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Stress and Learning Achievements in University Students in Juliaca-Puno, Peru

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Abstract

The main objective of the development of the article was to determine the relationship between stress and learning achievements in university students from Juliaca, Puno, Peru. The methodology was developed based on a basic study, a correlational level of non-experimental design, with a longitudinal section in which a sample of 320 university students was used. Descriptive statistics and a Pearson chi-square correlation test were used. Based on the results, it was obtained that the average age of the students is 29 years, mostly female, single marital status, family economic level of the vital minimum, most have an average of 78.9 learning achievements, while the average learning achievements were 14.3. It was found that the dimensions of physical reactions (p=0.021), psychological reactions (p=0.03) and behavioral reactions (p=-0.035) were significantly related to learning achievements. As a conclusion, it was found that the physical, psychological and behavioral aspects of stress significantly affect the learning achievement of university students in the city of Juliaca.

Keywords: *Stress, Achievements, Learning, Students, University Students.*

INTRODUCTION

Stress is one of the most common medical problems today. Since it is a disorder of multiple variables due to the relationship between the individual and the daily occasions of their condition.

In a study in Medellín, the results for the category stressful situations and conditions were obtained, the item with the highest percentage in the high classification was that of overload of homework and schoolwork. For the category of physical reactions, the item with the highest percentage in the high classification was Restlessness (this item presented differences according to age). For the Psychological Reactions category, the item with the highest percentage in the high classification was Drowsiness or greater need to sleep. For the Behavioral Reactions category, the item with the highest percentage in the high classification was Increase or reduction in food consumption (this item showed differences according to the semester). For the Coping Strategies category, the item with the highest percentage in the high ranking was Assertive Ability. Discussion: This set of reactions will only diminish and impair the intellectual capacity and academic performance of students and, in many cases, academic stress (in conjunction with other problems) could lead to failure and dropout. They could even weave a very risky trap for the health and life project of young people, mostly under 25 years of age (Restrepo et al, 2020).

Another study conducted in Morocco for El Madani et, to (2023) the 437 nursing students, 405 (105 men and 300 women) completed the survey. A low prevalence of perceived stress was found (17%; N = 69), with a mean (standard deviation) stress score of 17.17 (4.15). The students' stress level was significantly associated with the academic course, the practice of professional extracurricular activities, the family's monthly income, and the use of public transportation. It was also associated with students' subjective sleep quality, sleep latency, daytime dysfunction, and habitual sleep efficiency. A positive correlation was also observed between "time

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management" scores and "test adaptation skills" scores. However, no significant association was observed between stress scores and the age and gender of the students.

On the other hand, also in Chile Castillo et, al. (2022) Academic overload had a significant association with psychic, behavioral, and physical manifestations ($p < 0.005$) in first-year students, while methodological deficiencies and exams had a significant effect on the 3 biopsychosocial aspects assessed in fourth-year students ($p < 0.050$). Finally, aspects related to teaching methodology had a negative impact on the well-being of both groups ($p < 0.050$). This study provided information on stressors and their potential implications for students' health, background information that will be useful to address academic stress in a systemic way, as well as for future research related to the biopsychosocial well-being of the university community.

Stress puts pressure on students in the learning process and therefore affects academic performance. Such a circumstance can cause students to face burnout, lack of enthusiasm to examine, learn, and even lose control. These problems could trigger the use of medications, avoid the obligation and the different changes that negatively influence academic activities (Alfonso, 2015).

There are studies around the world that have evaluated the causal relationship between stress and academic performance. A study in Mexico applied to university students concluded that there is no association between stress levels and academic performance; however, females have a higher percentage of high stress than males (Montes, 2007). In Colombia, nervousness is more common than any other mental problem, as 19.3% of the population aged 18 to 65 years has experienced it at some point, while in women it increases to 21.8% (Posada, Buitrago, Medina, & Rodríguez, 2006). Another study in Chile mentions that 91% of students acknowledged having exhibited side effects of school pressure, having a more prominent frequency in the main students of the semester with 94% (Sánchez, 2015). Finally, in Venezuela, it was found that the higher the academic pressure, the higher the school performance; however, this study showed that there is no relationship between academic performance and the level of academic pressure (Cabanach et al., 2014).

In Peru, an indicator for the evaluation of academic performance is a decisive factor in evaluating the level of learning of students after completing their studies. This becomes the central objective of the educational learning process (Pérez, 2016). The evaluation of academic performance in university students allows determining whether a student can pass a topic or not (Fanelli, 2014).

According to Porras (2022), as a result between the relationship of both variables in the context of the pandemic, it was obtained that there is a significant and inverse relationship between self-regulated learning and academic stress, since Spearman's Rho correlation coefficient resulted in -0.506 and a $\rho = 0.000$ ($\rho < 0.05$) Therefore, it can be inferred through the present study that the greater the self-regulated learning, The incidence of academic stress in university students was lower in times of pandemic.

Currently, having a professional training is more in demand than before, which is why one in four university students has a genuine medical problem due to academic pressure, as if there were a situation of lack of control. It could have an impact on academic performance, since the aforementioned is now considered an epidemiological factor of great seriousness not only at the local level, but also at the regional and international levels (Sol, 2014).

Despite the fact that the variables that we will study in this study have been previously evaluated. The existing problem of stress in university students in Andean cities such as Juliaca to date has not been studied; therefore, it is worth evaluating whether this factor influences academic performance.

MATERIALS AND METHODS

Study Design

For Quispe et al. (2023) This is a basic study, correlational level of non-experimental design, with a longitudinal section.

Population And Sample

The population consisted of 950 undergraduate university students from the first to the tenth cycle, enrolled in the period (August to December), belonging to the Professional Schools of Education, Law, Accounting and Administration, of a private university in the city of Juliaca, Peru.

For the purposes of this study, a sample of (n= 320) students was obtained by non-probabilistic sampling.

Variables And Instruments

Variable 01 was stress, which was evaluated through the SISCO Inventory of Academic Stress (Barraza, 2006). It is composed of 31 questions whose likert-type answers (never / rarely / sometimes / almost always / always), also offers the possibility of measuring through dimensions such as: Frequency that they disturbed you, physical reactions, psychological reactions, behavioral reactions and worry or nervousness. This inventory reported a reliability through halving analysis of .87 and a reliabilityin Cronbach's alpha of .90, showing very good levels of reliability (Quispe et al., 2023)

Variable 02 was Learning Achievements, which was determined based on the guidelines of (Ministry of Education, 2017), where four levels of achievement are determined: 1) Outstanding achievement (grade of 18 - 20), 2) Expected achievement (14-17), 3) In process (11-13) and 4) In beginning (0-10). The values of the learning achievements of the studied population were taken from the final weighted average of the semester.

The following were also collected with variables such as: age, sex (male/female), marital status (single/married/cohabiting/separated/widowed), economic level (greater than 5000 soles/ less than 5000 soles/ greater than 2500 soles/less than 2500 soles/greater than the vital minimum/ Less than the vital minimum).

Procedures

According to Quispe et al, (2023) At the beginning of the study, the researcher proceeded to request permission from the general coordination of the university and the respective authorization from the heads of each professional school, explaining the motives and reasons for carrying out the research, who facilitated the organization with the application of the questionnaire, to plan and develop a schedule on the dates of application of the instrument.

On the established dates, the students were visited in their respective classrooms, initially the study was presented in a group form and the signature of the informed consent was requested from those who decided to participate in the study. Once the informed consent was signed, the survey was distributed and each participant was asked to develop all the questions. The researcher answered the questions they asked during the application of the survey in a personalized way.

Once the survey was completed, the data were typed into the statistical program Microsoft Excel 2016. That activity was carried out by previously trained collaborators, who filled in the databases independently and at the end the data were cross-referenced until a similarity of the total data was reached.

Statistical Analysis

The data were processed in the Microsoft Excel version 2013 program, and then transferred to the SPSS version 20 statistical program. For the identification and description of data, univariate descriptive statistics were used with frequency distribution tables, statistical graphs and centralization measures (mean and standard deviation). At the bivariate level, contingency tables were made in the crossing of variables, as well as for the demonstration of the general and specific hypotheses, the chi-square correlation test was worked with a reliability of 95%.

RESULTS

Of a total of n=320 university students, it is reported that the mean age was 29 years, 218 (68.1%) were female, 180 (56.3%) reported having the marital status of single, and 169 (52.8%) students reported that their monthly income is less than the minimum vital in the last month.

Table 1Sociodemographic characteristics

Variable	**n (%)**
Age*	
Me (Sd)	29.6 (7.9)
Sex	
Male	102 (31.9)
Female	218 (68.1)
Marital status	
Bachelor	180 (56.3)
Married	33 (10.3)
Cohabitant	89 (27.8)
Separate	18 (5.6)
Widower	0 (0.0)
Family Economic Level **	
Seniors 5000	9 (2.8)
Less than 5000	14 (4.4)
Greater than 2500	18 (5.6)
Less than 2500	41 (12.8)
Greater than the vital minimum	69 (21.6)
Less than the Vital Minimum	169 (52.8)

Note. Author's elaboration (2024)

Likewise, university students presented a mean of 78.9 academic stress, while, by dimensions, the highest mean was reported in the restlessness dimension with a mean of 26.0, while the lowest was in the behavioral reactions dimension with a mean of 8.5. Likewise, in learning achievement he presented an average of 14.3 weighted average in the semester.

Table 2Dimensions of Stress

Variables	**Me**	**Sd**
Stress		
How often you were disturbed	26.0	5.3
Physical reactions	13.8	4.9
Psychological reactions	12.4	4.2
Behavioral reactions	8.5	3.0
Worry or Nervousness	18.2	4.6
Overall	78.9	15.9
Learning Achievements		

Overall	14.3	0.9

Note. Author's elaboration (2024)

In the bivariate analysis, it was found that the dimensions of physical reactions (p=0.021), psychological reactions (p=0.03), behavioral reactions (p= -0.035) of learning achievement were significantly related to learning achievements in university students

Table 3Relationship of Stress Dimensions to Learning Achievement

Dimensions of academic stress	**Learning Achievements**
Frequency that Restless You	-0.79
Physical reactions	**0.021**
Psychological reactions	**0.03**
Behavioral reactions	**-0.035**
Worry or Nervousness	0.154*

Note. Author's elaboration (2024)

Likewise, it was found that the general value of academic stress was not related to the variable Learning Achievements, so it is determined according to the value of 0.648 > to the value of p 0.005.

Table 4Relationship of Stress and Learning Achievements in Students

	Academic Performance	
Variables	**r***	**p**
Stress	0.026	0.648

Note. Author's elaboration (2024)

DISCUSSION

The present study sought to determine the relationship between stress and

learning achievements in university students from Juliaca, Puno. In contrast, we found that the dimensions of physical reactions (p=0.021), psychological reactions (p=0.03) and behavioral reactions (p=-0.035) were significantly related to academic performance. Although there are no recent studies that evaluate these dimensions, it is known that the symptoms of stress manifest themselves through behavioral changes that irritate or make a person uncomfortable, as well as psychological reactions such as anxiety or sadness where the person suffering is generally distracted or desperate without being able to solve any pending activity. due to overload. On a physical level, a stressed person could show signs of skin allergies with itching and sweating, which leaves the person who suffers from it incapacitated. It would be worthwhile to carry out assessments of the level of stress in students and propose programs to reduce academic stress.

It seems that academic stress is no different in an Andean population, as our study found an average of 78.9 academic stress. In this regard, a study carried out in three Latin American institutions (Peru, Mexico and Colombia), found that the student population faces stress that manifests itself with physical and mental symptoms. In these countries, a prevalence of 54% of students with stress was reported, mostly of the female sex. The highest percentage (61%) was found in Peru, compared to other universities Gutiérrez et al. (2018) This could be due to the high load of activities required to study in universities. However, the solution would not be to reduce the load of academic activities, but rather to propose preventive promotional activities from universities aimed at stressed students so that they can control stress and take advantage of their training properly.

One of the limitations of the study is that the sample size was not representative, due to the limited availability of the students at the time of application of the instruments, however, using non-probabilistic sampling does not detract from the value of the results. Likewise, the students who participated in this study were not from

all the universities in the city of Juliaca, so the results could not be generalized, but because it is one of the first reports on stress in students in an Andean city, its value is not undeserved.

For (Restrepo et al, 2020) obtained results for the category Stressful situations and conditions, the item with the highest percentage in the high classification was that of Overload of homework and schoolwork. For the Physical Reactions category, the item with the highest percentage in the high classification was Restlessness (this item presented differences according to age). For the psychological reactions category, the item with the highest percentage in the high classification was Drowsiness or greater need to sleep. For the Behavioral Reactions category, the item with the highest percentage in the high classification was Increase or reduction in food consumption (this item showed differences according to the semester). For the Coping Strategies category, the item with the highest percentage in the high ranking was Assertive Ability. Also in Morocco for El Madani et, al (2023) A low prevalence of perceived stress was found (17%; N = 69), with a mean (standard deviation) stress score of 17.17 (4.15). The students' stress level was significantly associated with the academic course, the practice of professional extracurricular activities, the family's monthly income, and the use of public transportation. It was also associated with students' subjective sleep quality, sleep latency, daytime dysfunction, and habitual sleep efficiency. According to Castillo et, al. (2022) Academic overload had a significant association with psychic, behavioral, and physical manifestations ($p < 0.005$) in first-year students, while methodological deficiencies and exams had a significant effect on the 3 biopsychosocial aspects assessed in fourth-year students ($p < 0.050$). Finally, aspects related to teaching methodology had a negative impact on the well-being of both groups ($p < 0.050$). This study will be useful to address academic stress in a systemic way, as well as for future research related to the biopsychosocial well-being of the university community.

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CONCLUSIONS

The physical, psychological, and behavioral aspects of academic stress significantly affect the academic performance of university students in the city of Juliaca. In view of this, the authorities controlling the quality of the university service can use this finding to promote the evaluation of academic stress indicators and preventive promotional programs in universities as an indicator of the quality of the university service.

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