred.

The preference that first-time students have for the class modality is in-person followed by the mixed class, with respect to the upper semesters, who prefer the mixed class and then the in-person class, but both leave the virtual class as the last option. One of the main reasons that first semester students indicated for their preference for the in-person modality was that they pay more attention because there is better communication. In the case of higher semesters, it was that they could make more use of their time and spent less.

The sex distribution for the participants of the first semester survey with respect to higher semesters shows more women than men. It seems that it would not make sense to determine the independence between this variable with respect to the level of stress, but the calculation was made. . In table 3 it can be noted that [the] value large according to the reference consulted (B etancourt Velásquez and Caviedes Niño, 2018); That is, it can be indicated that there is an acceptable relationship between the level of stress (low, medium, high) that students have with respect to their sex (man, woman). In this sense it differs from the results of the reference Conchado Martínez *et al.* (2019) where it is noted that no significant association was found, as well as the one presented in the literature by Silva-Ramos *et al.* (2020) where they point out that there is no significant relationship and indicate that stress is present in both sexes. Although, it is agreed in all the works, due to the percentages: that more stress is reflected on the part of women than on men. However, for these same variables in Table 4 the result is the opposite; That is, it seems that the variables are independent. Therefore, another sampling option would have to be considered, it may be probabilistic, to verify this relationship or apply another statistical method.

With respect to the relationship between the degree and the level of stress, for the first semester the [calculated] value of which can be said that the variables are independent. It is possible that this has to do with the number of students who answered the surveys from the various majors, because in some cases only one or three students from the same major participated and it is possible that this does not help to establish a dependency. This result compared with the literature of Silva-Ramos *et al* . (2020) differs because they do report a significant relationship between the career they study and the level of stress, which, in fact, presents a balance between the percentages of the participants of all the careers involved that does not happen in this study.

C onclusions

In this work, the level of stress in students both in the first semester and in higher semesters was determined. Although in both groups the highest level is the medium or moderate level, the percentage is higher for first semester students. It is possible that this difference has to do with the fact that in the first semester students do not know the institution or the processes compared to the higher semesters. On the other hand, the comparison between the stress levels of the first semester and higher semesters are similar in the sense that the highest percentage is located at the medium level, followed by the low level and lastly the high level. Regarding the relationship between the level of stress and the race, in both groups the comparison between the values of calculated and

critical X^2 indicates that they are independent variables. The percentage of stress in relation to sex is greater in women than in men for the first semester than for higher semesters, perhaps it is due to the fact that the sample is mainly female because the comparison between the values of calculated and critical X^2 are opposed in both groups, for the first semester there is a relationship between these two variables, but for higher semesters there is no relationship. Regarding the relationship between the level of stress and work, it was analyzed for higher semesters since the percentage of stress was higher, but, although the stress levels are higher for those who work compared to those who do not work, the values of X^2 calculated and critical indicate that there is no relationship between these two variables.

It is important to note that the level of stress present in both groups compared implies a focus of attention because it can cause various problems for students (Santana Campas *et al.,* 2022) and the confinement due to COVID-19 was a factor that influenced it (Briscese *et al.,* 2020). On the other hand, it is possible that the modality of virtual classes also influenced the increase in stress levels. In fact, it is clear that the students' preference regarding the class modality is in-person and mixed.

Some recommendations that can be proposed for the institution, on the one hand, is to support the tutoring program so that this situation is monitored. On the other hand, make quick diagnoses to establish possible causes and propose workshops that allow counteracting the problem such as stress management, time management, problem identification, family monitoring, among others. Likewise, provide pedagogical courses to teachers to avoid or reduce teaching-learning problems that could cause an increase in the level of stress and its frequency.

Future lines of research

Causes that cause student stress today, after pandemic times, and analysis of possible strategies to counteract them.

Applications to diagnose stress and establish possible strategies to counteract it.

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